IMPLEMENTATION OF THE SOUTH FLORIDA WATER MANAGEMENT MODEL ON THE LINUX® OPERATING SYSTEM

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South Florida Water Management District

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April 4, 2008

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ACKNOWLEDGEMENTS

The Interagency Model Center would like to express its gratitude to Applied Technology and Management Incorporated (ATM), in particular to Mr. Alex Brincko for their efforts during the duration of this project.

INTRODUCTION

BACKGROUND

The South Florida Water Management District (SFWMD) and the U.S. Army Corps of Engineers (USACE) utilize the South Florida Water Management Model (SFWMM) for use in regional water resource applications. The SFWMM has been executed on the SunOS/Solaris (UNIX®) operating system since its release in 1984.

Several years ago following the advice of an internal audit, it was decided that the cost threshold to use the SFWMM could be substantially lowered by using x86-based GNU / Linux® systems (and Linux® clusters). The reasons were both lower machine cost for x86 / GNU / Linux® systems relative to Sun WorkStation / Solaris, and runtime reductions that would be possible on the x86 platform, making SFWMD personnel more productive.

An effort to move the SFWMM to the Linux® operating system has been completed by the SFWMD at this time. This document describes the UNIX® to Linux® porting (migration) and the results produced by the two different operating systems. Application porting refers to the process of taking a software application that runs on one operating system and hardware architecture, recompiling (making changes as necessary), and enabling the application to run on another operating system and hardware architecture (Mendozza et. al, 2006).

The Linux® source code, created by Linus Torvalds, is UNIX®-like but is freely available to everyone. Linux® is developed under the GNU General Public License. Linux® is functional, adaptable and robust. Predominantly known for its use in servers, Linux® has gained the support of many corporations including IBM, Sun Microsystems, Dell, Hewlett-Packard and Novell. Several institutions including the Library of Congress, the Government of Switzerland and the National Security Agency have all built their computing systems on Linux®.

A team comprised of staff from the Model Application Section (MAS) and the Interagency Modeling Center (IMC) of the Hydrologic and Environmental Systems Modeling Department (HESM) of the SFWMD and employees of the IMC of the USACE were assembled to review the individual scripts and utility programs and verify their reliability on the Linux® operating system as produced by SFWMD contractors. Program output from both UNIX® and Linux® were compared and documented. This report also documents the outcome of the verification process.

THE PORTING PROCESS

There are several common steps developers use in the process of porting projects These steps include scoping, analyzing, porting and testing (Mendozza et. al, 2006). Each of these steps, when done properly, makes the next step of the process easier to accomplish. The high level steps in the typical porting project are depicted in **Figure 1**.

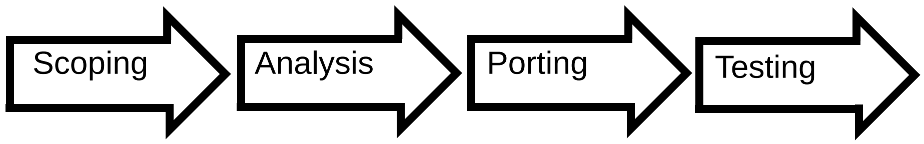


Figure 1. High-level steps taken during a typical porting project (after Mendozza, et al.)

Scoping is the process where the project manager asks the porting experts and domain experts to determine the products, development, and test environment the application to be ported relies upon. There are several key areas that need to be identified in the scoping process. These areas include the following:

- Product and/or software dependencies
- Development environment components
- Build environmental components
- Test environmental components

In most cases, the scoping step leads to identifying associated risks that will be assumed by the project as a whole when it begins. Scoping is an involved step in the porting process that takes into account every new piece of information that can be learned from asking the right questions. These questions may be related to documentation, packaging and performance tuning.

Analysis may be considered from a project management perspective or a porting perspective. Analysis from the project management perspective, is the step where the project manager assesses the porting issues and risks identified during the scoping process. Analysis from this perspective also involves the formulation of the project plan, which includes identifying scope and objectives, creating work schedules (work breakdown structure), procuring resources needed and assigning roles within a particular project.

From the porting perspective, analysis is the step in the porting process where the porting engineer examines the application source code in greater detail. During this step the porting engineer begins to identify the application programming interfaces (APIs) and system calls used in the application. Analysis conducted during this step by the porting engineer should be disseminated to the project manager to formulate better detailed tasks and accurate schedules.

The next step in the process is porting. This is the step where porting engineers perform their assigned tasks. The porting engineers' task of compiling code on the Linux® platform includes identifying and removing architectural dependencies and nonstandard practices if possible. Identifying and removing such dependencies means heeding compiler errors and warnings produced at compile time and correcting these errors as needed. Tasks involved at this step are described in greater detail later in this document.

The testing step begins after the application has been ported (compiles on the Linux® platform without errors). During the porting step, those assigned testing tasks run the ported application against a set of test cases, which vary from a simple execution of the application to stress-type tests that ensure the application is robust enough when executed in the Linux® operating environment (Mendozza et al., 2006). Stress testing the application on the target platform is where the majority of problems occur. These problems most often are related to architectural dependencies and bad coding, hence debugging is a common solution to these issues.

GOAL AND OBJECTIVES

The goal of this project was to successfully port the SFWMM, its pre and post-processing tools, binary data and scripts from SunOS/Solaris (UNIX®) to the Linux® operating system and the optimization for the 32-bit and 64-bit PC environment.

The objectives of the project were as follows:

- The primary objective was to have the suite of tools (compiled and documented) necessary to run the SFWMM and its associated pre-processing and post-processing utilities in the Linux® environment
- These tools should be able to closely reproduce the results currently obtained using the standardized UNIX® environment tools

The secondary objectives of the project were as follows:

- Obtain documentation of all of the pre and post-processing routines for the SFWMM

- Collect requirements and code for additional needs from the HESM/IMC
- Optimize for speed
- Package into a tool suite

SCOPE OF WORK

Prior to the commencement of contracted efforts the SFWMM itself had been ported to Linux by SFWMD staff. The scope of work consists of the additional enhancements that were needed to enable the usage of the SFWMM and its associated utilities in the Linux® environment. These enhancements included the following:

- Obtain inventory of all tools, programs, and utilities (other than the SFWMM itself) used in pre and post-processing of the SFWMM input, output or data files
- Obtain source code for current version of each of those tools where they exist
- Recompile and test all existing source code for the Linux® platform (32-bit and 64-bit)
- For those executables for which source code is non-existent, determine (with modelers) the function of the executable
- Develop substitute model that is Capability Maturity Model Integration (CMMI) compliant for those functions; document the new code. (The new code must be platform independent and 32-bit/64-bit ready)
- Test the full suite of executables and scripts called for in SFWMM runs (with the exception of the model itself) in both Solaris and in Linux®
- Regenerate binaries (32-bit to 64-bit) and libraries called or used by the model and utilities
- Compare and document results
- Document SFWMM source code
- Integrate related tools where applicable, and optimize for speed or use on a cluster environment (multiprocessors)
- Develop additional functionality requested by SFWMD and USACE modelers

The following two sections of this document describe the porting process conducted by the IMC. Section 2 (Contracted Efforts) includes a description of the efforts and products produced by SFWMD contractors. Section 3 (Implementation on the Linux® Operating System) describes the efforts of the IMC after the receipt of the ported

SFWMM and utility code. **Figure 2** depicts a timeline for the porting and implementation phases of the SFWMM migration to the Linux® operating system.

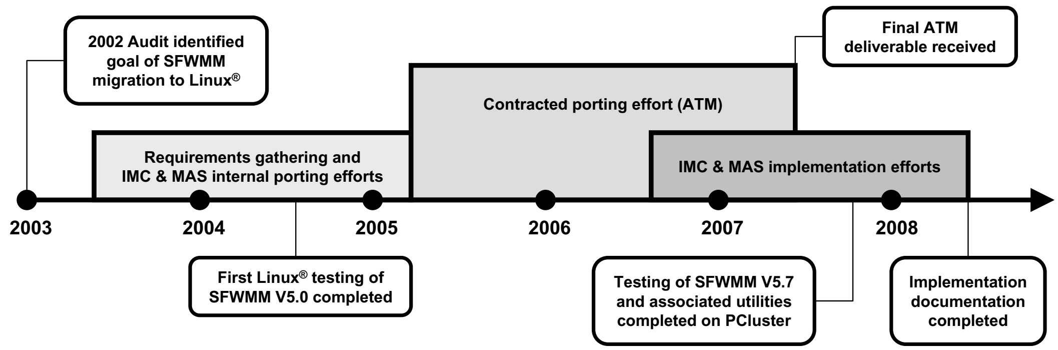


Figure 2. Timeline for the porting and implementation phases of the SFWMM migration to the Linux® operating system

CONTRACTED EFFORTS

The South Florida Water Management Model (SFWMM) is used to evaluate the the changes in hydrologic conditions associated with planning efforts in much of south Florida. In 2002, an internal audit of hydrologic modeling at the South Florida Water Management District (SFWMD) (SFWMD, 2002) recommended porting (migration) of the SFWMM from the Sun WorkStation / Solaris Operating System platform to the x86 / GNU / Linux® platform. During 2004, action was taken and UNIX® to Linux® porting was started. Since 2004, optimization for 32-bit versus 64-bit and single versus symmetric multi-processing were also considered.

The move to GNU / Linux® and x86 hardware was identified as a priority effort, ahead of a decision to invest in updating the Sun hardware for SFWMM modeling. Porting and standardization of the SFWMM would allow easier internal use as well as allow a greater number of external contractors and agencies access to the model.

The UNIX® to Linux® porting project contract was awarded to Applied Technology and Management Incorporated (ATM). The contractor was selected from a pool of qualified contractors utilized by the SFWMM.

Several products were created by ATM as a part of this effort (**Table 1**). Each of these documents will be discussed in the following sections.

Table 1. Applied Technology and Management Incorporated deliverables.

Product
SFWMM (2x2) Model System Porting from SUNWS / SOLARIS to PC/Linux: Section 2: Hardware System Choices, OS and Compiling Environment
SFWMM (2x2) Model System Porting from SUNWS / SOLARIS to PC/Linux: Section 3: Model Porting and Profiling
SFWMM (2x2) Model System Porting from SUNWS / SOLARIS to PC/Linux: Section 4: Post-processing Scripts and Utilities
SFWMM (2x2) Model System Porting from SUNWS / SOLARIS to PC/Linux: Model Testing and Comparison
SFWMM (2x2) Model System Porting from SUNWS / SOLARIS to PC/Linux: Lessons Learned and Recommendations

HARDWARE SYSTEM CHOICES, OS AND COMPILING ENVIRONMENT

This technical memorandum documents the first subtask in the porting process identified in "SFWMM (2x2) Model System Porting Plan from SunWS/Solaris to PC/ Linux", TO#4, Task 1. Applied Technology & Management (ATM), October 7, 2005. The first subtask addressed the x86 platform hardware, GNU / Linux® operating system, and GNU tool chain environment selected for the model system porting. The subtask considered the selection, procurement and setup of x86 based PC platforms in both 32 and 64-bit architecture, the selection of the operating system and the specific tools for compiling and executing the SFWMM system programs and scripts. This was the foundation on which the ported model system was built and will affect both speed and accessibility of the model system to prospective users. Selections were predicated on the fact that system stability and integrity were of critical importance.

The set of hardware and software systems selected and developed allowed for a fairly complete matrix of tests to be performed in evaluation of the ported model system performance. The model system evaluations were performed in the next two subtasks for the SFWMM executable scripts and utilities, respectively, where evaluation criteria were defined in terms of speed, numerical consistency and system stability.

MODEL PORTING AND PROFILING

This Technical Memorandum is the second in a series of memoranda documenting the porting of the SFWMM from a Sun / Solaris system to a PC / GNU / Linux® system. This document covers the porting of the model code itself.

The document addresses the steps taken and issues encountered while performing the model porting and initial runtime experiments. Section 2 addresses issues relating to the compiler environment and options. Section 3 addresses the compilation of the code, issues that surfaced and fixes made to the model. Section 4 addresses the associated libraries used by the model system. Section 5 addresses the setup used to run the model for the test cases. Section 6 addresses preliminary model runtime profiling efforts.

The porting of the SFWMM from Solaris to Linux® was somewhat more difficult than it was initially envisioned to be. While the porting of the model Fortran code was relatively straightforward, as expected, both the compiler and the ancillary libraries that were required to link the model system provided a greater challenge. Progressing from the g77 to the g95 Fortran compiler brought up a number of compile, link and runtime warning and error diagnostics, all of which were resolved and changes implemented in the present application. The end result was a model that is capable of being compiled, linked and executed on the GNU / Linux® PC platform, one that generated comparable output to that created in the Sun / Solaris systems. In addition, model runtime testing and profiling indicated several potential areas for runtime speed increases on a system that has a model runtime of less than 15 minutes.

As part of the work effort undertaken during this portion of the project, the contractor investigated the use of the SFWMM in a 64-bit hardware and software environment. Issues with the 64-bit compilation of some SFWMM related libraries (including the DSS and grid_io libraries) prevented much progress from being made. It is anticipated that the majority of the 64-bit compilation issues reside in associated codes on which the SFWMM is dependent, and not within the code constructs of the SFWMM executable itself. As a follow-up effort to the Linux implementation project, additional exploration of the use of 64-bit architecture with the SFWMM will be performed.

POST-PROCESSING SCRIPTS AND UTILITIES

This was the third in a series of technical memoranda that documents the porting of the SFWMM from the Sun / Solaris architecture to a PC / GNU / Linux® architecture. This document covers the porting of the model output post-processing scripts and utilities.

This technical memorandum provides notes on the porting of the complete set of post-processing utilities called by the "wmm.scr" script, as well as the utility programs called by the Performance Measure (PM) and Position Analysis (PA) scripts. The "wmm.scr" script is the primary control file for running the SFWMM and post-processing the model predictions. PA scripts are not utilized in the course of IMC modeling, and such are not part of the IMC implementation process as described in this report.

Upon the completion of the utilities porting and the implementation on the SFWMD's Linux® PC network, the full SFWMM system was then ready to enter the on-line testing phase. All of the pre and post-processing scripts and utilities identified in the Porting Plan were ported or updated, with a few exceptions where other types of programs were misidentified as scripts or utilities. In addition, a number of utilities identified later in the process were ported, to make up the full SFWMM post-processing system. The system at this juncture consisted of 87 scripts and 95 utilities, comprising in excess of 100,000 lines of code.

A number of recommendations were made primarily along the lines of improved documentation and organization of code and directory structure. This was a new implementation of the SFWMM system and many changes were made to date during the porting process to assure consistency and proper execution of the numerous routines. Many of the suggested changes involved consolidation of routines and their associated files and file structures. These changes will assist maintainability in the future and produce a structure designed to be easily traceable and reproducible on additional Linux® boxes.

MODEL TESTING AND COMPARISON

This was the fourth in a series of technical memoranda documenting the porting of the SFWMM from the Sun / Solaris architecture to a PC / GNU / Linux® architecture. This document describes system operation issues and the comparison of the model predictions made on the new, ported system to those made on the original Sun platform.

In the process of accomplishing this task, a number of potential issues were identified which were not specifically code conversion matters. As a result of detailed comparisons of model output from the Linux® and Solaris versions of identical code and input data sets, possible code issues were identified, and divergent numeric results were reported in this document. In addition model output comparisons are also discussed. Numeric stability issues were also discussed in this report. Section 2 of the report addresses some issues that arose due to hardware and software design on the new platform, Section 3 addresses the model predicted output comparison itself and Section 4 addresses some conclusions and recommendations for the porting project.

LESSONS LEARNED AND RECOMMENDATIONS

This was the fifth and final in a series of technical memoranda documenting the porting of the SFWMM from the Sun / Solaris architecture to a PC / GNU / Linux® architecture. This document describes the lessons learned from the porting effort. Many of the recommendations provided by the contractor have been included in Section 5 (Conclusions and Recommendations) of this document.

IMPLEMENTATION ON THE LINUX® OPERATING SYSTEM

LINUX® SYSTEM ENVIRONMENT

The implementation effort endeavored to replicate the general functionality of the Interagency Modeling Center (IMC) UNIX® network by putting into service the South Florida Water Management Model (SFWMM) and its associated standard scripts and utilities on the IMC PCluster Linux® environment. The PCluster is comprised of one head node and seven compute nodes all running RedHat Enterprise Linux 4. Currently, three nodes have 64-bit Advanced Micro Devices (AMD) processors and five have 32-bit Intel processors. The cluster environment is controlled using the Sun Grid Engine software on the head node. The head node provides Network Information System (NIS) name services and 750GB of network storage over the Network File System (NFS) providing home and project directories as well as common software to all the compute nodes. In order to ensure consistent use of the PCluster, a skeletal user profile was developed and applied for all modeler accounts. All implementation efforts on PCluster were performed in a 32-bit compilation environment due to previously stated problems encountered with 64-bit compilation during contracted efforts. 64-bit nodes were however used for run-time testing.

The working directory structure used during the implementation effort is illustrated in **Figure 3**. This directory tree is consistent with the structure defined for the IMC UNIX® network. It attempts to organizationally separate the application (projects) and development/implementation (apps) environments as well as distinguishing between the source code storage (dev), testing (test) and production (prod) locations.

REVIEW OF CONTRACT DELIVERABLES

After the initial porting of applications was completed by Applied Technology and Management Incorporated (ATM), the IMC began its review of the ATM contract deliverables, which included the following components:

- Resolution of issues and version differences in applications and SFWMM code
- Implementation of GRACE as a replacement for XMGR
- Documentation describing the review of the individual scripts and utilities
- Compilation of summary statistics describing the above components

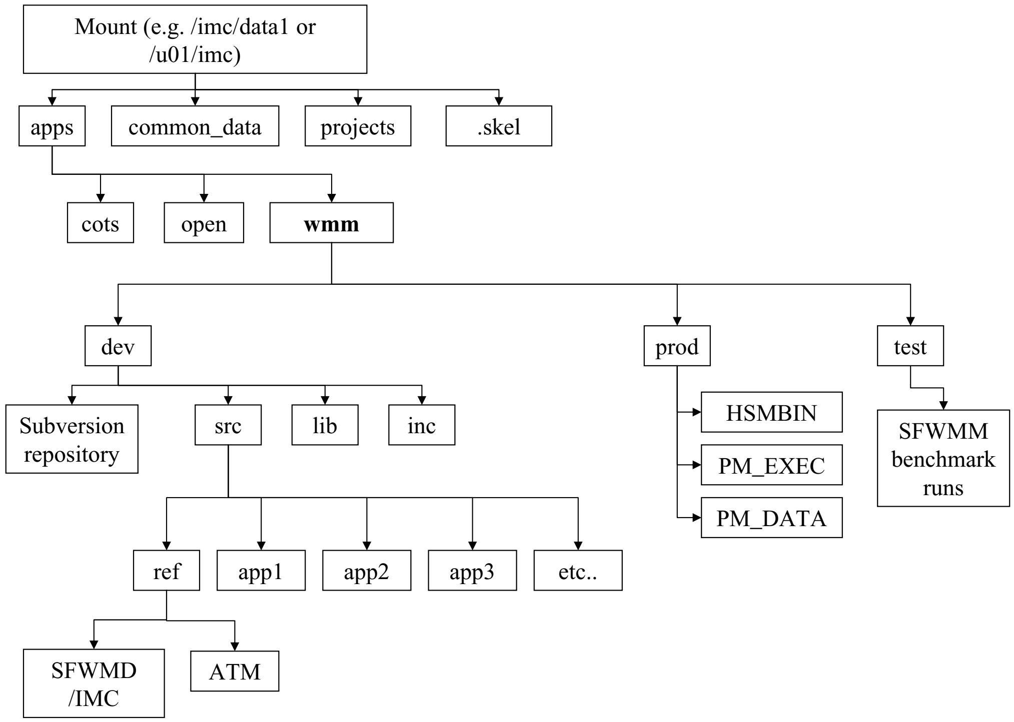


Figure 3. South Florida Water Management Model Linux® implementation directory structure

RESOLUTION OF ISSUES AND VERSION DIFFERENCES IN APPLICATIONS AND SFWMM

Project team members verified the reliability of the ATM produced work products, scripts and utility programs on the Linux® operating system. A list of the ported script and utility programs is presented in **Table 2**. Team members assigned an individual work product from **Table 2** were responsible for the following tasks:

- Resolve any syntax or dependency issues (e.g. GRACE formatting)
- Verify the output result versus known SFWMM testing benchmarks from the UNIX® platform
- Make sure that the script is capable of running a 41-year period of record simulation
- Add appropriate version control wildcards and check into the adopted standard source code control repository, Subversion (SVN)

Table 2. Scripts and utilities ported from UNIX® to Linux®

Script/Utility
asrbud
bin2xyzts
biscayne.scr
c43c44_bud
c43c44_supp_dmd_bar.scr
calc_flow_angle
canal_mfl_lec.scr
catDSS
cell_cat
cell_sum
cellcat2dss
chk_bud.scr
csss.scr
consolidate_pdfs.pl
dateStamp
distill
dss36
dsstool
dsstool_mean_monthly
dsstool_sum
dts2sum
dur_8393m.scr
dur_zone.scr
eaa_econ
eaa_watbud_2.scr
echo2
econ_post
enp_code_read_basin
enp_code_tests
epa_flows.scr
estuary.scr
fig2pdf2file
freq_water_restr.scr
ge_1.pl

Table 2. Scripts and utilities ported from UNIX® to Linux®

Script/Utility
ge_2.pl
ge_3.pl
ge_6.pl
ge_18.pl
ge_target1.pl
ge_target2.pl
ge_target3.pl
ge_target6.pl
ge_generator.scr
ge_target_generator.scr
Get
getDSS
gettheenv
gevers_pm1.scr
gevers_pm2.scr
gevers_pm3.scr
gevers_pm4.scr
gevers_pm6.scr
gevers_targets.scr
gr_bud
gr_cut
gr_min
gr_summary
gr_thsn
greg2jul_ymd
greg2jul_ymd_lng
grid_angle
grid_freq
grid_lmscale
grid_math
grid_mathe
grid_mscale
grid_peek
grid_shot

Table 2. Scripts and utilities ported from UNIX® to Linux®

Script/Utility
grid_ts_concat
grid_ts_cut
grid_week
gridsumalt
gridvel
gunzipdir
gzipdir
hp_pond.scr
hydroperiod
hyd_dur.scr
jday
jul2greg
lake_reg_discharge.scr
lec_cutbacks_mon_bar.scr
lec_cutbacks_vol_pct_bar.scr
lecsa_sw_disch.scr
levspg_ann_wet_dry.scr
levspg123.scr
line_sum
lkworth.scr
lo_generator.scr - Lake Okeechobee - Lo1, 2, and 3
lok_hpm.scr
lok_spring_recession
lok_stage_events.scr
lok_watbud.scr
lok_watbud_drought.scr
lok_WsDelv2Lecsa.scr
losa_cutback_yrs.scr
losa_dmd_report.scr
losa_other_supp_dmd_bar.scr
losassm
mds_wmm.exe
mean_mon.scr
mfl.scr

Table 2. Scripts and utilities ported from UNIX® to Linux®

Script/Utility
minmax
noresbud
peak_stage_maps.scr
periphyton_hsi.scr
pm_script
pm_sfwmm_ck.pl
pond_count
pws_demand_not_met.scr
report_to_pdf.scr
residual.scr
ridge_slough_hsi.scr
salinity_generator.scr
SE
seasonal_flow.scr
SE-E3_flw_Miami_biscayne.scr
seminole_ssm.scr
setup2graph
sig_gauge_generator.scr
snail.scr
ssm_4in1.scr
ssm_4in1_drought.scr
Sto
stoDSS
stretch32
transects_flow.scr
trigger
trigger_report.scr
uncummulate
watbud_ann.scr
wmm.scr
wmm_mkdirs.scr
wmm_pm.scr
wmm_post_proc.scr
wmmwbud

Table 2. Scripts and utilities ported from UNIX® to Linux®

Script/Utility
wmmtopo_v2.2
write_data2_graph
write_data2_grapht
ws_str.scr
wsupp2sa_comp.scr
xysts2bin

IMPLEMENTATION OF GRACE AS A REPLACEMENT FOR XMGR

XMGR is a two-dimensional plotting tool for workstations and X-terminals used in concert with the SFWMM. Recently, XMGR has been superseded by Grace, which was derived from XMGR. The vendor will no longer be maintaining the XMGR software. Due to these sustainability issues, the IMC implemented Grace as the replacement for XMGR.

The primary strength of Grace as compared to XMGR, lies in the fact that Grace combines the convenience of a graphical user interface (GUI) with the power of a scripting language which allows it to do sophisticated calculations or perform automated tasks.

DOCUMENTATION DESCRIBING THE REVIEW OF THE INDIVIDUAL SCRIPTS AND UTILITIES

As part of the implementation effort, a documentation form was created for each of the scripts and utilities. An example of a documentation form is presented in **Figure 4**. All of the forms for the individual scripts and utilities are presented in **Appendix A**. The documentation form was divided into following four phases:.

- Phase 1- Information gathering
- Phase 2- Initial development / result validation
- Phase 3- Final development
- Phase 4- Installation

Phase 1- Information Gathering

In this first phase of the review of ATM contracted deliverables, the reviewer examined the ATM (Linux® ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM. The reviewer determined if the ATM starting version was the same as the most recent WMD/IMC version. If the two versions were not the same, the

Linux Implementation Process / Documentation Form

Application or Script Name: asrbud
Assigned to: C White **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
  For 41 years the asrbud.cf needs to have 41 year record.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Figure 4. Sample of Linux® implementation process / documentation form

reviewer noted what were the different versions and provided a brief explanation of the major differences between the two versions. The reviewer also determined if the ATM script or utility ran as delivered by the contractor. The reviewer also checked (in directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX) during this phase to determine if the implementation progress had already been made on the script or utility, as to avoid duplication of efforts.

Phase 2- Initial Development / Result Validation

In the second phase of the review of the ATM contracted deliverables, the reviewer combined information from the ATM, WMD/IMC and/or SFWMD_2_LINUX versions to create a working, complete up-to-date version of the script or utility. During this stage, the reviewer may have needed to comment out any GRACE calls and substitute with older GRBATCH notation to ensure that information was displayed properly.

The reviewer next compared the resulting output of the script or utility on Linux® to the UNIX® product for the different scenarios (e.g. current, future, etc.). The reviewer then determined if this produced the same answer, a less than two percent difference or a greater than two percent difference. If differences occurred at this stage, the reviewer was instructed to inform appropriate staff of these differences and provide a description of them on the documentation form.

Phase 3- Final Development

In the third phase of the review of the ATM contracted deliverables, the reviewer addressed whether the script or utility had been modified to work with GRACE (GRACEBAT). If the utility or script was modified, the reviewer was asked to provide a description of the changes made in moving to GRACE.

The reviewer also documented if the script or utility had been modified to incorporate SVN keywords and if the script or utility is capable of running a 41-year period of record.

Phase 4- Installation

In the fourth phase of the review of the ATM contracted deliverables, the reviewer answered production related questions relating to the script or utility. The reviewer answered whether or not the finalized script or utility had been checked into SVN and if the finalized script or utility had been installed in the appropriate production location.

COMPILATION OF PRODUCTION SUMMARY STATISTICS

For production and tracking purposes, IMC staff created a spreadsheet tracking tool that incorporated responses from the previously discussed documentation. The spreadsheet tool helped track whether issues had been resolved, functionality verified and if documentation had been submitted for all Linux® ported scripts and utilities. The following general observations were made about the UNIX® to Linux® ported scripts and utilities:

- The UNIX® to Linux® porting effort included a combined total of 130 scripts and utilities (**Table 3**).
- In 95 (73.08 percent) of the cases, the ATM starting version of the script or utility was the same as the most recent SFWMD version. In 35 (26.92 percent) of the cases, the ATM starting version of the script or utility was not the same as the most recent SFWMD version.
- In 85 (65.38 percent) of the cases, the ATM script or utility executed as delivered by the contractor. In 45 (34.62 percent) of the cases, the ATM script or utility did not execute as delivered by the contractor.
- In 122 (93.85 percent) of the cases, the resulting output of the script or utility on Linux® and UNIX® operating systems produced the same answer. In eight (6.15 percent) of the cases, the resulting output of the script or utility on Linux® and UNIX® operating systems produced an answer with less than a two percent difference.
- In 45 (34.62 percent) of the cases, the utility or script was modified to work with Grace. In three cases (2.31 percent), the utility was not modified to work with Grace. Modification was not applicable in 82 cases (63.08 percent).
- In 130 of the cases (100 percent), the script or utility was modified to incorporate SVN keywords.
- In 129 cases (99.23 percent), the script or utility was capable of running a 41-year period of record. In 1 case (0.77 percent), the script or utility was not capable of running a 41-year period of record. The one utility not capable of executing for a 41-year period of record is the dss36 application, which is used for QAQC of model results and displays 36-year average annual information from the daily_str_flw.dss file to the screen. It is anticipated that a “dss41” application (or a more generic version of dss36) will be developed as use of 41-year simulations becomes more commonplace.
- In 130 cases (100.00 percent), the finalized script was checked into SVN.
- In 130 cases (100.00 percent) of the cases, the script or utility was installed at the appropriate server location.

Table 3. General production summary statistics for the documentation describing the review of the UNIX® to Linux® ported scripts and utilities

Phase	Documentation Question	Documentation Response Summary Statistics
1	Is the ATM script the same version as the most recent SFWMD/IMC version?	Affirmative- 95 (73.08%) Negative- 35 (26.92%)
1	Does the ATM script or utility run as delivered by the contractor?	Affirmative- 85 (65.38%) Negative- 45 (34.62%)
2	Comparing the resulting output of the script or utility on Linux to what it produces on UNIX® (for various scenarios) demonstrates: 1. the same answer 2. < 2 percent difference 3. > 2 percent difference	The same answer- 122 (93.85%) < 2 percent difference- 8 (6.15%) > 2 percent difference- 0 (0.00%)
3	Has the script or utility been modified to work with GRACE (GRACEBAT)?	Affirmative- 45 (34.62%) Negative- 3 (2.31%) Not applicable- 82 (63.08%)
3	Has the script or utility been modified to incorporate SVN keywords?	Affirmative- 130 (100.00%) Negative- 0 (0.00%)
3	Is the script or utility capable of running a 41-year period of record?	Affirmative- 129 (99.23%) Negative- 1 (0.77%)
4	Has the finalized script or utility been checked into SVN?	Affirmative- 130 (100%) Negative- 0 (0.00%)
4	Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?	Affirmative- 130 (100%) Negative- 0 (0.00%)

NON-PORTED SCRIPTS AND UTILITIES

Some scripts and utilities were not ported during this effort. These non-ported scripts and utilities were not ported due to issues with graphical user interface (GUI) development and mapping issues (**Table 4**). These issues will be addressed during a follow-up effort. It should be noted that a few scripts and utilities will not be ported to Linux® (**Table 5**).

Table 4. Scripts and utilities that will be ported during subsequent graphical user interface and mapping effort

Script/Utility
agric_FC_indic.scr
alligator_hsi.scr
cell_plot
fish_hsi.scr
gs2mf
gs2roco
his_main.scr
mwd
nullroco
peak_stage_maps.scr
periphyton_hsi.scr
ridge_slough_hsi.scr
rssi1
rssi2
rssi3
rssi4
treeislands_hsi.scr
ts2nsmgrids
ts2nsmgrids
ts2wmmgridl
ts2wmmgridls
wadeBird_HSI
wading_birds_hsi.scr
xgridview

Table 5. Scripts and utilities that will not be ported during this effort

Script/Utility	Additional Information
alligator	Deprecated
contFrag	Deprecated
ind-reg-rpt	To be replaced with a new application
recession_rates.scr	This is a new utility with dependence upon ind-reg-rpt
rescale	Deprecated
withlogs	Deprecated
pm_script	Deprecated

RESULTS

In order to determine the "acceptability" of the results of porting to the Linux® operating system, many layers of review were conducted by the Interagency Modeling Center (IMC) including:

- review of performance measures (PMs) comparing UNIX® versus Linux® runs (SFWMM v5.7) for three representative simulations (ECB, 2050B4 and 2010CP)
- review of post-processing SFWMM generated files (water budget script output)
- use of a IMC/United States Army Corps of Engineers (USACE) developed utility used to develop model to model comparison tables of the UNIX® versus Linux® runs (SFWMM v5.7)
- data of interest were also compared using IMC developed tools that determined several statistical measures of model performance
- runtime issues and code profiling were compared

PERFORMANCE MEASURE COMPARISON

Performance measures (PMs) are indicators of conditions in the natural and human systems that have been determined to be characteristic of a desired range of system response. PMs encompass a wide variety of methodologies for post-processing and presenting modeling information. A typical set of PMs generates over 1,000 figures and reports which summarize model output. The primary means by which modeling products are viewed and evaluated by interested parties is through the generation and posting of PMs, and as such, an assessment of UNIX® versus Linux® scenarios as displayed by a variety of PMs was deemed necessary. A review of PMs comparing UNIX® versus Linux® runs (SFWMM v5.7) for three representative simulations was conducted by the IMC. These simulations included the following:

- ECB: The Existing Conditions Baseline (ECB) is a planning base that represents conditions that currently exist in south Florida circa 2006 / 2007. In general, assumptions in the ECB correspond to structures, operations, system demands and land use that are estimates of current system conditions. Where emergency operations are currently in place, operations more representative of "normal" operations have been used for long-term simulation.
- 2050B4: The 2050B4 future without project condition is a planning base that represents predicted conditions that will exist in south Florida in 2050, without the implementation of CERP projects. In general, assumptions in the 2050B4 represent

structures, operations, system demands and land use that are projected to be in place in the year 2050. The 2050B4 condition does consider the non-CERP project related changes to infrastructure and operations.

- 2010CP: The 2010CP future with CERP project condition is a planning scenario that represents predicted conditions that will exist in south Florida in 2010, coinciding with the implementation of CERP Band 1 projects. In general, assumptions in the 2010CP represent structures, operations, system demands and land use that are projected to be in place in the year 2010 following the construction of several CERP and non-CERP projects.

These three scenarios were selected for use in Linux® verification testing in order to ensure that the model and associated utilities were examined across a wide variety of assumptions and system configurations (**Appendix B**). In general, the complexity of the features simulated (and percentage of the model code that is executed) increases during the progression from the ECB to the 2050B4 to the 2010CP scenario. At the time of testing, a full CERP (e.g. 2050 with all CERP projects) modeling scenario consistent with SFWMM V5.7 was not available for testing. As project support transitions to a Linux® hardware system, scenarios that are migrated to Linux® versions of the SFWMM (including full CERP) will be checked to ensure that performance of projects features is consistent between UNIX® and Linux® implementations of the SFWMM.

Figures 5 through **16** illustrate a subset of the reviewed PMs for the 2010CP scenario. A more extensive set of PMs illustrating comparisons for all three scenarios is presented in **Appendices C** and **D**. The subset of PMs illustrated in this report were selected to encompass the greatest possible range to capture the following:

1. a representative cross-section of the types of PMs produced such as stage duration curves, seasonal flow bar charts, event duration graphs, reports and maps
2. a review of the full geographic extent of the model including Lake Okeechobee, the Everglades Protection Area and Water Supply Service Areas

It can be observed by examining the metrics in the main text and the Appendices that, when viewed through the post processed filter of PMs, the results of the modeling scenarios completed on Linux® are virtually indistinguishable from those completed on UNIX®. These results provide a high-level confirmation that the move to a Linux® working environment for SFWMM application is acceptable. Small round off differences are unavoidable and expected when using these two different operating systems. At the most fundamental level, different computer hardware architectures are being utilized that may produce different results. This may be compounded by utilizing different compilers, both with different underlying numerical assumptions. These differences however are negligible and do not lead to drastically different scenarios.

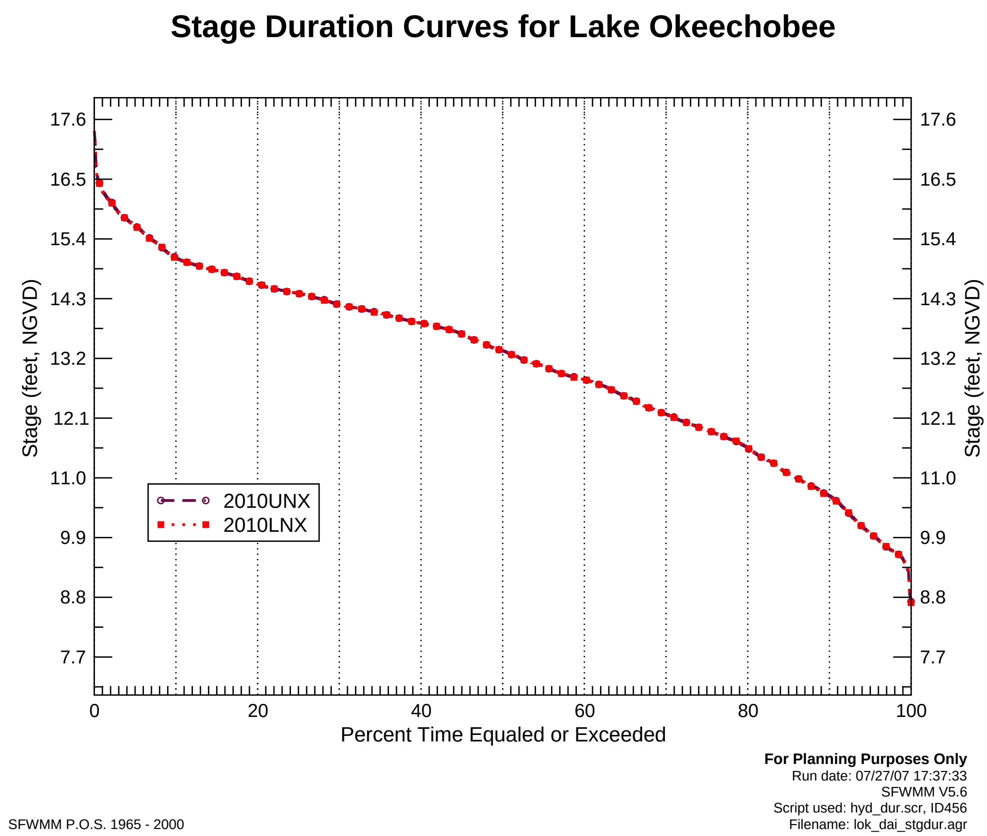


Figure 5. Stage duration curves for Lake Okeechobee for 2010CP UNIX® and Linux® simulations.

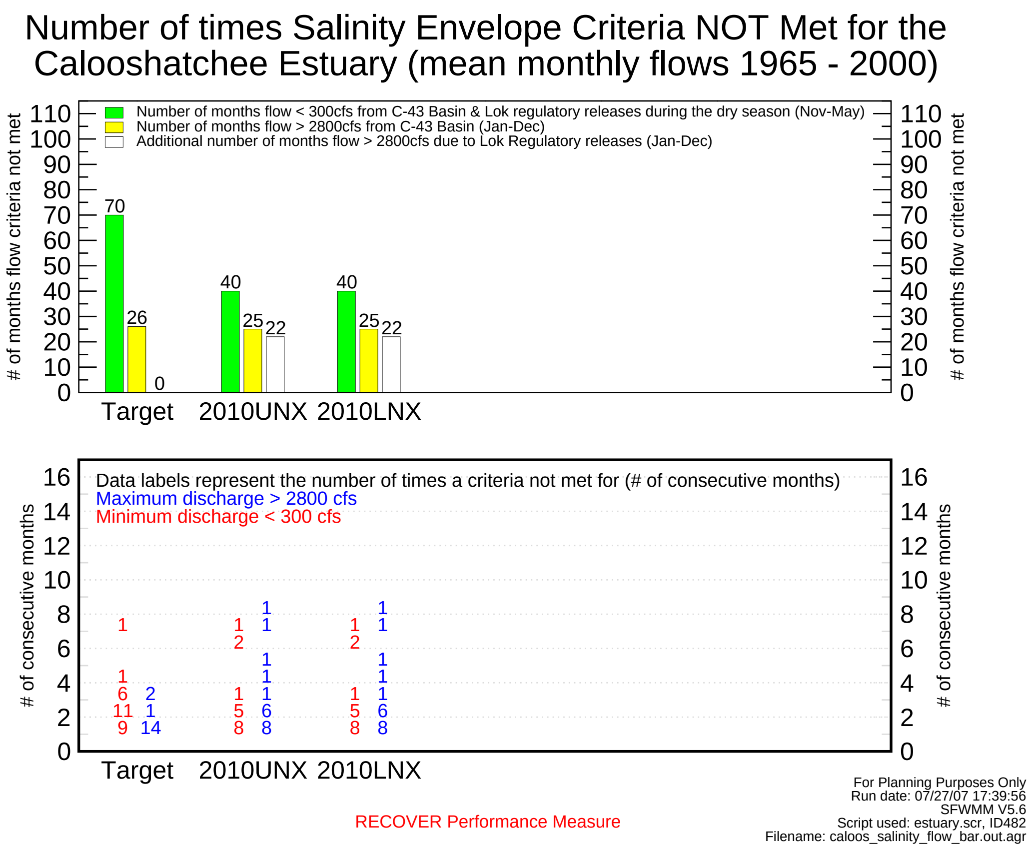


Figure 6. Number of times salinity envelope criteria not met for the Caloosahatchee Estuary for 2010CP UNIX® and Linux® simulations

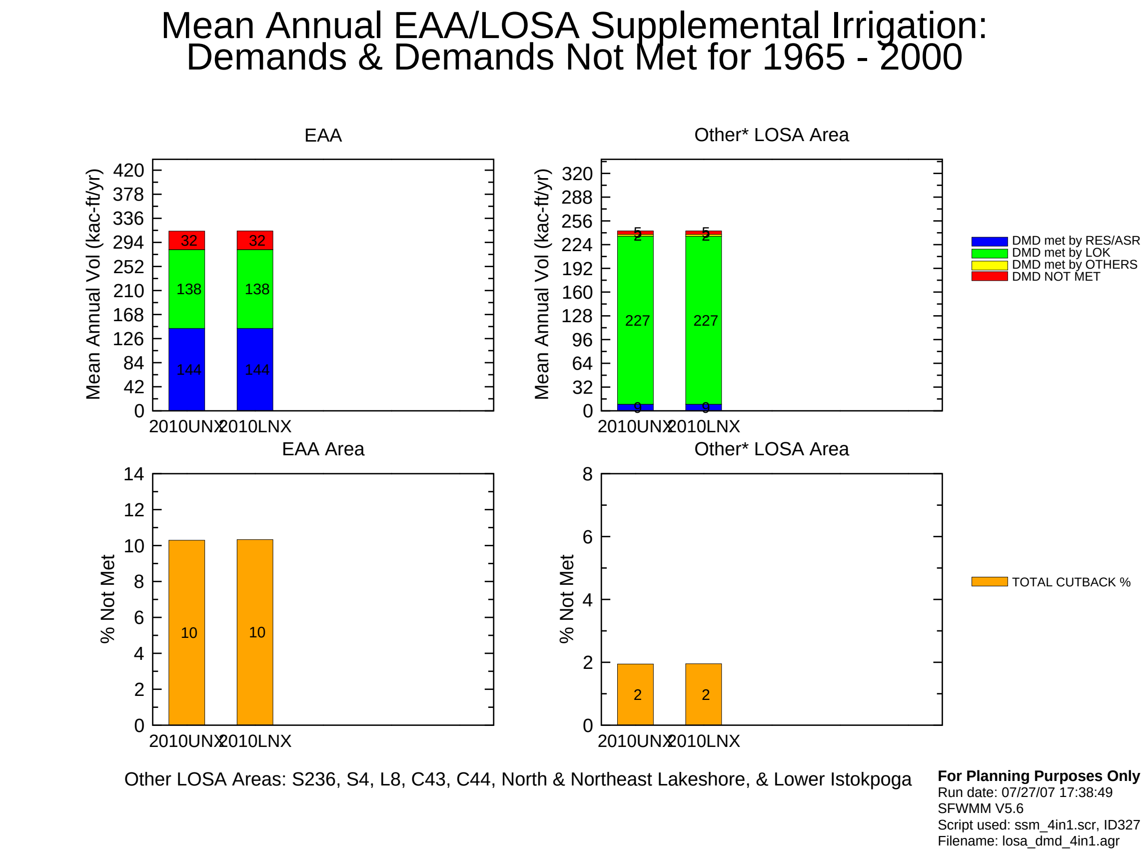


Figure 7. Mean annual EAA/LOSA supplemental irrigation: demands and demands not met for 1965 - 2000 for 2010CP UNIX® and Linux® simulations

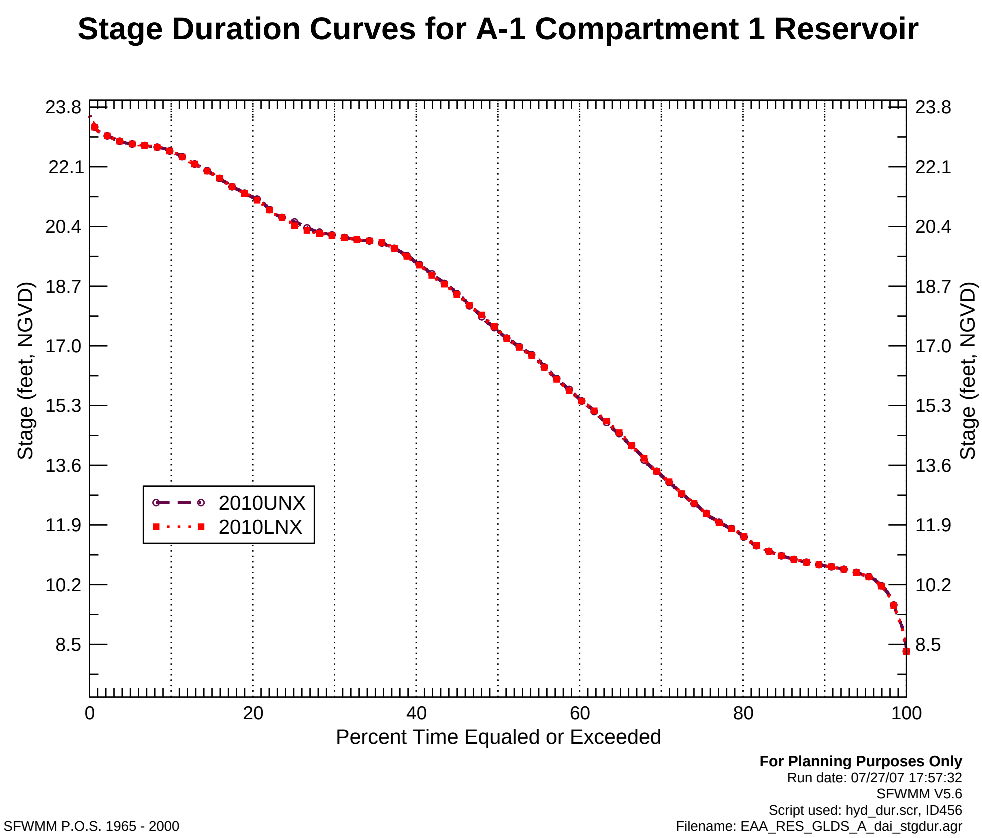


Figure 8. Stage duration curves for A-1 Compartment Reservoir for 2010CP UNIX® and Linux® simulations

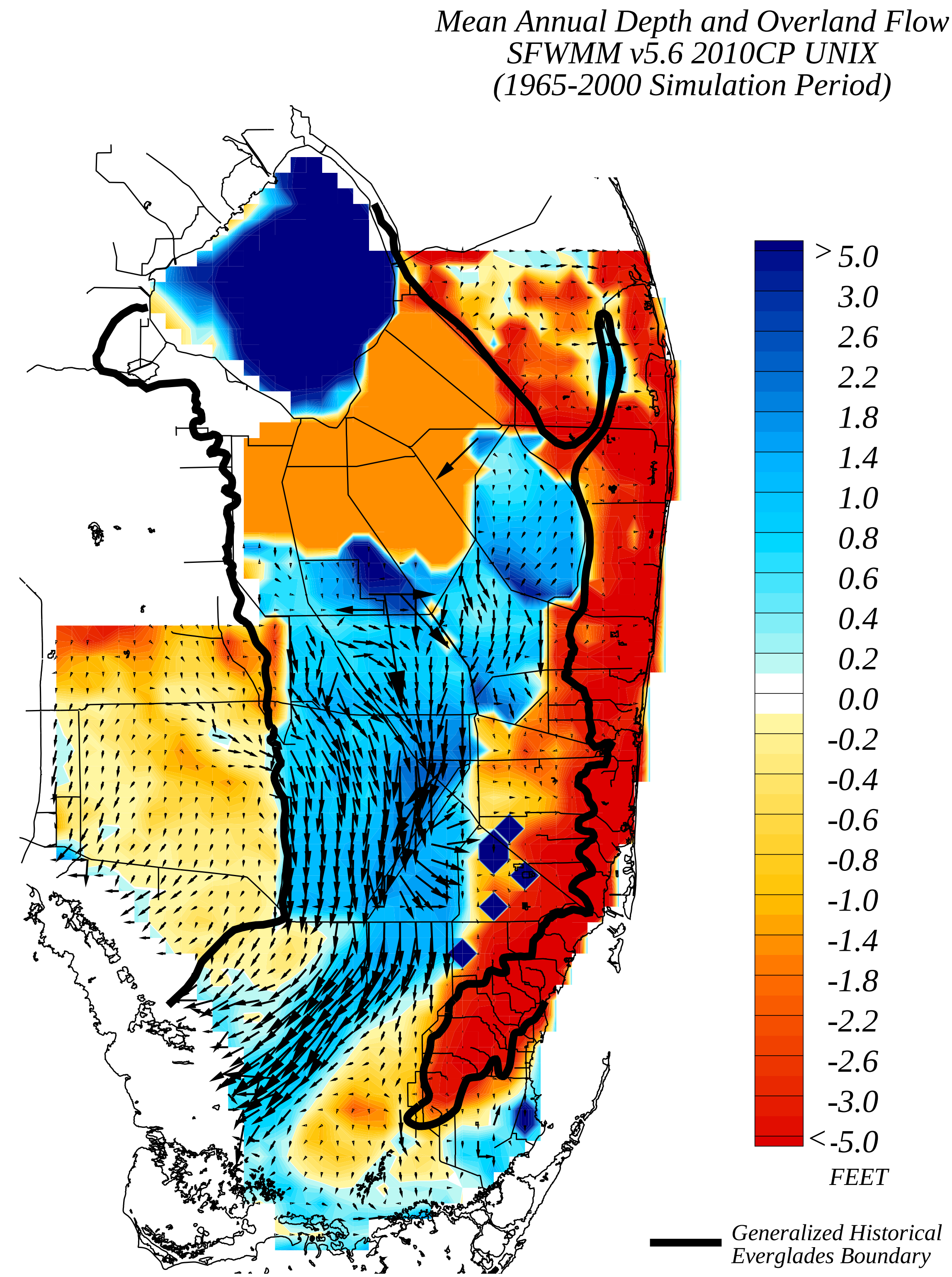


Figure 9. Mean annual depth and overland flow for 2010CP UNIX® simulation

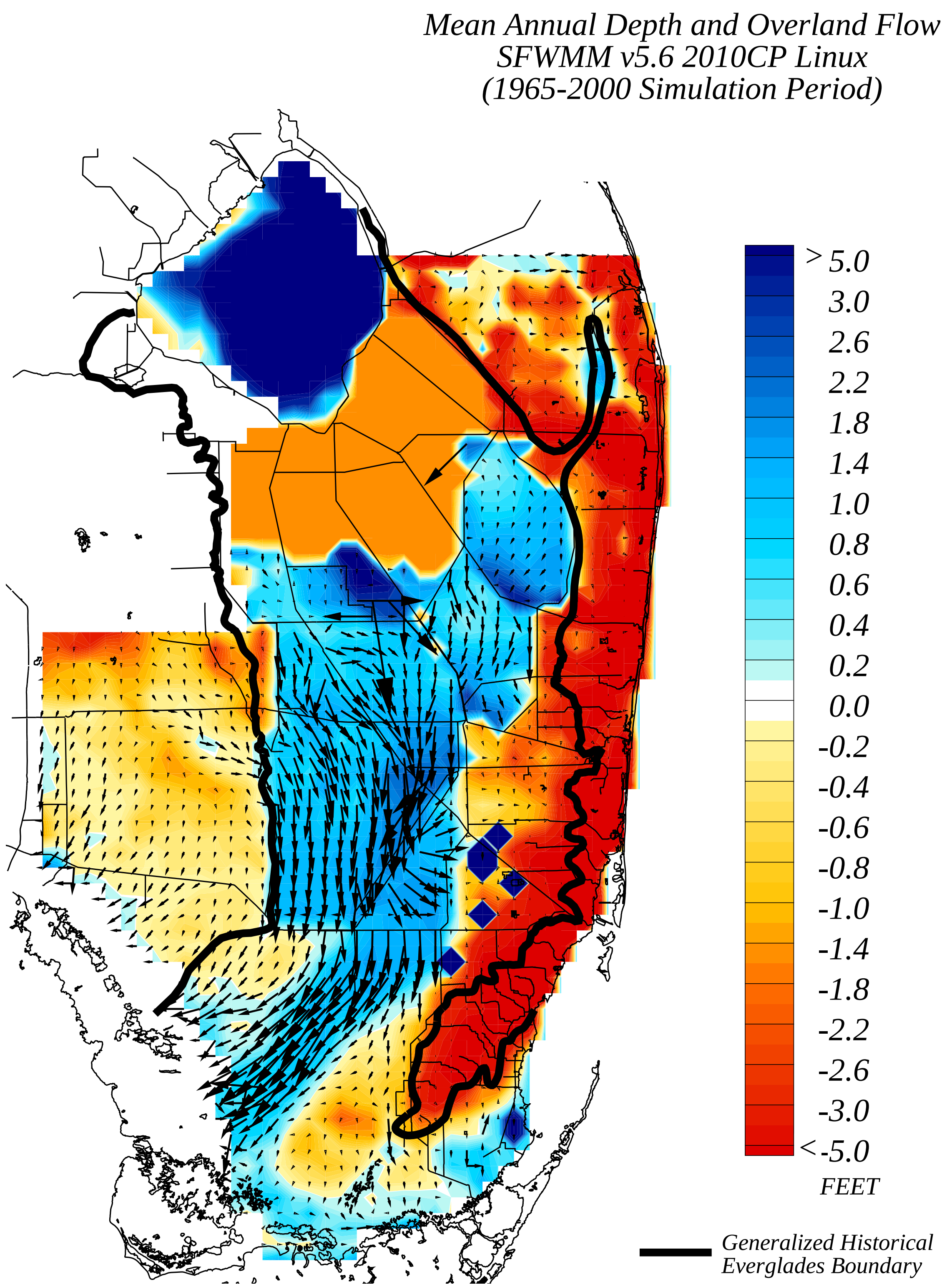


Figure 10. Mean annual depth and overland flow for 2010CP Linux® simulation

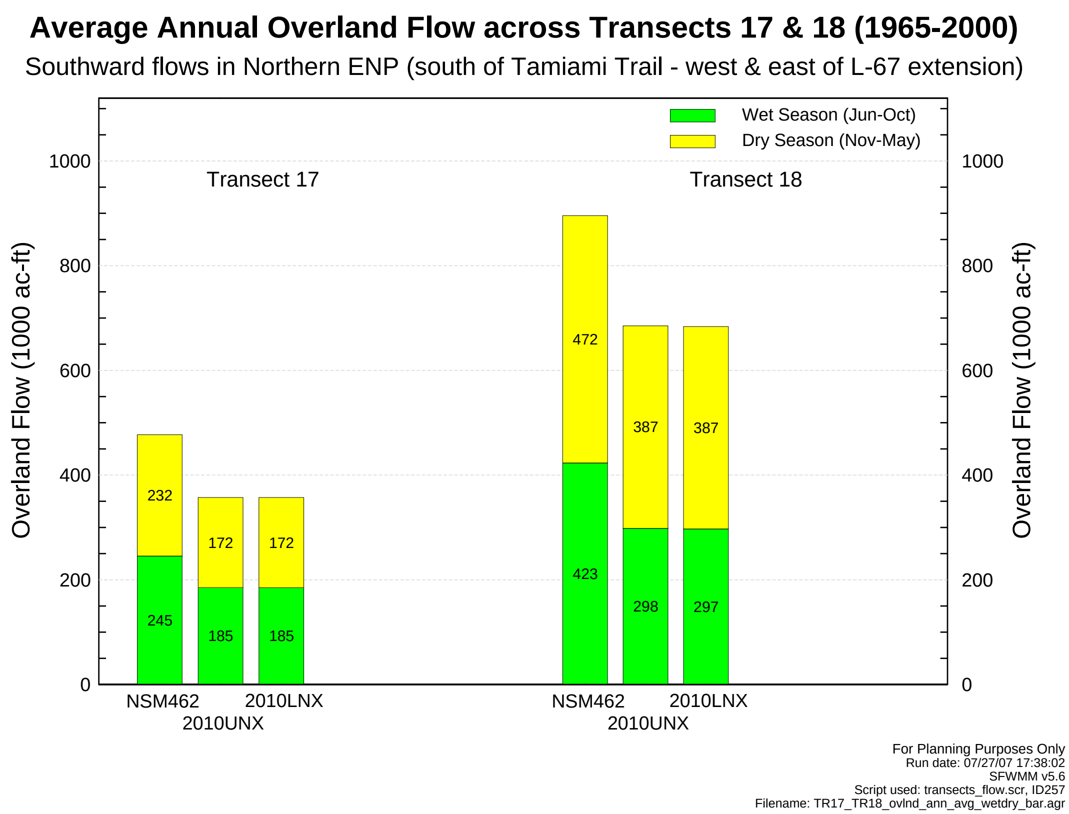


Figure 11. Average annual overland flow across Transects 17 and 18 for 2010CP UNIX® and Linux® simulations

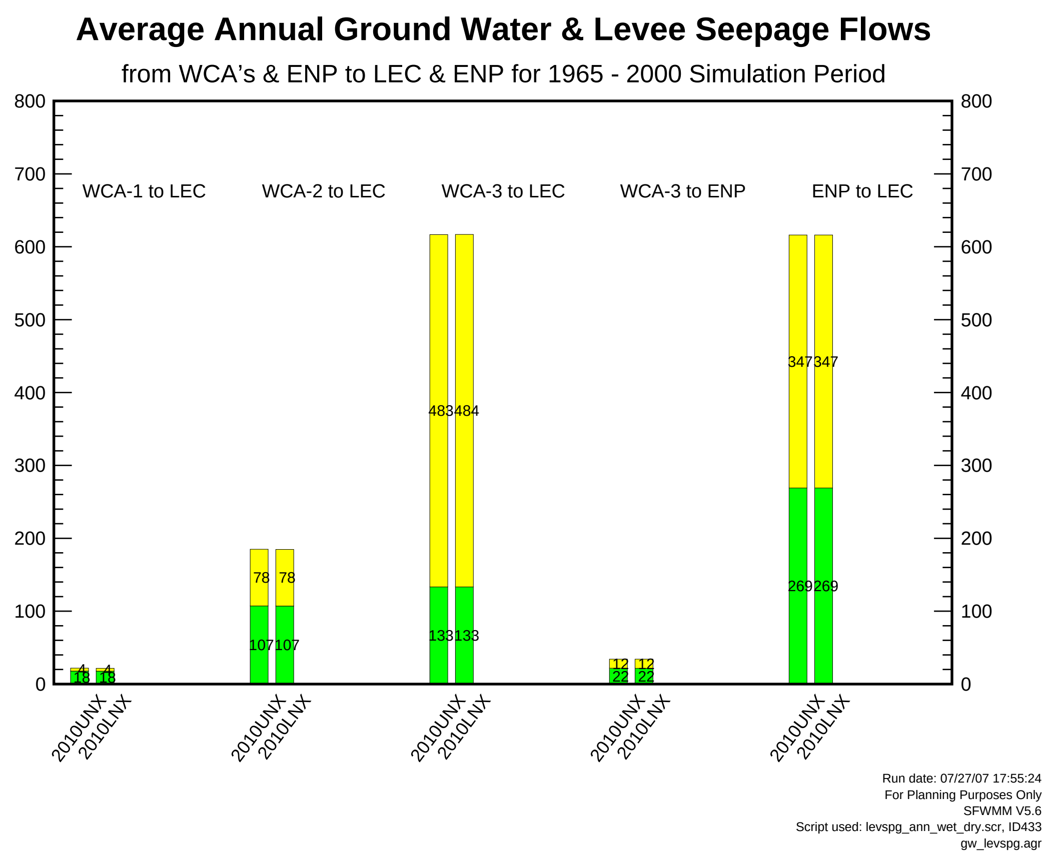


Figure 12. Average annual ground water and levee seepage flows for 2010CP UNIX® and Linux® simulations

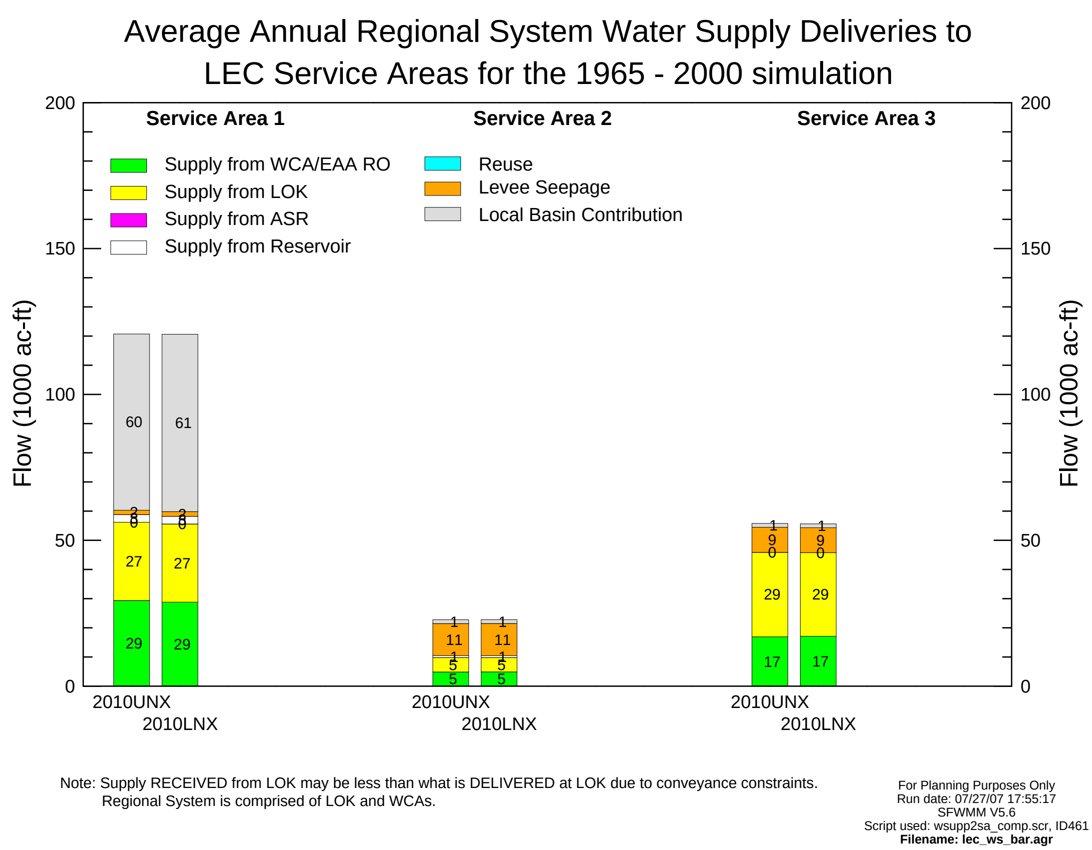


Figure 13. Average annual regional system water supply deliveries to LEC Service areas for the 1965 - 2000 for 2010CP UNIX® and Linux® simulations

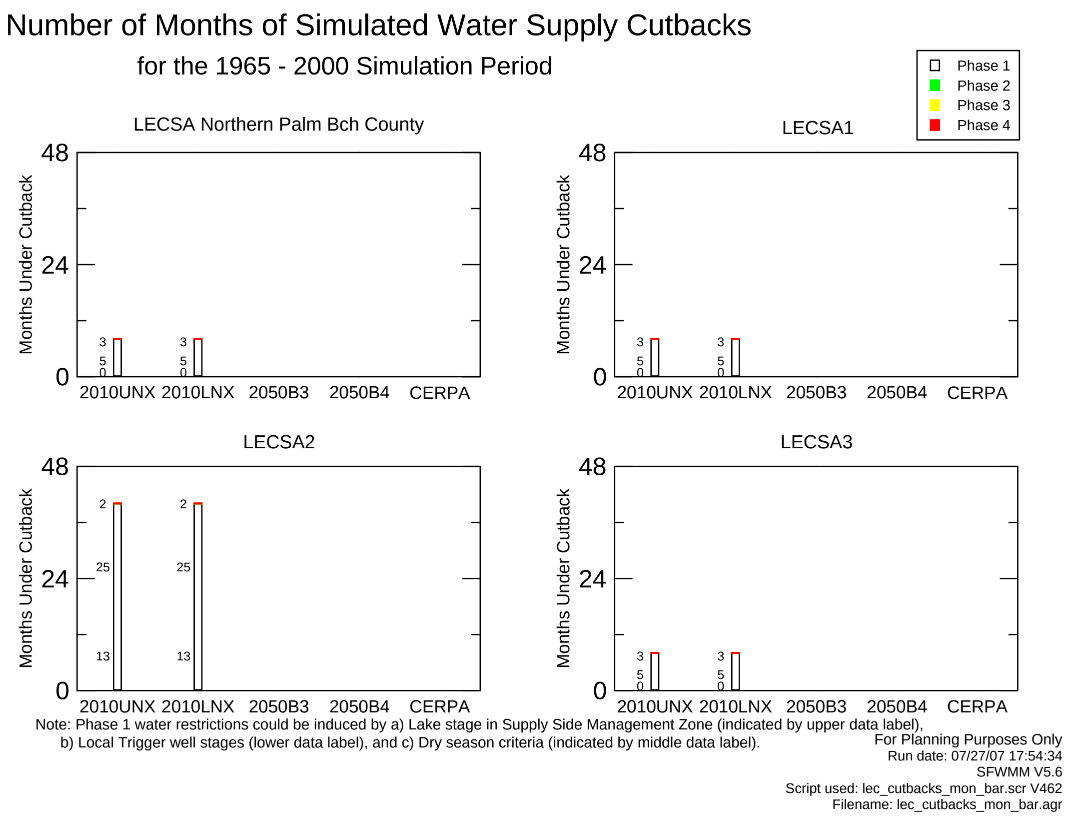


Figure 14. Number of months simulated water supply cutbacks for 2010CP UNIX® and Linux® simulations

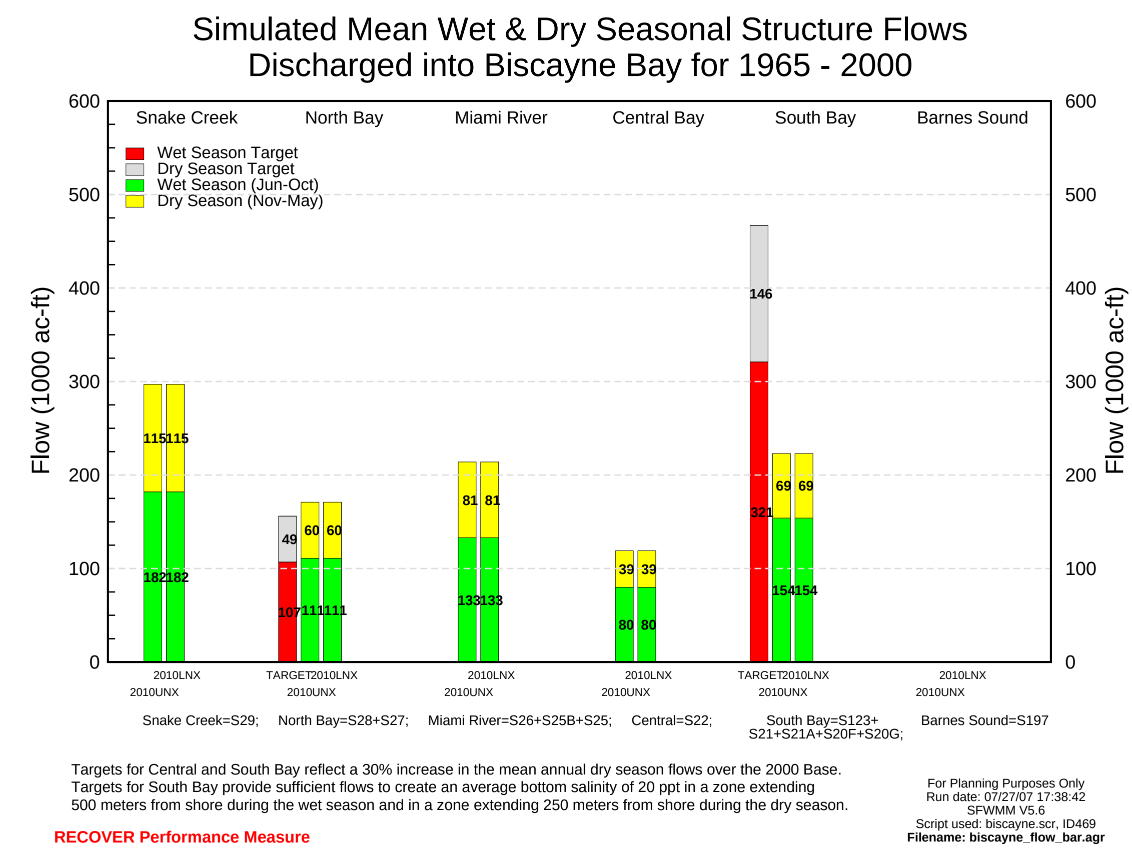


Figure 15. Simulated mean wet and dry seasonal structure flows discharged into Biscayne Bay for 1965 - 2000 for 2010CP UNIX® and Linux® simulations

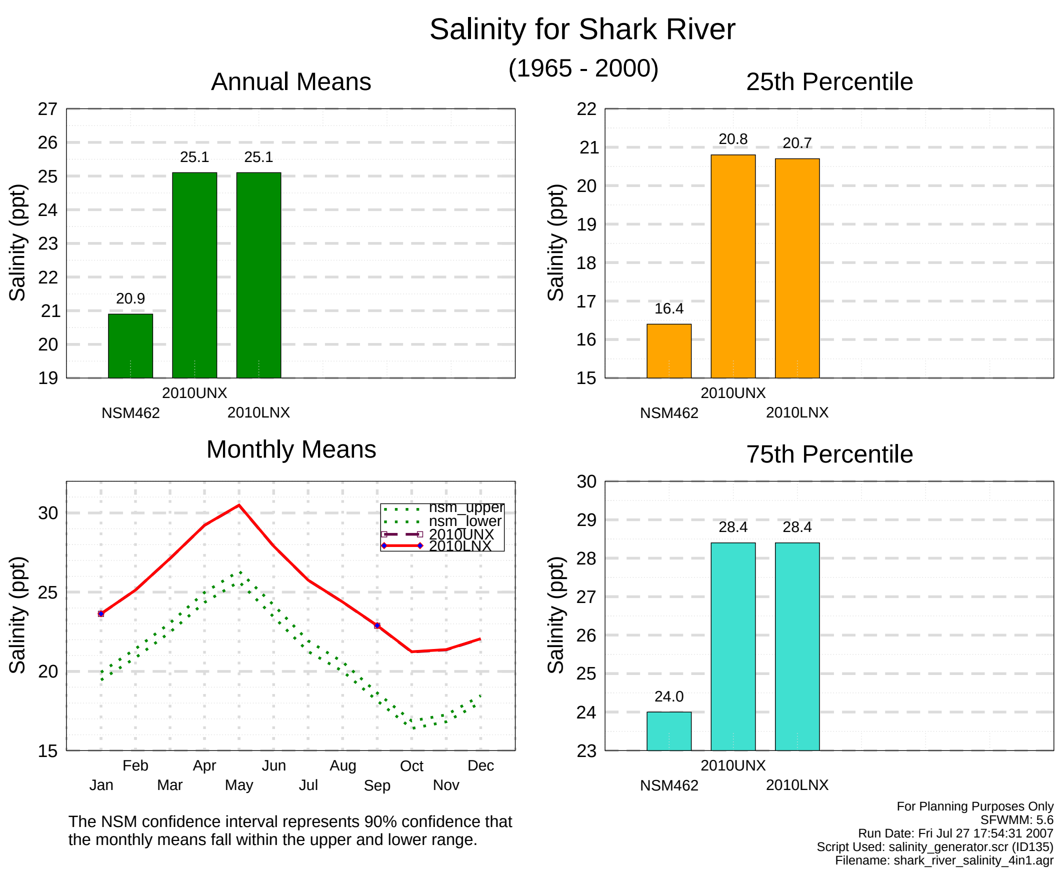


Figure 16. Salinity for Shark River for 2010CP UNIX® and Linux® simulations

REVIEW OF POST-PROCESSING SFWMM GENERATED FILES

As a standard post-processing practice, IMC utilizes several scripts that calculate water budget residuals across different time steps. This is a typical start point in post-processing analysis to determine how well a model is representing a basin. In general, an average annual residual value of 4.0 kac-ft or greater may indicate questionable simulation results, although in some cases residual tolerance is less and in rare instances larger residuals are deemed acceptable. However, residuals during this effort were examined to determine how similar the residuals were for the runs executed in the UNIX® and Linux® operating environments. Water budget residuals for the ECB, 2050B4 and 2010CP runs executed in the UNIX® and Linux® environments are presented in **Table 6**. The residuals were very consistent between the simulations of interest in both operating environments.

Table 6. Water budget average annual residuals (in kac-ft) for simulations of interest for UNIX® versus Linux® operating systems

Basin	ECB UNIX®	ECB Linux®	2050B4 UNIX®	2050B4 Linux®	2010CP UNIX®	2010CP Linux®
LAKE_OKEECHOBEE	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
EAA+HOL+ROT+298+STA	-8.1	-8.1	-0.7	-0.7	2.7	2.7
EAA_RES_COMPA1_1	N/A	N/A	N/A	N/A	0.6	0.6
EAA_RES_COMPA1_2	N/A	N/A	N/A	N/A	-0.4	-0.4
HOLEY_LAND	0.0	0.0	0.0	0.0	0.0	0.0
ROTEN_TRACT	0.0	0.0	0.0	0.0	0.0	0.0
STA_1E	0.0	0.0	0.0	0.0	0.0	0.0
STA_1W	0.0	0.0	0.0	0.0	0.0	0.0
STA_2	0.0	0.0	0.0	0.0	0.0	0.0
STA_2B	N/A	N/A	0.1	0.1	0.1	0.1
STA_3+4	0.0	0.0	0.0	0.0	0.0	0.0
STA_5W	0.0	0.0	0.0	0.0	0.0	0.0
STA_5E	0.0	0.0	0.0	0.0	0.0	0.0
STA_6	0.0	0.0	0.0	0.0	0.0	0.0
S5A_COMPLEX	0.0	0.0	0.2	0.2	0.1	0.1
L101_BASIN	0.0	0.0	0.0	0.0	0.0	0.0
SITE1	N/A	N/A	N/A	N/A	0.0	0.0
C11RES	N/A	N/A	N/A	N/A	0.0	0.0
C9RES	N/A	N/A	N/A	N/A	0.0	0.0
WATER_CONSERVATION_AREA-1	0.0	0.1	0.0	0.0	0.1	0.0
WATER_CONSERVATION_AREA-2A	0.0	0.0	0.0	0.0	0.0	0.0
WATER_CONSERVATION_AREA-3A	0.1	0.1	0.0	0.0	0.0	0.0
WATER_CONSERVATION_AREA-2B	0.0	0.0	0.3	0.3	0.4	0.4
WATER_CONSERVATION_AREA-3B	0.1	0.1	0.1	0.1	0.0	0.0
EVERGLADES_NATIONAL_PARK_EAST_E	0.0	0.0	0.1	0.1	0.2	0.2
BASIN_8_5_SQUARE_MILE_AREA	N/A	N/A	0.1	0.1	0.1	0.1
S332BN_S332A_RESERVOIR_AND_8_5_	N/A	N/A	0.1	0.1	0.1	0.1
R16C24_R16C24	N/A	N/A	0.0	0.0	0.0	0.0
S332A_RESERVOIR_AND_8_5_SMA_STA	N/A	N/A	0.0	0.0	0.0	0.0
R332BN_RESERVOIR_CELL_R15C24_R1	N/A	N/A	0.0	0.0	0.0	0.0
S332B_S332C_RESERVOIR_CellS_R14	N/A	N/A	0.0	0.0	0.0	0.0
S332D_RESERVOIR_Cell_R12C24	N/A	N/A	0.0	0.0	0.1	0.1
S332F_RESERVOIR	N/A	N/A	0.0	0.0	0.0	0.0
BIG_CYPRESS_NATIONAL_PRESERVE	-0.1	-0.1	-0.1	-0.1	-0.1	-0.1
INDIAN_TRAILS_RESERVOIR	0.0	0.0	0.0	0.0	0.0	0.0
L-8_BASIN	0.1	0.1	0.0	0.0	-2.6	-2.7
EASTERN_PALM_BEACH_COUNTY	-3.0	-3.0	0.0	0.0	1.8	1.7
EASTERN_BROWARD_COUNTY	-0.4	-0.4	-0.4	-0.4	0.0	0.0
EASTERN_DADE_COUNTY	-0.6	-0.6	-0.6	-0.6	-0.6	-0.6
WCA_SYSTEM+L101	-2.3	-2.3	0.0	0.0	0.1	0.0
LEC_DEVELOPED_AREA+L8+STA1E	-4.0	-4.0	-1.1	-1.1	1.3	1.1

MODEL TO MODEL COMPARISON

Comparison Tables

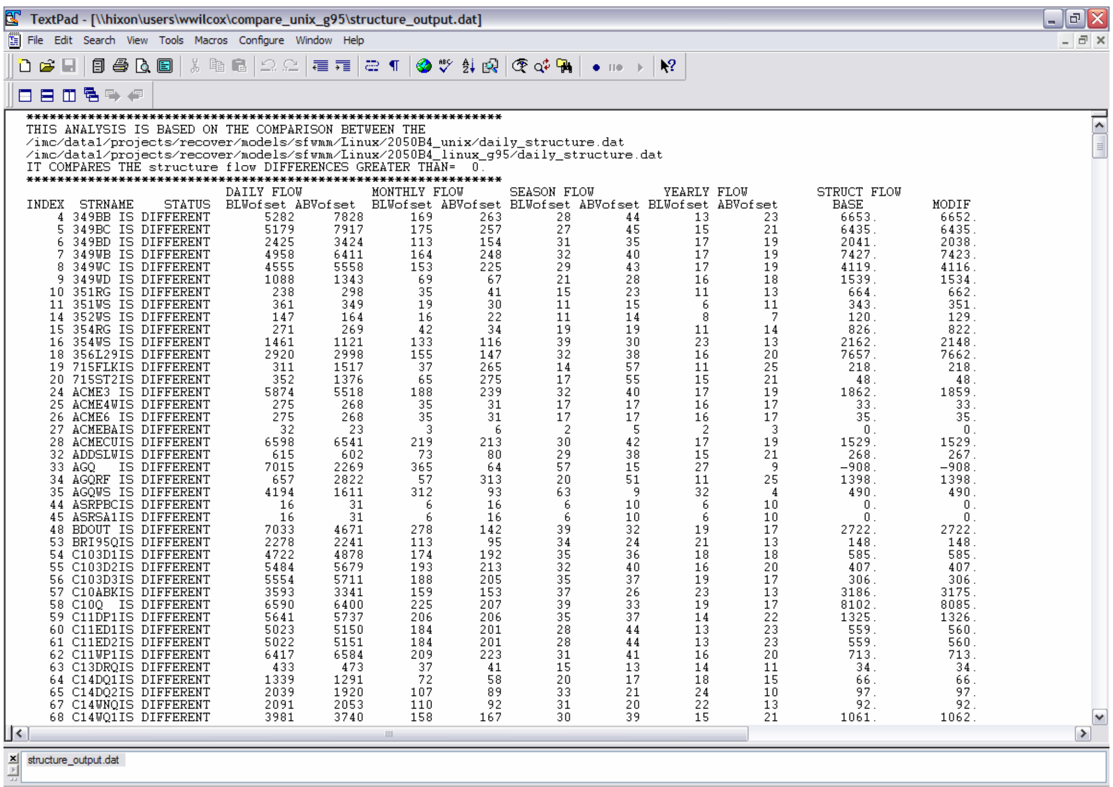
IMC staff utilized a USACE developed program used to produce comparison tables of the UNIX® versus Linux® runs (SFWMM v5.7). This program has several different options that allow the user to perform the following functions:

- Option 1- Evaluate daily stage monitoring points
- Option 2 -Analyze actual daily canal stages using a SFWMM run
- Option 3- Produce annual canal stage comparisons
- Option 4- Produce daily canal stage comparisons
- Option 5- Produce an annual water budget post-processor analysis summary
- Option 6- Execute a static grid cell location map program
- Option 7- Produce a total structure flow analysis
- Option 8- Produce an individual structure flow comparison analysis
- Option 9- Produce a structure annual water budget comparison

For this effort, IMC utilized options 4 and 7 of the program. Samples of the output produced by the program are presented in **Figures 17** and **18**.

Stage (Canal) Data

Comparison tables (using Option 4 of the utility program) of daily canal stage data were produced for the ECB, 2050B4 and 2010CP runs in the UNIX® and Linux® environments (**Appendix E**). These tables utilized canal stage data from the daily_canal_stg.dat file produced by the SFWMM for each of the runs. For this analysis, the program was used to compare canal stage differences greater than zero (a user-specified "offset" value of zero was used to execute the application). When a difference greater than zero occurred between the UNIX® and Linux® runs, the canal was listed along with "offset" data and minimum and maximum stages values. As an indicator of overall performance, the absolute difference between the above and below offset values (in days) was determined for individual canal reaches. Data from these tables (**Tables E-1** through **E-3**) were used primarily to indicate a persistent bias in simulated stage values as indicated by a divergent count of below offset and above offset values. The minimum and maximum stage values as depicted in the comparison tables were also reviewed to establish consistency in the magnitude of peak stage events. Histograms depicting frequency of differences in minimum and maximum stage values for all of the UNIX® and Linux® simulations are presented in **Appendix E** (**Figures E-1** through **E-6**). The stage values for all simulations in UNIX® and Linux® were found to be largely consistent, with very few reaches illustrating significant differences in above/below


TextPad - [\\hixon\users\wwilcox\compare_unix_g95\structure_output.dat]

```
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THIS ANALYSIS IS BASED ON THE COMPARISON BETWEEN THE
/imc/data1/projects/recover/models/sfwmm/Linux/2050B4_unix/daily_structure.dat
/imc/data1/projects/recover/models/sfwmm/Linux/2050B4_linux_g95/daily_structure.dat
IT COMPARES THE structure flow DIFFERENCES GREATER THAN=  0.
*************************************************************
                          DAILY FLOW        MONTHLY FLOW      SEASON FLOW        YEARLY FLOW         STRUCT FLOW
INDEX  STRNAME    STATUS  BLWofset ABVofset BLWofset ABVofset BLWofset ABVofset BLWofset ABVofset      BASE           MODIF
    4 349BB IS DIFFERENT      5282     7828      169      263       28       44       13       23      6653.          6652.
    5 349BC IS DIFFERENT      5179     7917      175      257       27       45       15       21      6435.          6435.
    6 349BD IS DIFFERENT      2425     3424      113      154       31       35       17       19      2041.          2038.
    7 349WB IS DIFFERENT      4958     6411      164      248       32       40       17       19      7427.          7423.
    8 349WC IS DIFFERENT      4555     5558      153      225       29       43       17       19      4119.          4116.
    9 349WD IS DIFFERENT      1088     1343       69       67       21       28       16       18      1539.          1534.
   10 351RG IS DIFFERENT       238      298       35       41       15       23       11       13       664.           662.
   11 351WS IS DIFFERENT       361      349       19       30       11       15        6       11       343.           351.
   14 352WS IS DIFFERENT       147      164       16       22       11       14        8        7       120.           129.
   15 354RG IS DIFFERENT       271      269       42       34       19       19       11       14       826.           822.
   16 354WS IS DIFFERENT      1461     1121      133      116       39       30       23       13      2162.          2148.
   18 356L29IS DIFFERENT      2920     2998      155      147       32       38       16       20      7657.          7662.
   19 715FLKIS DIFFERENT       311     1517       37      265       14       57       11       25       218.           218.
   20 715ST2IS DIFFERENT       352     1376       65      275       17       55       15       21        48.            48.
   24 ACME3 IS DIFFERENT      5874     5518      188      239       32       40       17       19      1862.          1859.
   25 ACME4WIS DIFFERENT       275      268       35       31       17       17       16       17        33.            33.
   26 ACME6 IS DIFFERENT       275      268       35       31       17       17       16       17        35.            35.
   27 ACMEBAIS DIFFERENT        32       23        3        6        2        5        2        3         0.             0.
   28 ACMECUIS DIFFERENT      6598     6541      219      213       30       42       17       19      1529.          1529.
   32 ADDSLWIS DIFFERENT       615      602       73       80       29       38       15       21       268.           267.
   33 AGQ   IS DIFFERENT      7015     2269      365       64       57       15       27        9      -908.          -908.
   34 AGQRF IS DIFFERENT       657     2822       57      313       20       51       11       25      1398.          1398.
   35 AGQWS IS DIFFERENT      4194     1611      312       93       63        9       32        4       490.           490.
   44 ASRPBCIS DIFFERENT        16       31        6       16        6       10        6       10         0.             0.
   45 ASRSA1IS DIFFERENT        16       31        6       16        6       10        6       10         0.             0.
   48 BDOUT IS DIFFERENT      7033     4671      278      142       39       32       19       17      2722.          2722.
   53 BRI95QIS DIFFERENT      2278     2241      113       95       34       24       21       13       148.           148.
   54 C103D1IS DIFFERENT      4722     4878      174      192       35       36       18       18       585.           585.
   55 C103D2IS DIFFERENT      5484     5679      193      213       32       40       16       20       407.           407.
   56 C103D3IS DIFFERENT      5554     5711      188      205       35       37       19       17       306.           306.
   57 C10ABKIS DIFFERENT      3593     3341      159      153       37       26       23       13      3186.          3175.
   58 C10Q  IS DIFFERENT      6590     6400      225      207       39       33       19       17      8102.          8085.
   59 C11DP1IS DIFFERENT      5641     5737      206      206       35       37       14       22      1325.          1326.
   60 C11ED1IS DIFFERENT      5023     5150      184      201       28       44       13       23       559.           560.
   61 C11ED2IS DIFFERENT      5022     5151      184      201       28       44       13       23       559.           560.
   62 C11WP1IS DIFFERENT      6417     6584      209      223       31       41       16       20       713.           713.
   63 C13DRQIS DIFFERENT       433      473       37       41       15       13       14       11        34.            34.
   64 C14DQ1IS DIFFERENT      1339     1291       72       58       20       17       18       15        66.            66.
   65 C14DQ2IS DIFFERENT      2039     1920      107       89       33       21       24       10        97.            97.
   67 C14WNQIS DIFFERENT      2091     2053      110       92       31       20       22       13        92.            92.
   68 C14WQ1IS DIFFERENT      3981     3740      158      167       30       39       15       21      1061.          1062.
```
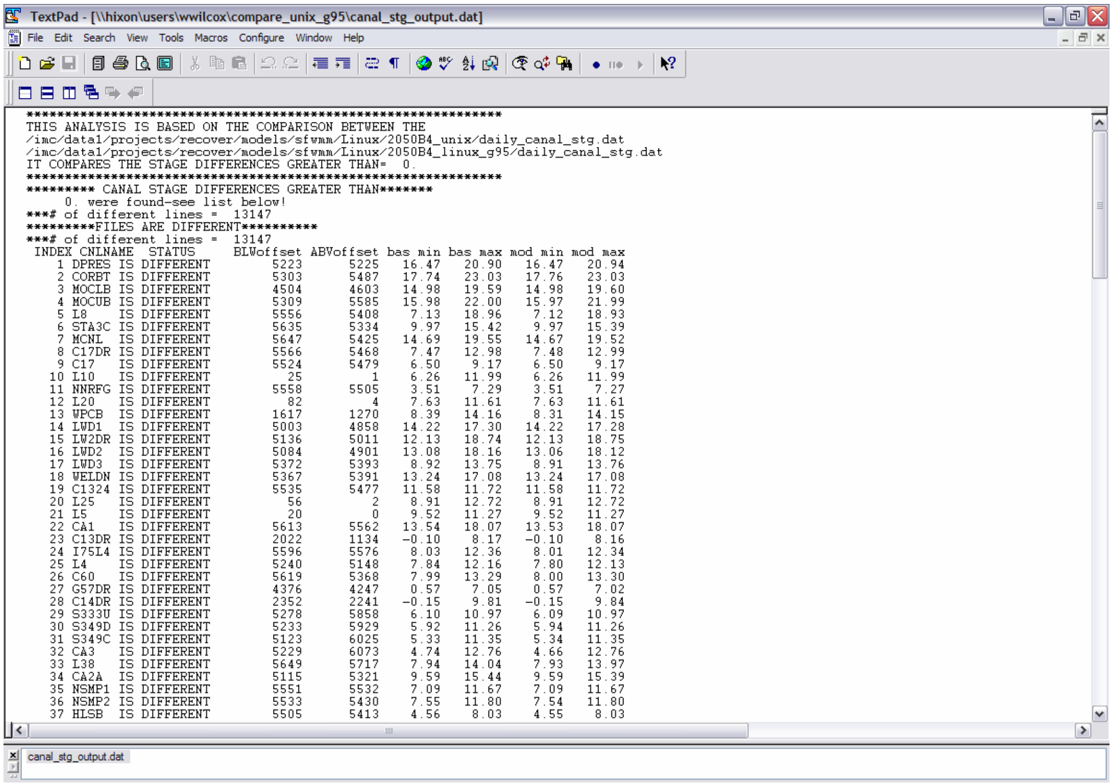

structure_output.dat

Figure 17. Sample of utility program output depicting structure (flow) differences between UNIX® and Linux® simulations




```
*************************************************************
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/imc/data1/projects/recover/models/sfwmm/Linux/2050B4_linux_g95/daily_canal_stg.dat
IT COMPARES THE STAGE DIFFERENCES GREATER THAN=  0.
*************************************************************
********** CANAL STAGE DIFFERENCES GREATER THAN*******
     0. were found-see list below!
***# of different lines =  13147
*********FILES ARE DIFFERENT**********
***# of different lines =  13147
 INDEX CNLNAME  STATUS     BLWoffset ABVoffset bas min bas max mod min mod max
     1 DPRES IS DIFFERENT       5223      5225   16.47   20.90   16.47   20.94
     2 CORBT IS DIFFERENT       5303      5487   17.74   23.03   17.76   23.03
     3 MOCLB IS DIFFERENT       4504      4603   14.98   19.59   14.98   19.60
     4 MOCUB IS DIFFERENT       5309      5585   15.98   22.00   15.97   21.99
     5 L8    IS DIFFERENT       5556      5408    7.13   18.96    7.12   18.93
     6 STA3C IS DIFFERENT       5635      5334    9.97   15.42    9.97   15.39
     7 MCNL  IS DIFFERENT       5647      5425   14.69   19.55   14.67   19.52
     8 C17DR IS DIFFERENT       5566      5468    7.47   12.98    7.48   12.99
     9 C17   IS DIFFERENT       5524      5479    6.50    9.17    6.50    9.17
    10 L10   IS DIFFERENT         25         1    6.26   11.99    6.26   11.99
    11 NNRFG IS DIFFERENT       5558      5505    3.51    7.29    3.51    7.27
    12 L20   IS DIFFERENT         82         4    7.63   11.61    7.63   11.61
    13 WPCB  IS DIFFERENT       1617      1270    8.39   14.16    8.31   14.15
    14 LWD1  IS DIFFERENT       5003      4858   14.22   17.30   14.22   17.28
    15 LW2DR IS DIFFERENT       5136      5011   12.13   18.74   12.13   18.75
    16 LWD2  IS DIFFERENT       5084      4901   13.08   18.16   13.06   18.12
    17 LWD3  IS DIFFERENT       5372      5393    8.92   13.75    8.91   13.76
    18 WELDN IS DIFFERENT       5367      5391   13.24   17.08   13.24   17.08
    19 C1324 IS DIFFERENT       5535      5477   11.58   11.72   11.58   11.72
    20 L25   IS DIFFERENT         56         2    8.91   12.72    8.91   12.72
    21 L5    IS DIFFERENT         20         0    9.52   11.27    9.52   11.27
    22 CA1   IS DIFFERENT       5613      5562   13.54   18.07   13.53   18.07
    23 C13DR IS DIFFERENT       2022      1134   -0.10    8.17   -0.10    8.16
    24 I75L4 IS DIFFERENT       5596      5576    8.03   12.36    8.01   12.34
    25 L4    IS DIFFERENT       5240      5148    7.84   12.16    7.80   12.13
    26 C60   IS DIFFERENT       5619      5368    7.99   13.29    8.00   13.30
    27 G57DR IS DIFFERENT       4376      4247    0.57    7.05    0.57    7.02
    28 C14DR IS DIFFERENT       2352      2241   -0.15    9.81   -0.15    9.84
    29 S333U IS DIFFERENT       5278      5858    6.10   10.97    6.09   10.97
    30 S349D IS DIFFERENT       5233      5929    5.92   11.26    5.94   11.26
    31 S349C IS DIFFERENT       5123      6025    5.33   11.35    5.34   11.35
    32 CA3   IS DIFFERENT       5229      6073    4.74   12.76    4.66   12.76
    33 L38   IS DIFFERENT       5649      5717    7.94   14.04    7.93   13.97
    34 CA2A  IS DIFFERENT       5115      5321    9.59   15.44    9.59   15.39
    35 NSMP1 IS DIFFERENT       5551      5532    7.09   11.67    7.09   11.67
    36 NSMP2 IS DIFFERENT       5533      5430    7.55   11.80    7.54   11.80
    37 HLSB  IS DIFFERENT       5505      5413    4.56    8.03    4.55    8.03
```

Figure 18. Sample of utility program output depicting canal (stage) differences between UNIX® and Linux® simulations

counts or minimum/maximum stages. The few reaches, such as WPCB, that did illustrate noticeable differences in above/below counts did not demonstrate a consistent trend when looking at all three scenarios and were therefore considered acceptable.

Flow (Structure) Data

Comparison tables (using Option 7 of the utility program) of monthly, seasonal and annual structure flow data were produced for the ECB, 2050B4 and 2010CP runs in the UNIX® and Linux® environments (**Appendix F**). There was no analysis of daily flow values, as these are too "flashy", indicating that small numerical differences lead to changes in operational decisions that have been based on fixed thresholds for a given structure within a defined time-step (operational differences of this nature tend to resolve to similar results - i.e. reconverge - over multiple time steps, hence the aggregated periods of comparison).

In addition to the standard output of the program, a general screening criterion was established for the flow comparison to help establish areas for additional examination. This criterion checked whether the absolute percent difference between runs for a given structure was greater than two percent and whether the average period volume (monthly or annual) was greater than a volume equivalent to a 2,000 cubic feet per second per day (cfs/day) flow rate. **Appendix F** (**Tables F-1** through **F-3)** presents enhanced flow summaries with monthly and annual flows with the above established screening criteria for the three scenarios. **Table 7** presents a summary of the enhanced flow tables for each simulation indicating the number of exceedences of the screening criteria and the percent of the population above the screening criteria. Only a small percentage of the population, for each of simulations of interest exceeded the screening criteria. Those structures that do exceed the screening criteria tend to fall into one of the following categories:

- <u>Structures on canal reaches in which the canals perform differently on the two operating systems</u> Additional discussion on these canals is presented in the next section describing statistical measures of error.
- <u>Structures associated with water supply operations</u> The "maintenance" nature of these operations is such that small changes in stage associated with different platforms can result in somewhat larger changes in flow volumes. The timing of some of these operations also tends to be influenced by regional parameters (e.g. dry season criteria associated with Lake Okeechobee Supply Side Management practices) which can introduce a monthly or even seasonal response in the structure based on a single event.
- <u>Structures that route Everglades Agricultural Area (EAA) runoff</u> In the SFWMM, EAA runoff is generated by a soil moisture accounting algorithm which can be heavily influenced by day to day structure operations, water supply deliveries and regional considerations (e.g. stormwater treatment area performance). As

such, structures that route flow resulting from this algorithm have an increased likelihood of exceeding the established screening criteria.

Table 7. Summary of simulation structure flow results that exceeded established screening criteria

Simulation	Monthly		Annual	
	Count	Percent of population above screening criteria	Count	Percent of population above screening criteria
ECB	17	3.5	16	3.3
2050B4	13	2.4	31	5.7
2010CP	20	3.6	30	5.4

Statistical Measures of Error

In addition to comparing seasonal and annual sums and means produced by the aforementioned utility program, an additional program developed by the IMC was utilized to determine several statistical measures of error. The following statistical measures and their corresponding ranges were used to evaluate the performance of the runs executed in the UNIX® and Linux® environments:

- Coefficient of determination or correlation coefficient, R^2
- Root mean square error, rmse
- Bias
- Nash-Sutcliffe Efficiency (nse, Efficiency, Eff)

Coefficient of determination or correlation coefficient, R^2:

$$R^2 = \left[\frac{\sum_{i=1}^{n} (x_i - x_m)(\hat{x}_i - \hat{x}_m)}{\sqrt{\sum_{i=1}^{n} (x_i - x_m)^2 \sum_{i=1}^{n} (\hat{x}_i - \hat{x}_m)^2}} \right]^2$$

Root mean square error, rmse:

$$rmse = \sqrt{\frac{\sum_{i=1}^{n} (\hat{x}_i - x_i)^2}{n-1}}$$

Bias:

$$bias = \frac{\sum_{i=1}^{n} (\hat{x}_i - x_i)}{n}$$

Nash-Sutcliffe Efficiency:

$$Eff = 1 - \frac{\sum_{i=1}^{n} (x_i - \hat{x}_i)^2}{\sum_{i=1}^{n} (x_i - x_m)^2}$$

where:

n = number of data points
x_i = observed data point
x_m = mean of observed data points
$\hat{x}_i$ = simulated data point
$\hat{x}_m$ = mean of simulated data points

The Nash-Sutcliffe Efficiency may also be expressed as:

$$Eff = 2\,R\,\frac{S_{\hat{x}}}{S_x} - \frac{bias^2}{S_x^{\ 2}} - \frac{S_{\hat{x}}^{\ 2}}{S_x^{\ 2}}$$

where the standard deviation for the historical (S_x) and estimated ($S_{\hat{x}}$) data are:

$$S_x = \sqrt{\frac{\sum_{i=1}^{n}(x_i - x_m)^2}{n-1}}$$

$$S_{\hat{x}} = \sqrt{\frac{\sum_{i=1}^{n}(\hat{x}_i - \hat{x}_m)^2}{n-1}}$$

Stage (Cell) Data

Appendix G (Table G-1) presents stage (cell) error statistics for the 2050B4 simulations. Correlation values greater than 0.81 denote a good correlation (SFWMD, 2005). **Figure 19** presents a map depicting R^2 stage (cell) values for grid cells in the model domain that have previously been utilized for calibration purposes. Cells highlighted in green represent a good correlation. None of the 188 simulated stages for this simulation display a correlation value less than 0.81, indicating an overall good correlation. **Table 8** presents stage (cell) summary statistic values (minimum, maximum and mean) for the 2050B4 simulations presented in **Table G-1**.

Table 8. Summary statistics for stage cell data

Simulation	R^2 (mean)	R^2 (range)	RMSE (mean, ft)	RMSE (range, ft)	Bias (mean, ft)	Bias (range, ft)	Efficiency (mean)	Efficiency (range)
2050B4	0.999	0.967-1.000	0.010	0-0.106	0	-0.003-0.005	0.999	0.967-1.000
2010CP	0.999	0.971-1.000	0.015	0- 0.119	-0.001	-0.024-0.003	0.999	0.971-1.000
ECB	0.999	0.960-1.000	0.013	0-0.134	0	-0.005-0.007	0.999	0.960-1.000

The following general observations can be made from the data presented in **Table G-1** and as summarized in **Table 8**:

- The mean R^2 value was 0.999. The R^2 values ranged from 0.967 to 1.000.
- The mean rmse value was 0.010 (feet). The rmse values ranged from 0 to 0.106 (feet).

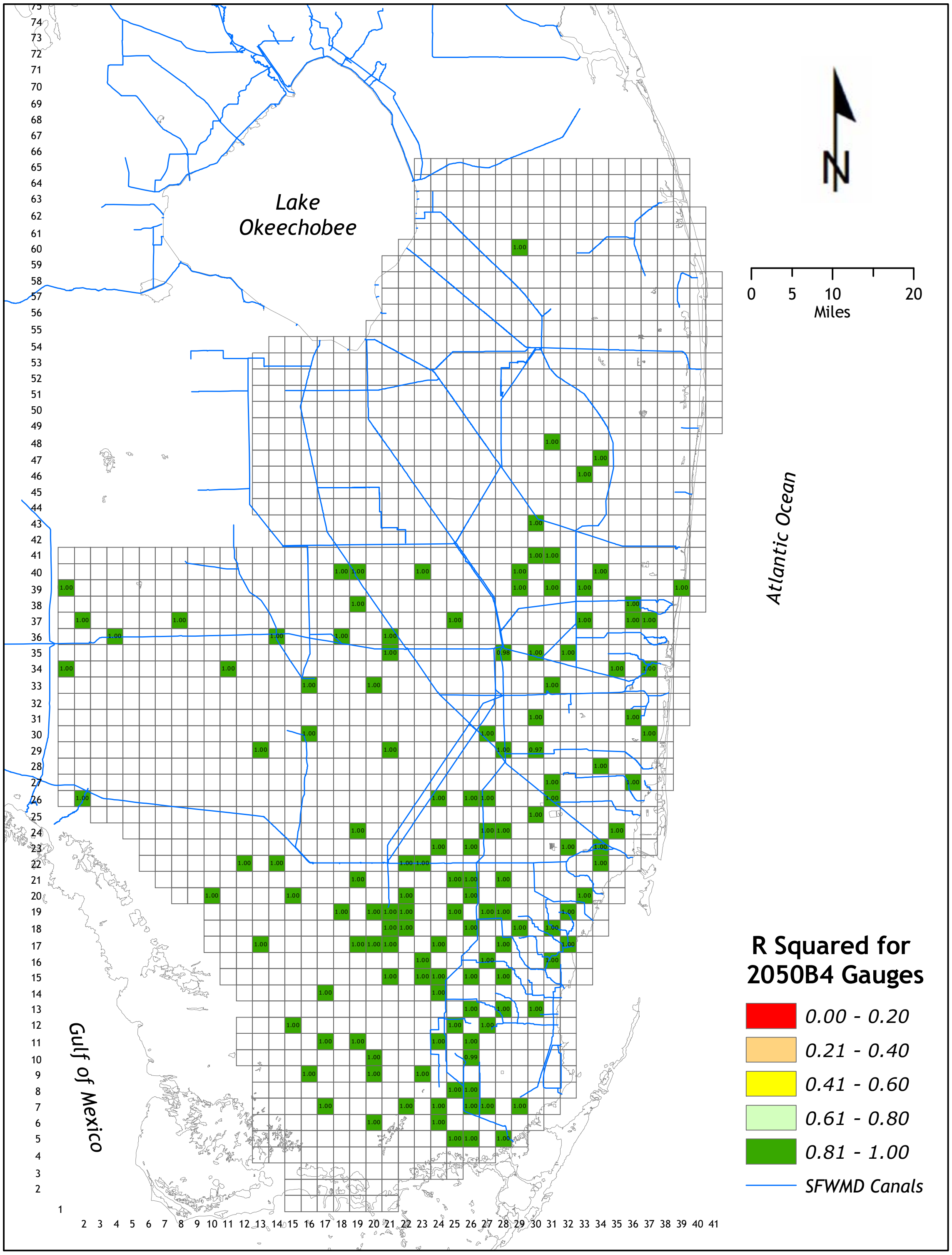

Figure 19. Map depicting R^2 cell stage values for UNIX® and Linux® 2050B4 simulations

- The mean bias value was 0 (feet). The bias values ranged from -0.003 to 0.005 (feet).
- The mean efficiency value was 0.999. The efficiency values ranged from 0.967 to 1.000.

Appendix G (Table G-2) presents stage (cell) error statistics for the 2010CP simulations. Correlation values greater than 0.81 denote a good correlation. **Figure 20** presents a map depicting R^2 stage (cell) values for grid cells in the model domain that have previously been utilized for calibration purposes. Cells highlighted in green represent a good correlation. None of the 188 simulated stages for this simulation display a correlation value less than 0.81 indicating an overall good correlation. No gauges for this simulation display a correlation value less than 0.81. **Table 8** presents stage (cell) summary statistic values (minimum, maximum and mean) for the 2010CP simulations presented in **Table G-2**.

The following general observations can be made from the data presented in **Table G-2** and as summarized in **Table 8**:

- The mean R^2 value was 0.999. The R^2 values ranged from .0971 to 1.000.
- The mean rmse value was 0.015 (feet). The rmse values ranged from 0 to 0.119 (feet).
- The mean bias value was -0.001 (feet). The bias values ranged from -0.024 to 0.003 (feet).
- The mean efficiency value was 0.999. The efficiency values ranged from 0.971 to 1.000.

Appendix G (Table G-3) presents stage (cell) error statistics for the ECB simulations. Correlation values greater than 0.81 denote a good correlation. **Figure 21** presents a map depicting R^2 stage (cell) values for grid cells in the model domain that have previously been utilized for calibration purposes. Cells highlighted in green represent a good correlation. None of the 188 simulated stages for this simulation display a correlation value less than 0.81 indicating an overall good correlation. **Table 8** presents stage (cell) summary statistic values (minimum, maximum and mean) for the ECB simulations presented in **Table G-3**.

The following general observations can be made from the data presented in **Table G-3** as summarized in **Table 8**:

- The mean R^2 value was 0.999. The R^2 values ranged from 0.960 to 1.000.
- The mean rmse value was 0.013 (feet). The rmse values ranged from 0 to 0.134 (feet).
- The mean bias value was 0 (feet). The bias values ranged from -0.005 to 0.007 (feet).

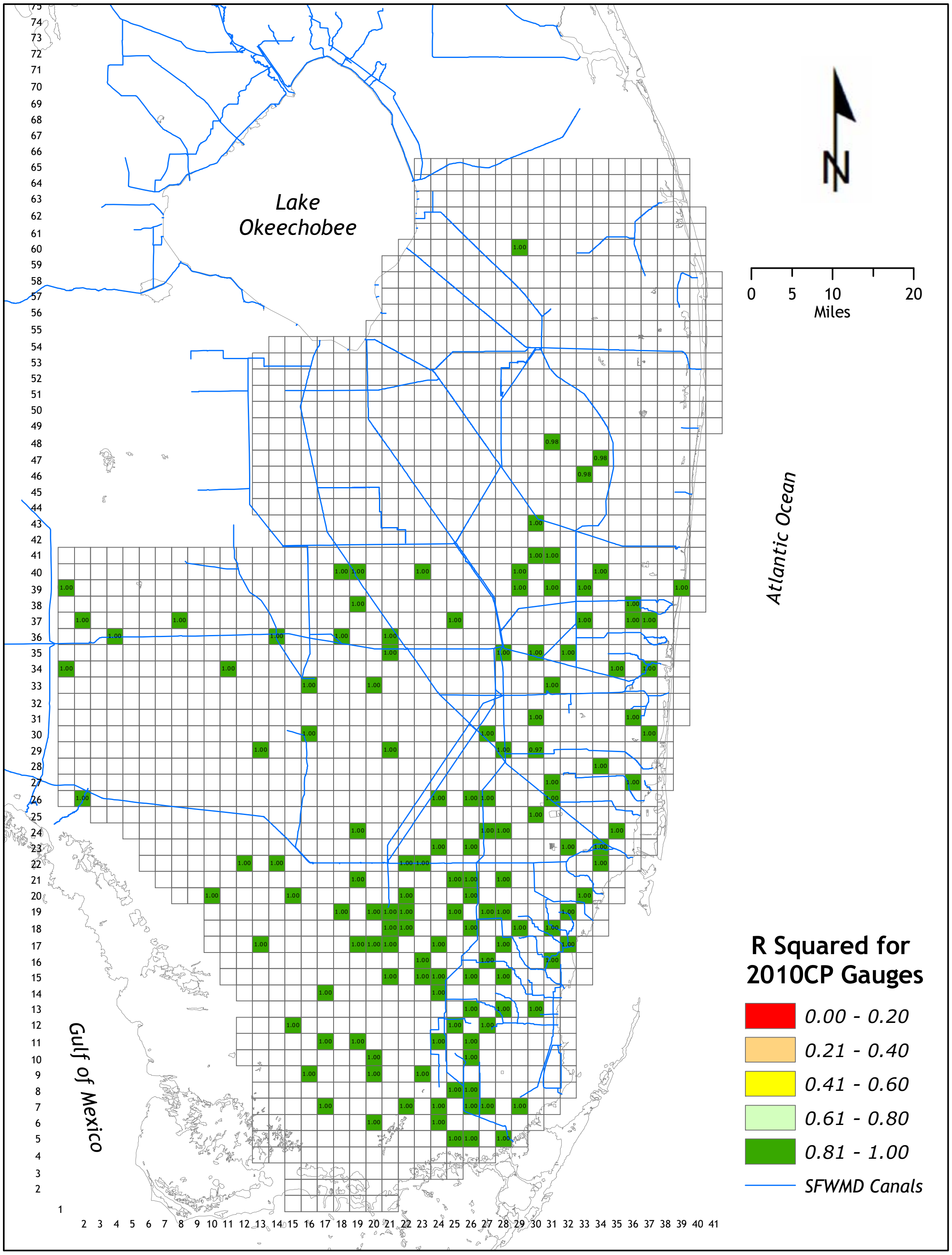

Figure 20. Map depicting R^2 cell stage values for UNIX® and Linux® 2010CP simulations

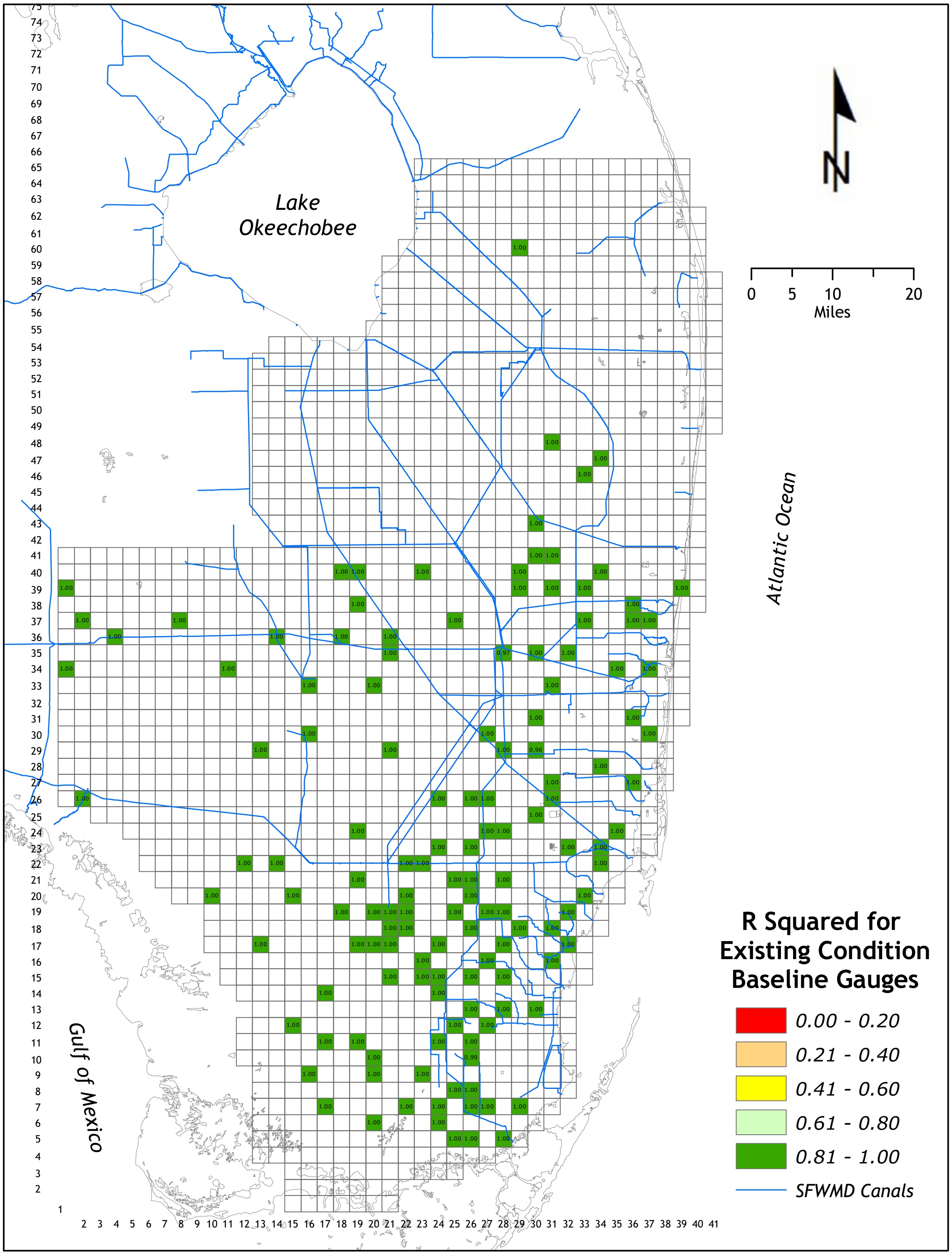

Figure 21. Map depicting R^2 cell stage values for UNIX® and Linux® ECB simulations

- The mean efficiency value was 0.999. The efficiency values ranged from 0.960 to 1.000.

Stage (Canal Downstream) Data

Appendix G (Table G-4) presents stage (canal downstream) error statistics for the 2050B4 simulations. Correlation values greater than 0.81 denote a good correlation. **Figure 22** presents a map depicting R^2 stage (canal downstream) values for canals in the model domain that have previously been utilized for calibration purposes. Canals highlighted in green represent a good correlation. Of the 177 canal stages simulated in the 2050B4 runs, only 8 canals have a R^2 value less than the 0.81 metric. **Table 9** presents stage (canal downstream) summary statistic values (minimum, maximum and mean) for the 2050B4 simulations presented in **Table G-4**.

Table 9. Summary statistics for stage canal (downstream) data

Simulation	R^2 (mean)	R^2 (range)	RMSE (mean, ft)	RMSE (range, ft)	Bias (mean, ft)	Bias (range, ft)	Efficiency (mean)	Efficiency (range)
2050B4	0.965	0.043-1.000	0.033	0-0.283	0	-0.005-0.012	0.955	-0.592-1.000
2010CP	0.959	0.055-1.000	0.044	0-0.733	-0.001	-0.082-0.004	0.949	-0.544-1.000
ECB	0.967	0.063-1.000	0.038	0-0.728	0	-0.003-0.046	0.959	-0.503-1.000

The following general observations can be made from the data presented in **Table G-4** as summarized in **Table 9**:

- The mean R^2 value was 0.965. The R^2 values ranged from 0.043 to 1.000.
- The mean rmse value was 0.033 (feet). The rmse values ranged from 0 to 0.283 (feet).
- The mean bias value was 0 (feet). The bias values ranged from -0.005 to 0.012 (feet).
- The mean efficiency value was 0.955. The efficiency values ranged from -0.592 to 1.000.

Appendix G (Table G-5) presents stage (canal downstream) error statistics for the 2010CP simulations. Correlation values greater than 0.81 denote a good correlation. **Figure 23** presents a map depicting R^2 stage (canal downstream) values for canals in the model domain that have previously been utilized for calibration purposes. Canals highlighted in green represent a good correlation. Of the 178 canal stages simulated in the 2010CP runs, only 11 canals have a R^2 value less than the 0.81 metric. **Table 9** presents

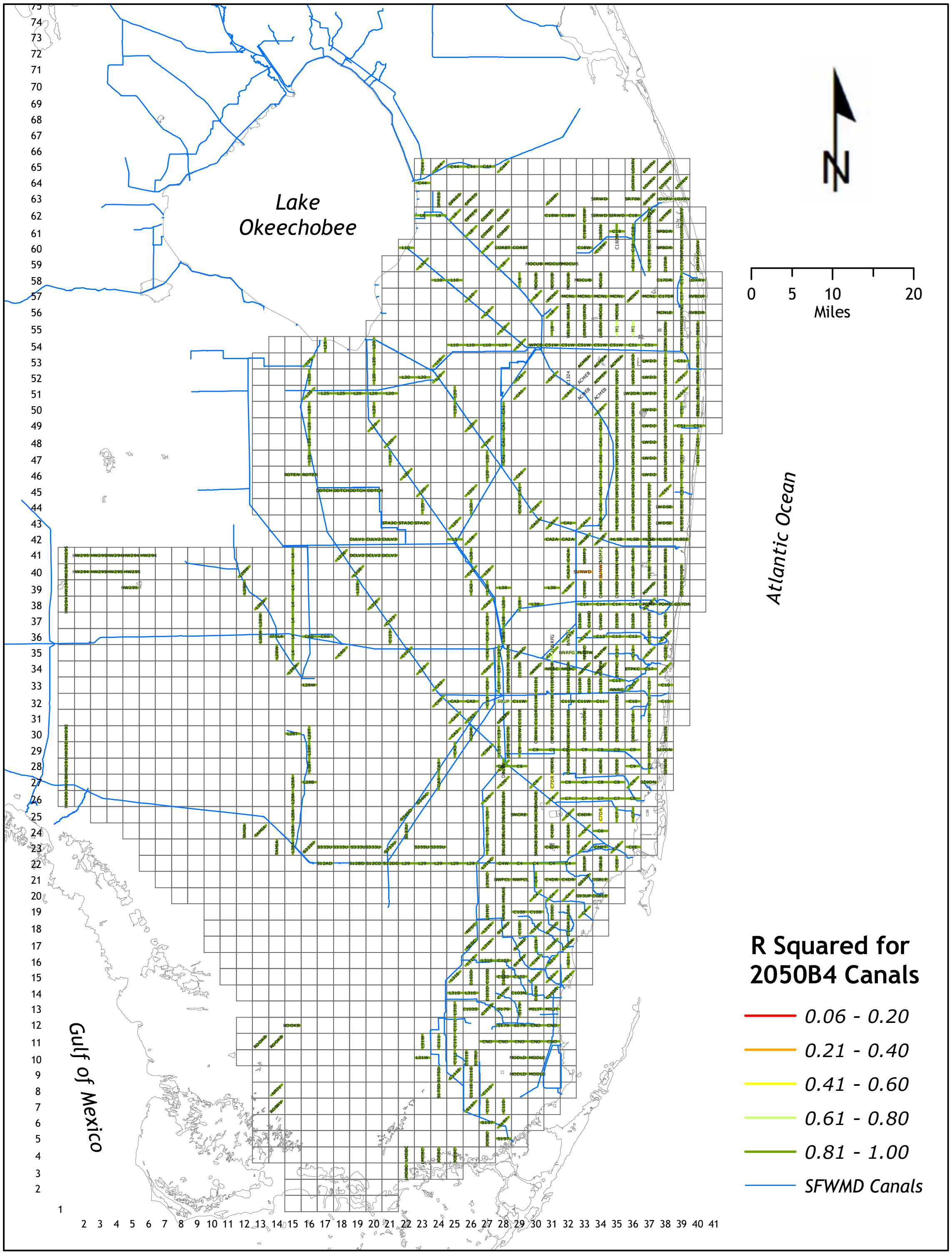

Figure 22. Map depicting R^2 canal stage values for UNIX® and Linux® 2050B4 simulations

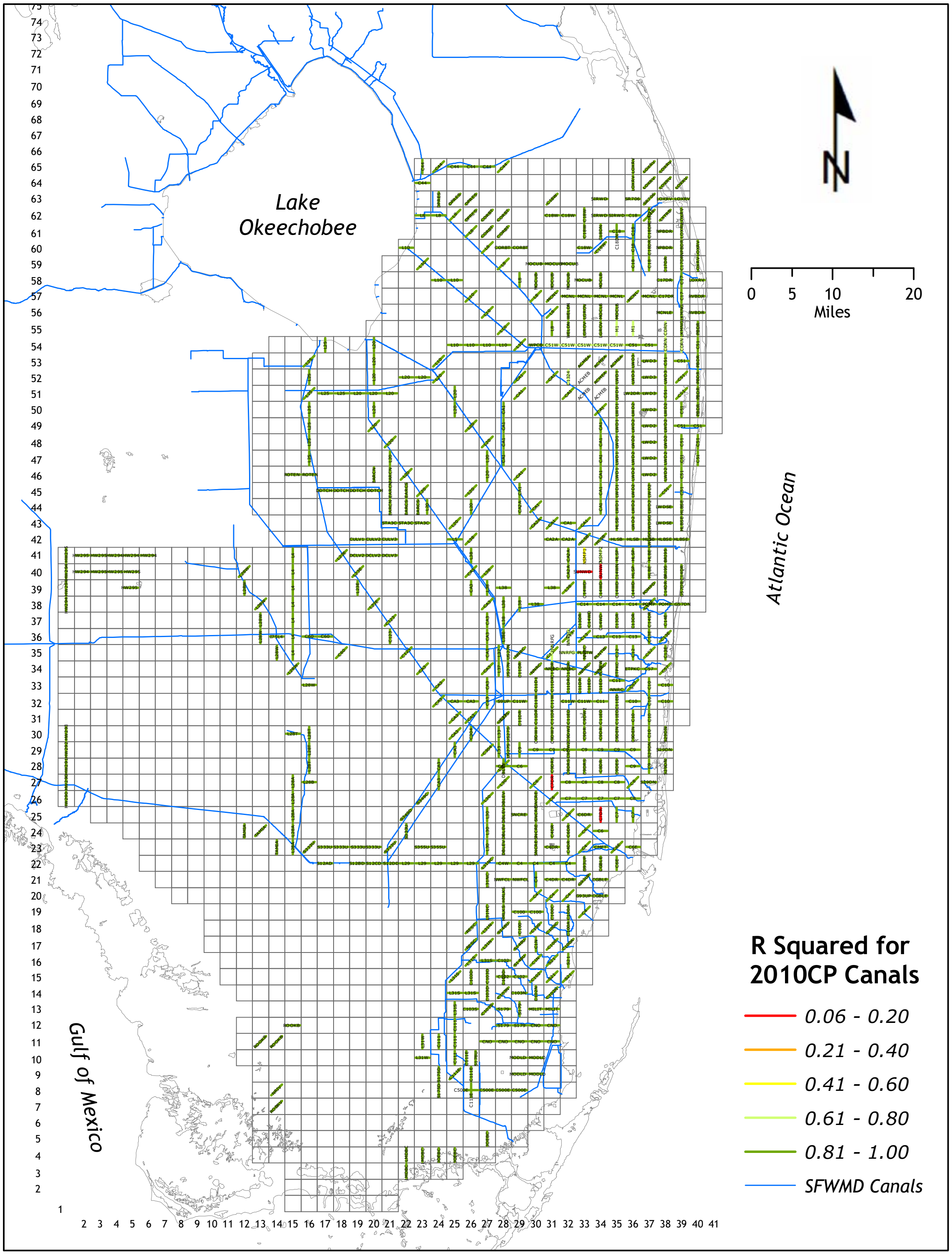

Figure 23. Map depicting R^2 canal stage values for UNIX® and Linux® 2010CP simulations

stage (canal downstream) summary statistic values (minimum, maximum and mean) for the 2010CP simulations presented in **Table G-5**.

The following general observations can be made from the data presented in **Table G-5** as summarized in **Table 9**:

- The mean R^2 value was 0.959. The R^2 values ranged from 0.055 to 1.000.
- The mean rmse value was 0.044 (feet). The rmse values ranged from 0 to 0.733 (feet).
- The mean bias value was -0.001 (feet). The bias values ranged from -0.082 to 0.004 (feet).
- The mean efficiency value was 0.949. The efficiency values ranged from -0.544 to 1.000.

Appendix G (Table G-6) presents stage (canal downstream) error statistics for the ECB simulations. Correlation values greater than 0.81 denote a good correlation. **Figure 24** presents a map depicting R^2 stage (canal downstream) values for canals in the model domain that have previously been utilized for calibration purposes.Canals highlighted in green represent a good correlation. Of the 174 canal stages simulated in the ECB runs, only 5 canals have a R^2 value less than the 0.81 metric. **Table 9** presents stage (canal downstream) summary statistic values (minimum, maximum and mean) for the ECB simulations presented in **Table G-6**.

The following general observations can be made from the data presented in **Table G-6** as summarized in **Table 9**:

- The mean R^2 value was 0.967. The R^2 values ranged from 0.063 to 1.000.
- The mean rmse value was 0.038 (feet). The rmse values ranged from 0 to 0.728 (feet).
- The mean bias value was 0 (feet). The bias values ranged from -0.003 to 0.046 (feet).
- The mean efficiency value was 0.959. The efficiency values ranged from -0.503 to 1.000.

As evidenced by the summary statistics for the three simulations presented, the vast majority of the canals within the network have high correlation and efficiency values while illustrating very little to no bias. A further examination of the canals that illustrate lower R^2 values, indicates that these canals generally fall into one of three categories as follows, or are canals directly adjacent to these reaches:

- Canals having low variability relative to the scale of the model
- Canals made up of only one or two segments, but containing several simulated structures.

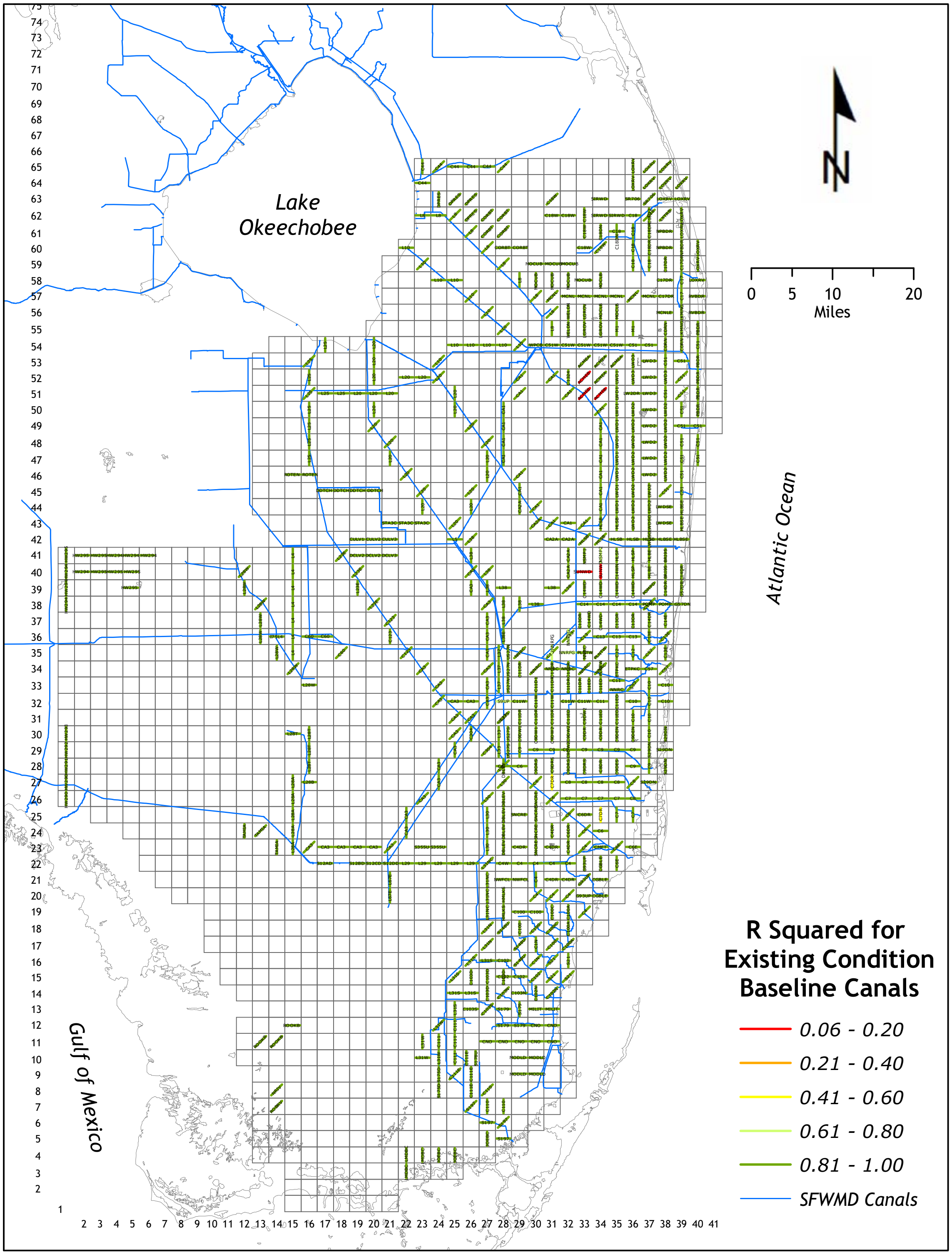

Figure 24. Map depicting R^2 canal stage values for UNIX® and Linux® ECB simulations

- Canals modeled with non-continuous reaches

Canals in the first category (such as ACMEB) typically vary on the order of 0.20 ft to 0.30 ft. Given that the output precision of the model is 0.01 ft, relatively small changes in stage and volume can cause relatively large changes in stage relative to the variability and therefore result in low R^2 values. Canals in the second category (such as S9UP and C51W) are subject to increased influence associated with the binary nature of many of the operational decisions within the model. In these cases, the volume within the canal reach is typically small relative to the size of the water control structures; the presence of a number of structures having a range of operational criteria tends to increase the likelihood of divergence associated with small stage changes that cause differences in structure operations. Canals with non-continuous reaches (such as C7DR) are not typically used in the model. Many of these canals exist due to a limitation of the SFWMM that prevents the simulation of "large" reservoirs in cells containing canals that extend into adjacent cells. The results of this effort indicate that the practice of using non-continuous canal reaches may introduce some instability in model results. However, limitations of the existing code may not allow for other approaches to be adopted at this time. In general, an examination of the canals having a lower R^2 tends to validate that the use of the SFWMM on the Linux® operating system is appropriate due to the fact that the nature of the lower statistical performance is explainable and canal performance on Linux®, while different, is as reasonable as the UNIX® results.

RUNTIME CONSIDERATIONS AND CODE PROFILING

A reduction in the runtime of SFWMM and its associated utilities was one of the anticipated benefits of implementing the model on the Linux® operating system. Upon completion of the implementation effort, this reduction has been realized. **Table 10** illustrates the execution and runtime of a selection of the typical process elements invoked during use of the SFWMM by staff. Processes on UNIX® were executed on the gamma server of the IMC network (fastest available CPU on IMC network) and processes on Linux® were executed on 32-bit PCluster nodes.

Table 10. Comparison of execution and runtimes for typical SFWMM process elements

SFWMM Process	UNIX® Execution Time	UNIX® RuntIme	Linux® Execution Time	Linux® Runtime
wmm.exe				
ECB scenario	1:59	2:49	0:26	0:27
2050B4 scenario	3:14	4:47	0:52	0:53
2010CP scenario	3:30	4:58	0:58	0:59
wmm_pm.scr				
Two scenario comparison	n/a	2:26	n/a	0:40

While the runtime improvements illustrated in **Table 10** are significant (roughly representing a 75 percent improvement in runtimes), anticipated SFWMM runtimes in the range of 15-30 minutes sought at the onset of the porting project were never realized in the final implementation except in the ECB scenario. Initial investigations into this shortfall have focused on the use of code profiling tools including the open source software valgrind (with a kcachegrind visualization package) as illustrated in **Figure 25**. At this time, no definitive conclusions can be made, but it can be observed that the relative number of calls associated with structural and canal routing routines has increased in more recent modeling scenarios, indicating that input complexity may be the ultimate source of longer than anticipated runtimes on both UNIX® and Linux®.

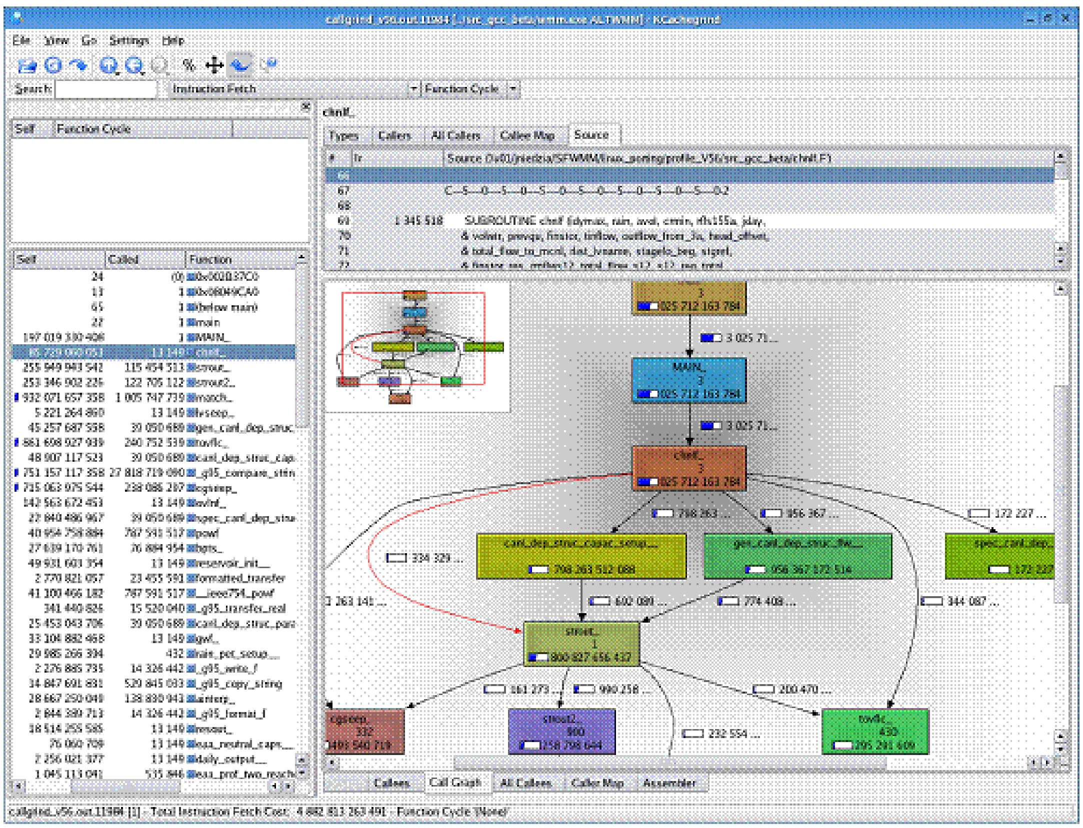

Figure 25. Screen capture of valgrind code profiling tool

CONCLUSIONS AND RECOMMENDATIONS

CONCLUSIONS

Based upon the results documented in the previous section, the Interagency Modeling Center (IMC) has concluded that the South Florida Water Management Model (SFWMM) porting and implementation effort from the UNIX® to Linux® operating environment has been successful. The following results from the multiple efforts and layers of review conducted by the IMC and Model Application Section (MAS) indicate that application of the SFWMM and associated utilities on the Linux® platform may proceed as planned:

- Contracted efforts by ATM to port source code and scripts to the Linux® platform have been completed and all deliverables have been reviewed and accepted.
- The SFWMM and associated utilities have been successfully implemented on the PCluster network, with all appropriate applications having the capability to run for a 41-year period of simulation.
- All applications, libraries and associated data have been added to the Subversion (SVN) source code control repository.
- Documentation of Linux® porting and implementation efforts for individual applications has been completed and compiled.
- Performance measures (PMs) comparing the ECB, 2050B4 and 2010CP runs executed in the UNIX® and Linux® operating environments illustrated virtually identical results.
- Average annual water budget residuals for the ECB, 2050B4 and 2010CP runs executed in the UNIX® and Linux® operating environments were very consistent between the simulations of interest in both operating environments.
- Model to model comparison of canal stage and flow data for the ECB, 2050B4 and 2010CP runs executed in the UNIX® and Linux® operating environments indicated that little bias or difference in extreme events were observed for canals and only a small percentage of structures exceeded established screening criteria.
- Evaluation of statistical measures of error for the ECB, 2050B4 and 2010CP simulation stage output (executed in the UNIX® and Linux® operating environments) have been deemed acceptable for both cell and canal stage data.
- Evaluation of statistical measures of error for the ECB, 2050B4 and 2010 CP simulation stage output (executed in the UNIX®

and Linux® operating environments) have been deemed acceptable for both cell and canal stage data.

- The 130 SFWMM associated scripts and utilities that were ported and tested on the Linux operating system, have been shown to produce identical results or to have less than a percent difference when compared to the Solaris operating system.
- Runtime improvements in both SFWMM execution and post-processing / performance measure generation have been realized with an approximate improvement of 75 percent when compared to UNIX® execution times.

RECOMMENDATIONS

This effort has yielded many lessons learned and several recommendations (in no particular order) for future enhancements to the model, associated utilities and institutional practices which may be considered by the South Florida Water Management District (SFWMD). Many of these recommendations and lessons learned were conveyed to the SFWMD in the fifth and final technical memoranda from Applied Technology and Management Incorporated (ATM).

It is widely reported in the computing literature that in any large code, latent difficulties are often not identified for long intervals. This porting effort has shown that a few such items were found to exist in the SFWMM code, in spite of the diligent efforts of many conscientious workers, over an extended period of time. The discovery of a number of minor issues, and the resulting investigations by both SFWMD staff and the ATM have resulted in further improvements to the model.

Study of the SFWMM code by ATM personnel during the course of this effort has identified the potential need for advances within the code itself in order to improve stability and robustness, with a number of outstanding issues still to be resolved. Future work efforts that could prove beneficial to the SFWMD, if explored, include the following:

- Refinement of remaining fractional root code
- Identification of mixed-mode operations
- Code profiling to enhance execution speed
- Parameterization of constants via a central include file
- Documentation linkage in output to external files
- Review of version choice for gcc and g95
- Complete 64-bit porting process

Significant codes, such as the SFWMM and its companion scripts and utilities, virtually always have much longer lifetimes than anticipated during the initial design and coding stage. As a consequence, the need for careful and thorough documentation, both internal to the code and in a standardized external format (but stored within the code tree itself), is important. This documentation should be both macro and micro in scope. That is, a portion of it (i.e., the macro focus) should describe the overall intent, e.g., of a particular section the model code, or the purpose of a single script or utility. In addition, documentation with a different focus should explain the interior details, particularly of obscure portions, such that subsequent workers need not reverse engineer the actual code itself, in order to understand such an item, and effect needed extensions and improvements thereto.

The continuous evolution of hardware platforms and languages, combined with the abandonment of obsolete software tools, necessarily involves some dislocation and substantial effort to maintain such codes as the SFWMM. In the current instance, the move from a Fortran compiler which implements the 1977 standard to one which adheres to the 1995 standard has caused additional programming and debugging effort. However, it is important to note that among the positive results of this move has been the identification of several code issues that had remained unnoticed for some time. Each such instance uncovered has been documented, the source of the anomaly determined, and the model improved as a consequence. A similar situation has been identified in regards to the C and C++ compilers and some of their supporting libraries, such as those produced by Rogue Wave, Inc. In the latter cases, the lack of standardization of C and its derivatives in the early phases of the SFWMM and its utilities' lifetimes has likewise necessitated many changes to conform to current ISO standards. Capability Maturity Model Integration (CMMI) compliant techniques are needed, but at a lower level of abstraction, for both code maintenance and still-evolving extensions, which are being generated at the current stage of the SFWMM life-cycle. Many systems have been described in the computing literature, and no specific recommendation is being made, but there is a need for such pre-coding systematic analysis.

The SFWMD uses numerical models to analyze, simulate and manage water resources. It is not usually in the business of developing the tools needed to construct such models. The stability and reliability of the required tool sets is a very desirable feature. However, offsetting these needs are the competing requirements, e.g., for new functionality, improvement in numerical techniques, additional diagnostic capability, improvement in execution speed, in any combination thereof. Stability and the features named are conflicting requirements. The cutover from Solaris-based to Linux®-based platforms yields a once-in-a-decade opportunity to adopt the current best-practice from among the various tools available. Included in this is the ability to adopt the latest version of each such tool. These choices are likewise a multi-edged sword, which are exacerbated by the rapid evolution of tools in the open-source movement at the present time. Since it appears to be SFWMM policy to settle upon a particular toolset and freeze those choices for an extended period of time, often for years, it is recommended that the Linux® production environment adopt the current versions of the major tools as set by GNU and g95, rather than those available thru the RedHat organization, which lag the current best-practice available by typically one year or more.

Many authorities recommend that additional compilers for the same language be used to create different executables from the same source tree. This frequently has the beneficial effect of uncovering coding issues not reported uniformly by the various compilers. In the current project, just such practice has enabled the team to identify over a dozen items that resulted in changes to the SFWMM code itself. In this vein, it is suggested that the newest open-source Fortran compiler, gfortran, be added to the SFWMM standard toolset, and comparisons between g95 and gfortran be instituted as a routine part of regression testing, whenever substantial modifications to the SFWMM occur in the future. We can report that both gfortran and g95 compile the SFWMM as it currently stands at the time of transition, but that no comparison of model output has been undertaken, since the supporting libraries have not been recompiled under gfortran, and thus no model comparisons undertaken beyond the g77 versus g95 required by the current task order. We also note that while no compiler errors are generated by any of the three compilers used, many of the warnings produced have not been investigated.

The UNIX® concept of many small tools (sed, awk, grep, tr, etc.) which are invoked sequentially within a shell script, has been shown to be antiquated and outmoded. In numerous PA and PM scripts, subprocedures contained within the script code and passed to these utilities have become difficult to understand and unwieldy to maintain. Thus, SFWMD adoption of e.g., Python within the RSM is a superior technique. It might also be adopted for any new SFWMM scripts, and should probably be introduced into a sampling of the most-convoluted of the current SFWMM scripts, as a demonstration project.

REFERENCES

Mendozza, A., Skawratananond, C. and Walker, A. 2006. Unix to Linux Porting: A Comprehensive Reference, Prentice Hall, Upper Saddle River, New Jersey. 712 p.

SFWMD, 2005. Documentation of the South Florida Water Management Model Version 5.5. Hydrologic and Environmental Systems Modeling, West Palm Beach, Florida. 305 p.

APPENDIX A - LINUX® IMPLEMENTATION DOCUMENTATION FORMS

Linux Implementation Process / Documentation Form

Application or Script Name: agric_FC_indic.scr
Assigned to: unassigned to date **Reviewed by**: n/a

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  Script to be updated with maps/GUI followup.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☐ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☐ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☐ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☐ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: alligator_hsi.scr
Assigned to: originally assigned to lzhang **Reviewed by**: n/a

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  Script will be updated with maps/GUI followup.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☐ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☐ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☐ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☐ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: asrbud
Assigned to: C White **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
  For 41 years the asrbud.cf needs to have 41 year record.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: bin2xyzts
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:

- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Exactly the same answer. Needed uncomment AJB's comment to decide that the grid i/o file should be opened with 'openfilef77'.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:

- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: biscayne.scr
Assigned to: C White **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  ATM script has more comments, has "cleaner format alignment/indents" but same content
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  No difference in generated output data, however, graphics are unusable as formatted.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  Parameter files have been reformatted and data output has been reformatted to comply with Grace Target/Set style
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: c43c44_bud
Assigned to: VTM **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: c43c44_supp_dmd_bar.scr
Assigned to: C White **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  ATM script has minor format alignment/indents" changes with same content.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Script generates correct data but output is in a format not conducive to Grace so graphic is unusabel.

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  New parameter file created and data output format changed to comply with Grace Chart bar graph format style. Also some environment variables added.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: calc_flow_angle
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  None noted.

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: canal_mfl_lec.scr
Assigned to: Jenifer Barnes **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: catDSS
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Version returned needed to close the two file pointers that were opened by dss lib.

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: cell_cat
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  M. Martin found that we may need to adjust the return value from cell_cat on a successful exit. Currently no return of any value is made unless there is an error, a hardware dependent issue may be the cause. In any case we can return any value we like. Also, for useage with programs such as cellcat2dss I changed the output header for cells less than 10 to print as (05,12), whereas before there as a space (5,12). This will still allow any other codes that parse the data to find a 5 in the exact same spot as well as be treated as an integer number.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: cell_plot
Assigned to: unassigned to date **Reviewed by**: n/a

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  Utility will be updated with maps/GUI followup effort.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☐ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☐ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☐ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☐ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: cell_sum
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  None.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: cellcat2dss
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  The program does not run intially as provided. This was because of the Roguewave issues and for some reason this code was never provided back to us. In any case Roguewave functions were removed and replaced with equivalent standard C++ string calls. The end result is we have the exact same answer. As noted cellcat was modified to produce a result such as (05,10) instead of the old (5,10) for roco in the header. This program modifies that for a dss tag such that it would be 'R 5_C10' which is wrong and when passed to stoDSS runs incorrectly on the Solaris side too. Regardless this code still produces the exact same answer as Solaris but should be used in combination with the enhanced cell_cat.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?

YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: chk_bud.scr
Assigned to: wmw **Reviewed by**: JN

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  Not ported by ATM.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: consolidate_pdfs.pl
Assigned to: Michael Martin **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  This is a new utility that was not reviewed or updated by contractor
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  The application graphics are displayed sideways. The cause of this appears to be based on on system or environment variables not being setup. Steven Rodgers will be looking into this. As a quick fix, the user may click the rotate button and the graphics will be displayed properly.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: csss.scr
Assigned to: Michael Martin **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  Many changes to the parameter files were required.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: dateStamp
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☒ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  No modifications needed. But, output to screen is in a different format that is actually more readable. Format is "Mon Dec 11 10:02:11 2006" versus Solaris "12/11/2006 10:02:11". Some work but it could be set to match Solaris. This code is only used by scripts to output to a file to indicate what time a script was started. As such I believe the format change with the same answer is an acceptable change.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?

YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: distill
Assigned to: wmw **Reviewed by**: JN

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  Not ported by ATM.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: dss36
Assigned to: wmw **Reviewed by**: JN

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  Not ported by ATM.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☐ NO ☒

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: dsstool
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Many changes (where to start?):
  1.) Plot option number 7 has been deprecated, it has some old X11/tsplot library dependencies that while they could be ported with some effort is not worth it due to the superior nature of dssvue.
  2.) Xmgr plot option number 8 was not ported. The contractor had some difficulty with plotting and we allowed it to be deprecated. Option number 8 is essentially not worth the effort due to superior nature of dssvue.
  3.) Number 6 to display a frequency curve in xmgrace is working to some extent it could be revisited for better display. However, viewing/using the frequency curve with option number 5 and dssvue is the preferred option.
  All else matches perfectly!

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☒ NA ☐
  Provide a description of the changes in moving to GRACE:
  xmgr calls in option 6 made, but some touch up to function in operations.c could be better.

- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: dsstool_mean_monthly
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  We have perfect agreement on both platforms. Note there was no source code found anywhere so I had to craft this code from 'dsstool'. Once I finally understood how the annual section worked (Thanks to Sandeep) there were some trivial changes to one of the routines from dsstool.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: dsstool_sum
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Same answer, no wierdness or changes required.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: dts2sum
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:

- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Exactly the same answer. No modifications to source code needed.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:

- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: dur_8393m.scr
Assigned to: Jenifer Barnes **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  Basic font sizes, legend changes, line color and symbol changes.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: dur_zone.scr
Assigned to: C White **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  ATM script has "cleaner format alignment/indents" but same content.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  No difference in generated output data. Graph is produced but is COMPRESSED but readable.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  2 new parameter files have been created, however, there are two optional parameter files still pending as no known figure from these files exists to make comparisons.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: eaa_econ
Assigned to: Jaime A. Graulau **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: eaa_watbud_2.scr
Assigned to: Jenifer Barnes **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: echo2
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Exactly the same answer, no modifications needed.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: econ_post
Assigned to: Sandeep Dabral **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM 1.20 WMD/IMC 1.20
  Provide a description of the major differences between versions:
  -
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☒ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Rounding off issues. Numbers are exact most of the time but there was at least one instance when numbers were off by a magnitude of one.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: enp_code_read_basin
Assigned to: Michael Martin **Reviewed by**: JN

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  This application consists of multiple C source modules that are compiled and linked. Several of the modules were updated to support 41 POR. This application does not appear to have been modified by the vendor.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: enp_code_tests
Assigned to: Michael Martin **Reviewed by**: JN

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  This application consists of multiple C source modules that are compiled and linked. Several of the modules were updated to support 41 POR. This application does not appear to have been modified by the vendor.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: epa_flows.scr
Assigned to: lzhang **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☐ > 2% difference ☒
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  The big graphical difference is caused by the difference in the output files. I did a dss36 on the daily_str_flw.dss from both the Unix (district) and the Linux, the results are very different. The gw.bin, sf.bin, canal.dss, etc are all showing differences.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  The graph type is now BAR instead of Type xy. Making use of Annotation feature in xmgrace, so the previously manually set string in the middle of the bar is taken out. Rewrite script to cat raw data into xmgrace, define graph type as BAR.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?

YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: estuary.scr
Assigned to: C White **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  ATM script has minor format alignment/indents" changes with same content.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Script generates correct data but output is in a format not conducive to Grace so graphic is not useable.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  New parameter file created and data output format changed to comply with Grace Chart bar graph format style.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: fig2pdf2file.scr
Assigned to: wmw **Reviewed by**: JN

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  This is a new utility that was not reviewed or updated by contractor
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  The script works for its part, but inherits the complications from consolidate_pdfs.pl (application graphics are displayed sideways).

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: fish_hsi.scr
Assigned to: originally assigned to lzhang **Reviewed by**: n/a

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Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  Script will be updated with maps/GUI followup.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☐ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☐ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☐ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☐ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: freq_water_restr.scr
Assigned to: Sandeep Dabral **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM 1.4 WMD/IMC 1.1
  Provide a description of the major differences between versions:
  -
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☒ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  some of the formatting issues remain because of moving from xmgr to xmgrace.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  autoscale command line option; font size, type etc.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: ge_18.pl
Assigned to: hhc **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  This is a new script that the contractor did not have.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  .

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
  Script does not use GRACE
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: Get
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Many changes were needed in regard to the way that input strings were read in, otherwise program would crash. Also identified an issue with the hhoops library function strip() that would not return strings that were exactly correct. Made a small mod to that function and now all header information is returned. Also modified the time interval reported in the header, even on Solaris the time was messed up just not as noticeable. This header information is the only differnece (thus the <2% difference box) and I believe it is better now. Data returned is exactly the same as Solaris thus the "the same answer check box" which is most important I don't believe there are any scripts tied to the header which would be wrong anyways.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?

YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: getDSS
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Minor mods needed in building strings

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: gettheenv
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Only able to test the perl script version of this code on Solaris, there is an old C++ version that we are assuming is obsolete and in fact did not run on Solaris. Perfect Match.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: ge_generator.scr
Assigned to: Michael Martin **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  This is a new application, no differences exists. Calls the following submodules: ge_1.pl, ge_2.pl, ge_3.pl and ge_6.pl
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: gevers_pm1.scr
Assigned to: Michael Martin **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  I had to update two gawk statements when generating the line that contains the names of the runs in the report.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: gevers_pm2.scr
Assigned to: Michael Martin **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM 1.3 WMD/IMC 1.4
  Provide a description of the major differences between versions:
  The ATM version needs to be updated to use environment variables when sending output to the FIG files.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  I had to update two gawk statements when generating the line that contains the names of the runs in the report. Identified differences between the default precision on Linux vs. Unix.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: gevers_pm3.scr
Assigned to: Michael Martin **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM 1.3 WMD/IMC 1.4
  Provide a description of the major differences between versions:
  The ATM version needs to be updated to use environment variables when sending output to the FIG files.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  I had to update two gawk statements when generating the line that contains the names of the runs in the report. Updated ATM version with 1.4 version changes.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: gevers_pm4.scr
Assigned to: Michael Martin **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM 1.2 WMD/IMC 1.3
  Provide a description of the major differences between versions:
  The ATM version needs to be updated to use environment variables when sending output to the FIG files.Remove hard coding of NSM run.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Updated ATM version with 1.3 version changes.

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☐ NO ☒

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: gevers_pm6.scr
Assigned to: Michael Martin **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM 1.2 WMD/IMC 1.4
  Provide a description of the major differences between versions:
  The ATM version needs to be updated to use environment variables when sending output to the FIG files.Remove hard coding of NSM run.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Updated ATM version with 1.4 version changes.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: ge_target_generator.scr
Assigned to: Michael Martin **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  This is a new application. Please note this script calls the following submodules: ge_target1.pl, ge_target2.pl, ge_target3.pl and ge_target6.pl.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: gevers_targets.scr
Assigned to: Michael Martin **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM 1.1 WMD/IMC 1.2
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  A problem was identified with 3 sort commands not using the -n command line argument that resulted in some descripencies. Adding the -n to the sort command fixed this problem

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: gr_bud
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  None noted

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: gr_cut
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  None noted

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: gr_min
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  No changes to code needed. Perfect byte for byte agreement with binary output file, as well as pefect agreement in ascii stdout. Note: Testing needed on imc network, code was not running on the hsm network, likely a library was missing from my path.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: gr_summary
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☒
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  No differences encountered.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: gr_thsn
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  None noted. Minor mod made to correct extra screen garabe after Y2K. Only a Y2K bug in the sense that screen output becomes bunk.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?

Linux Implementation Process / Documentation Form

Application or Script Name: greg2jul_ymd
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  None observed

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: greg2jul_ymd_lng
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  None observed

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: grid_angle
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  None noted.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: grid_freq
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:

- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  None noted.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:

- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: grid_hpimp
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  None noted.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☐ NO ☒
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☐ NO ☒
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: grid_lmscale
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Binaries differ byte for byte but doing a gr_summary produces identical results to ascii summary type output. Binary files are exact same size, so I suspect the different grid_io libraries are producing something a little different that has no impact on answers.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: grid_math
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  None noted

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: grid_mathe
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Small bug assigning variable ifdb=13 needs to be =12. Utility does not run on district side thus I made a cf with functionality exactly the same as grid_math utility to verify the answer.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: grid_mscale
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Code had lingering bug in regards to the way binary files are opened. These files should be opened with the grid_io utility call openfilef77, appropriate changes made.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: grid_peek
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  "Go File" needed some mods.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: grid_shot
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  No differences noted, exact agreement.

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: grid_ts_concat
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Code had lingering bug in regards to the way binary files are opened. These files should be opened with the grid_io utility call openfilef77, appropriate changes made.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: grid_ts_cut
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Code had lingering bug in regards to the way binary files are opened. These files should be opened with the grid_io utility call openfilef77, appropriate changes made.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: grid_week
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Minor bug from somewhere that deals with a var printed to screen fixed and commented in file with a "c.JN" This var in no way affected the output which was identical.

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: gridsumalt
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Output compared using grid_shot no output since binary files did not match exactly on Solaris. However actual data contained within binary matches exactly as seen with grid_shot. Some confusion exists on naming this file gridsumalt vs gridsumalt2 the '2' being the directory name, but the executalbe being without the numeral. There appears to be mixed useage in scripts, ATM thinks they have corrected all instances to NOT use the number 2 in scripts, so something to keep in mind.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: gridvel
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  ASCII output is identical, binaries tested differed because of the differing header name given in testing.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: gs2mf
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  Will be updated with maps/GUI followup; associated with peak-stage_maps.scr.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  No differences found, no modifications needed; perfect agreement with Solaris.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: gs2roco
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  None noted.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: gzipdir / gunzipdir
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  We only needed to add #!/bin/bash on the first line.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: wading_birds_hsi.scr
Assigned to: lzhang **Reviewed by**: n/a

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC newer
  Provide a description of the major differences between versions:
  Dynamic Memory Allocation. Script will be ported during subsequent GUI and mapping effort.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☒ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  The viewport and string position need adjustment. Worldscale in GRACE needs to turn off.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☐ NO ☒
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☐ NO ☒

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☐ NO ☒

Linux Implementation Process / Documentation Form

Application or Script Name: hyd_dur.scr
Assigned to: wmw **Reviewed by**: JN

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  cosmetic fixes; autoscale none command line option added. New parameter files generated.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: hydroperiod
Assigned to: WMW **Reviewed by**: Michael Martin

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM 2.12 WMD/IMC 2.12
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: jday
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  This utility was essentially removed by the contractor and replaced by the existing greg2jul_ymd_lng utility. He felt there was too much redundancy. Anyways, the only difference I have really found is that greg2jul_ymd_lng adds some zeros after the decimal place. It appears that esturay.scr is the only script that used 'jday'. The contractor made the appropriate changes to greg2jul_ymd_lng and seems to function fine when used as a variable in gawk. Cary has this script as status=3 so I am prepared to accept this change. Now this is a stub program that prints a warning to the screen to use greg2jul_ymd_lng.

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: jul2greg
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  None observed

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: lo_generator.scr - Lake Okeechobee - Lo1, 2, and 3.
Assigned to: Michael Martin **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  The application was modified. It was not available to ATM for update. The following changes were made to run in the Linux environment:
  1. Removed specifying /bin for commands rm, rmdir, and mkdir
  2. Changed the PERL bang command to /usr/bin/perl from /bin/perl
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  Multiple changes to the parameter files
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: lake_reg_discharge.scr
Assigned to: wmw **Reviewed by**: JN

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM 1.9 WMD/IMC 1.10
  Provide a description of the major differences between versions:
  WMD version adds L8 to tide discharges.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  Type xy modified to Type bar - cosmetic fixes to bar width, etc.. autoscale none command line option added. New parameter file generated. Data stream to outfile modified to be consistent with GRACE type bar.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: lec_cutbacks_mon_bar.scr
Assigned to: lzhang **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  The viewport and string position need adjustment.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: lec_cutbacks_vol_pct_bar.scr
Assigned to: lzhang **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  The viewport and string position need adjustment.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: lecsa_sw_disch.scr
Assigned to: lzhang **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  Rewrite parameter file.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: levspg123.scr
Assigned to: hhc **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  Using an updated three bar parameter file, Bar were not being produce. Notes were in the wrong place.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: line_sum
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  None noted. Tested using sdabral trans.scr which computes line_sums across many transects. Perfect agreement on the output from his script on both platforms.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: line_sum
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  None noted. Tested using sdabral trans.scr which computes line_sums across many transects. Perfect agreement on the output from his script on both platforms.

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: lkworth.scr
Assigned to: C White **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  ATM script has "cleaner format alignment/indents" but same content. Extra comments on content ATM did not understand but unneeded by modelers familiar with SFWMM.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  No difference in generated output data. Script ran but didn't produce data in its graphic.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  New parameter file created and data output format changed to comply with Grace Chart bar graph format style.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: lok_hpm.scr
Assigned to: Hong Xu **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☒ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: lok_spring_recession
Assigned to: lzhang **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  Rewrite parameter file.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: lok_stage_events.scr
Assigned to: Hong Xu **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  changing the numbers of string, string font and string character size.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: lok_watbud.scr
Assigned to: Sandeep Dabral **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM 1.4 WMD/IMC 1.5
  Provide a description of the major differences between versions:
  Regulatory flows via L8 to tide is new in V1.5.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  I took V1.5 [district version] and combined it with the elements of V 1.4 [ATM/Linux version]. I also get a message:
  cat: tmp25144.dssd: No such file or directory [JN fixed it]
  This doesn't effect the results.

  Also, when doing a cd to a directory my cshell on Linux uses the alias and also does a listing of the directory.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: lokwatbud_drought.scr
Assigned to: Sandeep Dabral **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM 1.4 WMD/IMC 1.5
  Provide a description of the major differences between versions:
  ATM script doesn't have "Regulatory flows via L8 to tide".
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  V1.5 doesn't produce any differences.

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: lok_WsDelv2Lecsa.scr
Assigned to: C White **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  ATM script has minor format alignment/indents" changes with same content and numerous ATM editorial comments on things not understood.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Script generates correct data but output is in a format not conducive to Grace so graphic is not useable.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  New parameter file created and data output format changed to comply with Grace Chart bar graph format style.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: losa_cutback_yrs.scr
Assigned to: lzhang **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  Rewrite parameter file.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: losa_dmd_report.scr
Assigned to: Hong Xu **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☒ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: losa_other_supp_dmd_bar.scr
Assigned to: lzhang **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  The viewport and string position need adjustment.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: losassm
Assigned to: Jaime A. Graulau **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: mds_wmm.exe
Assigned to: wmw **Reviewed by**: JN

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM NA WMD/IMC NA
  Provide a description of the major differences between versions:
  WMD version updated for data extension.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☒ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Mixed precision caluclations on UNIX side corrected to remove warnings. All values calculated with higher prescision (real to real arithmetics) on LINUX.

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: mean_mon.scr
Assigned to: lzhang **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  Rewrite parameter file, use double bar chart.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: mean_mon.scr
Assigned to: lzhang **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  Rewrite parameter file, use double bar chart.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: mfl.scr
Assigned to: wmw **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:

- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  cosmetic fixes; autoscale none command line option added. parameter files from hyd_dur used.

- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: minmax
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Code not supplied by ATM when reviewed, because no one at District knows where this code came from. Yours truly found source as part of massive geography package called GMT. I stripped out as much as I could to get code running on Linux. When done the answer matches perfectly.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: mwd
Assigned to: Unassigned to date **Reviewed by**: n/a

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  Utility will be updated with maps/GUI followup; associated w/ peak_stage_maps).
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☐ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☐ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☐ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☐ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: noresbud
Assigned to: wmw **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM 1.2 WMD/IMC 1.2
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Ran into negative zero convention with g95 (e.g. program outputs -0.0). To avoid using this default g95 convention, set the environment variable: setenv G95_MINUS_ZERO "TRUE".

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: nullroco
Assigned to: JN **Reviewed by**: n/a

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  Note-- This utility will be updated with maps/GUI followup.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☒ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  No diffs

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: peak_stage_maps.scr
Assigned to: Unassigned to date. **Reviewed by**: n/a

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  Script will be updated with maps/GUI followup.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☐ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☐ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☐ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☐ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: periphyton_hsi.scr
Assigned to: Originally assigned to lzhang **Reviewed by**: n/a

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  Script will be updated with maps/GUI followup.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☐ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☐ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☐ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☐ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: pm_sfwmm_ck.pl
Assigned to: wmw **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC 1.1
  Provide a description of the major differences between versions:
  Not ported by ATM.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: pm_sfwmm_ck.pl
Assigned to: wmw **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC 1.1
  Provide a description of the major differences between versions:
  Not ported by ATM.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: pm_script.pl
Assigned to: wmw **Reviewed by**: JN

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  This script and its associated programs - alligator, contFrag, ind-reg-rpt and withlogs - will be depricated. A new module of the gevers application will be coded to provide some of the functionality of ind-reg-rpt. Currently, pm_script.pl executes properly and the modules all compile, but have run-time errors. No progress was made in making these applications grace or 41 year compliant.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☒ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☐ NO ☒
- Is the script or utility capable of running for a 41 year period of record?
  YES ☐ NO ☒

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☐ NO ☒
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☐ NO ☒

Linux Implementation Process / Documentation Form

Application or Script Name: pond_count
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  The program does not run intially as provided. A Solaris -> Linux porting issue involving two character pointers that are set to zero but never really initialized correctly. Somehow when you printed these on Solaris it correctly knew to print nothing, but on Linux this messes the rest of the printing up completely. Therefore I removed these variables from the print commands. Original code was commented out. Hard to tell the original intent of the code but they appear to be placeholders for a future date to use these variables. Therefore, they can be used later but they must be assigned a value. Anyways, output exactly mathces Solaris after this change.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: pws_demand_not_met.scr
Assigned to: lzhang **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  Rewrite parameter file.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: recession_rates.scr
Assigned to: hhc **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM None WMD/IMC original
  Provide a description of the major differences between versions:
  This is a new script that the contractor did not attempt to convert to linux. WMD version is currently not working on LINUX.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☐ > 2% difference ☒
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Currently script is giving an error on linux "set: Variable name must begin with a letter"

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
  Script does not use grace
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: report_to_pdf.scr
Assigned to: Jaime A. Graulau **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: rescale
Assigned to: Unassigned to date **Reviewed by**: n/a

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  Utility will not be updated.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☐ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☐ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☐ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☐ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: residual.scr
Assigned to: wmw **Reviewed by**: JN

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  Not ported by ATM.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: ridge_slough_hsi.scr
Assigned to: Originally assigned to lzhang **Reviewed by**: n/a

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  Script will be updated with maps/GUI followup.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☐ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☐ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☐ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☐ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: rssi1
Assigned to: JN **Reviewed by**: n/a

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  N.B., Will be updated with maps/GUI follow-up effort.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Needed to modify such that grid i/o binary files are opened correctly with the grid i/o library. Minor mod needed. Utilitiy produces exactly the same answer as Solaris.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: rssi2
Assigned to: JN **Reviewed by**: n/a

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  N.B., Will be updated with maps/GUI follow-up effort.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Needed to modify such that grid i/o binary files are opened correctly with the grid i/o library. Minor mod needed. Utilitiy produces exactly the same answer as Solaris.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: rssi3
Assigned to: JN **Reviewed by**: n/a

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  N.B., Will be updated with maps/GUI follow-up effort.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☒ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Needed to modify such that grid i/o binary files are opened correctly with the grid i/o library. Minor mod needed. Some minor differences 4 or 5 places after the decimal are observed in one column of output, from looking at the calling script this is a tmpvalue that is never used by anything. To be thorough, this was traced back to dividing a real by an integer ~Line 279. This will be expected to be handeled differently on a 32 bit vs 64 bit (Solaris) platform. The difference is miniscual and is not used by any scripts. All other columns of output match exactly, including all those used by calling script in PM sets.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: rssi4
Assigned to: JN **Reviewed by**: n/a

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  N.B., Will be updated with maps/GUI follow-up effort.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☐ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☐ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☐ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☐ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: salinity_generator.scr
Assigned to: Michael Martin **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC No source code for this application was in ATM
  Provide a description of the major differences between versions:
  1. Changed the expected return code from the call to cell_cat in the source file salinity_main.c (from 2048 to 65280).
  2. Created the go file, go.salinity
  3. Line 350 of salinity_create_report.pl is using an array as an reference which has been deprecated with version V5.8.5 of perl. Updated code.

- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:

- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: SE
Assigned to: wmw **Reviewed by**: JN

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: seasonal_flow.scr
Assigned to: lzhang **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  Rewrite parameter file, use double bar chart.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: SE-E3_flw_Miami_biscayne.scr
Assigned to: lzhang **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  The viewport and string position need adjustment. Worldscale in GRACE needs to turn off.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: seminole_ssm.scr
Assigned to: lzhang **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  Rewrite parameter file to create bar chart.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: setup2graph
Assigned to: wmw **Reviewed by**: JN

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  seg faults encoutered in casting to char variables for strings, resolved with temp char declarations; memory cleanup commented out due to failure to compile (should not cause a problem).

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: sig_gauge_generator.scr
Assigned to: Michael Martin **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  No changes were made to this application. The applications will run with XMGR but does not run with GRACE.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: snail.scr
Assigned to: Jenifer Barnes **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: ssm_4in1.scr
Assigned to: C White **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  ATM script has "cleaner format alignment/indents" but same content. Extra comments on content ATM did not understand but unneeded by modelers familiar with SFWMM.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  No difference in generated output data. Script ran but produce a Single Graph without data in and was not useable.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  New parameter file created and data output format changed to comply with Grace Chart bar graph format style.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: ssm_4in1_drought.scr
Assigned to: C White **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  ATM script has "cleaner format alignment/indents" but same content. Extra comments on content ATM did not understand but unneeded by modelers familiar with SFWMM.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  No difference in generated output data. Script ran but produce a Single Graph without data in and was not useable. Dry year list may need updating!!!!

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  New parameter file created and data output format changed to comply with Grace Chart bar graph format style.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: Sto
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  No ATM version found. Perhaps because of the similarity with stoDSS.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  The dssfile produced by this utility appears to work perfectly. A 'diff' or 'cmp' on dssfiles does not work because they always have a unique time stamp. I would like to verify after the Unix utility 'Get' is finalized.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: stretch32
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☒ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Diffs corrected. Ensure G95_MINUS_ZEROS=TRUE is defined as environment variable. ATM version was missing colons and some spacing issue on the first three header lines, very minor issue that was corrected to give perfect agreement with Solaris.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: transects_flow.scr
Assigned to: wmw **Reviewed by**: JN

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM 1.8 WMD/IMC 1.8
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  Type xy modified to Type bar - cosmetic fixes to bar width, etc.. autoscale none command line option added. New parameter files generated.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: trigger
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☒ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  No changes required. Numbers output from the utility are exactly the same on both platforms. However there is two space offset with the Linux version to the columns for the table. This difference makes absolutely no difference on the final answer and as the offset is constant the look and feel of the table is exactly the same. No columns are re-arragned or moved. Output from this utility is not read by any Fortran type programs that expect a number to be in the same column so the output is acceptable.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: trigger_report.scr
Assigned to: sdabral **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  comments: This script will need further modifications to incorporate new econ post processing functionality. The econ post processing configuration file name (econ_post.cf) is hardwired in the script.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: ts2nsmgrid
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Output file needed to be opened with grid_io library function similar to other grid_io Fortran utilities. Bit for bit exact match with cmp and diff.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☐ NO ☒
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☐ NO ☒

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: ts2nsmgridl
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Output file needed to be opened with grid_io library function similar to other grid_io Fortran utilities. Bit for bit exact match with cmp and diff.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☐ NO ☒
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☐ NO ☒

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: ts2nsmgridls
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  No differences noted from 'diff' or 'cmp' on binary output, meaning bit for bit identical.

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: ts2nsmgrids
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Output file needed to be opened with grid_io library function similar to other grid_io Fortran utilities.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☐ NO ☒
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☐ NO ☒

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: uncummulate
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Same dss output.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: watbud_ann.scr
Assigned to: Jenifer Barnes **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: wmm_mkdirs.scr
Assigned to: wmw **Reviewed by**: JN

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM 2.1 WMD/IMC 1.9
  Provide a description of the major differences between versions:
  Provisional IMC version provided to ATM - not under WMD SCCS control, hence "2.1" naming convention. All functionality resolved into LINUX version.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: wmm_pm.scr
Assigned to: wmw **Reviewed by**: JN

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM 2.1 WMD/IMC 1.6
  Provide a description of the major differences between versions:
  Provisional IMC version provided to ATM - not under WMD SCCS control, hence "2.1" naming convention. All functionality resolved into LINUX version.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: wmm_post_proc.scr
Assigned to: wmw **Reviewed by**: JN

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM 2.1 WMD/IMC 1.11
  Provide a description of the major differences between versions:
  Provisional IMC version provided to ATM - not under WMD SCCS control, hence "2.1" naming convention. All functionality resolved into LINUX version.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: wmm.scr
Assigned to: wmw **Reviewed by**: JN

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM 2.1 WMD/IMC 1.13mod
  Provide a description of the major differences between versions:
  Provisional IMC version provided to ATM - not under WMD SCCS control, hence "2.1" naming convention. WMD network also contained a version more evolved than 1.13 in SCCS control, hence "1.13mod" convention. All functionality resolved into LINUX version.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: wmmtopo2bin
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  No changes required. There was not a pefect byte-for-byte identity to Solaris using cmp and diff. But, output from a test file using grid_shot shows that both agree in terms of what is stored inside. A pefect binary match is not always expected, but the data inside of course is. I only tested wmmtopo_v2.2 since that seems to be the only version currently on the District side.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: wmmwbud
Assigned to: Jaime A. Graulau **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: writedata2graph
Assigned to: wmw **Reviewed by**: JN

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☒ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Rounding differences associated with greater precision in LINUX apps; seg faults encoutered in casting to char variables for strings, resolved with temp char declarations; memory cleanup commented out due to failure to compile (should not cause a problem).

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: writedata2grapht
Assigned to: wmw **Reviewed by**: JN

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☐ < 2% difference ☒ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Rounding differences associated with greater precision in LINUX apps; seg faults encoutered in casting to char variables for strings, resolved with temp char declarations; memory cleanup commented out due to failure to compile (should not cause a problem).

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: ws_str.scr
Assigned to: Hong Xu **Reviewed by**: wmw

Phase 1 – Information Gathering:
- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:
- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:

Phase 3 – Final Development:
- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  changing the numbers of string, string font and string character size.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:
- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐
- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: wsupp2sa_comp.scr
Assigned to: C White **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☐ NO ☒
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
  ATM script has "cleaner format alignment/indents" but same content. Many ATM editorial comments on content they did not understand but unneeded by modelers familiar with SFWMM.
- Does the ATM script or utility run as delivered by the contractor?
  YES ☐ NO ☒
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  Script provided produced nothing!

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☒ NO ☐ NA ☐
  Provide a description of the changes in moving to GRACE:
  New parameter file created and data output format changed to comply with Grace Chart bar graph format style.
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

Linux Implementation Process / Documentation Form

Application or Script Name: xyzts2bin
Assigned to: JN **Reviewed by**: wmw

Phase 1 – Information Gathering:

- Begin with the ATM (LINUX ported) version of the script or utility located at /u01/imc/apps/wmm/dev/src/ref/ATM.
- Is the ATM starting version the same as the most recent WMD/IMC version?
  YES ☒ NO ☐
- If no, what are the different versions? ATM WMD/IMC
  Provide a description of the major differences between versions:
- Does the ATM script or utility run as delivered by the contractor?
  YES ☒ NO ☐
- Check in the directory /u01/imc/apps/wmm/dev/src/ref/SFWMD_2_LINUX as a reference to see if implementation progress has already been made on the script or utility.

Phase 2 – Initial Development / Result Validation:

- Combine information from the ATM, WMD/IMC, and/or SFWMD_2_LINUX versions to create a working (and completely up-to-date) version of the script or utility. During this phase, it may be necessary to comment out any GRACE calls and substitute with the older GRBATCH notation (to ensure proper display of information).
- Comparing the resulting output of the script or utility on LINUX to what it produces on UNIX (for various scenarios – e.g. current, future, etc…) demonstrates:
  The same answer ☒ < 2% difference ☐ > 2% difference ☐
- If differences exist, inform project leads of findings and provide a description of the suspected reasons for differences:
  No changes to code required. Perfect agreement with Solaris. No example of how to run code, example set created.

Phase 3 – Final Development:

- Has the script or utility been modified to work with GRACE (GRACEBAT)?
  YES ☐ NO ☐ NA ☒
  Provide a description of the changes in moving to GRACE:
- Has the script or utility been modified to incorporate SVN keywords?
  YES ☒ NO ☐
- Is the script or utility capable of running for a 41 year period of record?
  YES ☒ NO ☐

Phase 4 – Installation:

- Has the finalized script or utility been checked into SVN?
  YES ☒ NO ☐

- Has the finalized script or utility been installed in the appropriate production location at /u01/imc/apps/wmm/prod?
  YES ☒ NO ☐

APPENDIX B- SIMULATION ASSUMPTIONS TABLES

SFWMM Model Assumptions Comparison between ECB, 2050B4 and 2010CP Conditions

Feature	ECB - Existing Condition Baseline (2006-2007)	2050B4 – Future without CERP Projects Baseline	2010CP – Future with CERP "Band 1" Projects Scenario
Climate	• The climatic period of record is from 1965 to 2000 • Rainfall estimates have been revised and updated for 1965-2000 • Revised evapotranspiration methods have been used for 1965-2000	Same as ECB condition	Same as ECB condition
Topography	Updated November 2001 and September 2003 using latest available information (in NGVD 29 datum) Nov 2001 update (Documented in November 2001 SFWMD memorandum from M. Hinton to K. Tarboton) includes: • USGS High Accuracy Elevation data from helicopter surveys collected 1999-2000 for Everglades National Park and Water Conservation Area (WCA) 3 south of Alligator Alley • USGS LIDAR data (May 1999) for WCA-3A north of Alligator Alley • Lindahl, Browning, Ferrari & Helstrom 1999 survey for Rotenberger Wildlife Management Area • Stormwater Treatment Area surveys from 1990's • Aerometric Corp. 1986 survey of the 8.5 square mile area • Includes estimate of Everglades Agricultural Area subsidence	Same as ECB condition	Same as ECB condition

Feature	**ECB - Existing Condition Baseline (2006-2007)**	**2050B4 – Future without CERP Projects Baseline**	**2010CP – Future with CERP "Band 1" Projects Scenario**
	• Other data as in SFWMM v3.7 • FWC survey 1992 for the Holey Land Wildlife Management Area September 2003 update includes: • Reverting to FWC 1992 survey data for Rotenberger Wildlife Management Area • DHI gridded data from Kimley – Horn contracted survey of EAA, 2002-2003. Regridded to 2 x 2 scale for EAA outside of STAs and WMAs April 2004 update includes: • STA-2 lowered as per ECP staff • New areas of USGS High Accuracy Elevation data available		
Sea Level	• Sea level data from six long-term NOAA stations were used to generate a historic record to use as sea level boundary conditions for the 1965 to 2000 evaluation period	Same as ECB condition	Same as ECB condition
Land Use	• Land use based on 1995 FLUCCS data, updated in the Lower East Coast urban areas using 2000 aerial photography (2000 Composite Land Use) • Documented in August 2003 SFWMD memorandum from J. Barnes and K. Tarboton to J. Obeysekera	Same as ECB condition, plus: • Undeveloped lands assigned land use codes cross-walked from county comprehensive plans (2020 Future Land Use)	Same as ECB condition, plus: • Random growth algorithm for undeveloped lands between 2000 and 2020 land use from county comprehensive plans (2010 Future Land Use)
Natural Area Land Cover (Vegetation)	• Vegetation classes and their spatial distribution in the natural areas comes from the following data:	Same as ECB condition	Same as ECB condition

Feature	ECB - Existing Condition Baseline (2006-2007)	2050B4 – Future without CERP Projects Baseline	2010CP – Future with CERP "Band 1" Projects Scenario
	• Walsh 1995 aerial photography in Everglades National Park • Rutchey 1995 classification in WCA-3B, WCA-3A north of Alligator Alley and the Miami Canal, WCA-2A & WCA-2B • Richardson 1990 data for Loxahatchee National Wildlife Refuge • FLUCCS 1995 for Big Cypress National Preserve, Holey Land & Rotenberger Wildlife Management Areas & WCA-3A south of Alligator Alley and Miami Canal (Documented in August 2003 SFWMD memorandum from J. Barnes and K. Tarboton to J. Obeysekera)		
LOSA Basins	• Lower Istokpoga, North Lake Shore and Northeast Lake Shore demands and runoff based on AFSIRS modeling of 2000 land use	• Lower Istokpoga, North Lake Shore and Northeast Lake Shore demands and runoff based on AFSIRS modeling using 2050 land use projections	• Lower Istokpoga, North Lake Shore and Northeast Lake Shore demands and runoff based on AFSIRS modeling using 2010 land use projections
Lake Okeechobee	• Lake Okeechobee Regulation Schedule WSE according to WSE decision trees, with pulse releases in Zone D modeled as Level III pulse in upper third of the zone, Level II pulse in middle third of the zone, and Level I pulse in the lower third of the zone, when the decision tree calls for regulatory releases to the estuaries in that zone • WSE thresholds according to the Class Limit Adjustment (CLA) for WSE: Increase the frequency of Pulse Releases in Zone D of WSE	• Lake Okeechobee Regulation Schedule per Alternative T3 of the USACE LORSS planning effort • LORSS T3 decision tree regulatory discharges south include the maximum use of the L8 → C51 → Tide discharge pathway to reflect ongoing lake operations • Lake Okeechobee Water Shortage Management Plan included as in LORSS Alternative T3 • Emergency flood control back pumping to Lake Okeechobee from the Everglades Agricultural Area • Kissimmee River Restoration and	Same as 2050B4 condition, plus: • Lake operations modified to allow flows to EAA reservoir • CERP Lake Okeechobee Watershed projects are assumed to change the timing of flows into Lake Okeechobee (MDS modification) • Flood control releases to the south are not made, except when sent to the EAA reservoir.

Feature	ECB - Existing Condition Baseline (2006-2007)	2050B4 – Future without CERP Projects Baseline	2010CP – Future with CERP "Band 1" Projects Scenario
	• WSE regulatory discharges south, at times when the decision tree calls for such releases, include maximal use of discharge pathway L8 → C51 → tide, to reflect ongoing lake operations • Lake Okeechobee Supply Side management policy for Lake Okeechobee Service Area water restriction cutbacks as per rule 40E-21 and 40E-22 • Emergency flood control back pumping to Lake Okeechobee from the Everglades Agricultural Area • Kissimmee River inflows based on interim schedule for Kissimmee Chain of Lakes using the UKISS model • Flood control releases south of Lake are constrained by WCA regulation schedules • Only STA-3/4 would be used to treat LOK regulatory releases to the south • BMP makeup water deliveries to WCAs are not made	Headwaters Revitalization Project are complete • Lake Okeechobee Regulatory Releases south to WCAs are limited to approx. 60,000 ac-ft average annual • Only STA-3/4 would be used to treat LOK regulatory releases to the south • BMP makeup water deliveries to WCAs are not made	
Caloosahatchee River Basin	• Caloosahatchee River and S-4 Basin irrigation demands and runoff were estimated using the AFSIRS method based on 2006 planted acreage • Public water supply daily intake from the river (~10 mgd) is included in the analysis	• Caloosahatchee River and S-4 Basin irrigation demands and runoff were estimated using the AFSIRS method based on Restudy-Like 2050 land use • Public water supply daily intake from the river (~10 mgd) is included in the analysis	Same as 2050B4 condition, plus: • C-43 Basin Storage Reservoir (Phase I PIR) added.
St. Lucie Canal Basin	• St. Lucie Canal Basin demands estimated using the AFSIRS method based on 2000 planted	• St. Lucie Canal Basin demands were based on the Indian River Lagoon draft feasibility study	Same as 2050B4 condition, plus: • Indian River Lagoon C-44 Basin Storage Reservoir added.

Feature	ECB - Existing Condition Baseline (2006-2007)	2050B4 – Future without CERP Projects Baseline	2010CP – Future with CERP "Band 1" Projects Scenario
	acreage • Basin demands include the Florida Power & Light reservoir at Indiantown	future without project condition projected acreages for 2050. • Basin demands include the Florida Power & Light reservoir at Indiantown.	
Seminole Brighton Reservation	• Brighton reservation demands were estimated using AFSIRS method based on existing planted acreage in a manner consistent with that applied to other basins not in the distributed mesh of the SFWMM • The 2 in 10 demand set forth in the Seminole Compact Work plan equals 2,262 MGM (million gallons/month). AFSIRS modeled 2 in 10 demands equaled 2,383 MGM • While estimated demands, and therefore deliveries, for every month of simulation do not equate to monthly entitlement quantities as per Table 7, Agreement 41-21 (Nov. 1992), tribal rights to these quantities are preserved • Supply-Side Management applies to this agreement	Same as ECB condition	Same as ECB condition
Seminole Big Cypress Reservation	• Big Cypress Reservation irrigation demands and runoff were estimated using the AFSIRS method based on existing planted acreage in a manner consistent with that applied to other basins not in the distributed grid of the SFWMM • The 2 in 10 demand set forth in the Seminole Compact Work Plan equals 2,606 MGM • AFSIRS modeled 2 in 10 demands	Same as ECB condition	Same as ECB condition

Feature	ECB - Existing Condition Baseline (2006-2007)	2050B4 – Future without CERP Projects Baseline	2010CP – Future with CERP "Band 1" Projects Scenario
	equaled 2,659 MGM • While estimated demands, and therefore deliveries, for every month of simulation do not equate to monthly entitlement quantities as per the District's Final Order and Tribe's Resolution establishing the Big Cypress Reservation entitlement, tribal rights to these quantities are preserved • Supply-Side Management applies to this agreement		
Seminole Hollywood Reservation	• Hollywood Reservation demands are set forth under VI. C of the Tribal Rights Compact • Tribal sources of water supply include various bulk sale agreements with municipal service suppliers	Same as ECB condition	Same as ECB condition
Everglades Agricultural Area	• Everglades Agricultural Area irrigation demands are simulated using climatic data for the 36 year period of record and a soil moisture accounting algorithm, with parameters calibrated to match historical regional supplemental deliveries from Lake Okeechobee • SFWMM EAA runoff and irrigation demand response to rainfall was calibrated for 1984-95 and verified for 1979-1983/1996-2000. No runoff reduction adjustment was necessary to account for Best Management Practices (BMPs) • EAA cells in the Miami Canal Basin between STA-5 and STA-6 are not	Same as ECB condition, plus: Alt 1-like routing of flows through STAs due to water-quality considerations: • 40% of runoff from Hillsboro and 30% of runoff from West Palm Beach Basins are diverted to Compartment 2B.	Same as ECB condition, plus: A-1 Reservoir simulated as two fully mixed, interconnected compartments: • Compartment A-1N: 9,600 acres, depth 12 ft. • Compartment A-1S: 6,400 acres, depth 12 ft. Alt 1 routing of flows through STAs due to water-quality considerations: • 50% of runoff from Hillsboro and West Palm Beach Basins are diverted to EAA Reservoir

Feature	ECB - Existing Condition Baseline (2006-2007)	2050B4 – Future without CERP Projects Baseline	2010CP – Future with CERP "Band 1" Projects Scenario
	production cells (shrub Land Use). Then, no irrigation demands are required in this area. Runoff from this area is part of the Miami Canal Basin		
Everglades Construction Project Stormwater Treatment Areas	• STA-1E: 5,132 acres total treatment area • STA-1W: 6,670 acres total treatment area • STA-2: expanded with cell 4: 8,243 acres total treatment area • STA-3/4: 16,543 acres total treatment area • STA-5: expanded with cell 3: 6,165 acres total treatment area • STA-6: expanded with phase 2: 2,254 acres total treatment area • Operation of STAs assumes maintenance of a 6" minimum depth.	• STA-1E: 5,132 acres total treatment area • STA-1W: 6,670 acres total treatment area • STA-2: 6,430 acres total treatment area • Compartment B: 9,388 acres total treatment area (includes cell 4 of STA-2) • STA-3/4: 16,543 acres total treatment area • STA-5: 4,110 acres total treatment area • STA-5 increased by 4,916 acres from Compartment C and expanded with cell 3: 11,081 acres total treatment area • STA-6 increased by 600 acres from Compartment C and expanded with phase 2: 2,854 acres total treatment area • STA-1E does not receive flow from L101 Basin	Same as 2050B4 condition
Holey Land Wildlife Management Area	• Operations are similar to the existing condition as in the 1995 base simulation for the Lower East Coast Regional Water Supply Plan (LECRWSP, May 2000), as per the memorandum of agreement	Same as ECB condition	Same as ECB condition

Feature	ECB - Existing Condition Baseline (2006-2007)	2050B4 – Future without CERP Projects Baseline	2010CP – Future with CERP "Band 1" Projects Scenario
	between the FWC and the SFWMD		
Rotenberger Wildlife Management Area	Interim Operational Schedule as defined in the Operation Plan for Rotenberger WMA (SFWMD, July 2002)	Same as ECB condition	• Rotenberger WMA utilizes Rainfall Driven Operations per CERP
Water Conservation Area 1 (Arthur R. Marshall Loxahatchee National Wildlife Refuge)	• Current C&SF Regulation Schedule. Includes regulatory releases to tide through LEC canals • No net outflow to maintain minimum stages in the LEC Service Area canals (salinity control), if water levels are less than minimum operating criteria of 14 ft. The bottom floor of the schedule (Zone C) is the area below 14 ft. Any water supply releases below the floor will be matched by an equivalent volume of inflow from Lake Okeechobee • Structure S10E connecting LNWR to the northeastern portion of WCA-2A is no longer considered part of the simulated regional System	Same as ECB condition	Same as ECB condition
Water Conservation Area 2A & 2B	• Current C&SF regulation schedule. Includes regulatory releases to tide through LEC canals • No net outflow to maintain minimum stages in the LEC Service Area canals (salinity control), if water levels in WCA-2A are less than minimum operating criteria of 10.5 ft. Any water supply releases below the floor will be matched by an equivalent volume of inflow from Lake Okeechobee	Same as ECB condition	Same as ECB condition

Feature	ECB - Existing Condition Baseline (2006-2007)	2050B4 – Future without CERP Projects Baseline	2010CP – Future with CERP "Band 1" Projects Scenario
Water Conservation Area 3A & 3B	• Current C&SF regulation schedule for WCA-3A, as per Water Control Plan –Interim Operational Plan (IOP) for protection of the Cape Sable seaside sparrow- C&SF Project for Flood Control and other Purposes (USACE, June 2002) • Includes regulatory releases to tide through LEC canals. Documented in Water Control Plan (USACE, June 2002) • No net outflow to maintain minimum stages in the LEC Service Area canals (salinity control), if water levels are less than minimum operating criteria of 7.5 ft in WCA-3A. Any water supply releases below the floor will be matched by an equivalent volume of inflow from Lake Okeechobee	• Structural modifications and operations for L-67 canal conveyance, L29 constraint, S-355 structures and C&SF Regulation Schedule as in the Combined Structural & Operational Plan (CSOP) TSP – Alternative Alt5R • Includes regulatory releases to tide through LEC canals. Documented in Water Control Plan (USACE, June 2002) • No net outflow to maintain minimum stages in the LEC Service Area canals (salinity control), if water levels are less than minimum operating criteria of 7.5 ft in WCA-3A. Any water supply releases below the floor will be matched by an equivalent volume of inflow from Lake Okeechobee	• Same as 2050B4 condition, plus: • Modifications to simulate Rainfall Driven Operational criteria to determine timing and magnitude of discharges to WCA-3A and from WCA-3A to WCA-3B/ENP
Public Water Supply and Irrigation	• Public water supply wellfield pumpages, locations and utility ASR are based on actual pumpage data for calendar year 2006 • Irrigation demands are based upon 2000 composite land use and calculated using AFSIRS, reduced to account for landscape and golf course areas irrigated using reuse water and landscape areas irrigated using public water supply	• Public water supply wellfield pumpages, locations and utility ASR are the same as Restudy 2050 demands • Wellfield distribution as in the Restudy 2050 future without project condition • Irrigation demands are based on 2020 projected land use and calculated in the same manner as the existing condition • Wastewater reuse has been incorporated in the estimation of landscape irrigation demands for each county	• Public water supply wellfield pumpages, locations and utility ASR are based on greater of 2006 permitted data or 2010 Yellow Book demands • Irrigation demands are based upon 2010 future land use and calculated in the same manner as the existing condition • Wastewater reuse has been incorporated in the estimation of landscape irrigation demands for each county
Other Natural Areas	• For the Northwest Fork of the Loxahatchee River, the District	Same as ECB condition	Same as ECB condition

Feature	ECB - Existing Condition Baseline (2006-2007)	2050B4 – Future without CERP Projects Baseline	2010CP – Future with CERP "Band 1" Projects Scenario
	operates the G-92 structure and associated structures to provide approximately 50 cfs over Lainhart Dam to the Northwest Fork, when sufficient water is available in C-18 Canal • Flows to Pond Apple Slough through S-13A are adjusted in the model to approximate measured flows at the structure • Flows to Biscayne Bay are simulated through Snake Creek, North Bay, the Miami River, Central Bay and South Bay		
Canal Operations	• C&SF system and operating rules in effect in 2006 • Includes operations to meet control elevations in the primary coastal canals for the prevention of saltwater intrusion • Includes existing secondary drainage/water supply system • C-4 Flood Mitigation Project • C-11 Water Quality Treatment Critical Project (S-381 and S-9A) • S-25B and S-26 pumps are not modeled since they are used very rarely during high tide conditions and the SFWMM uses a long-term average daily tidal boundary. • Northwest Dade Lake Belt area assumes that the conditions caused by currently permitted mining exist and that the effects of any future mining are fully mitigated by industry • ACME Basin A flood control	Same as ECB condition, plus: • Releases from WCA-3A to ENP and the South Dade Conveyance System (SDCS) will follow the Combined Structural & Operational Plan (CSOP) TSP – Alternative Alt5R • Operational adjustments to maintain water levels in the coastal canals to meet minimum levels in the Biscayne Aquifer as proposed in the LECRWSP • Eastern Hillsboro ASR is 5 MGD	Same as 2050B4 condition plus CERP project features: • Broward County WPA's - C9 Impoundment - C11 Impoundment • WCA 3A-3B Seepage Management • Acme Basin B Discharge • Site 1 Impoundment • North Palm Beach County - C51 & L-8 Basin Reservoir Phase 1

Feature	ECB - Existing Condition Baseline (2006-2007)	2050B4 – Future without CERP Projects Baseline	2010CP – Future with CERP "Band 1" Projects Scenario
	discharges are sent to C-51, west of the S-155A structure, to be pumped into STA-1E. ACME Basin B flood control discharges are no longer sent into the Loxahatchee National Wildlife Refuge, but instead to C-51 East through the S-155A structure • Releases from WCA-3A to ENP and the South Dade Conveyance System (SDCS) will follow the Interim Operational Plan (IOP): ○ Decreased S-12 flood control discharges & increased flood control discharges to SDCS ○ Structures S-343A, S-343B, S-344 and S-12A are closed Nov. 1 to July 15 ○ Structure S-12B is closed Jan. 1 to July 15. ○ Structure S-12C is closed Feb. 1 to July 15. ○ South Dade Conveyance System operations will follow IOP for protection of the Cape Sable seaside sparrow		

Feature	ECB - Existing Condition Baseline (2006-2007)	2050B4 – Future without CERP Projects Baseline	2010CP – Future with CERP "Band 1" Projects Scenario
Western Basins	• Estimated and updated historical inflows from western basins at two locations: G-136 and G-406 • The G-406 location represents potential inflow from the C-139 Basin into STA 5 • Data for the period 1978 - 2000 is the same as the data used for the C-139 Basin Rule development. (Documented in June 2002 SFWMD memorandum from L. Cadavid and L. Brion to J. Obeysekera)	Same as ECB condition	Same as ECB condition
Big Cypress National Preserve	• Tamiami Trail culverts are not modeled in SFWMM due to the coarse (2 mile x 2 mile) model resolution	Same as ECB condition	Same as ECB condition
Everglades National Park	• Water deliveries to Everglades National Park are based upon the Interim Operational Plan (IOP) • When stages in WCA-3A fall in Zone E1 of the regulation schedule and the stage at G-3273 is below the critical threshold, S-333 flows are directed to the Park, a fraction of which is released through S334. This simulation is consistent with IOP ALT7RP2 • Partial construction of C-111 project reservoirs consistent with constructed features as of December 2006	• Structural modifications and operations for 8.5 SMA and C-111 projects and water deliveries to Everglades National Park as in the Combined Structural & Operational Plan (CSOP) TSP – Alternative Alt5R	Same as 2050B4 condition, plus: • Modifications to simulate Rainfall Driven Operational criteria for determining timing of deliveries to Everglades National Park. • C-111 CERP Reservoir added.
Water Shortage	• Reflects the existing water	Same as ECB condition	Same as ECB condition

Feature	ECB - Existing Condition Baseline (2006-2007)	2050B4 – Future without CERP Projects Baseline	2010CP – Future with CERP "Band 1" Projects Scenario
Rules	shortage policies in 2005 as in South Florida Water Management District Chapters 40E-21 and 40E-22, FAC.		

APPENDIX C- PERFORMANCE MEASURE GRAPHICS

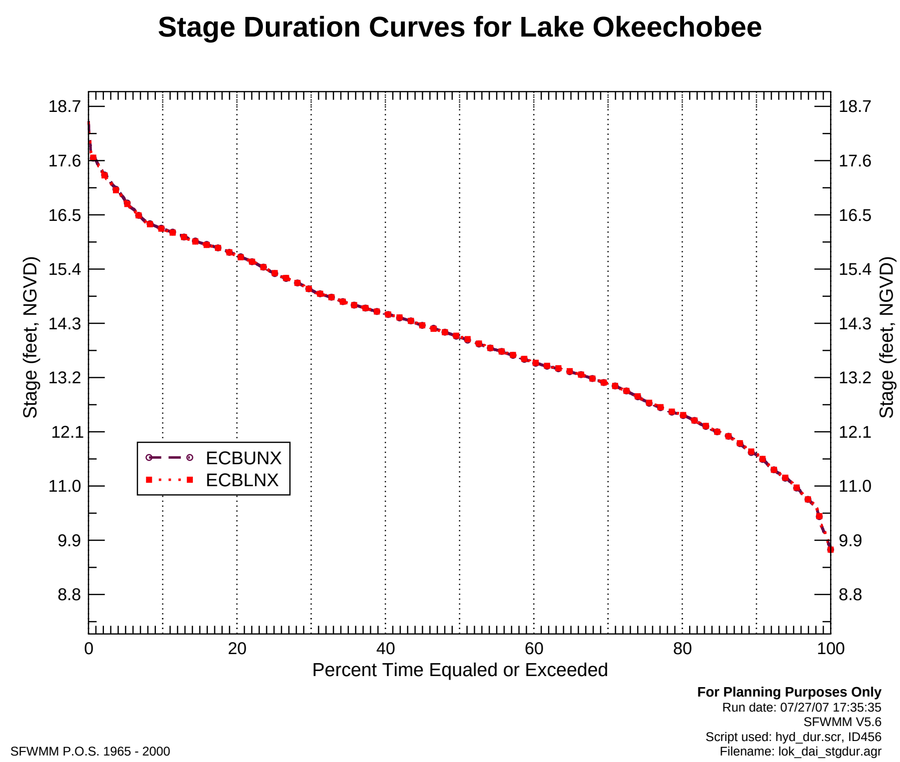

Figure C-1. Stage duration curves for Lake Okeechobee for ECB UNIX® and Linux® simulations

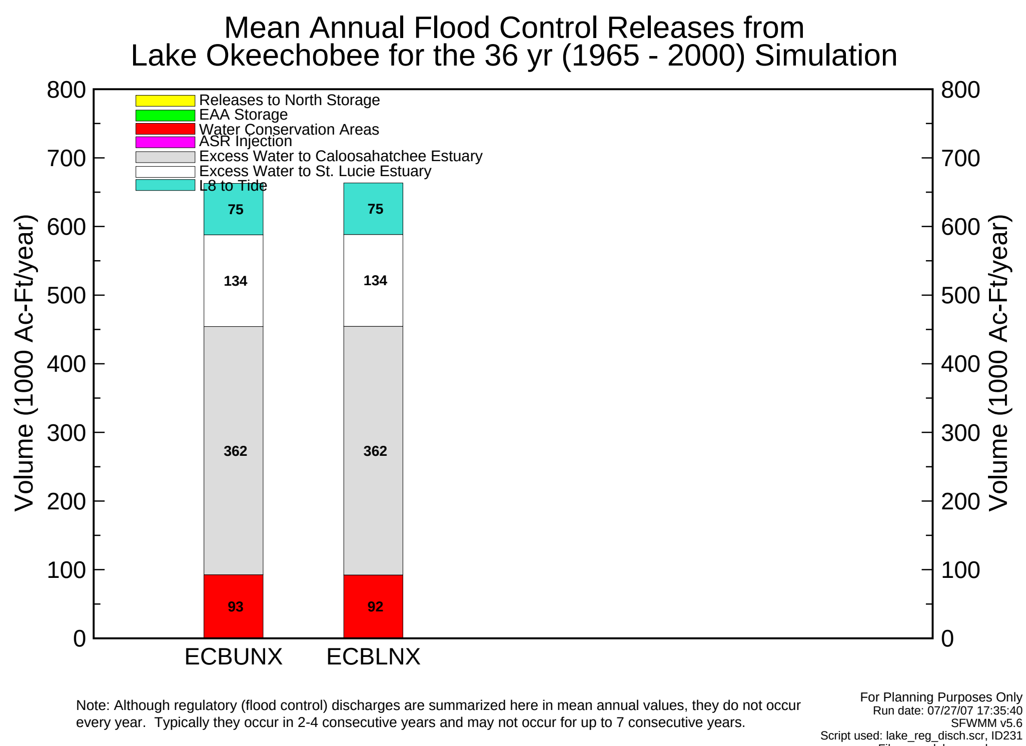

Figure C-2. Mean annual flood control releases from Lake Okeechobee for the 36-year ECB UNIX® and Linux® simulations

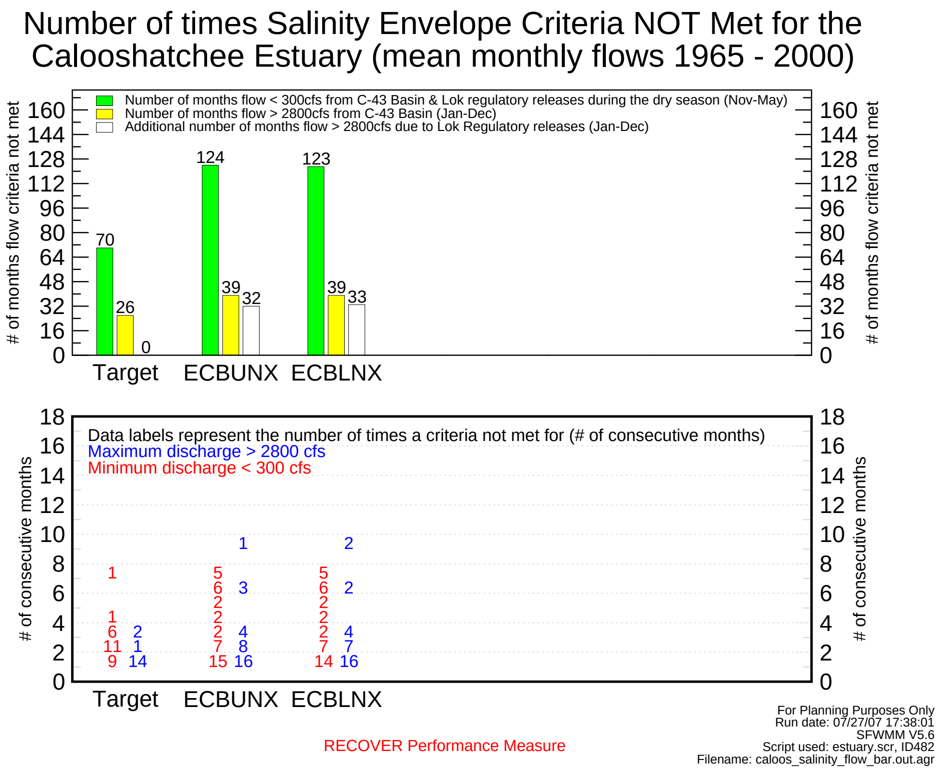

Figure C-3. Number of times salinity envelope criteria not met for the Caloosahatchee Estuary for ECB UNIX® and Linux® simulations

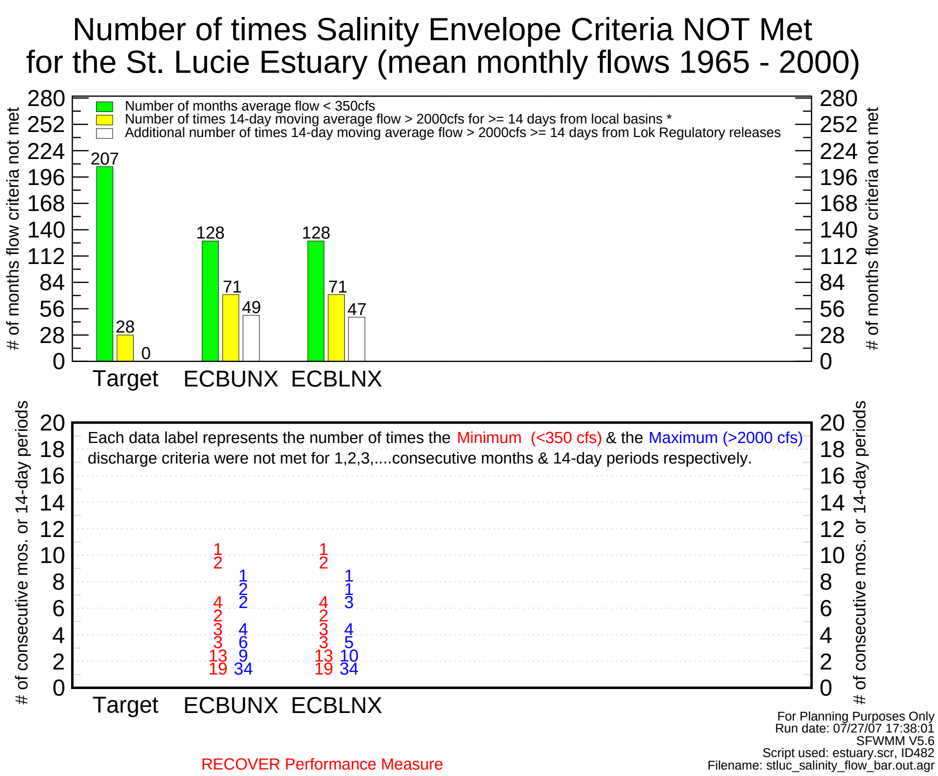

Figure C-4. Number of times salinity envelope criteria not met for the St. Lucie Estuary for ECB UNIX® and Linux® simulations

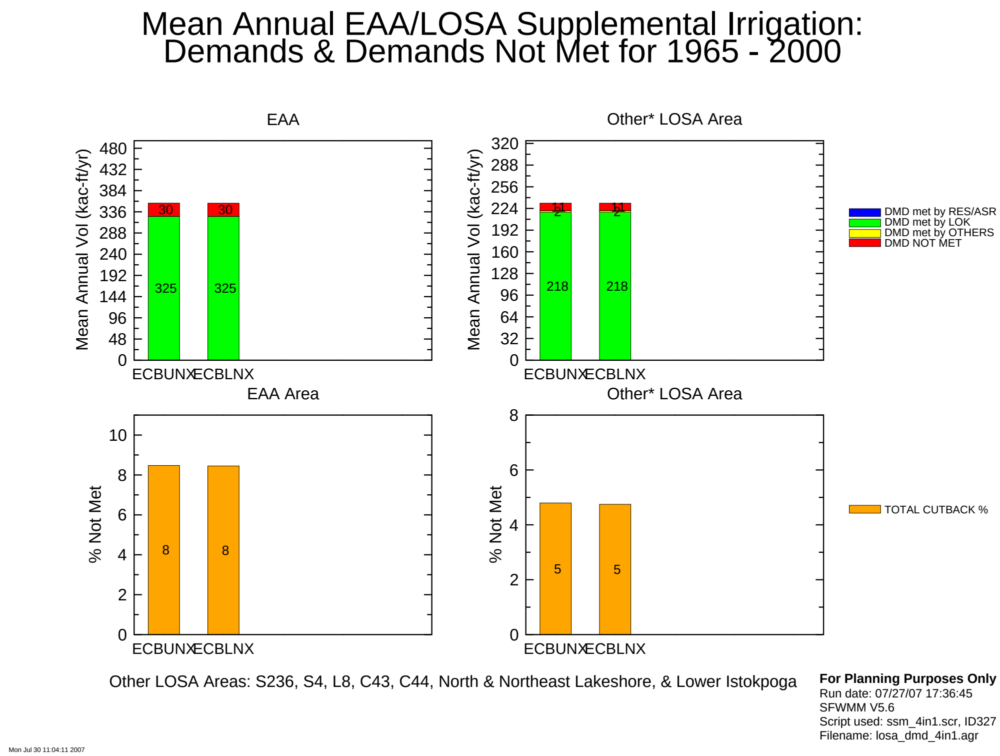

Figure C-5. Mean annual EAA/LOSA supplemental irrigation: Demands and demands not met for 1965 - 2000 for ECB UNIX® and Linux® simulations

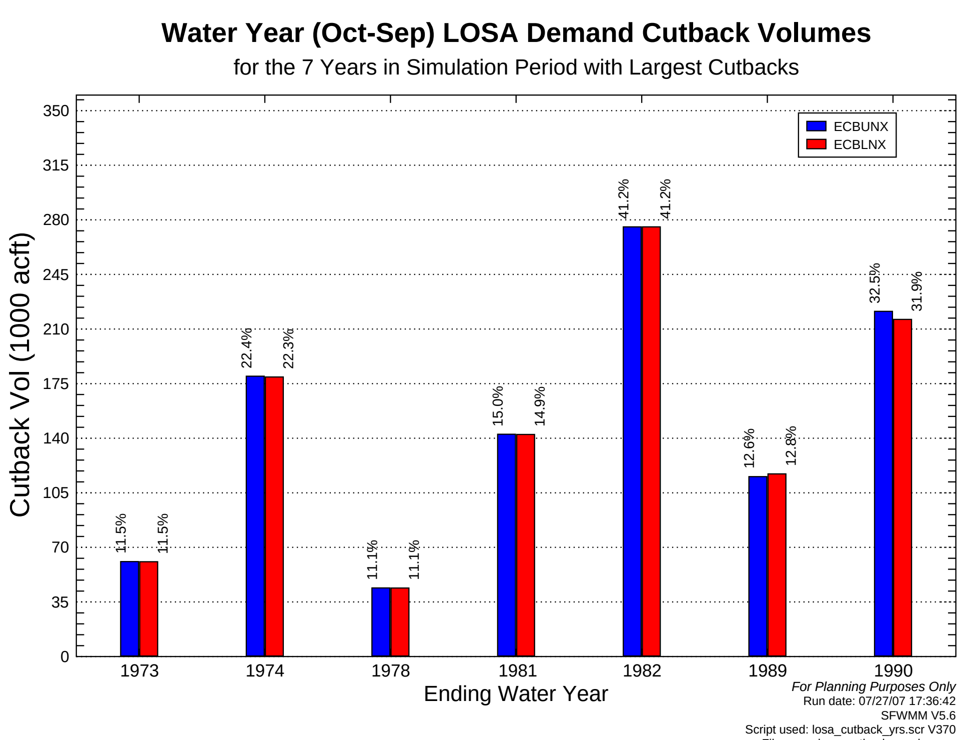

Figure C-6. Water year LOSA demand cutback volumes for ECB UNIX® and Linux® simulations

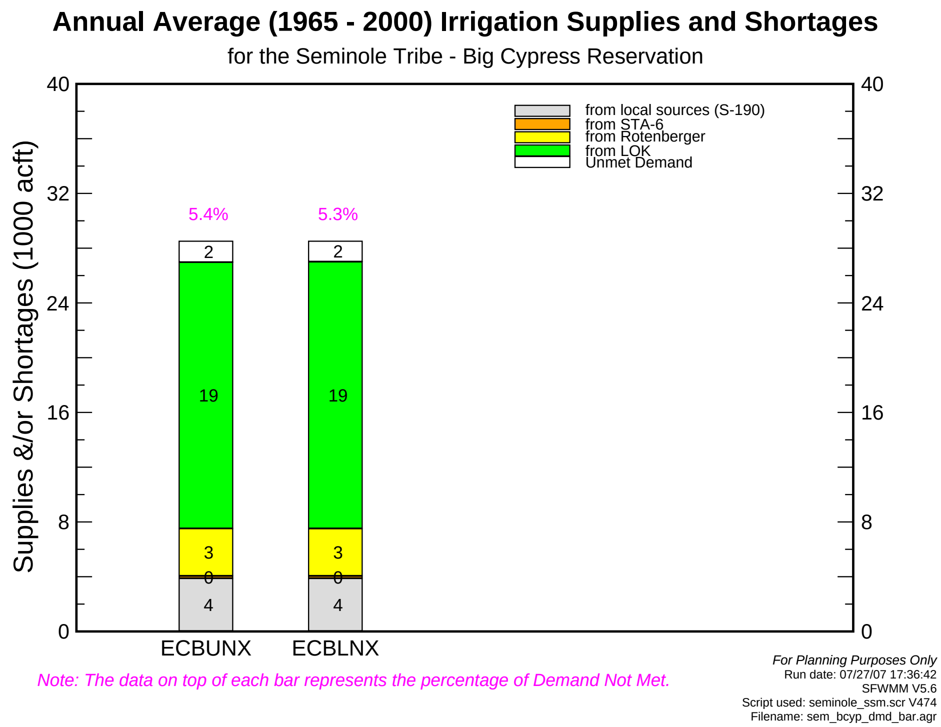

Figure C-7. Annual average irrigation supplies and shortages for ECB UNIX® and Linux® simulations

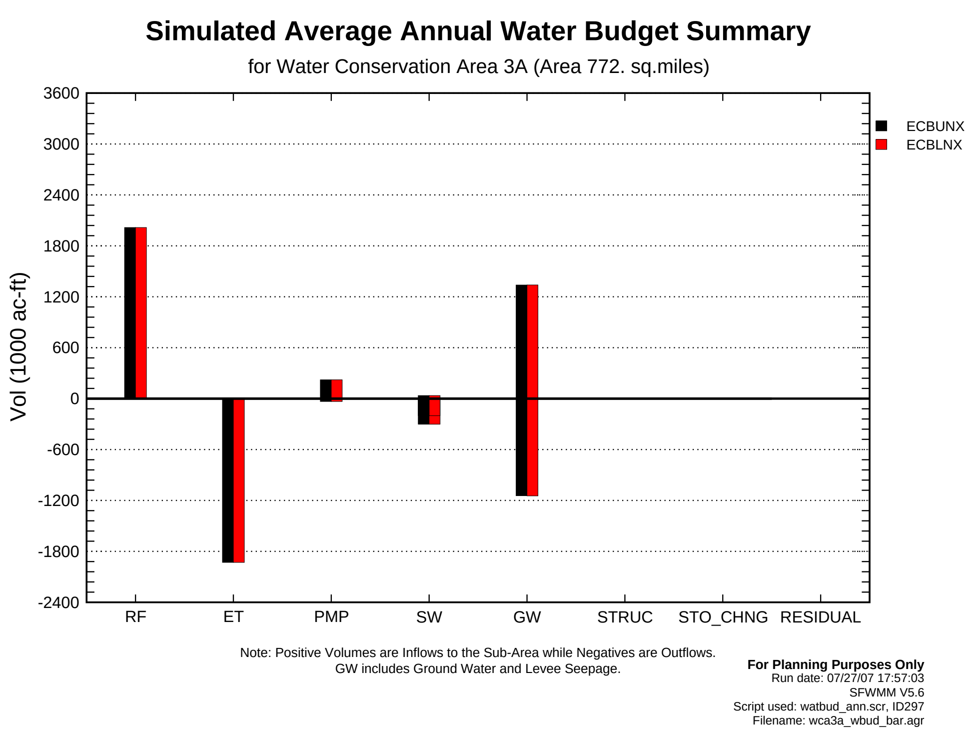

Figure C-8. Simulated average annual water budget summary for ECB UNIX® and Linux® simulations

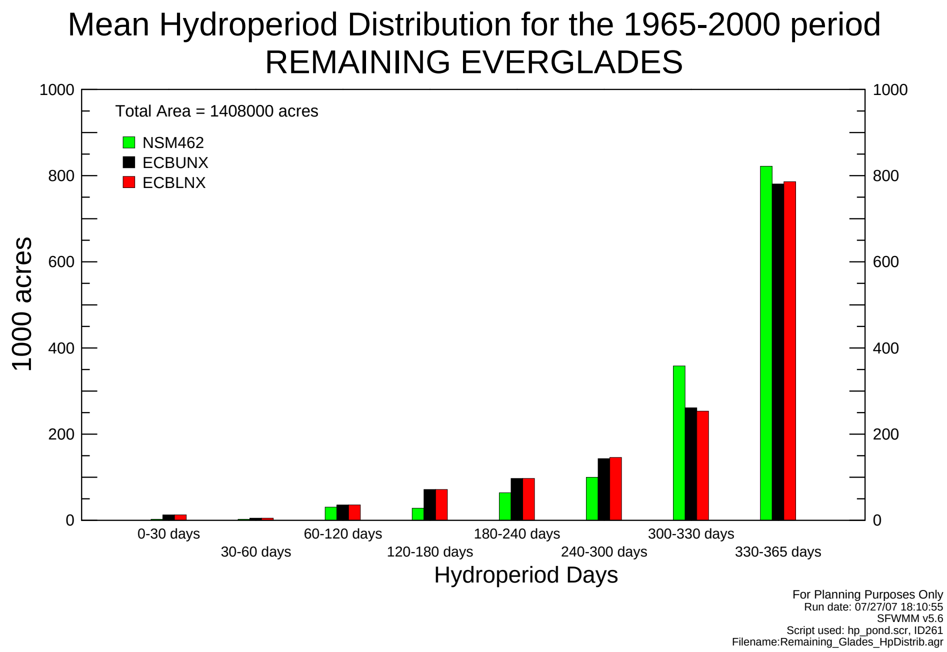

Figure C-9. Mean hydroperiod distribution for the 1965 - 2000 period for ECB UNIX® and Linux® simulations

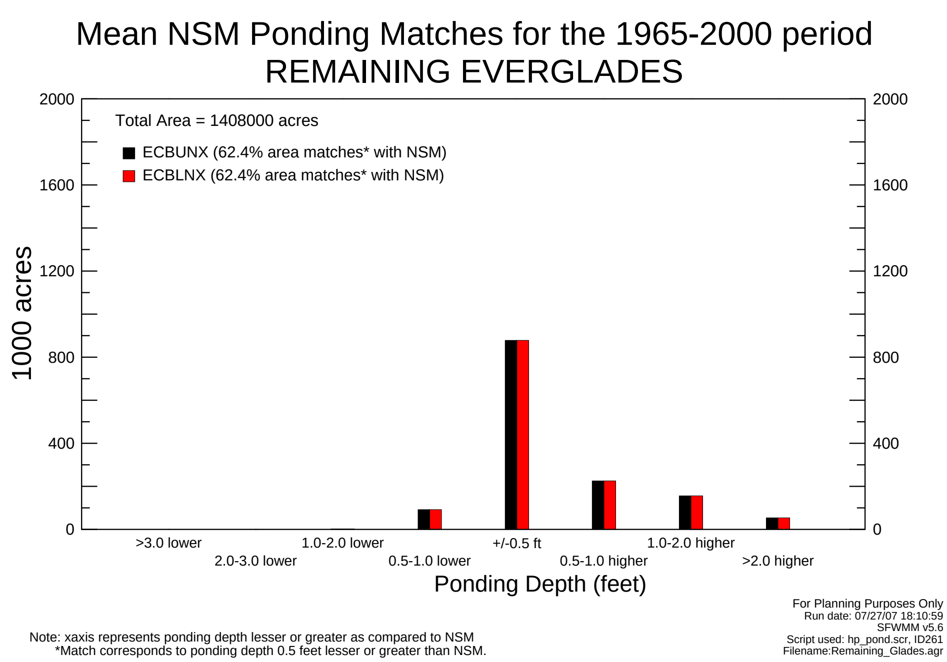

Figure C-10. Mean NSM ponding matches for 1965 - 2000 period for ECB UNIX® and Linux® simulations

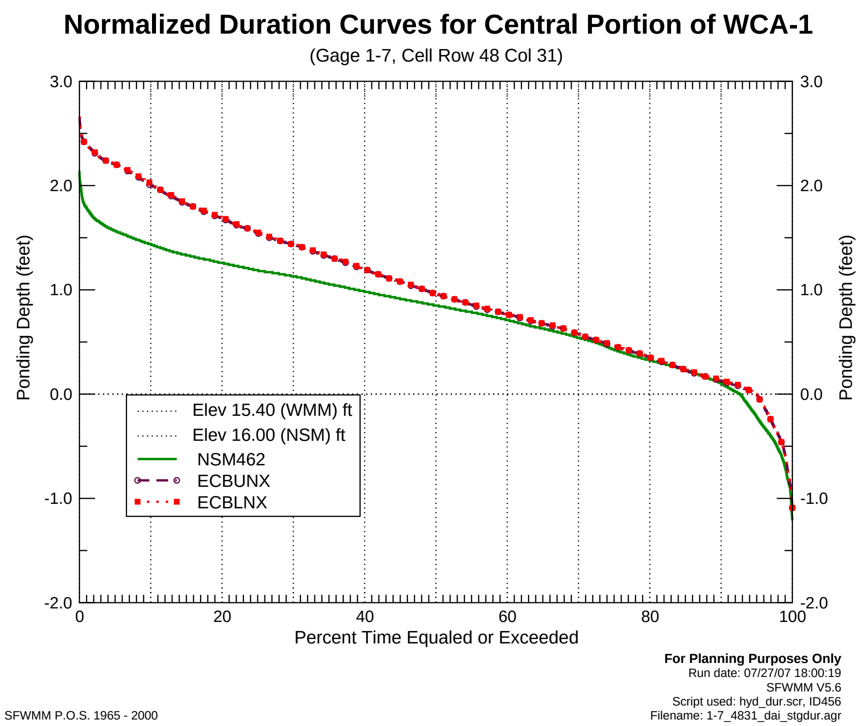

Figure C-11. Normalized duration curves for central portion of Water Conservation Area 1 for ECB UNIX® and Linux® simulations

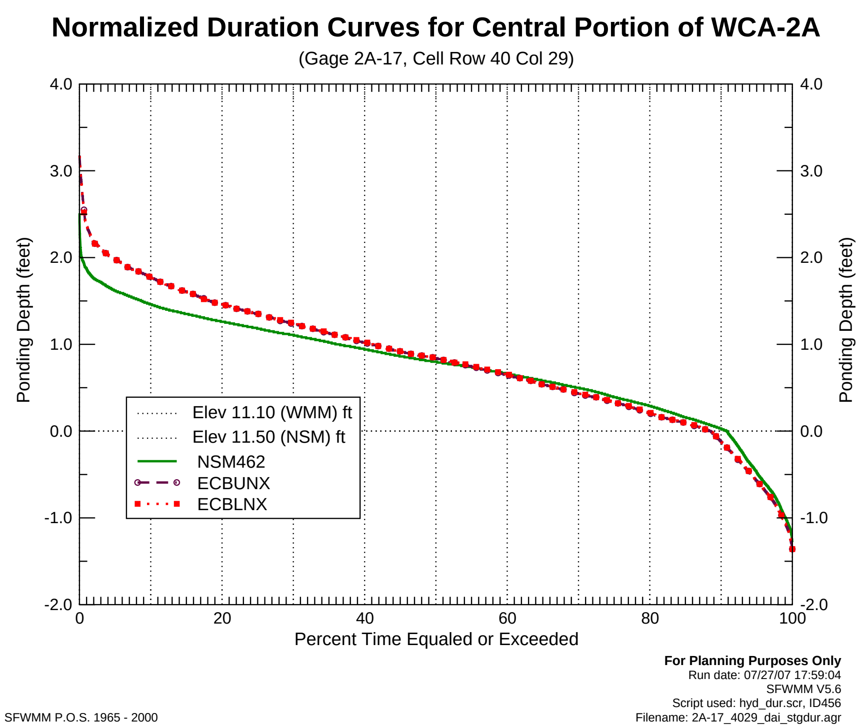

Figure C-12. Normalized duration curves for central portion of Water Conservation Area 2A for ECB UNIX® and Linux® simulations

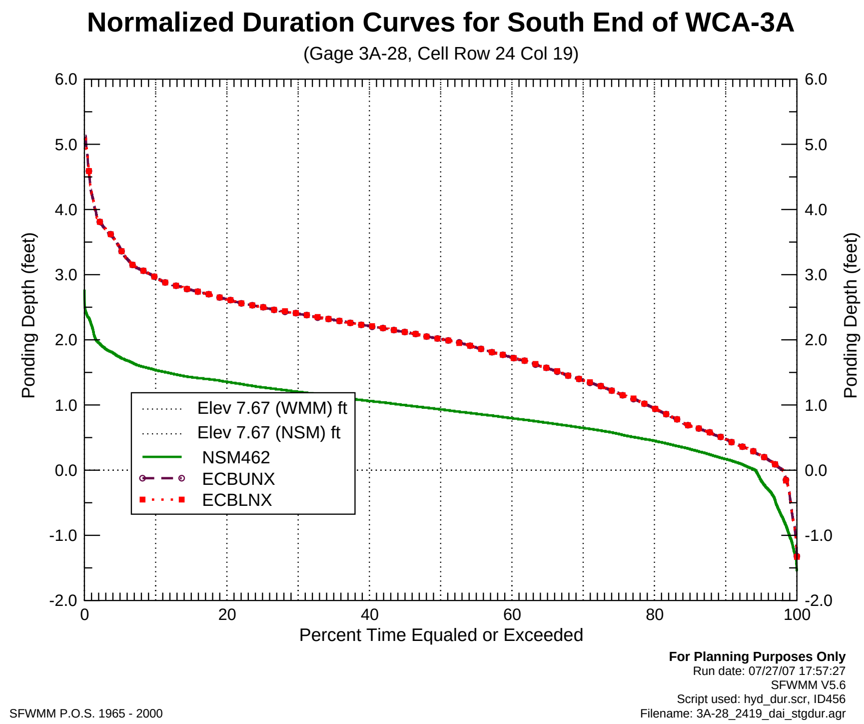

Figure C-13. Normalized duration curves for south end of Water Conservation Area 3A for ECB UNIX® and Linux® simulations

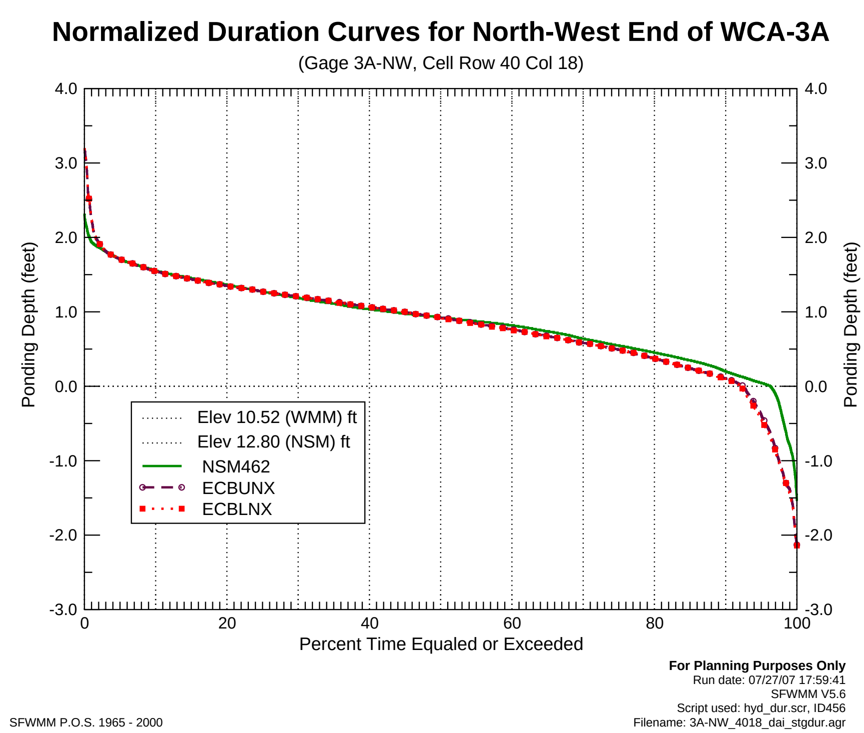

Figure C-14. Normalized duration curves for north-west end of Water Conservation Area 3A for ECB UNIX® and Linux® simulations

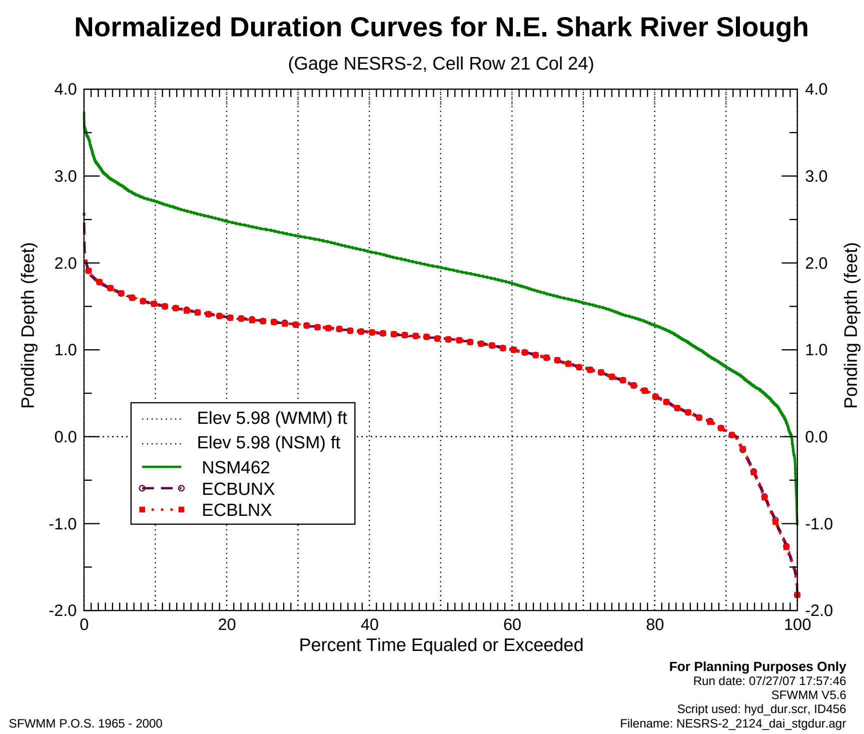

Figure C-15. Normalized duration curves for north-east Shark River Slough for ECB UNIX® and Linux® simulations

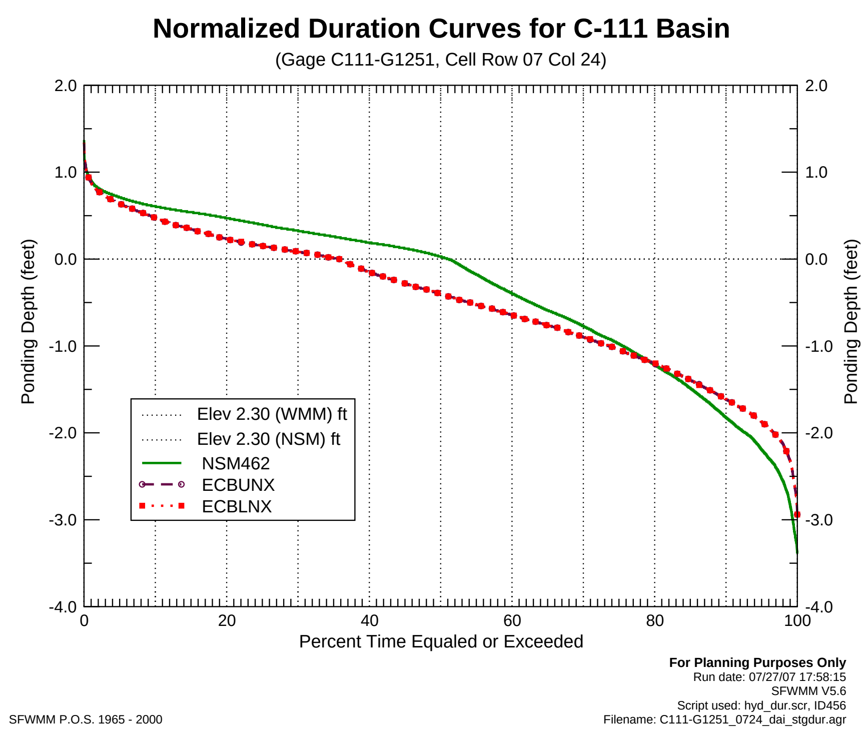

Figure C-16. Normalized duration curves for C-111 Basin for ECB UNIX® and Linux® simulations

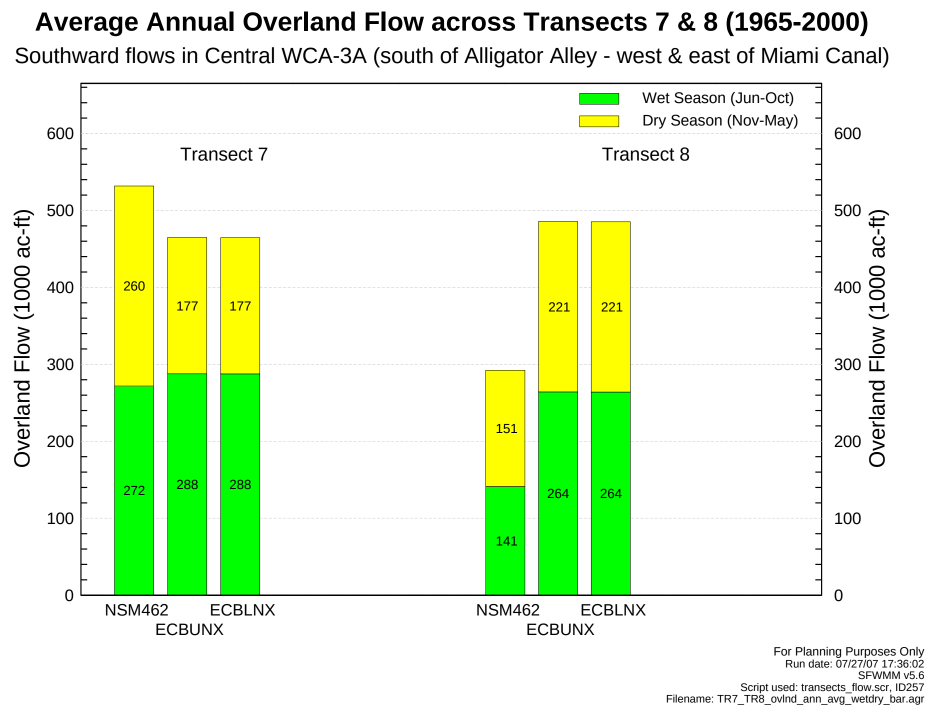

Figure C-17. Average annual overland flow across Transects 7 and 8 for ECB UNIX® and Linux® simulations

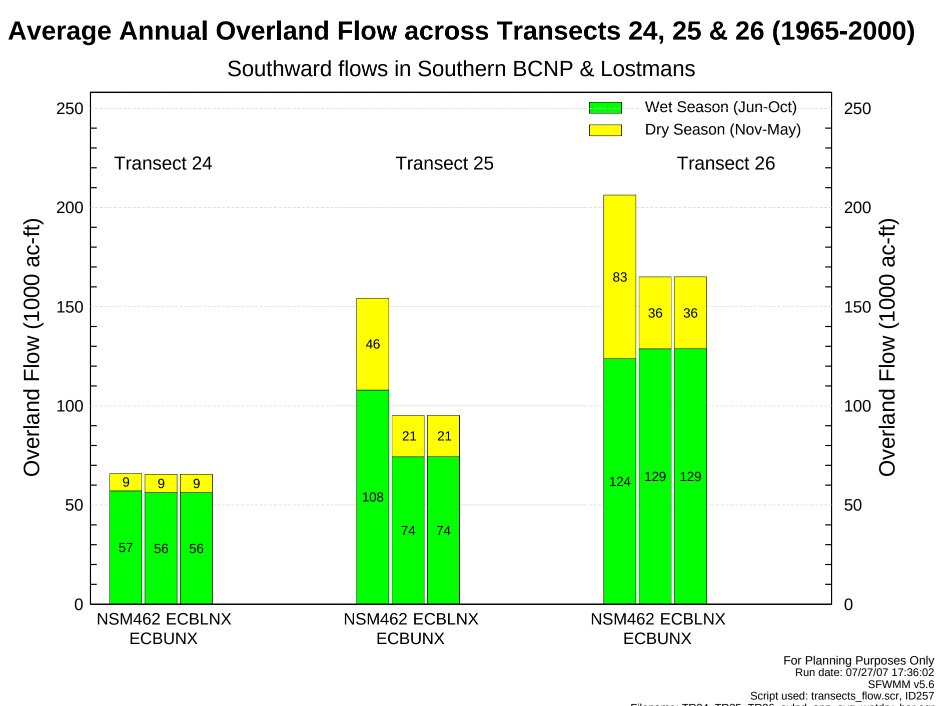

Figure C-18. Average annual overland flow across Transects 24, 25 and 26 for ECB UNIX® and Linux® simulations

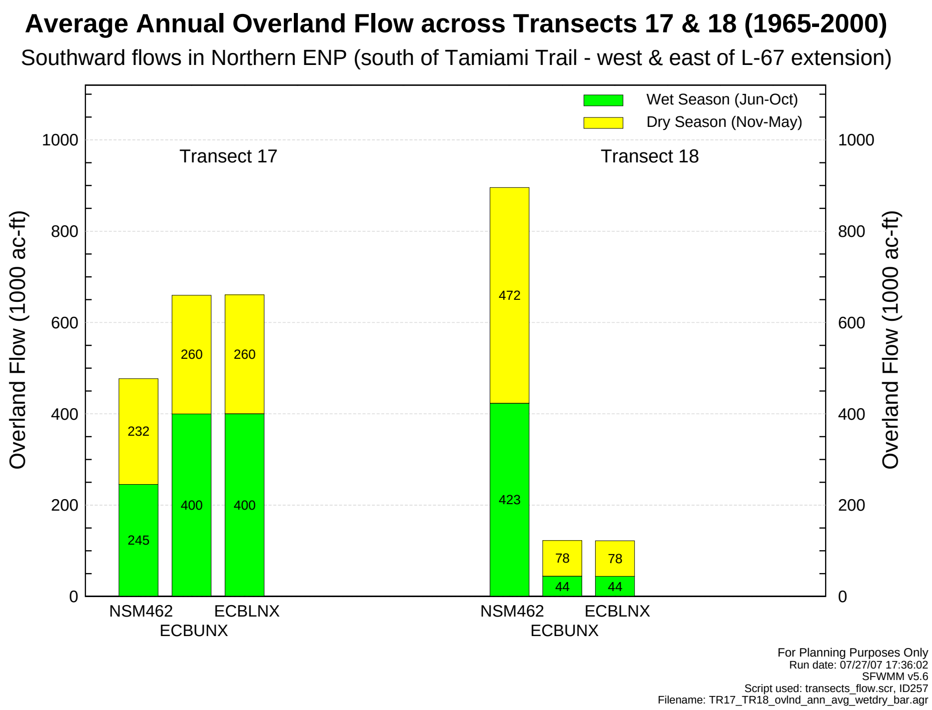

Figure C-19. Average annual overland flow across Transects 17 and 18 for ECB UNIX® and Linux® simulations

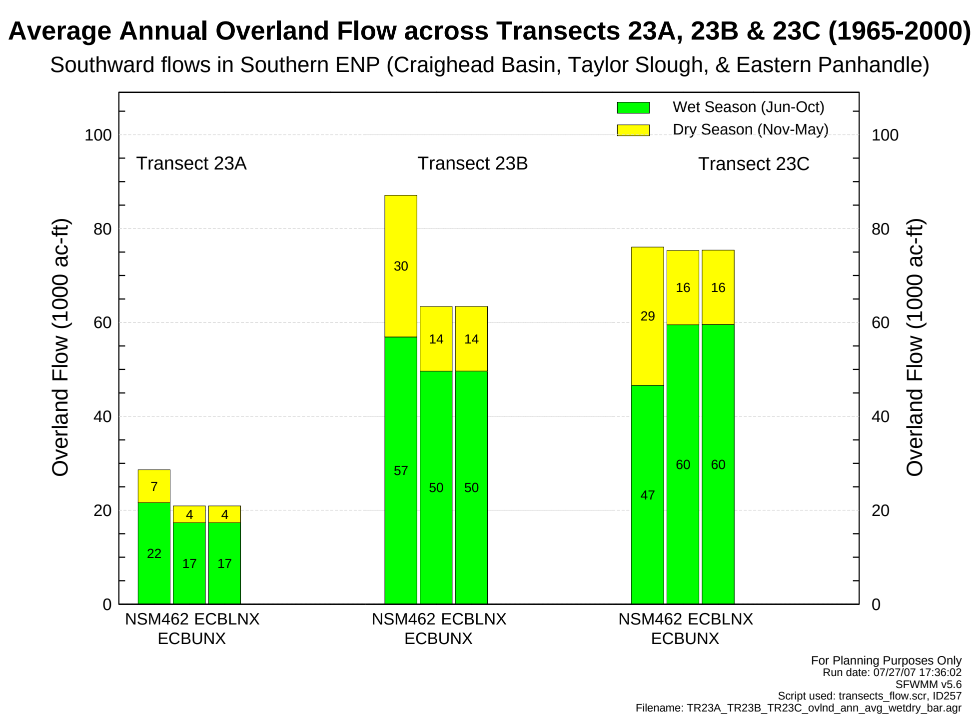

Figure C-20. Average annual overland flow across Transects 23A, 23B and 23C for ECB UNIX® and Linux® simulations

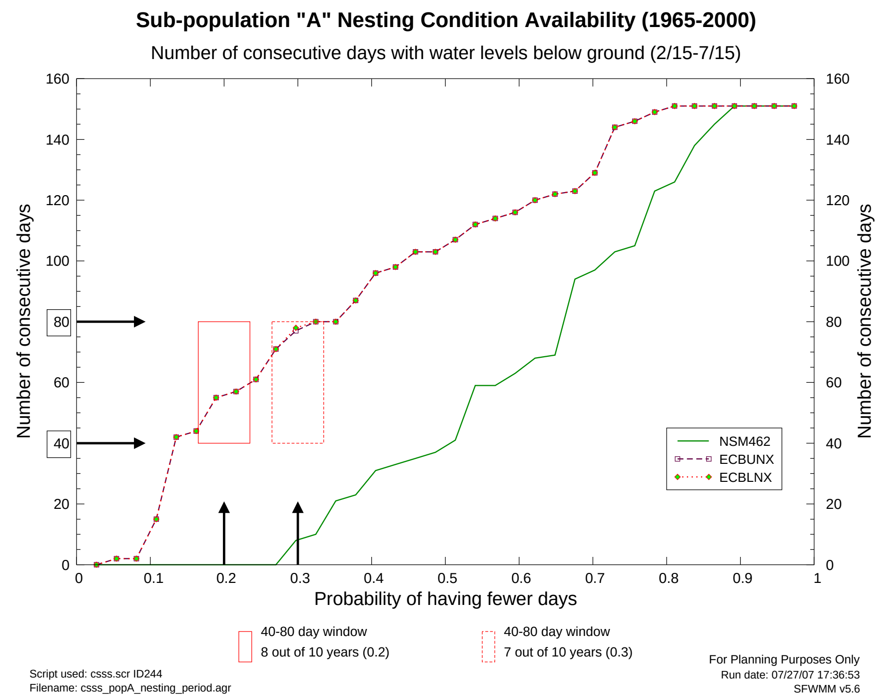

Figure C-21. Sub-population "A" nesting conditions availability for ECB UNIX® and Linux® simulations

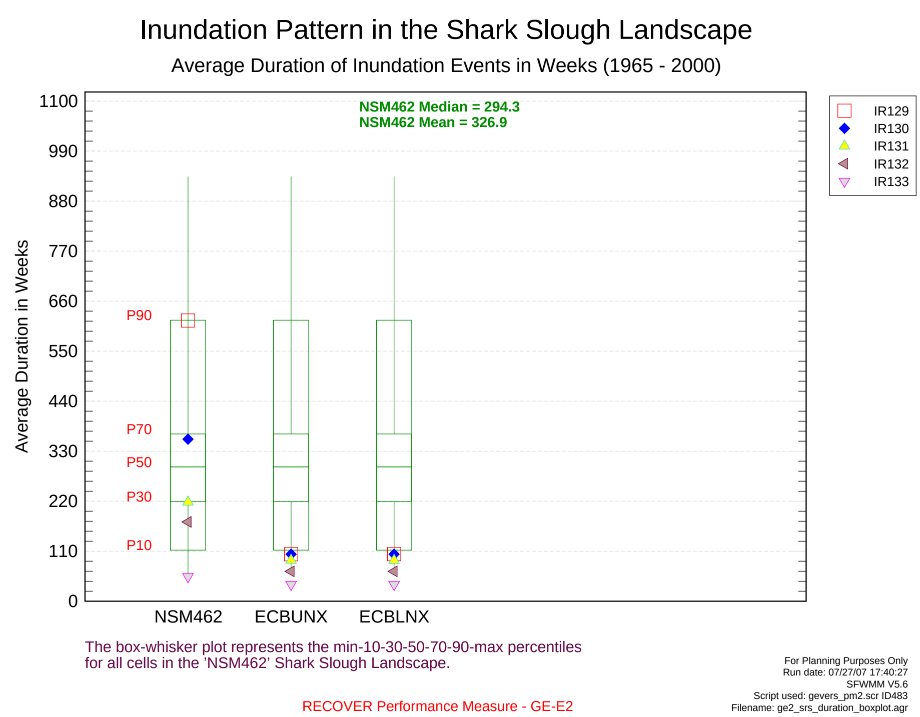

Figure C-22. Inundation pattern in the Shark River Slough landscape for ECB UNIX® and Linux® simulations

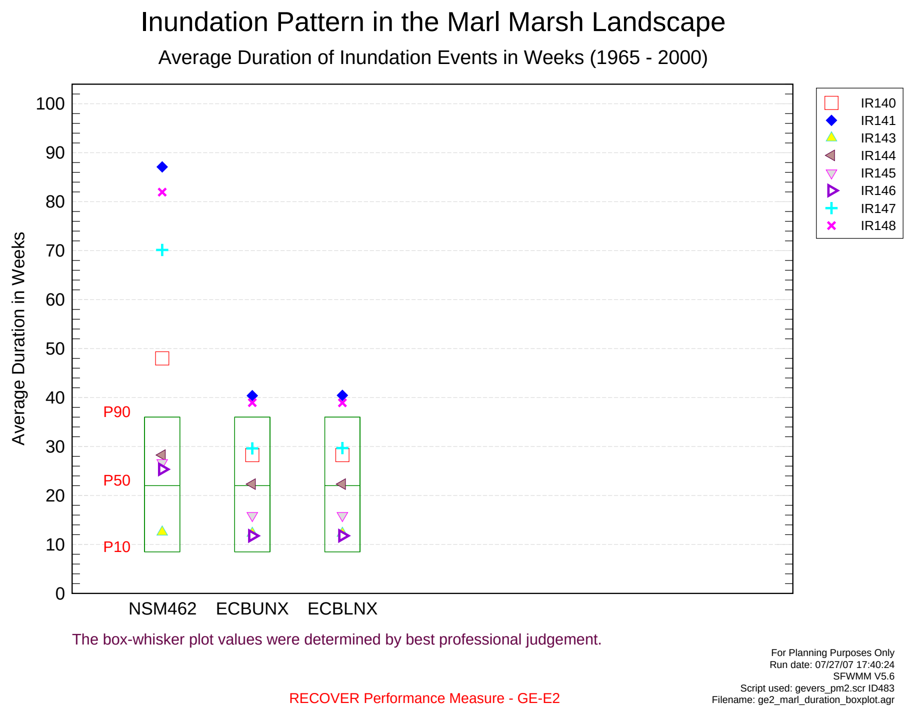

Figure C-23. Inundation pattern in the marl marsh landscape for ECB UNIX® and Linux® simulations

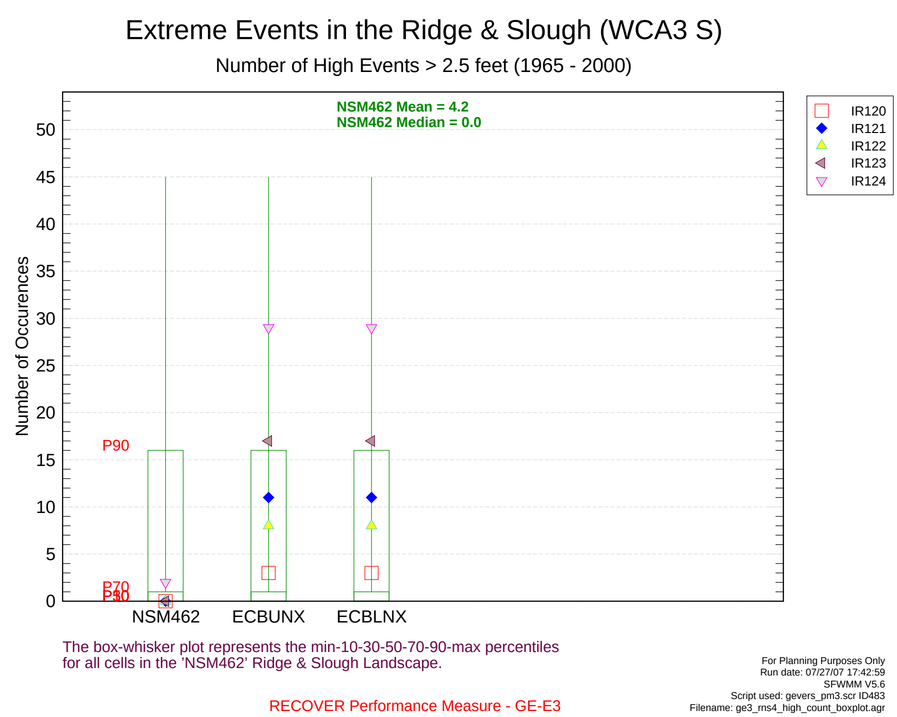

Figure C-24. Extreme events in the ridge and slough for ECB UNIX® and Linux® simulations

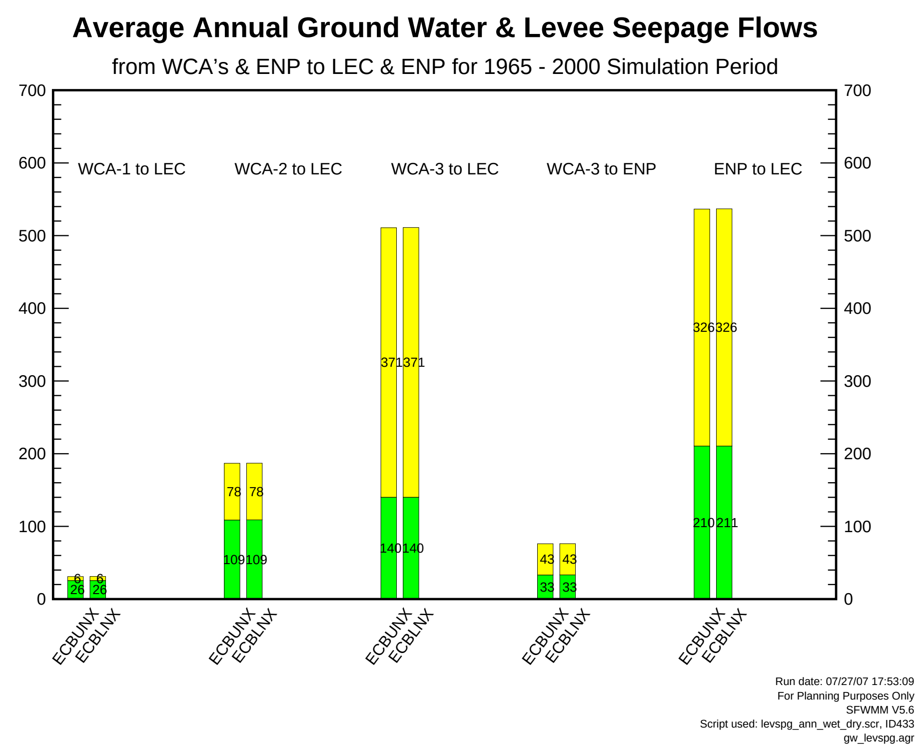

Figure C-25. Average annual ground water and levee seepage flows for ECB UNIX® and Linux® simulations

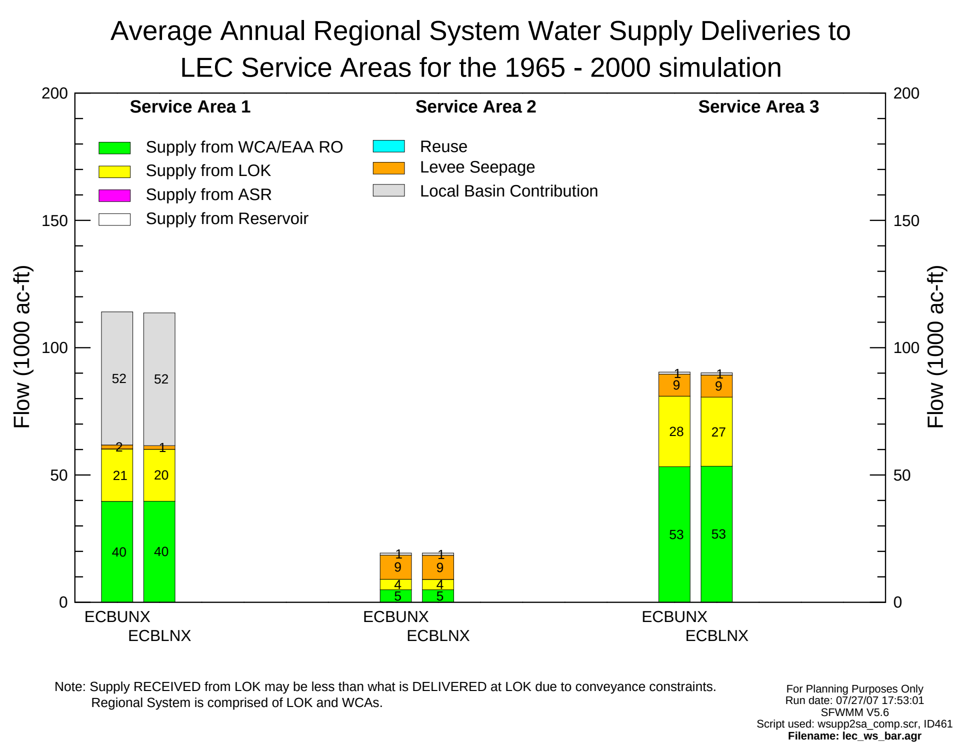

Figure C-26. Average annual regional system water supply deliveries to Lower East Coast service areas for ECB UNIX® and Linux® simulations

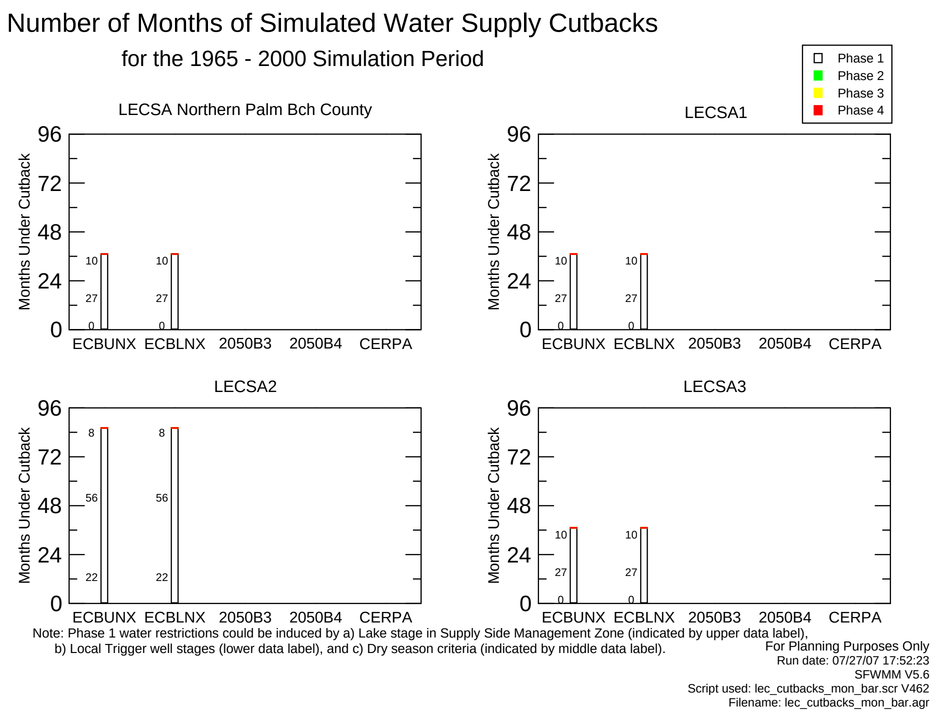

Figure C-27. Number of months of simulated water supply cutbacks for ECB UNIX® and Linux® simulations

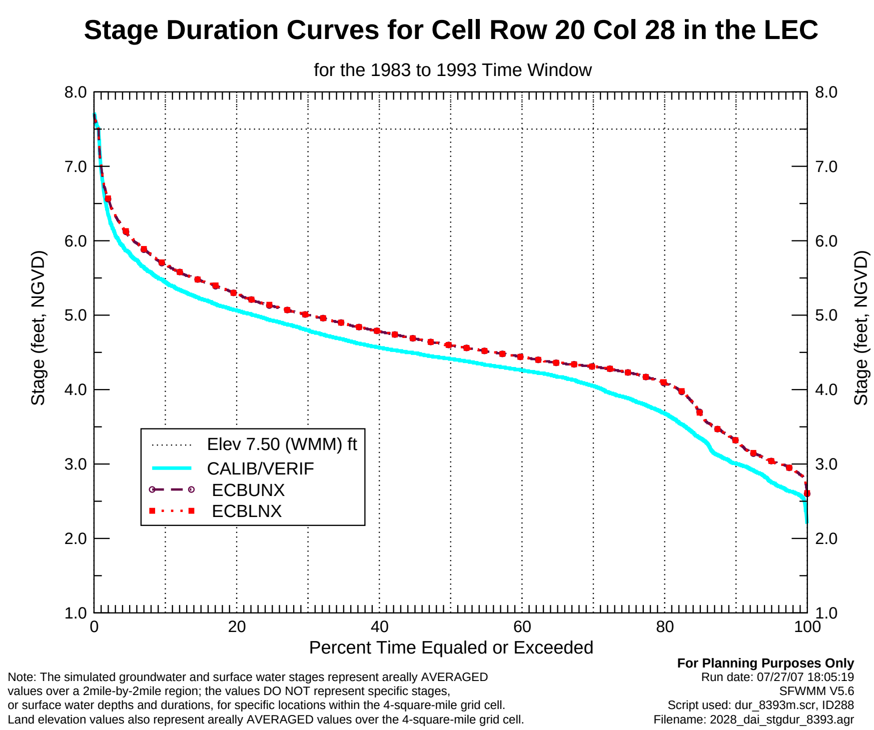

Figure C-28. Stage duration curves for cell row 20 column 28 in the Lower East Coast for ECB UNIX® and Linux® simulations

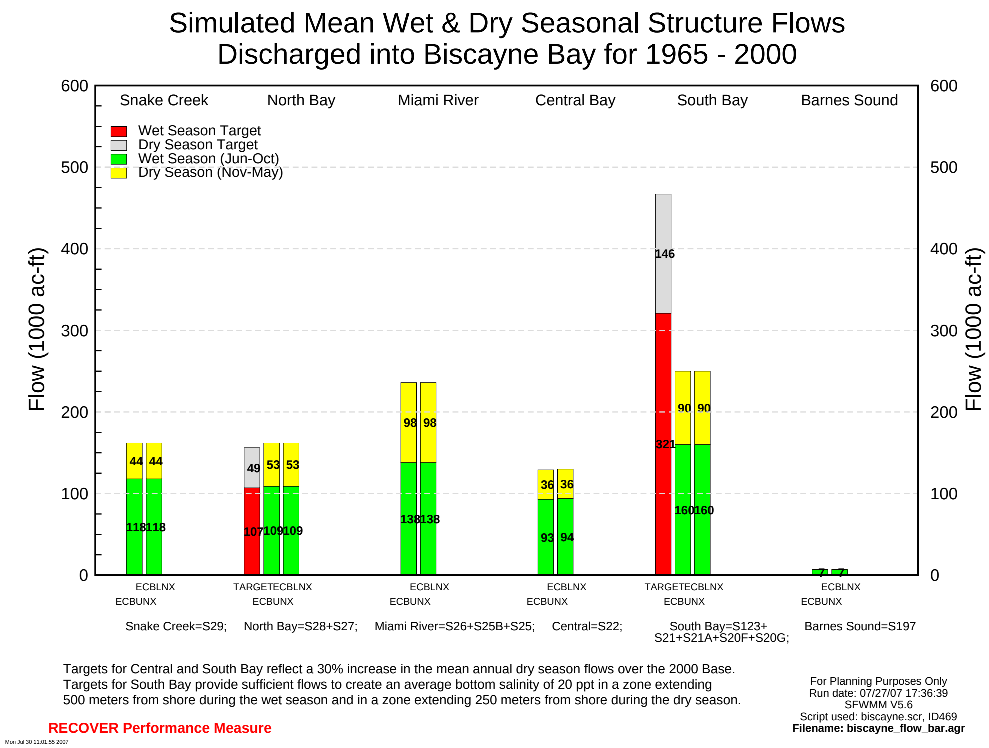

Figure C-29. Simulated mean wet and dry seasonal structure flows discharged into Biscayne Bay for 1965 - 2000 for ECB UNIX® and Linux® simulations

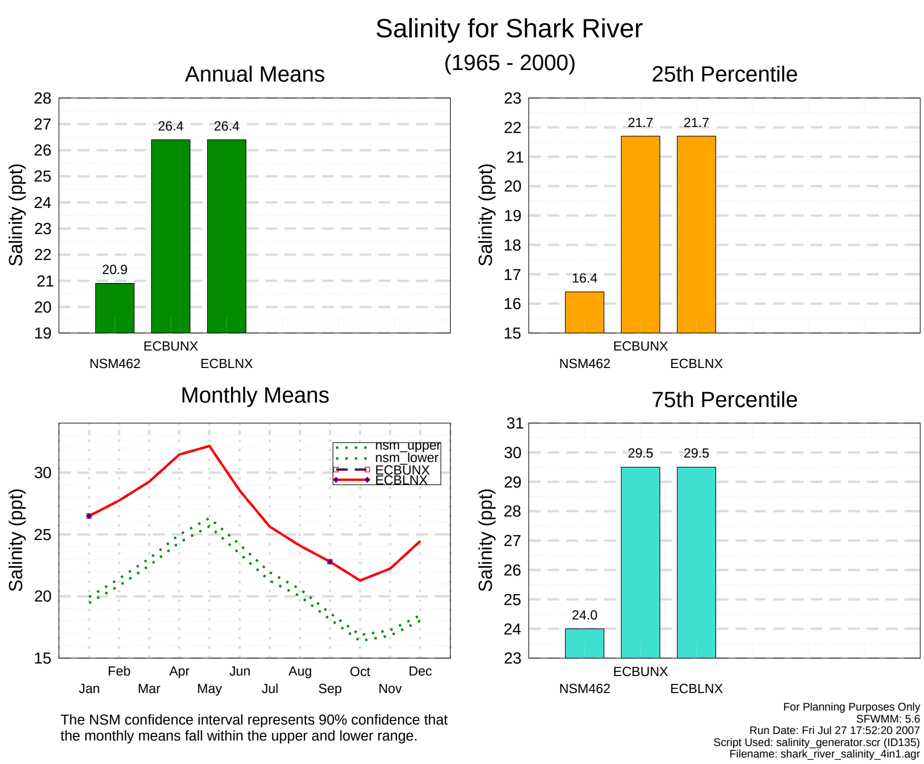

Figure C-30. Salinity for Shark River for ECB UNIX® and Linux® simulations

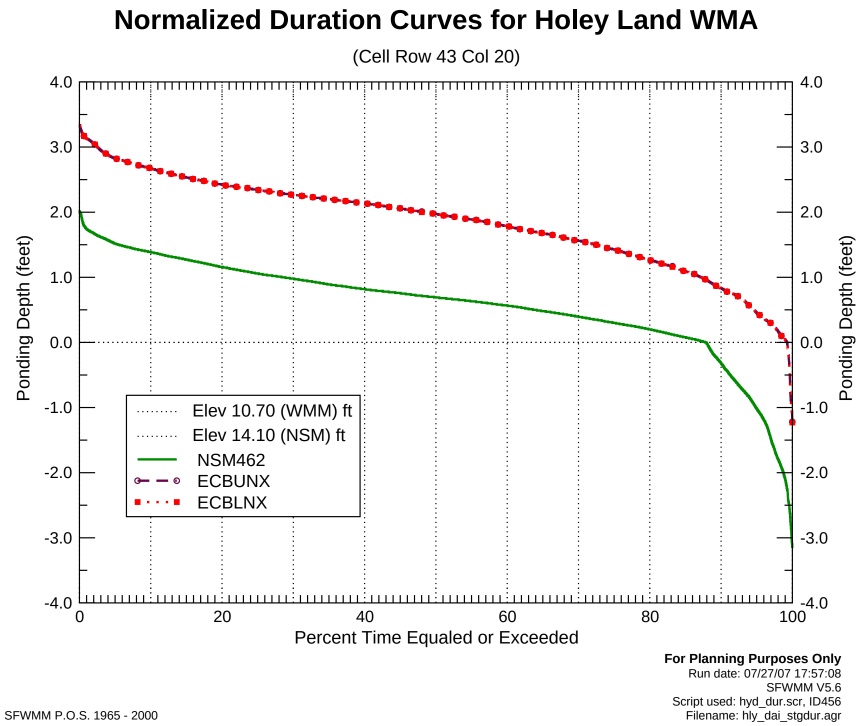

Figure C-31. Normalized duration curves for Holey Land Wildlife Management Area for ECB UNIX® and Linux® simulations

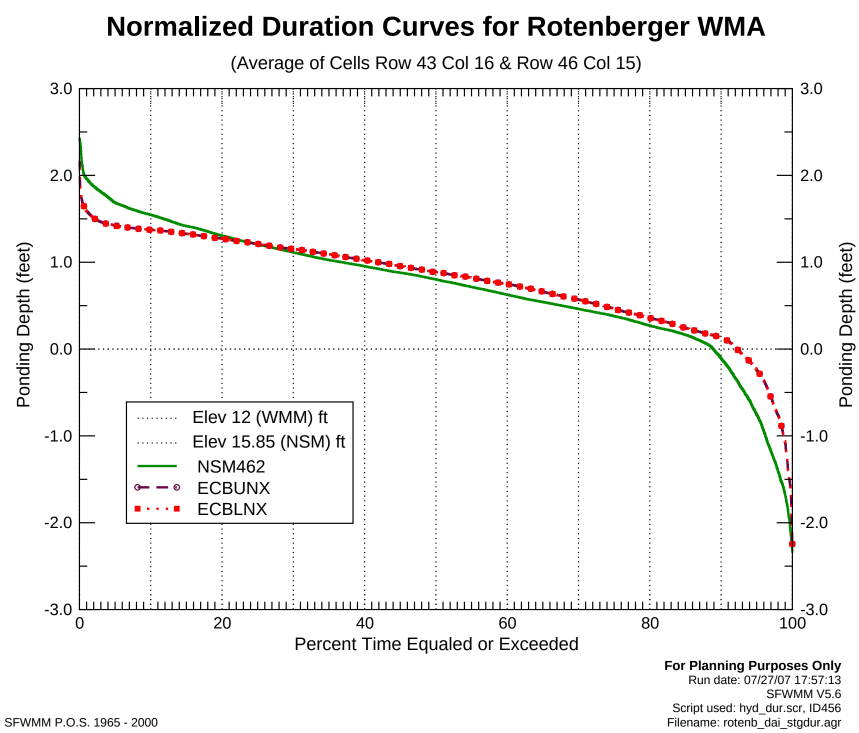

Figure C-32. Normalized duration curves for Rotenberger Wildlife Management Area for ECB UNIX® and Linux® simulations

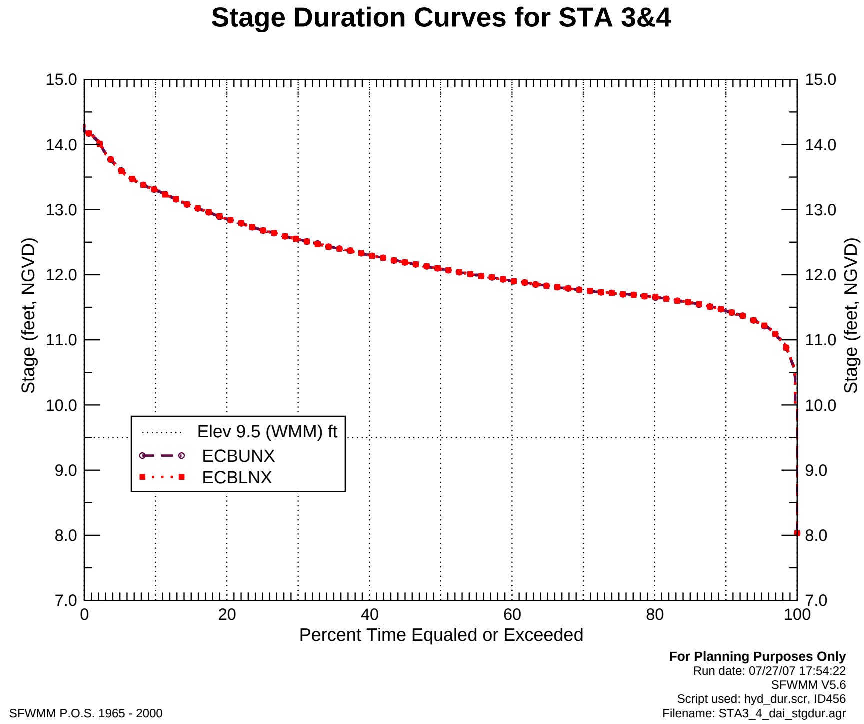

Figure C-33. Stage duration curves for Stormwater Treatment Areas 3 and 4 for ECB UNIX® and Linux® simulations

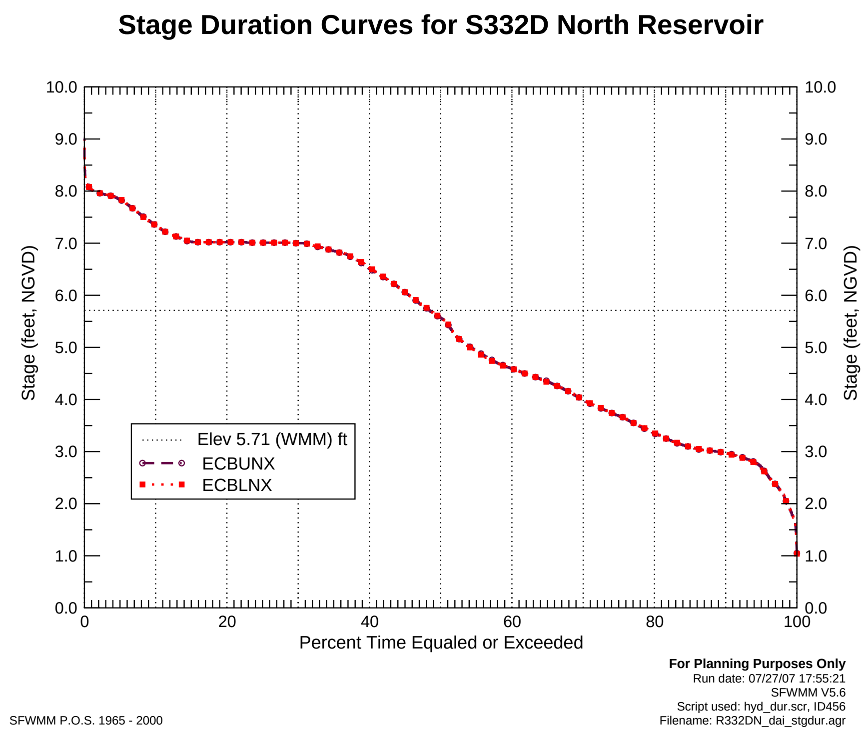

Figure C-34. Stage duration curves for S332 North Reservoir for ECB UNIX® and Linux® simulations

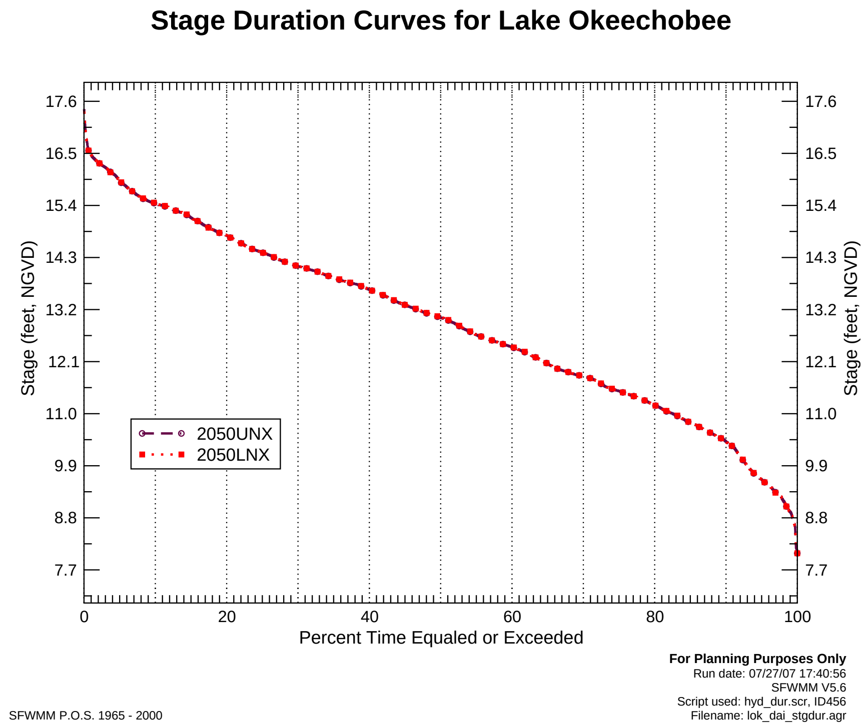

Figure C-35. Stage duration curves for Lake Okeechobee for 2050B4 UNIX® and Linux® simulations

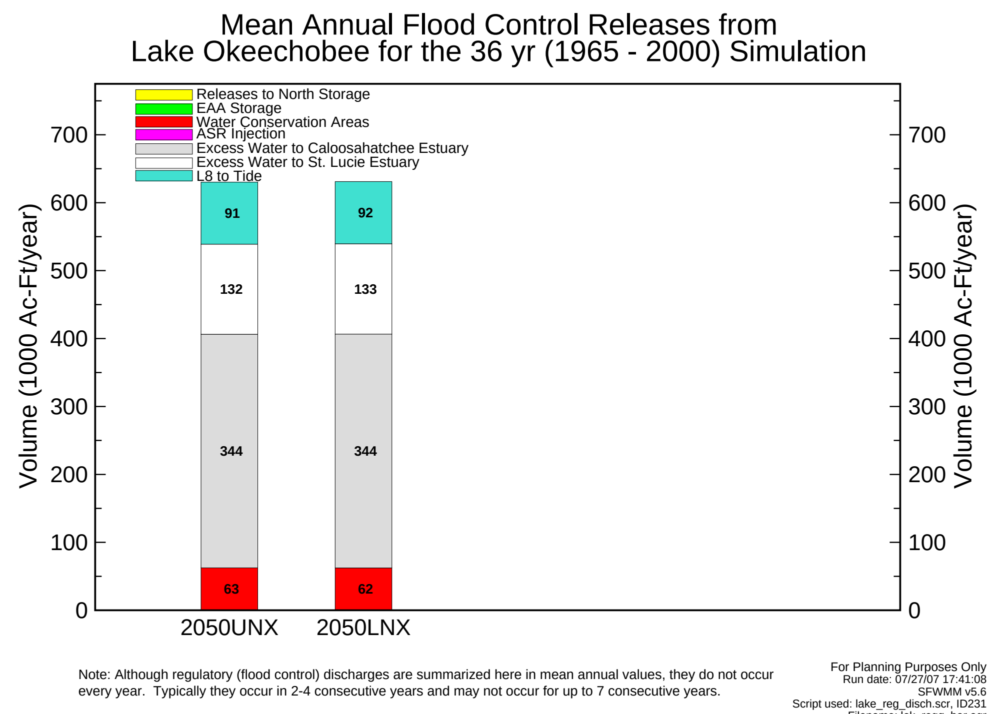

Figure C-36. Stage duration curves for Lake Okeechobee for the 36-year 2050B4 UNIX® and Linux® simulations

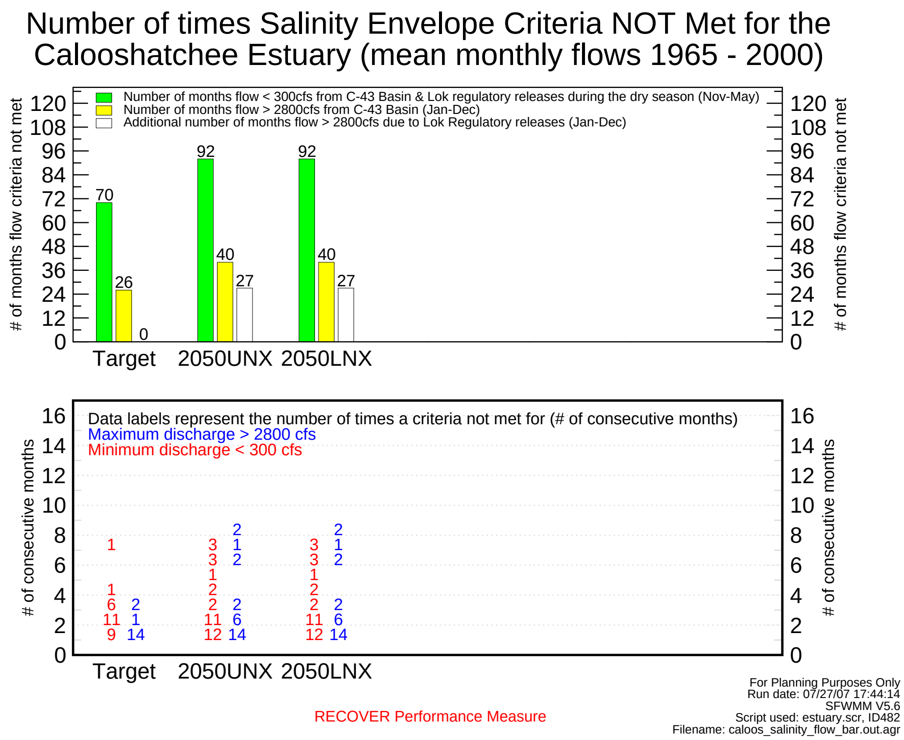

Figure C-37. Number of times salinity envelope criteria not met for the Caloosahatchee Estuary for 2050B4 UNIX® and Linux® simulations

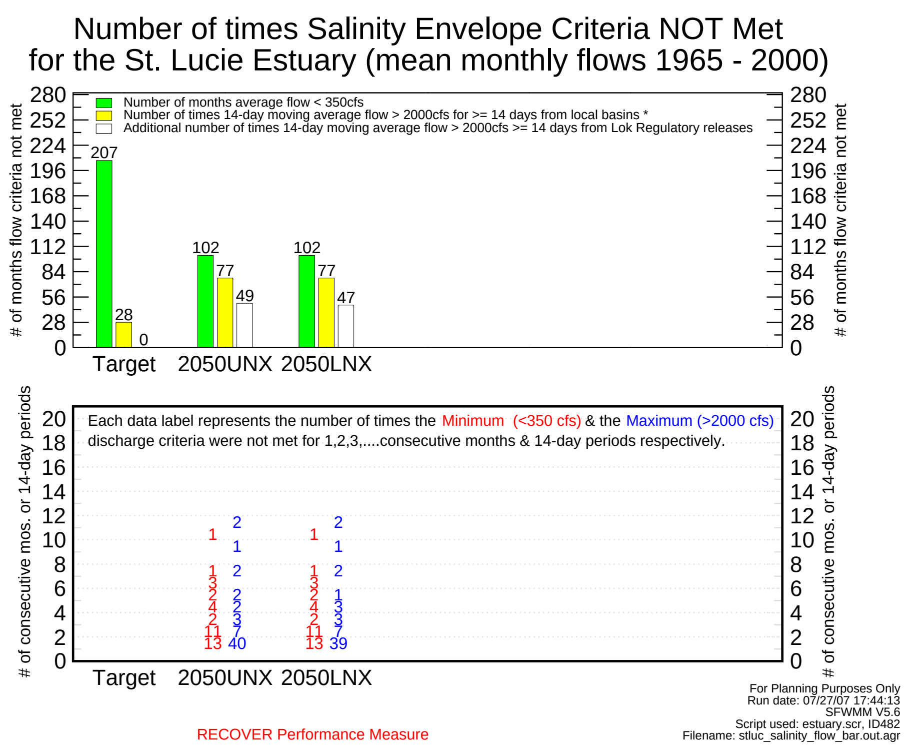

Figure C-38. Number of times salinity envelope criteria not met for the Caloosahatchee Estuary for 2050B4 UNIX® and Linux® simulations

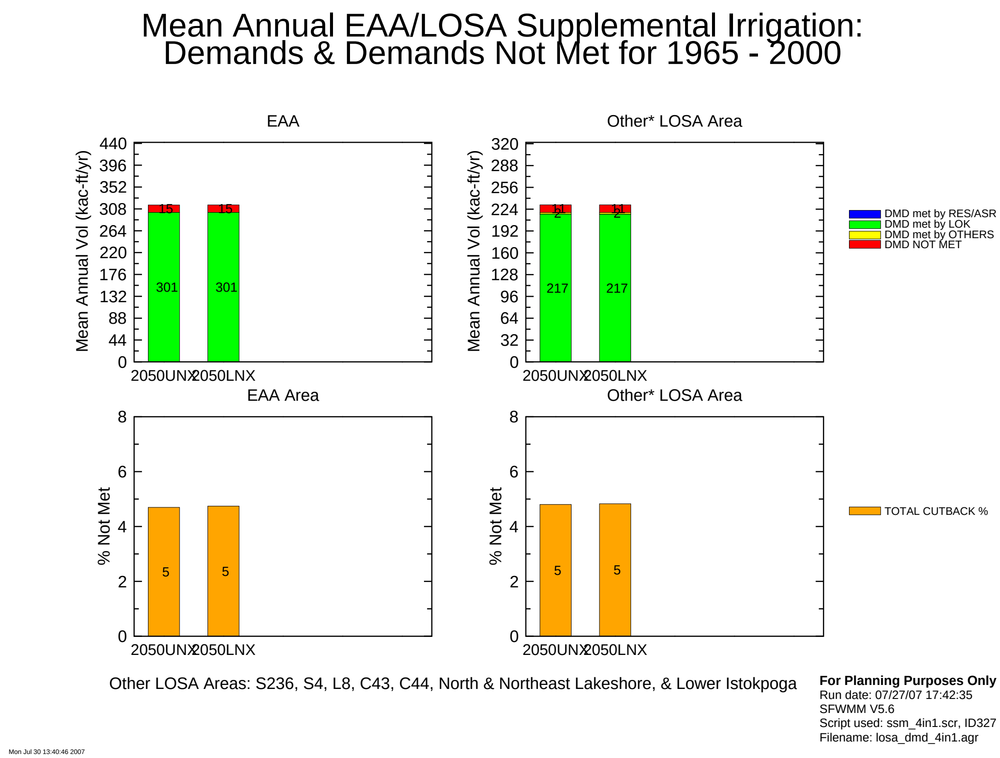

Figure C-39. Mean annual EAA/LOSA supplemental irrigation: Demands and demands not met for 1965 - 2000 for 2050B4 UNIX® and Linux® simulations

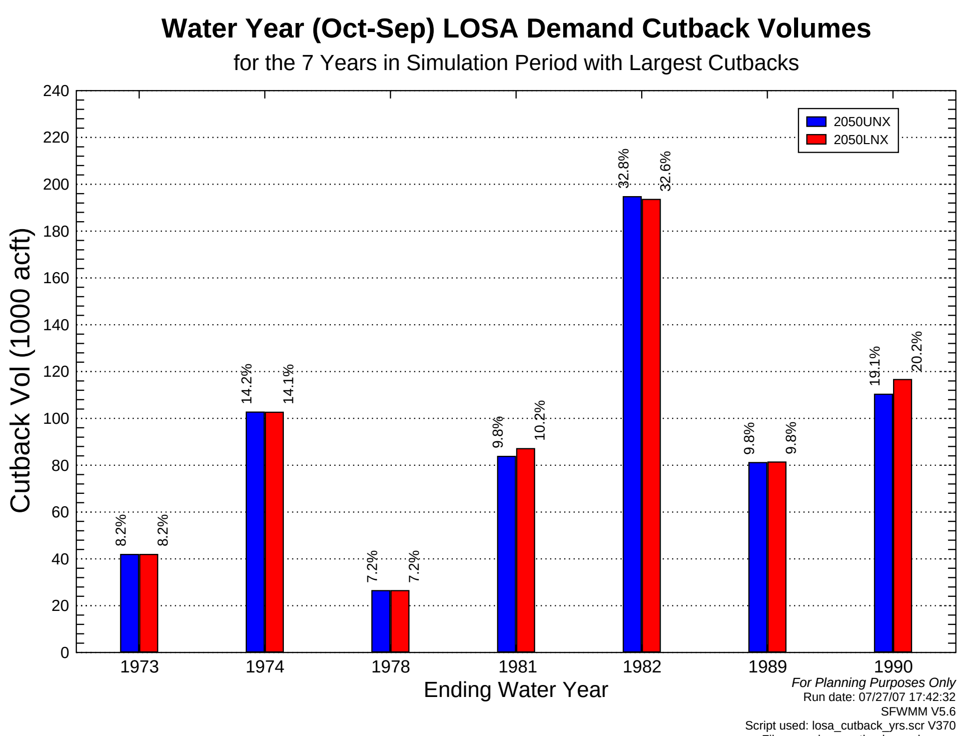

Figure C-40. Water year LOSA demand cutback volumes for 2050B4 UNIX® and Linux® simulations

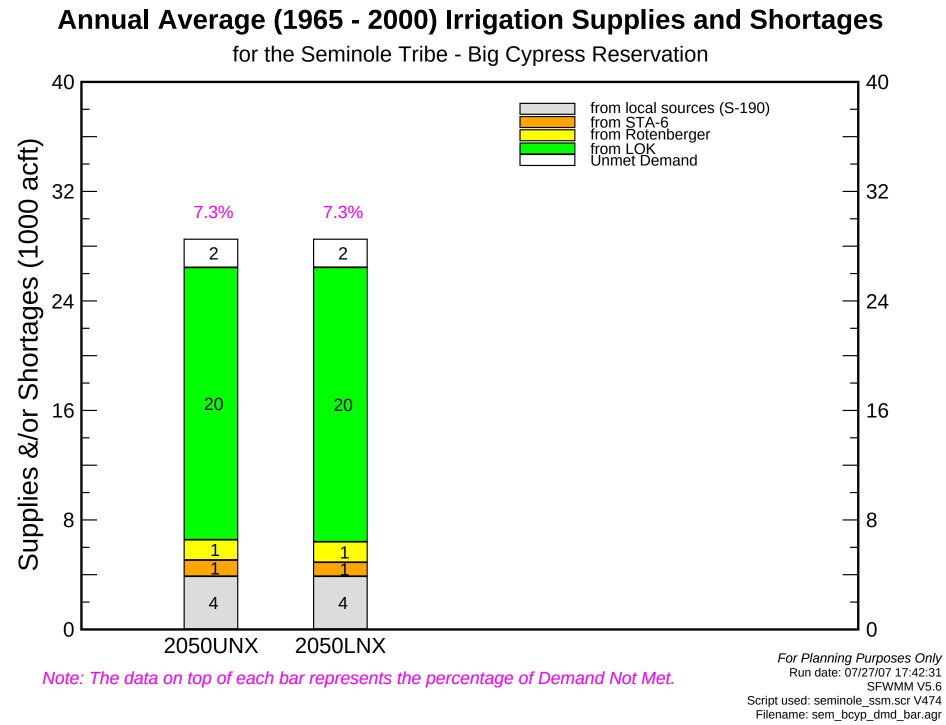

Figure C-41. Annual average irrigation supplies and shortages for 2050B4 UNIX® and Linux® simulations

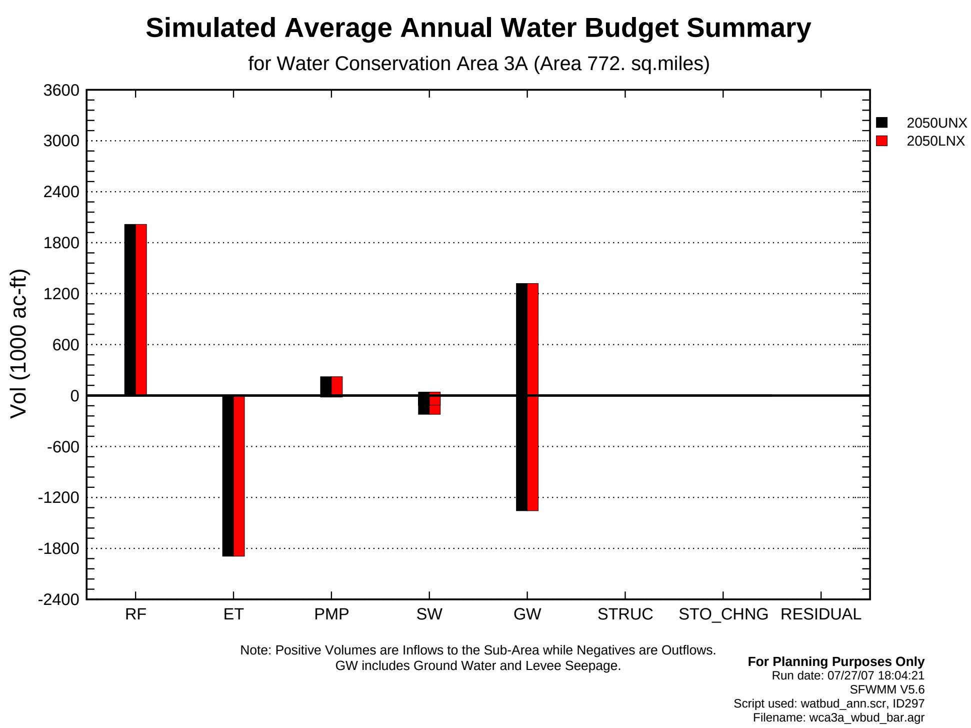

Figure C-42. Simulated average annual water budget summary for 2050B4 UNIX® and Linux® simulations

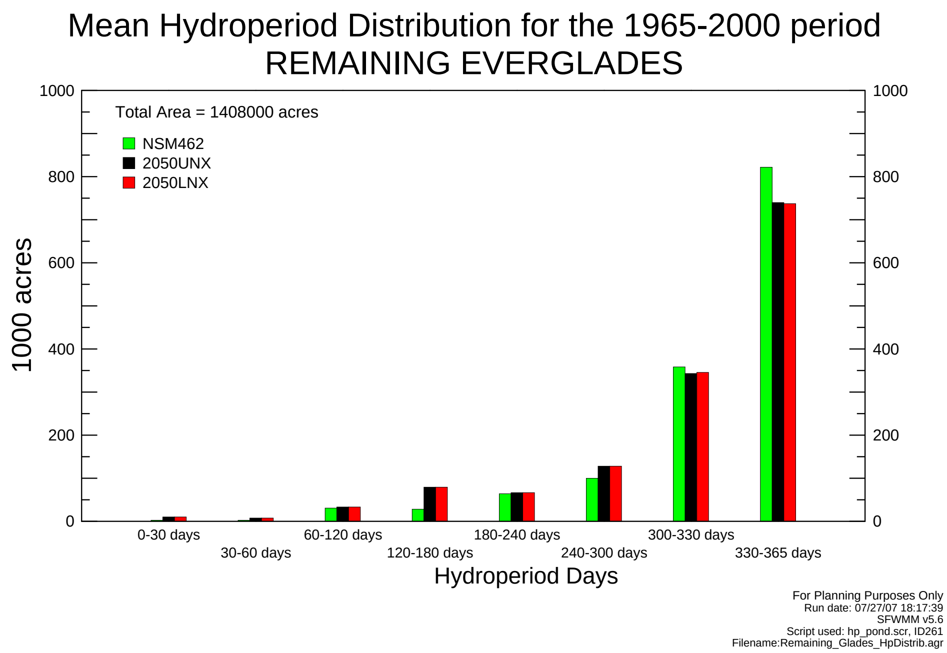

Figure C-43. Mean hydroperiod distribution for the 1965 - 2000 period for 2050B4 UNIX® and Linux® simulations

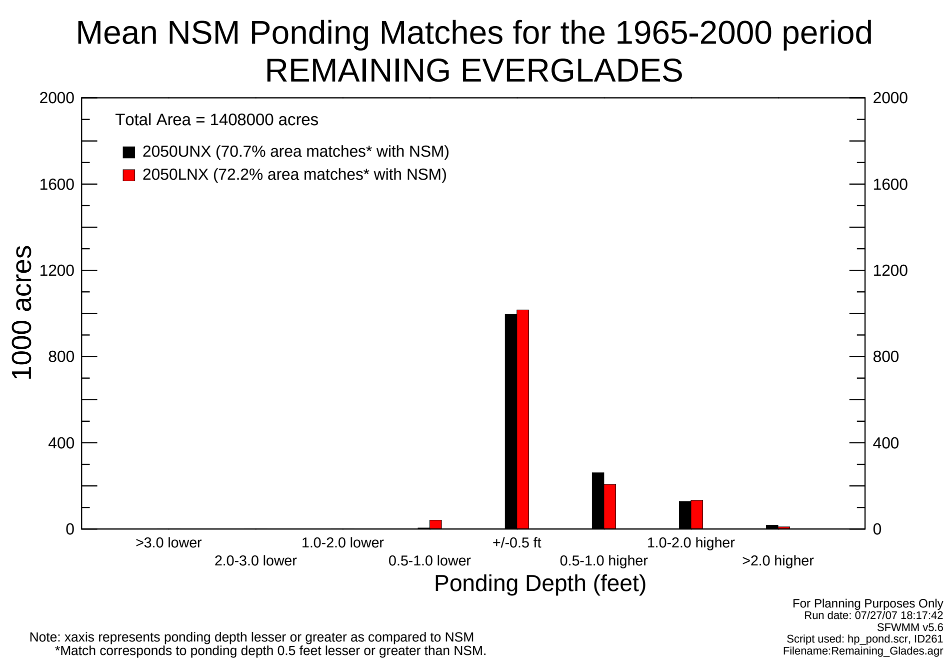

Figure C-44. Mean NSM ponding matches for 1965 - 2000 period for 2050B4 UNIX® and Linux® simulations

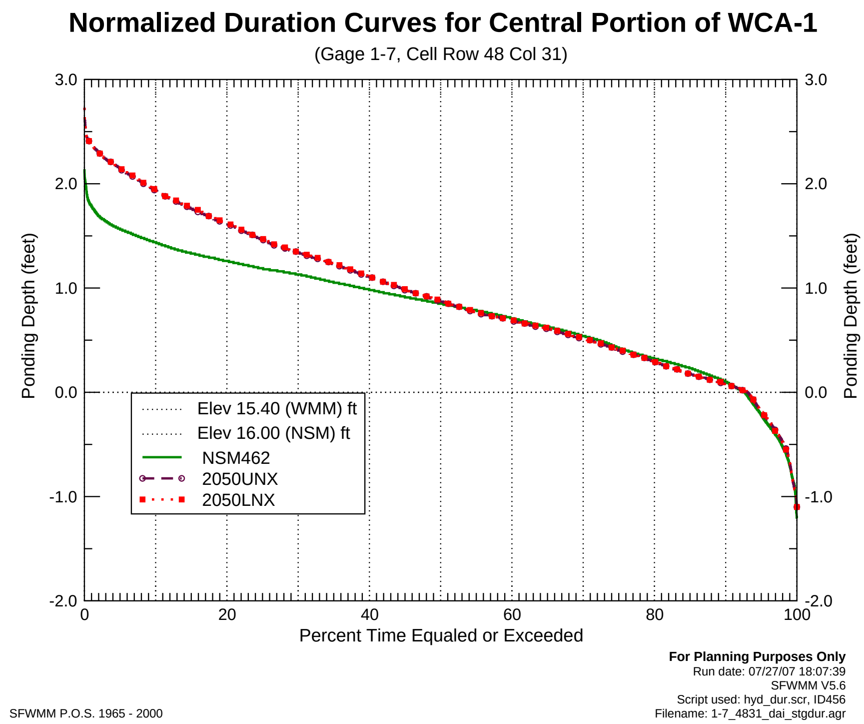

Figure C-45. Normalized duration curves for central portion of Water Conservation Area 1 for 2050B4 UNIX® and Linux® simulations

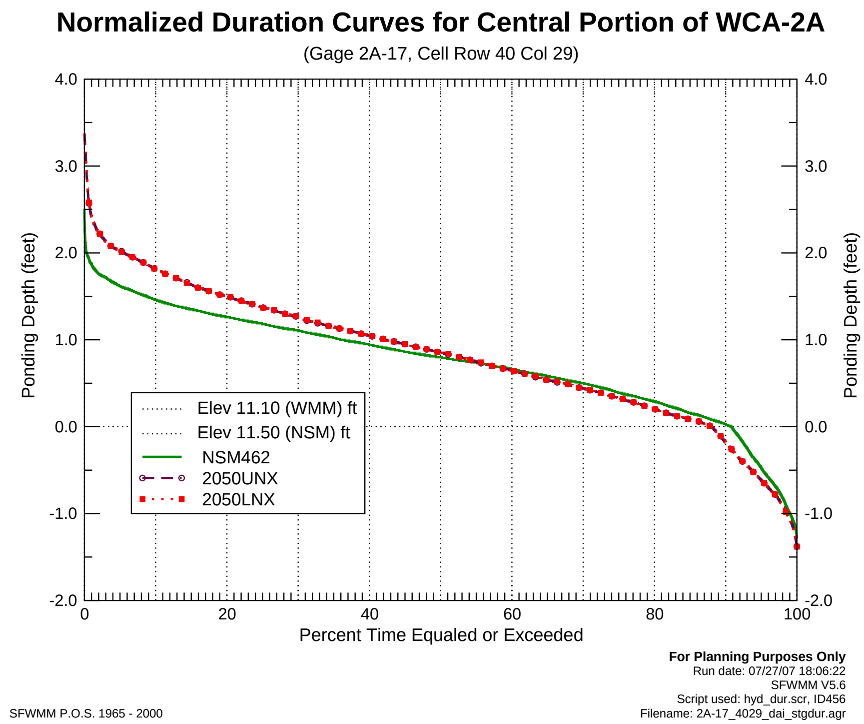

Figure C-46. Normalized duration curves for central portion of Water Conservation Area 2A for 2050B4 UNIX® and Linux® simulations

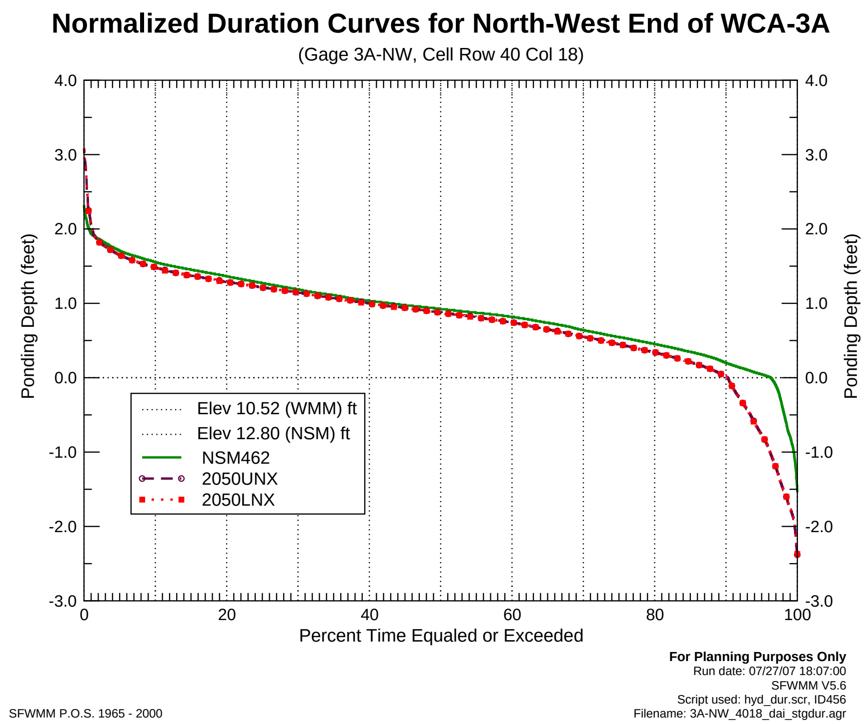

Figure C-47. Normalized duration curves for north-west portion of Water Conservation Area 3A for 2050B4 UNIX® and Linux® simulations

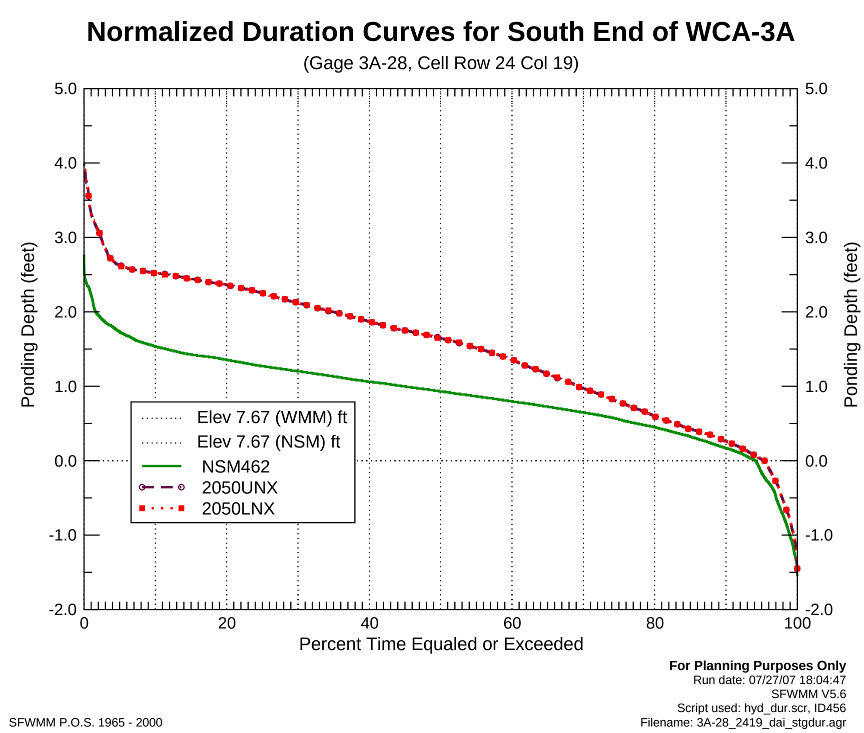

Figure C-48. Normalized duration curves for south end of Water Conservation Area 3A for 2050B4 UNIX® and Linux® simulations

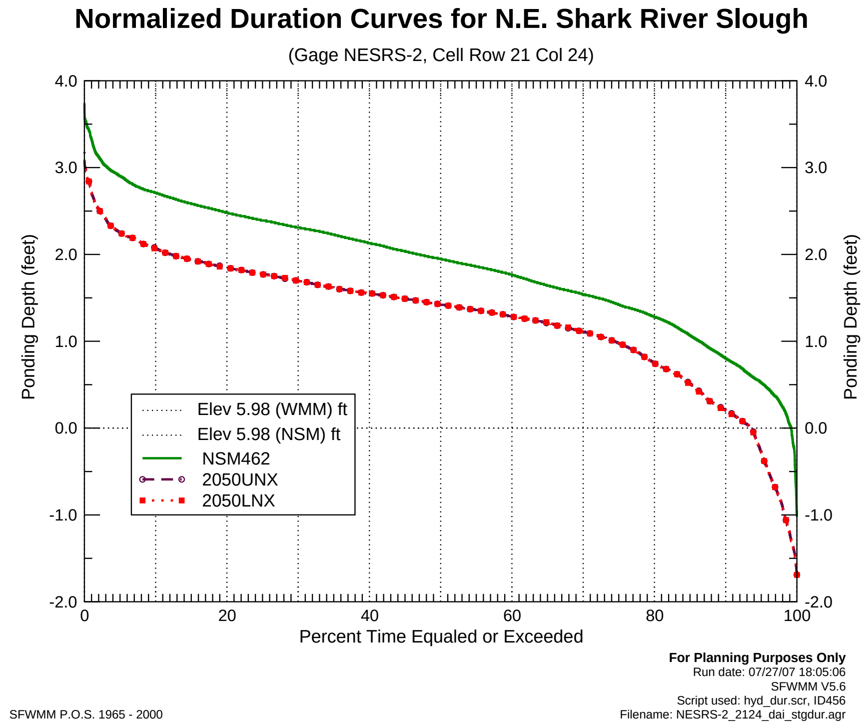

Figure C-49. Normalized duration curves for north-east Shark River Slough for 2050B4 UNIX® and Linux® simulations

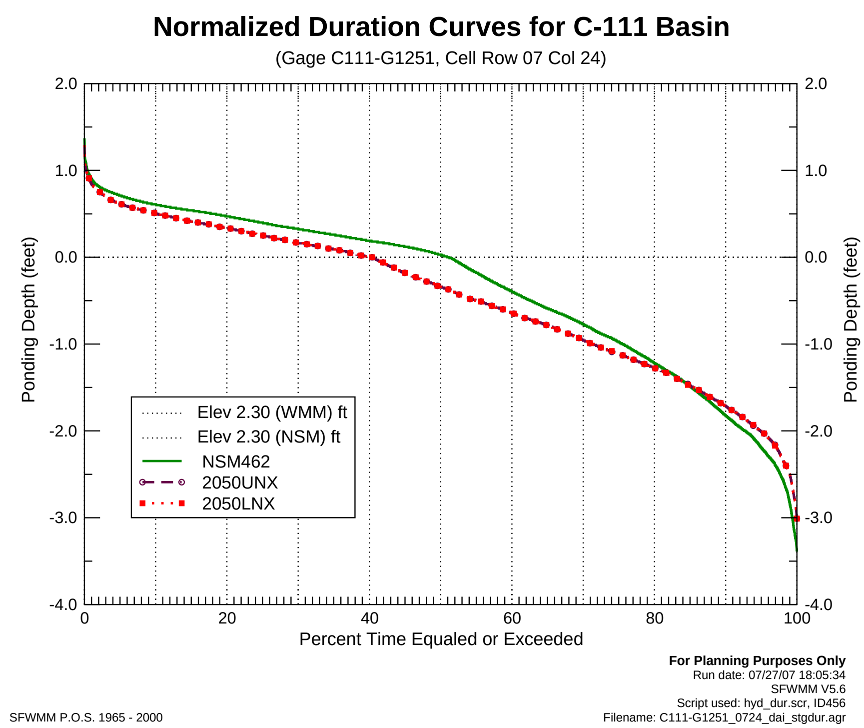

Figure C-50. Normalized duration curves for C-111 Basin for 2050B4 UNIX® and Linux® simulations

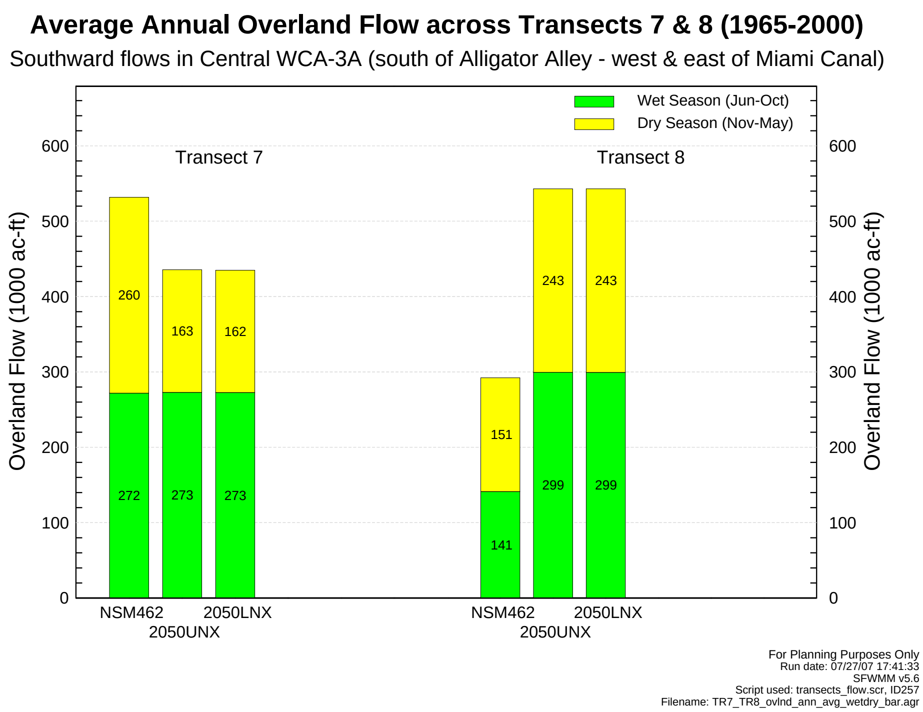

Figure C-51. Average annual overland flow across Transects 7 and 8 for 2050B4 UNIX® and Linux® simulations

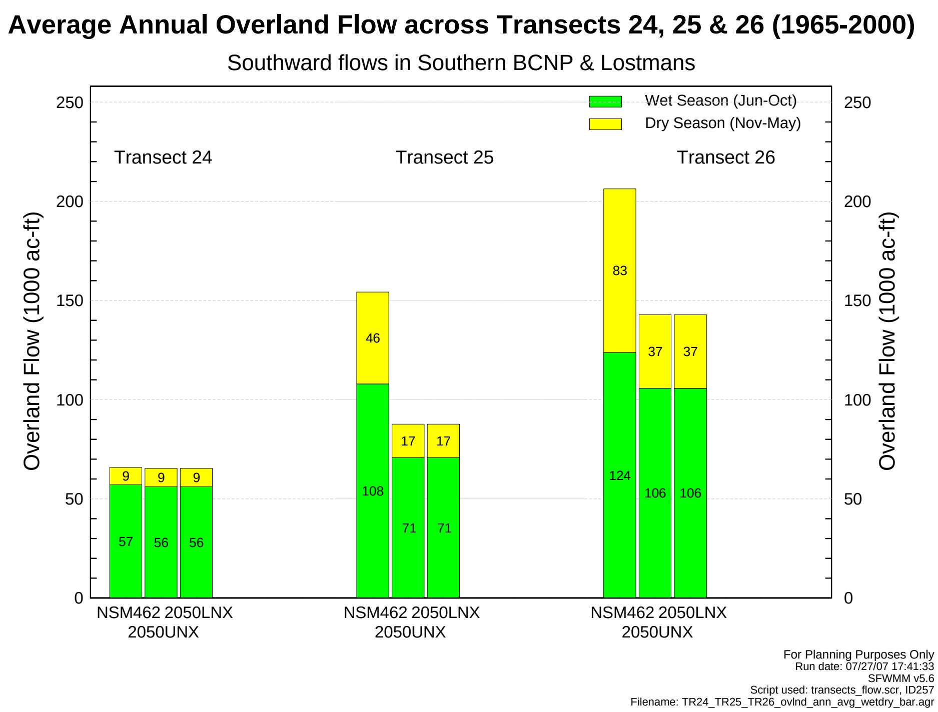

Figure C-52. Average annual overland flow across Transects 24, 25 and 26 for 2050B4 UNIX® and Linux® simulations

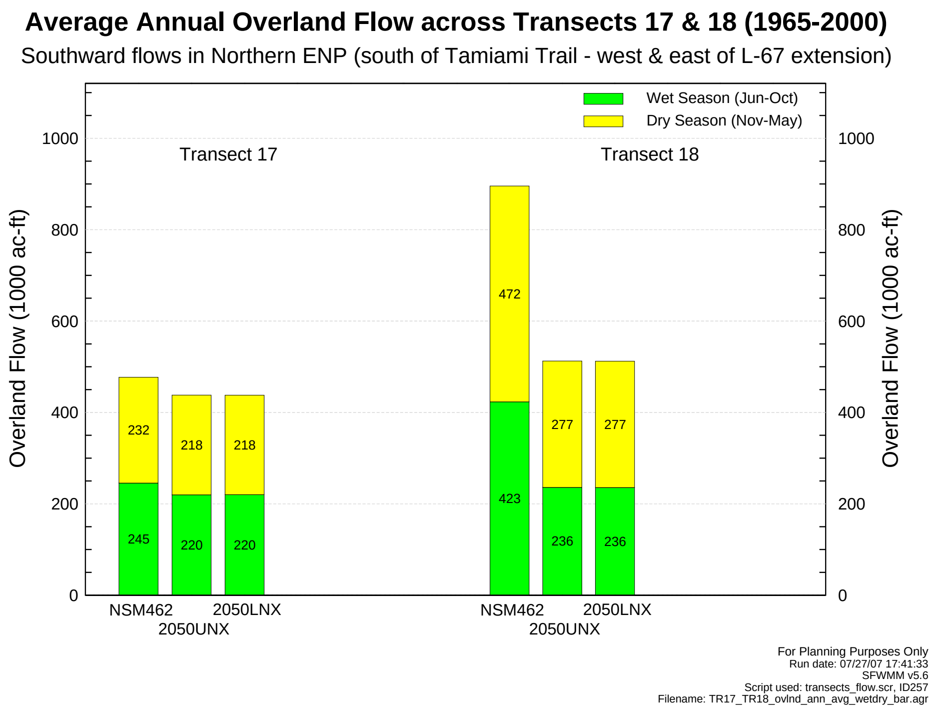

Figure C-53. Average annual overland flow across Transects 17 and 18 for 2050B4 UNIX® and Linux® simulations

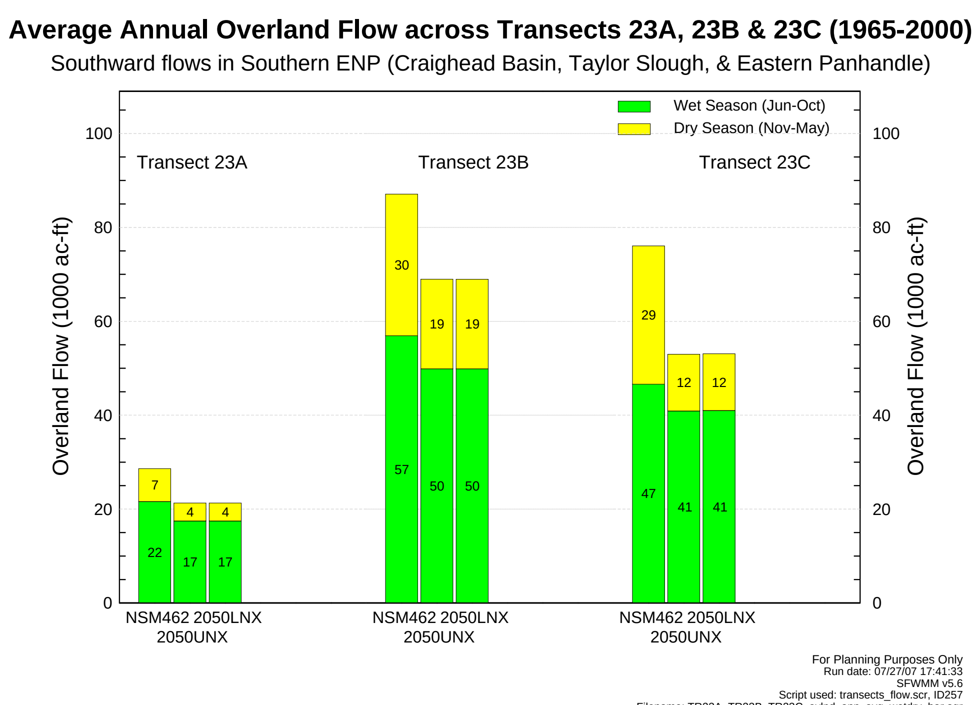

Figure C-54. Average annual overland flow across Transects 23A, 23B and 23C for 2050B4 UNIX® and Linux® simulations

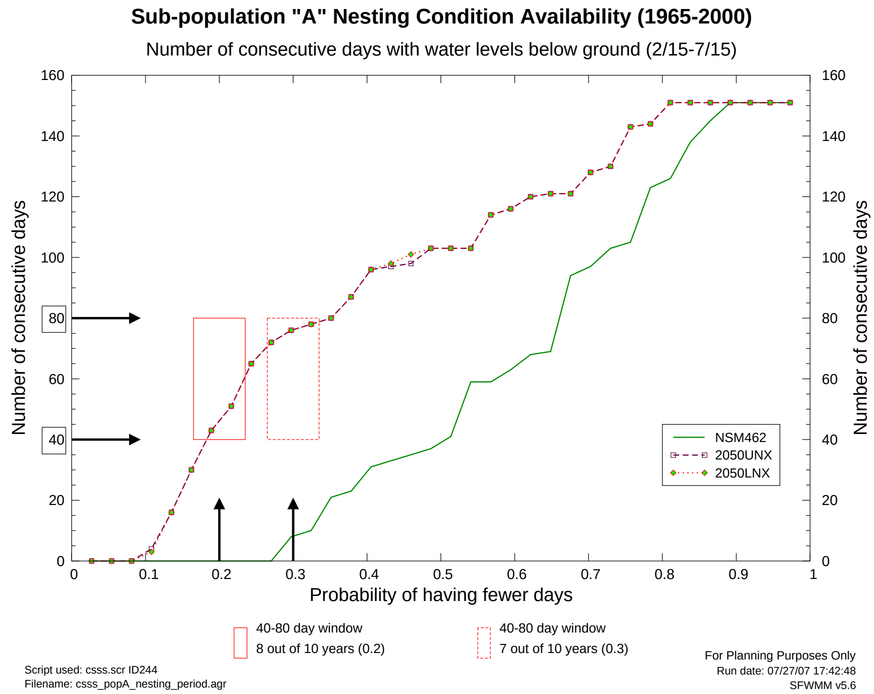

Figure C-55. Sub-population “A” nesting conditions availability for 2050B4 UNIX® and Linux® simulations

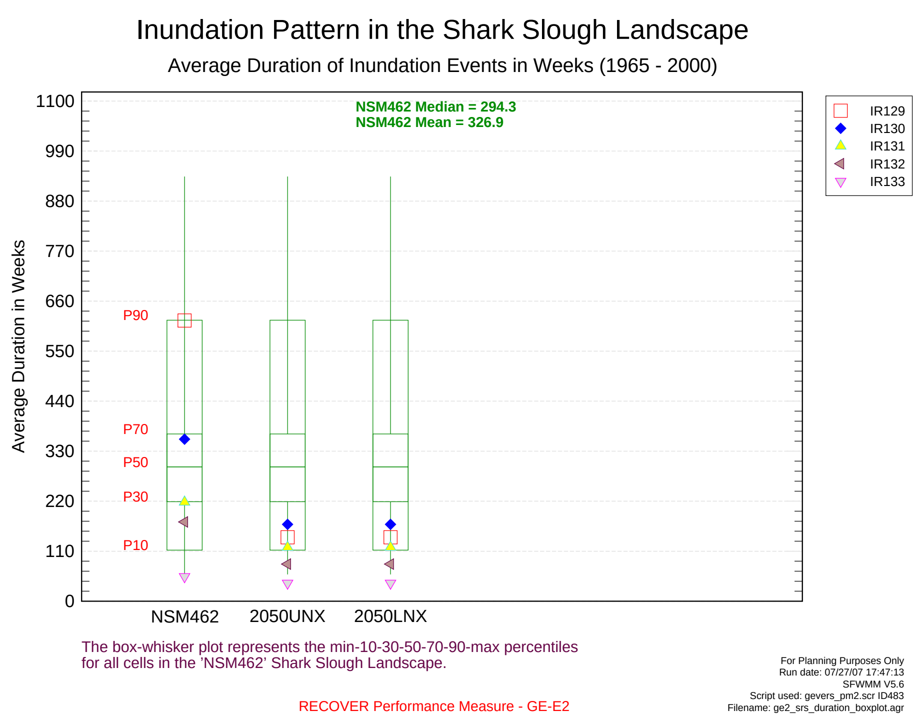

Figure C-56. Inundation pattern in the Shark River Slough landscape for 2050B4 UNIX® and Linux® simulations

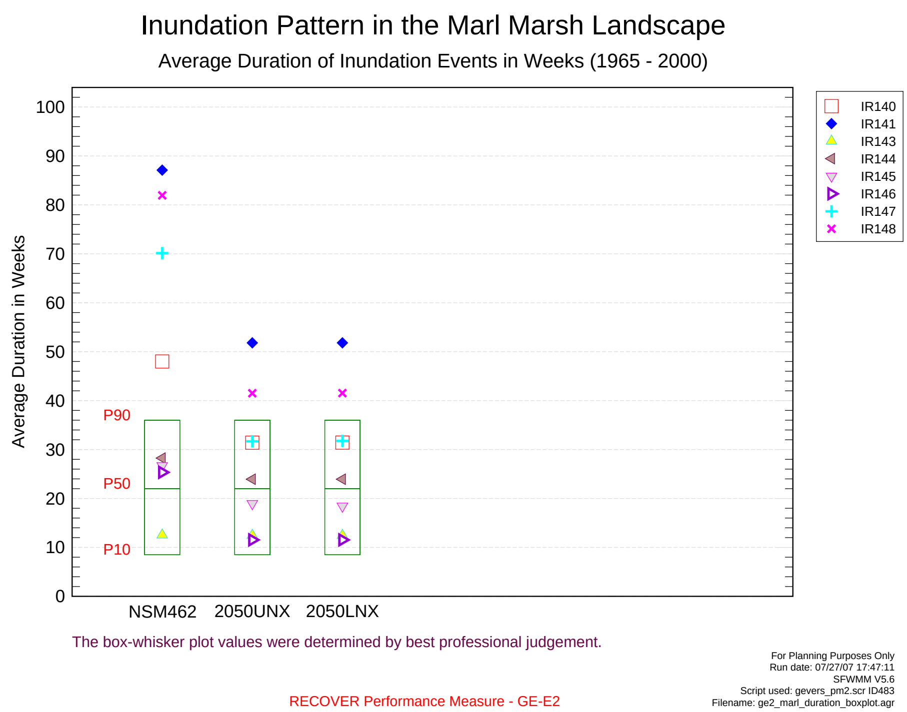

Figure C-57. Inundation pattern in the marl marsh landscape for 2050B4 UNIX® and Linux® simulations

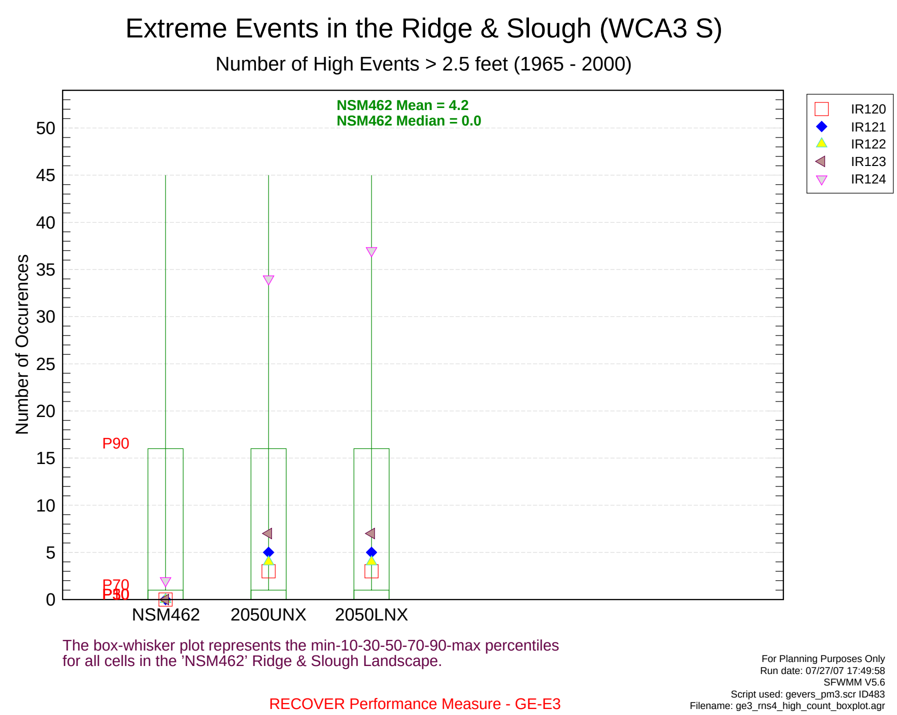

Figure C-58. Extreme events in the ridge and slough for 2050B4 UNIX® and Linux® simulations

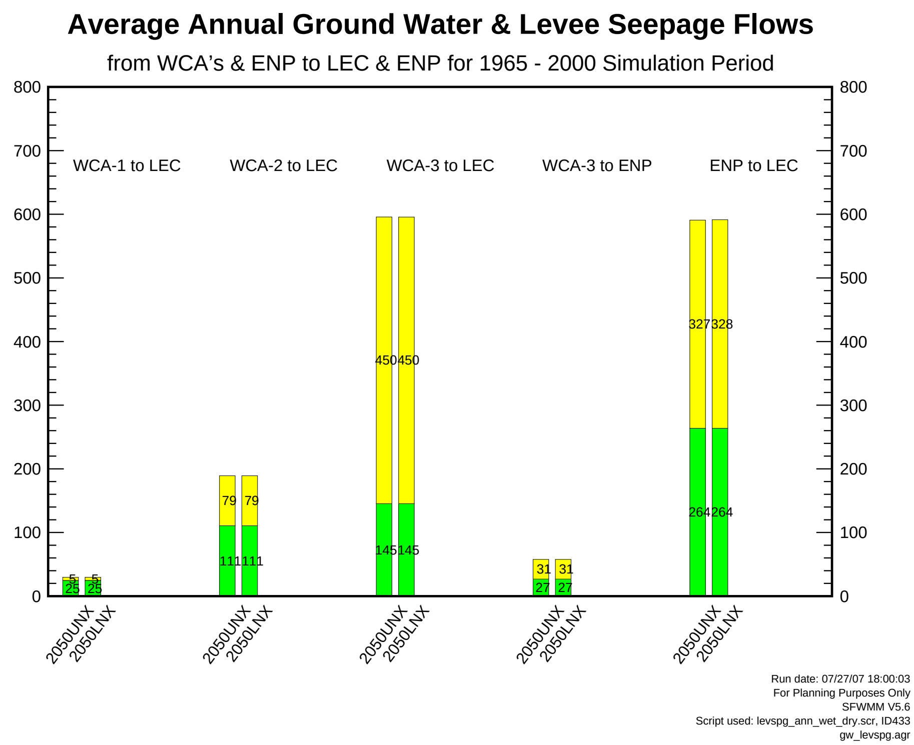

Figure C-59. Average annual ground water and levee seepage flows for 2050B4 UNIX® and Linux® simulations

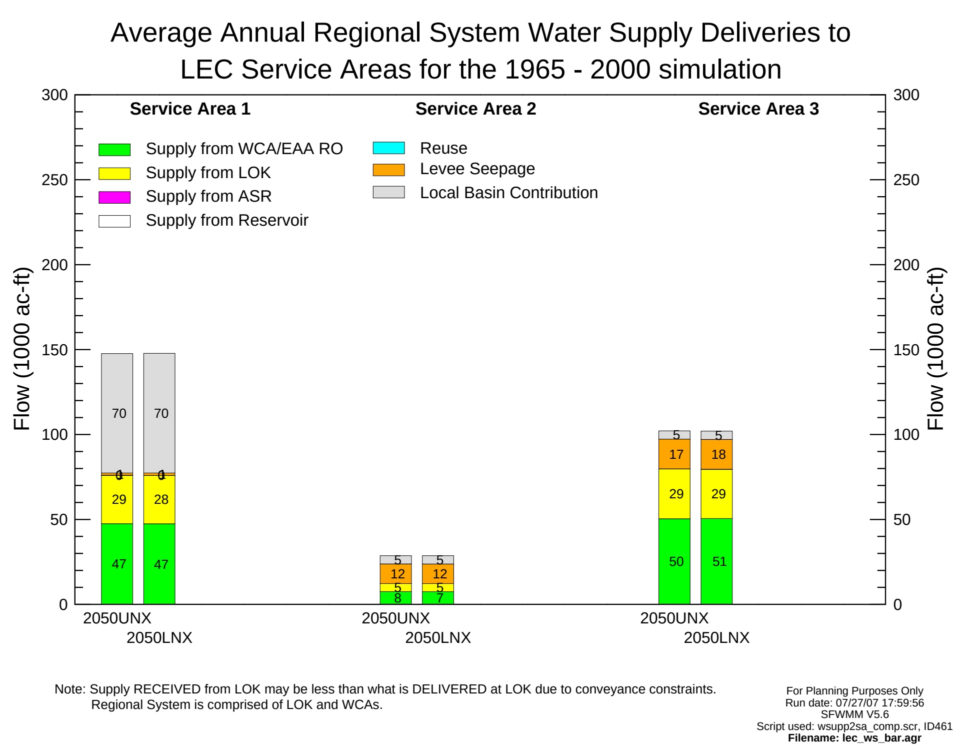

Figure C-60. Average annual regional system water supply deliveries to Lower East Coast service areas for 2050B4 UNIX® and Linux® simulations

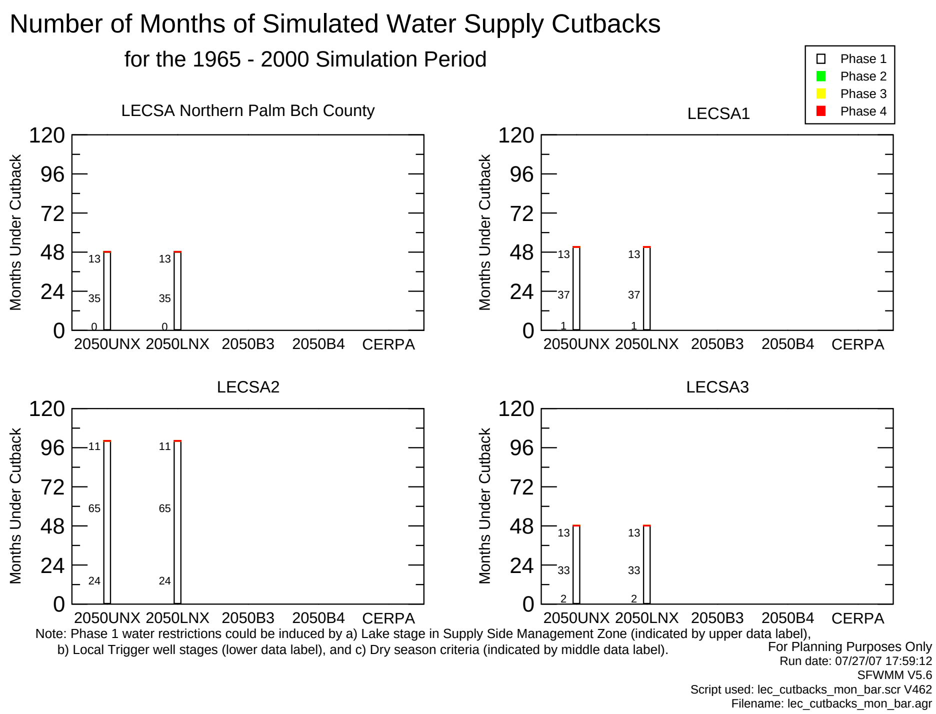

Figure C-61. Number of months of simulated water supply cutbacks for 2050B4 UNIX® and Linux® simulations

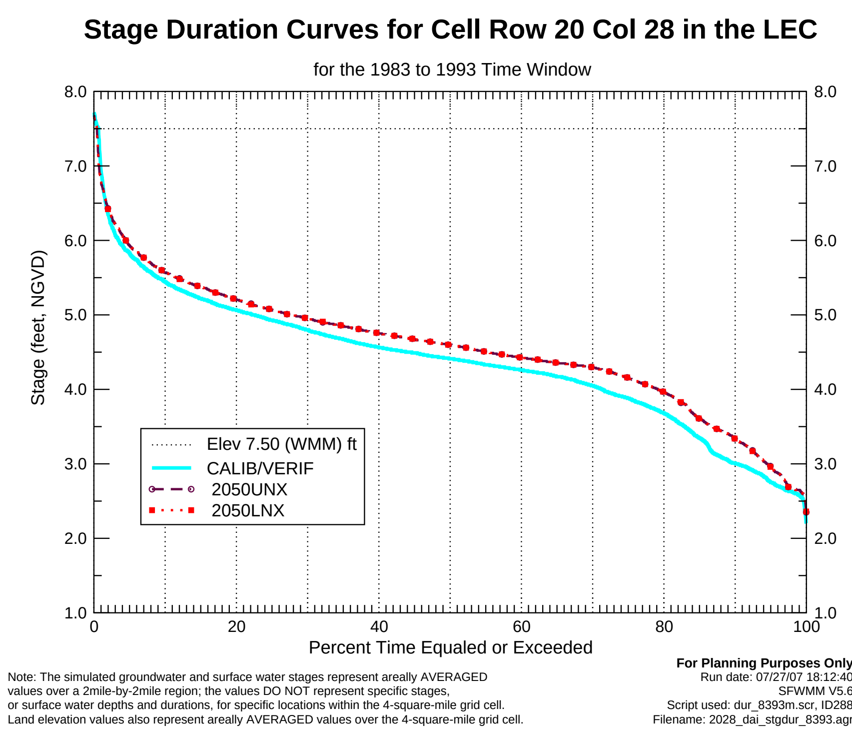

Figure C-62. Stage duration curves for cell row 20 column 28 in the Lower East Coast for 2050B4 UNIX® and Linux® simulations

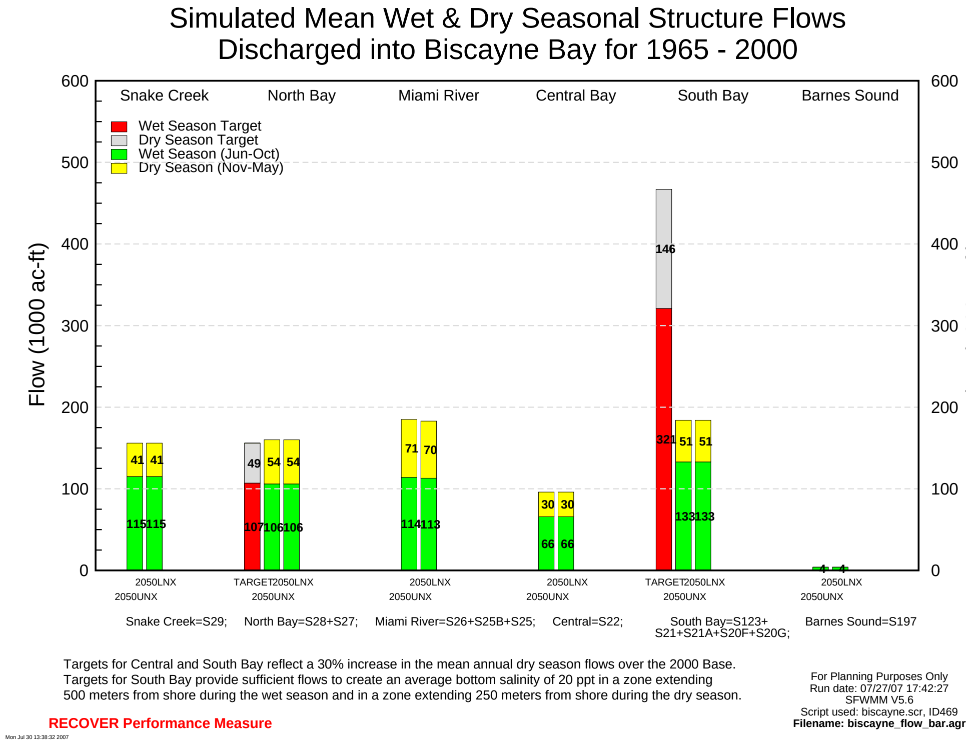

Figure C-63. Simulated mean wet and dry seasonal structure flows discharged into Biscayne Bay for 1965 - 2000 for 2050B4 UNIX® and Linux® simulations

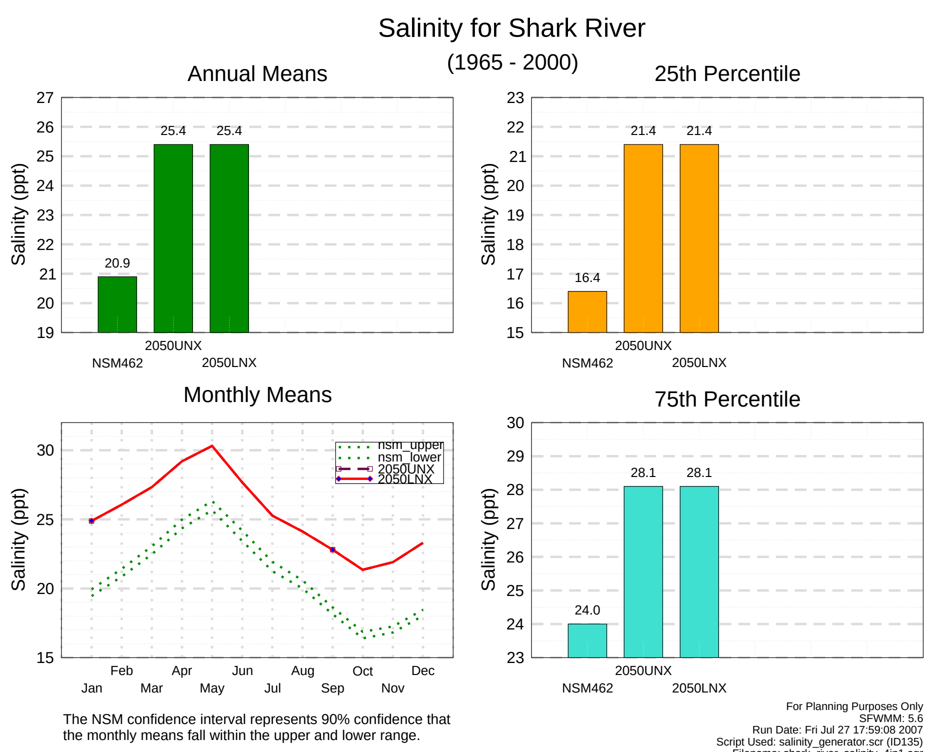

Figure C-64. Salinity for Shark River for 2050B4 UNIX® and Linux® simulations

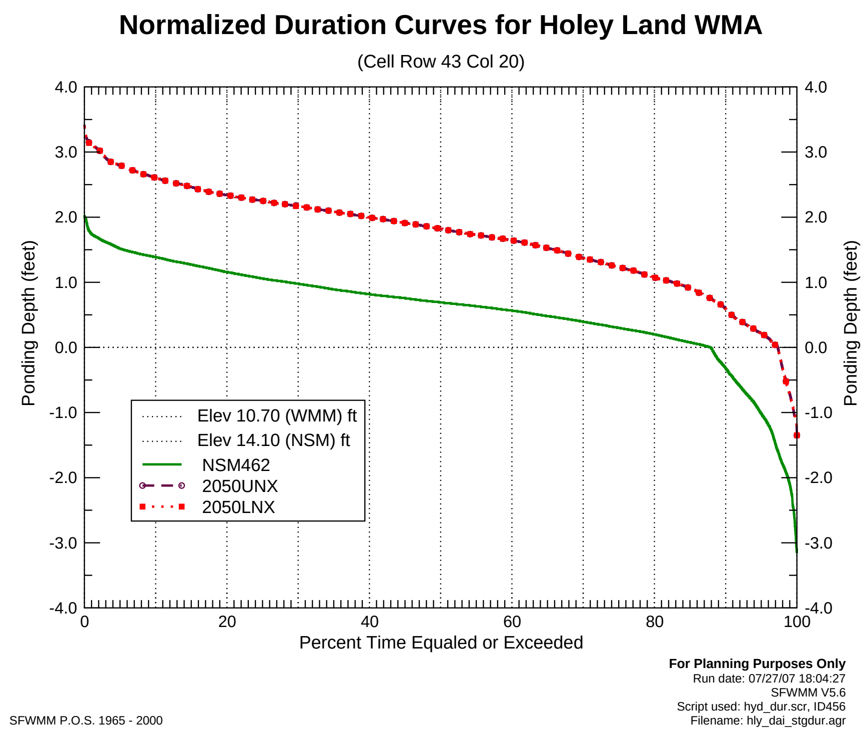

Figure C-65. Normalized duration curves for Holey Land Wildlife Management Area for 2050B4 UNIX® and Linux® simulations

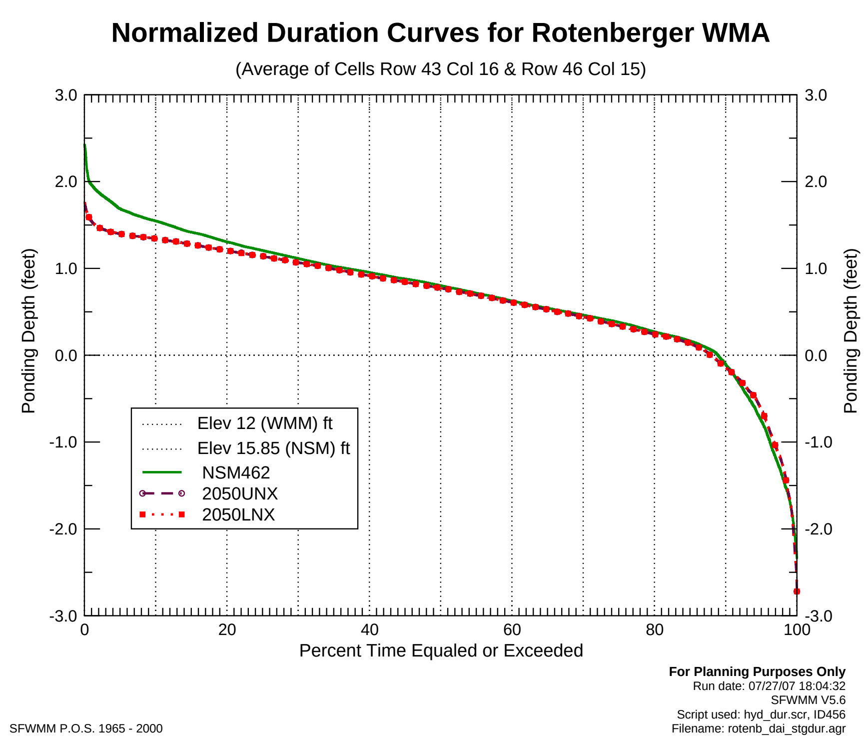

Figure C-66. Normalized duration curves for Rotenberger Wildlife Management Area for 2050B4 UNIX® and Linux® simulations

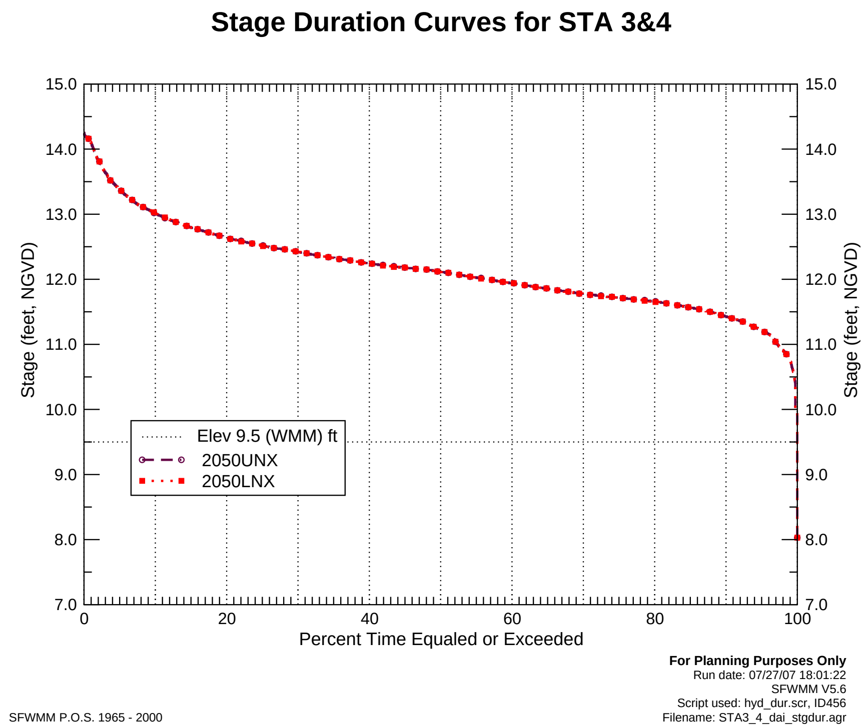

Figure C-67. Stage duration curves for Storm Water Treatment Areas 3 and 4 for 2050B4 UNIX® and Linux® simulations

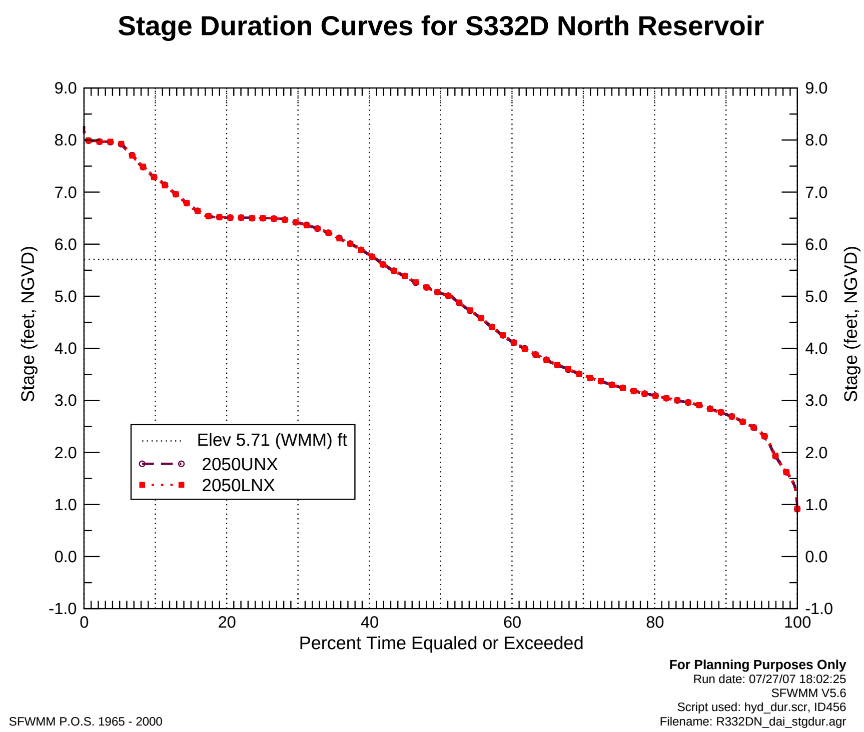

Figure C-68. Stage duration curves for S332D North Reservoir for 2050B4 UNIX® and Linux® simulations

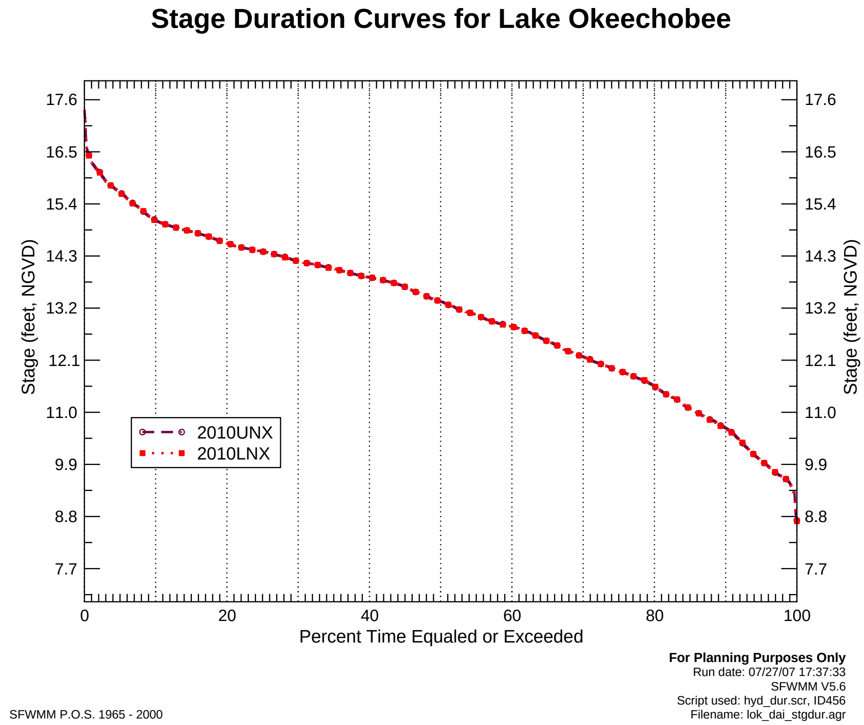

Figure C-69. Stage durations curves for Lake Okeechobee for 2010CP UNIX® and Linux® simulations

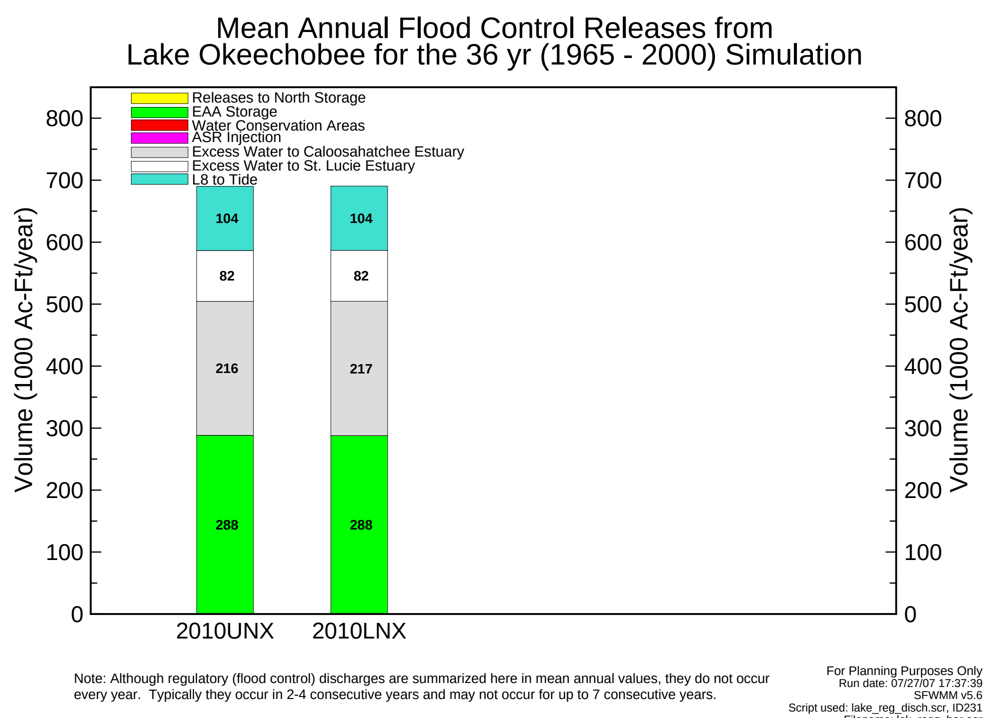

Figure C-70. Stage duration curves for Lake Okeechobee for the 36-year 2010CP UNIX® and Linux® simulations

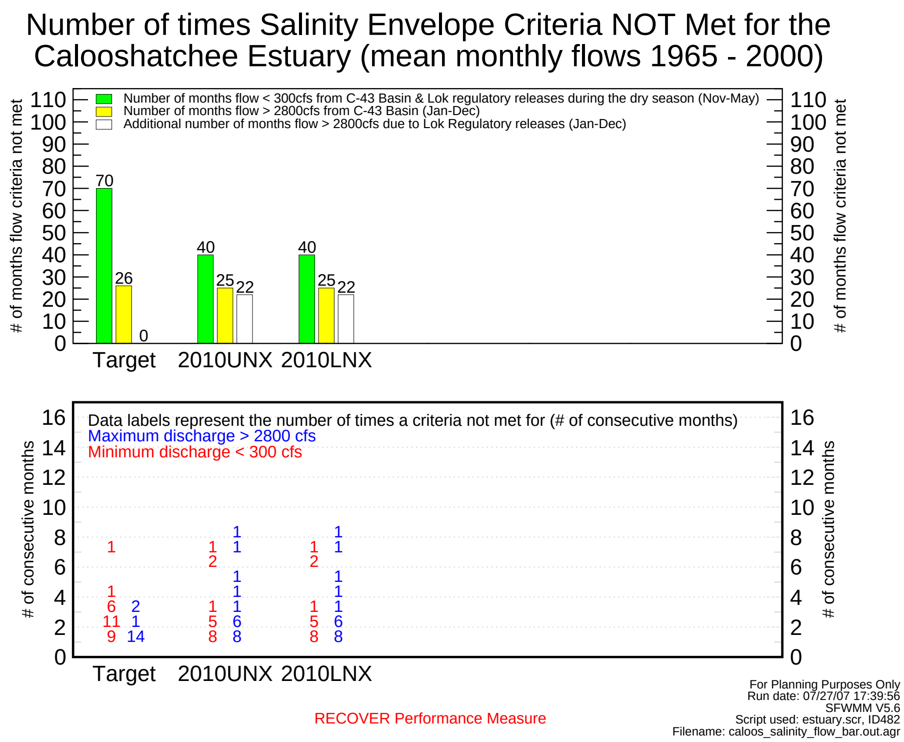

Figure C-71. Number of times salinity envelope criteria not met for the Caloosahatchee Estuary for 2010CP UNIX® and Linux® simulations

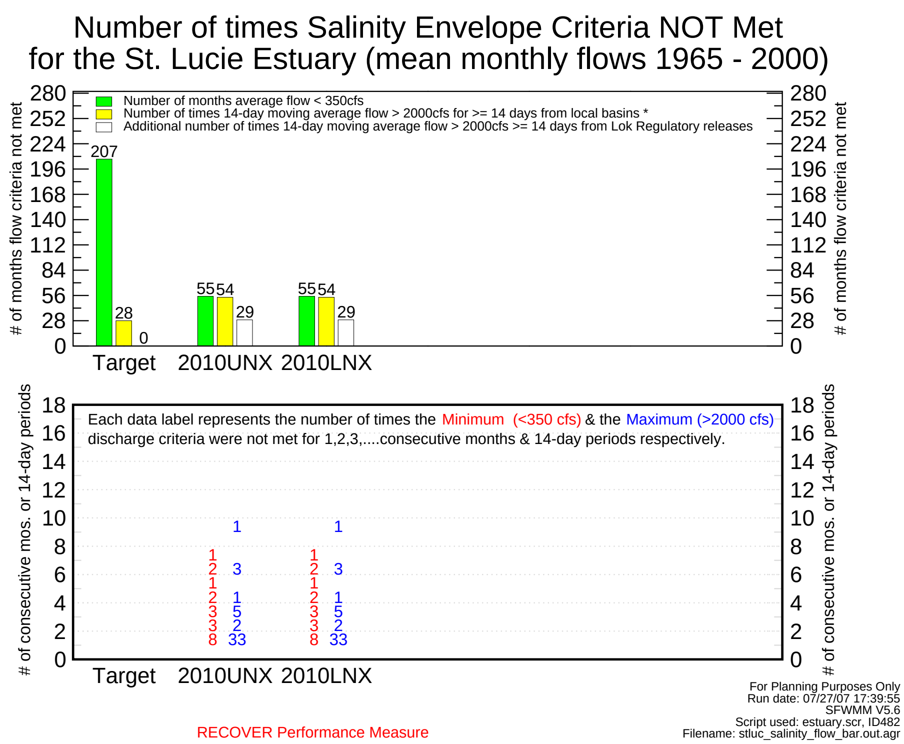

Figure C-72. Number of times salinity envelope criteria not met for the St. Lucie Estuary for 2010CP UNIX® and Linux® simulations

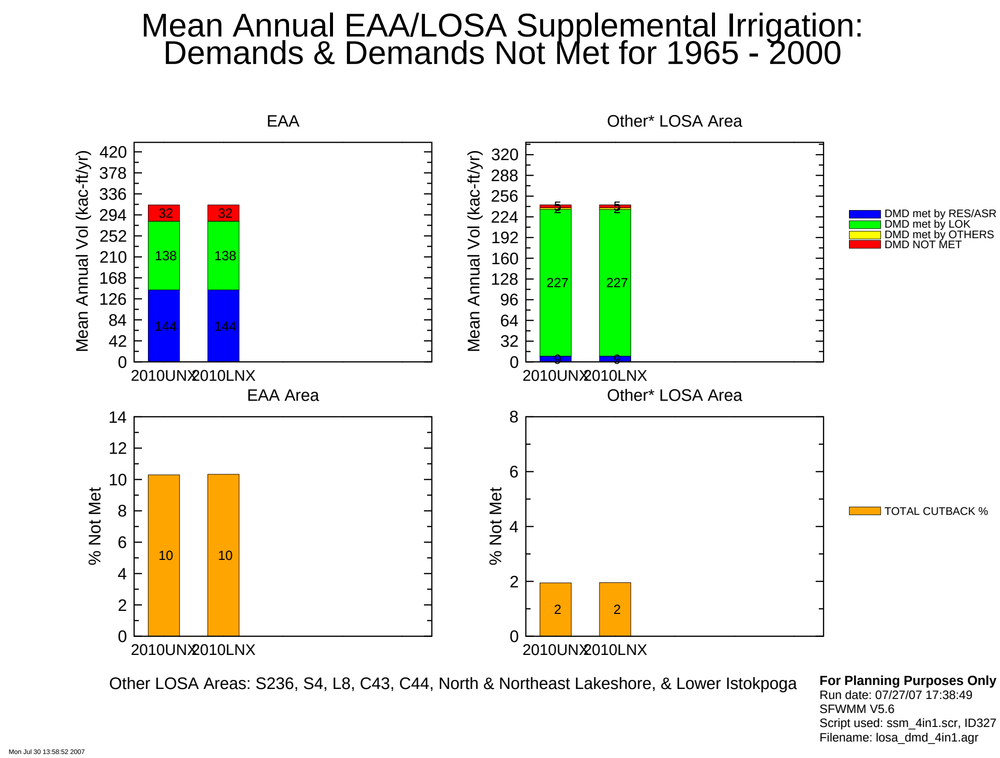

Figure C-73. Mean annual EAA/LOSA supplemental irrigation: Demands and demands not met for 1965 - 2000 for 2010CP UNIX® and Linux® simulations

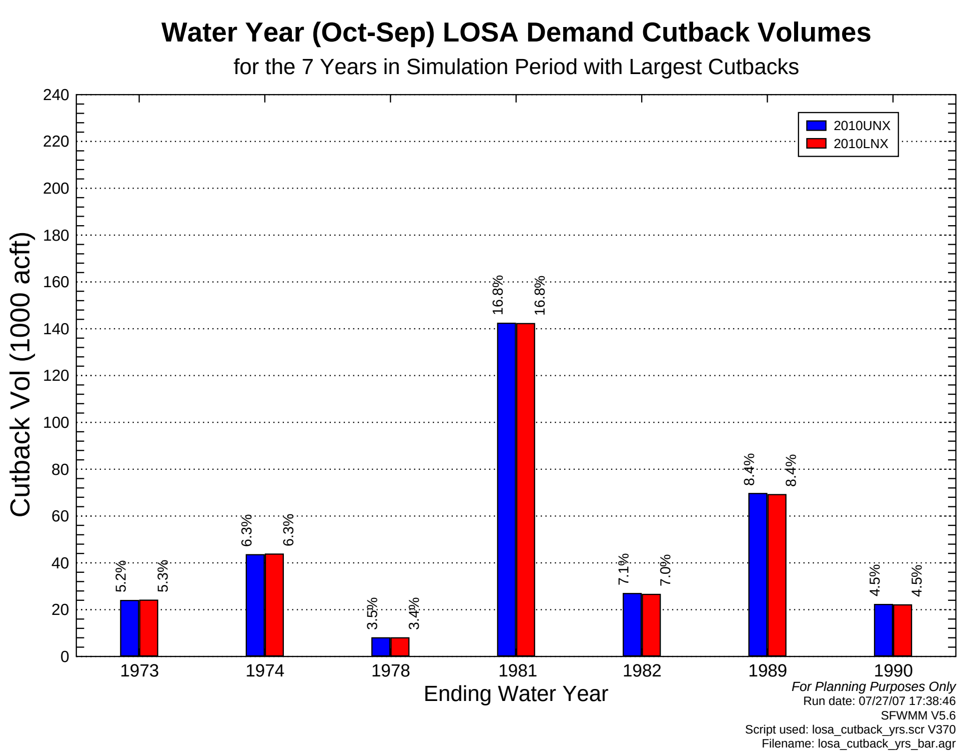

Figure C-74. Water year LOSA demand cutback volumes for 2010CP UNIX® and Linux® simulations

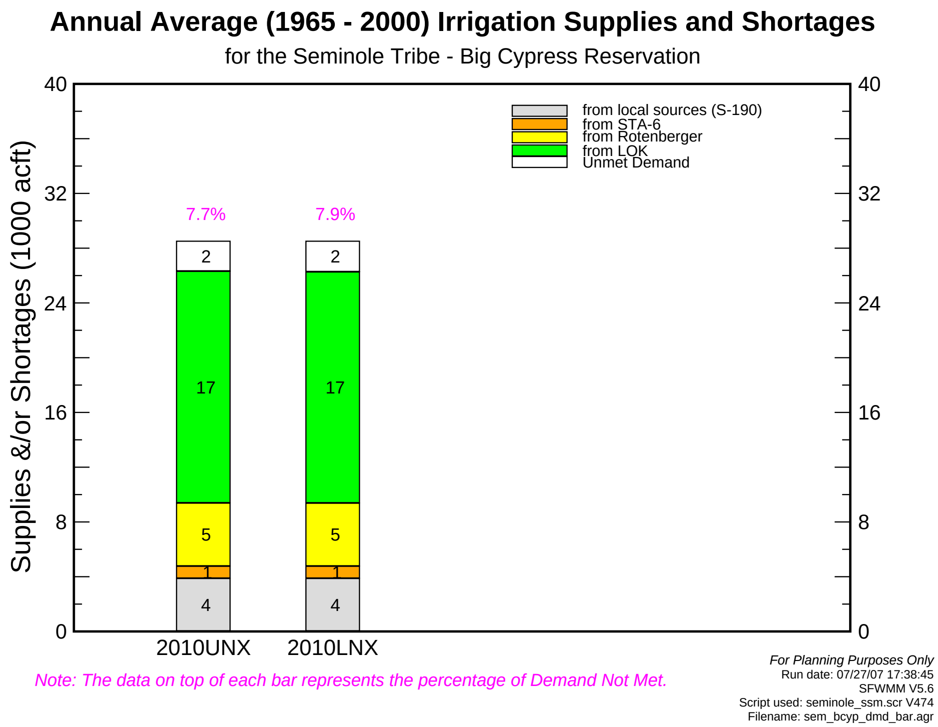

Figure C-75. Annual average irrigation supplies and shortages for 2010CP UNIX® and Linux® simulations

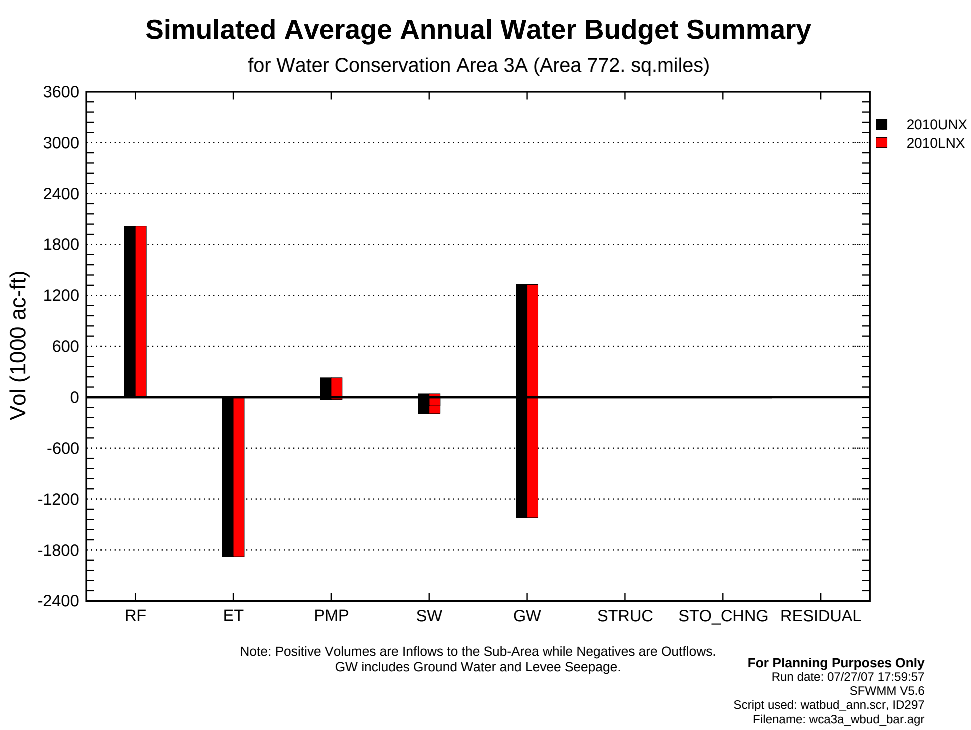

Figure C-76. Simulated average annual water budget summary for 2010CP UNIX® and Linux® simulations

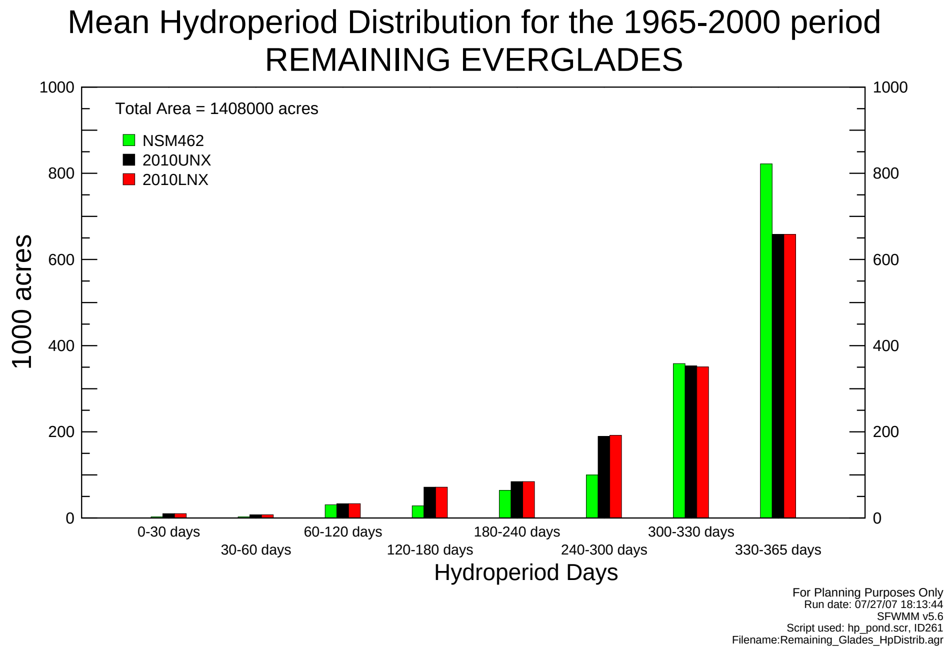

Figure C-77. Mean hydroperiod distribution for the 1965 - 2000 period for 2010CP UNIX® and Linux® simulations

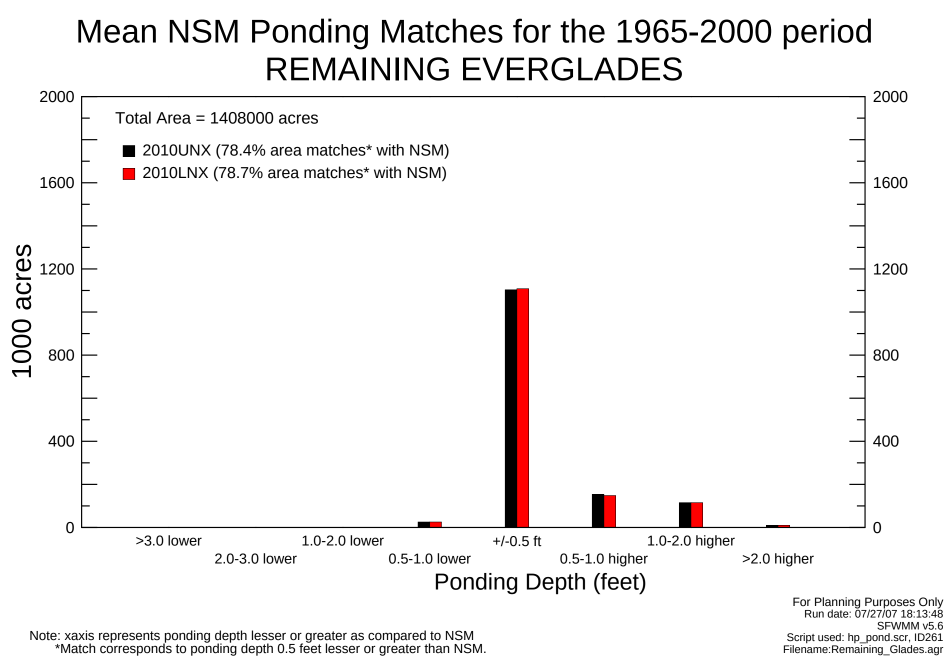

Figure C-78. Mean NSM ponding matches for 1965 - 2000 period for 2010CP UNIX® and Linux® simulations

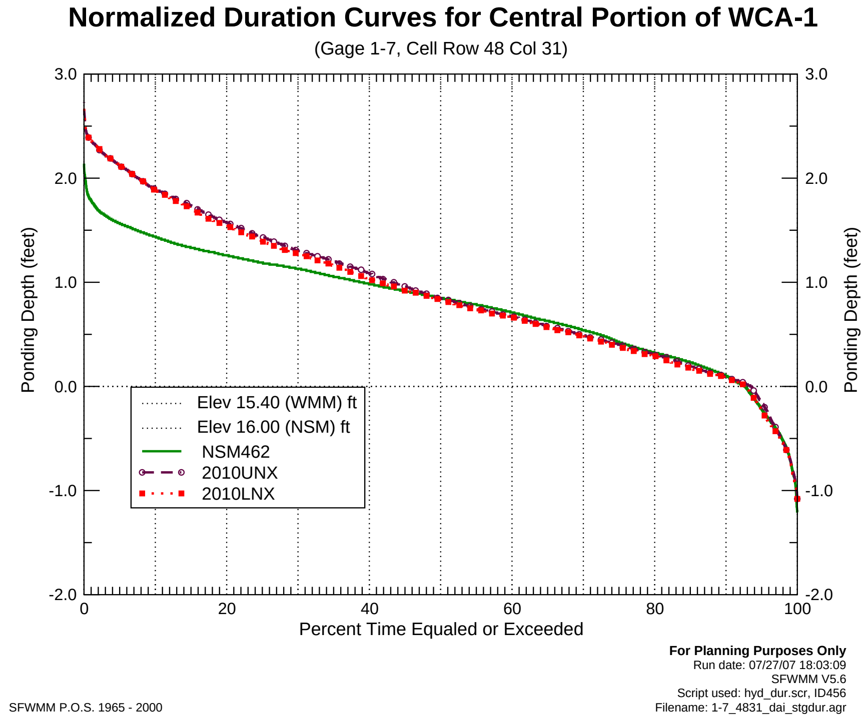

Figure C-79. Normalized duration curves for central portion of Water Conservation Area 1 for 2010CP UNIX® and Linux® simulations

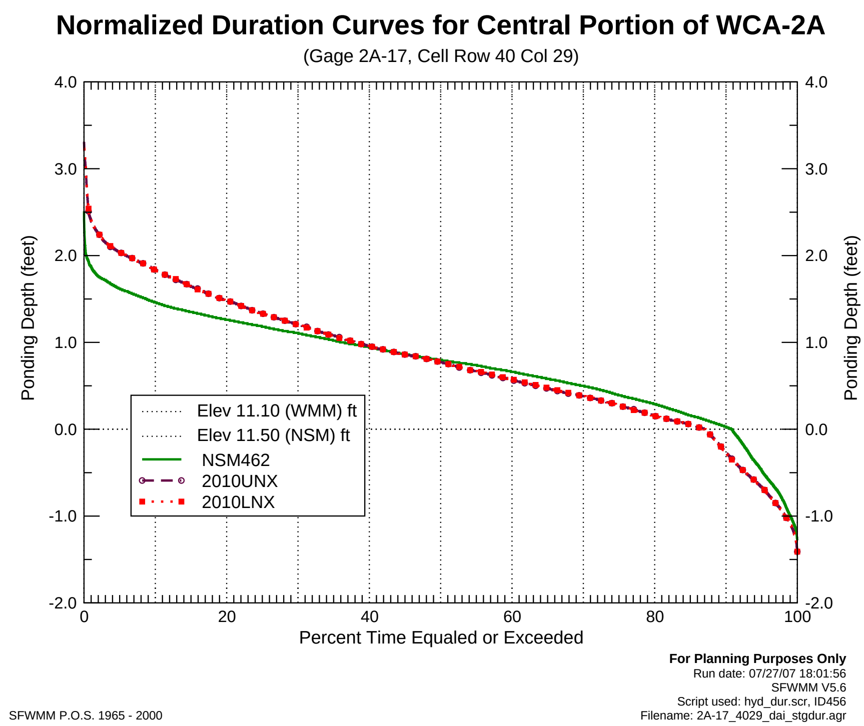

Figure C-80. Normalized duration curves for central portion of Water Conservation Area 2A for 2010CP UNIX® and Linux® simulations

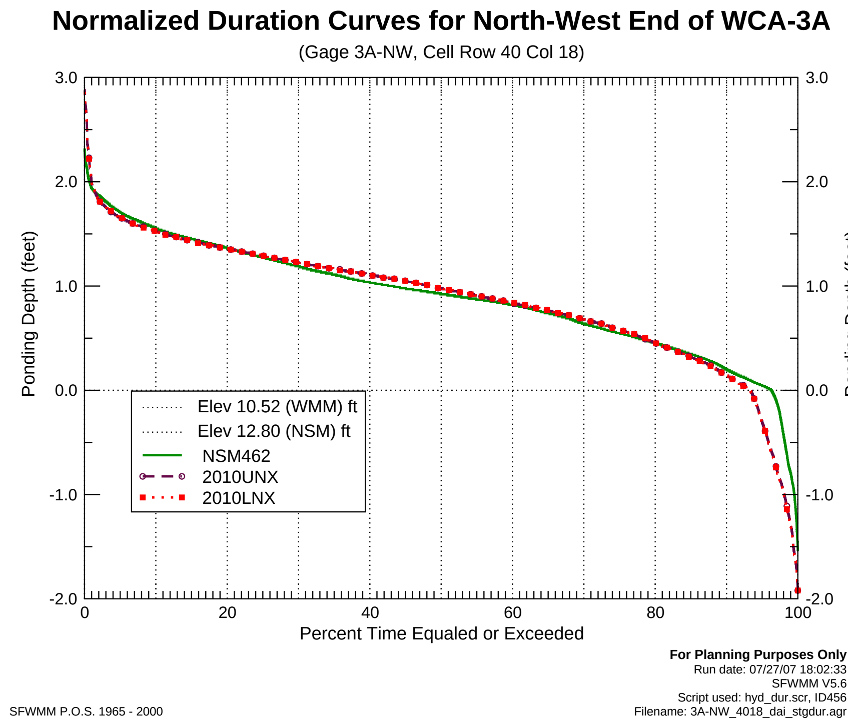

Figure C-81. Normalized duration curves for north-west end of Water Conservation Area 3A for 2010CP UNIX® and Linux® simulations

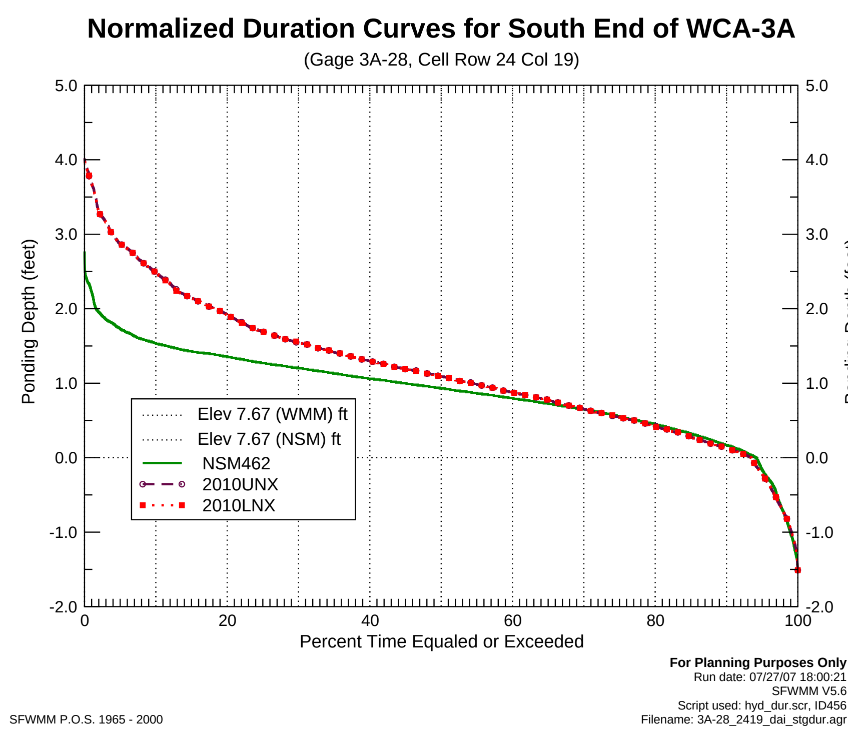

Figure C-82. Normalized duration curves for south end of Water Conservation Area 3A for 2010CP UNIX® and Linux® simulations

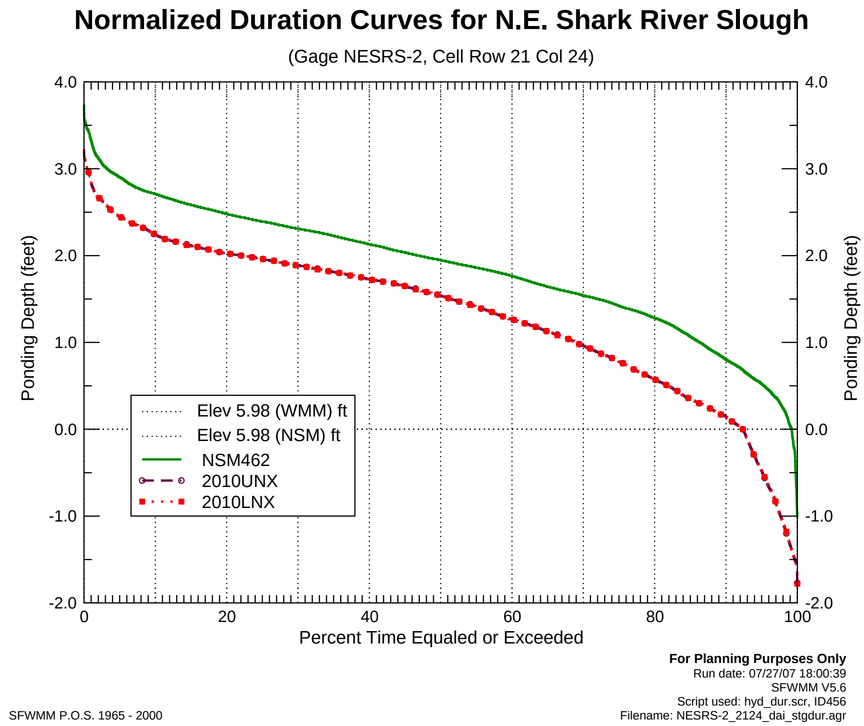

Figure C-83. Normalized duration curves for north-east Shark River Slough for 2010CP UNIX® and Linux® simulations

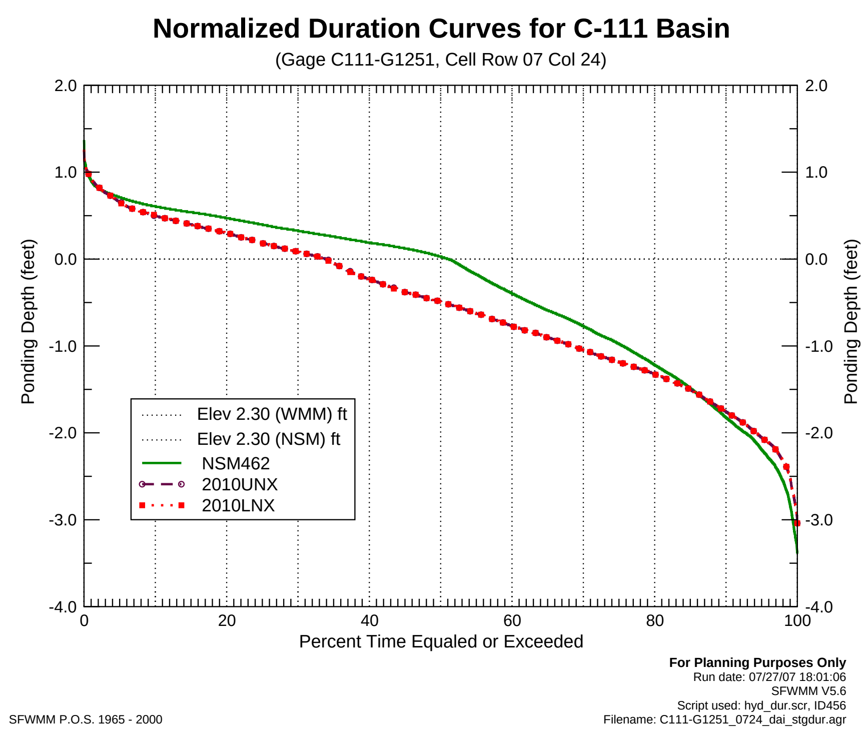

Figure C-84. Normalized duration curves for C-111 Basin for 2010CP UNIX® and Linux® simulations

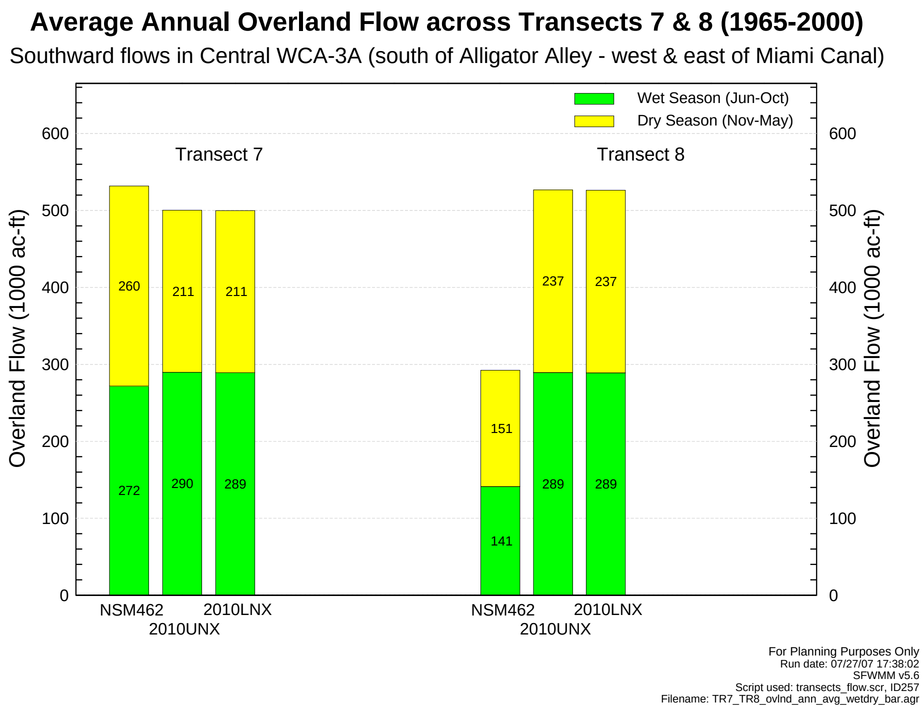

Figure C-85. Average annual overland flow across Transects 7 and 8 for 2010CP UNIX® and Linux® simulations

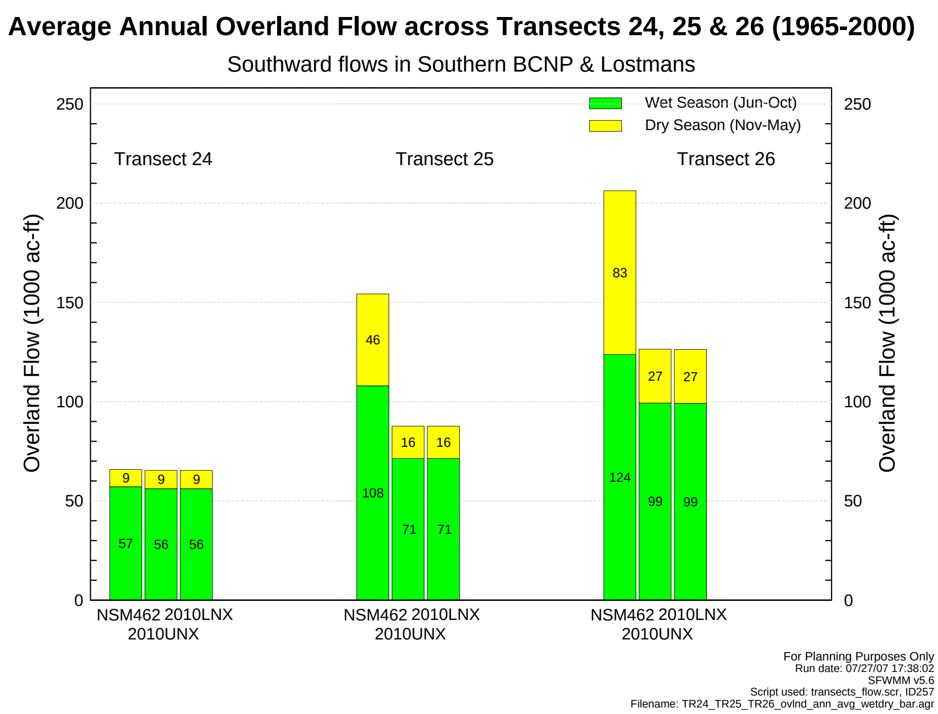

Figure C-86. Average annual overland flow across Transects 24, 25 and 26 for 2010CP UNIX® and Linux® simulations

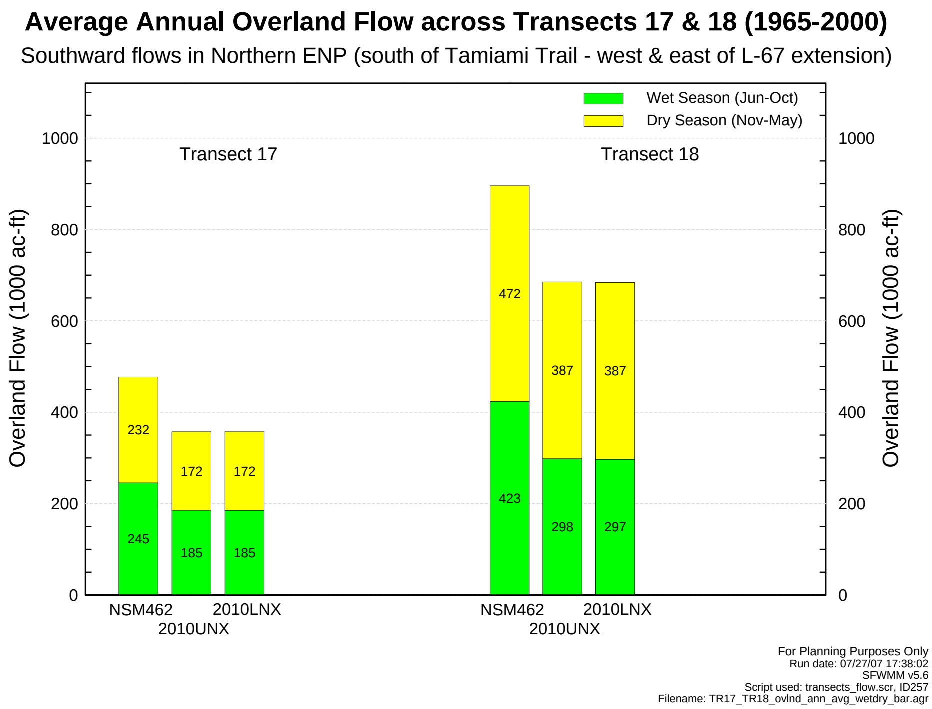

Figure C-87. Average annual overland flow across Transects 17 and 18 for 2010CP UNIX® and Linux® simulations

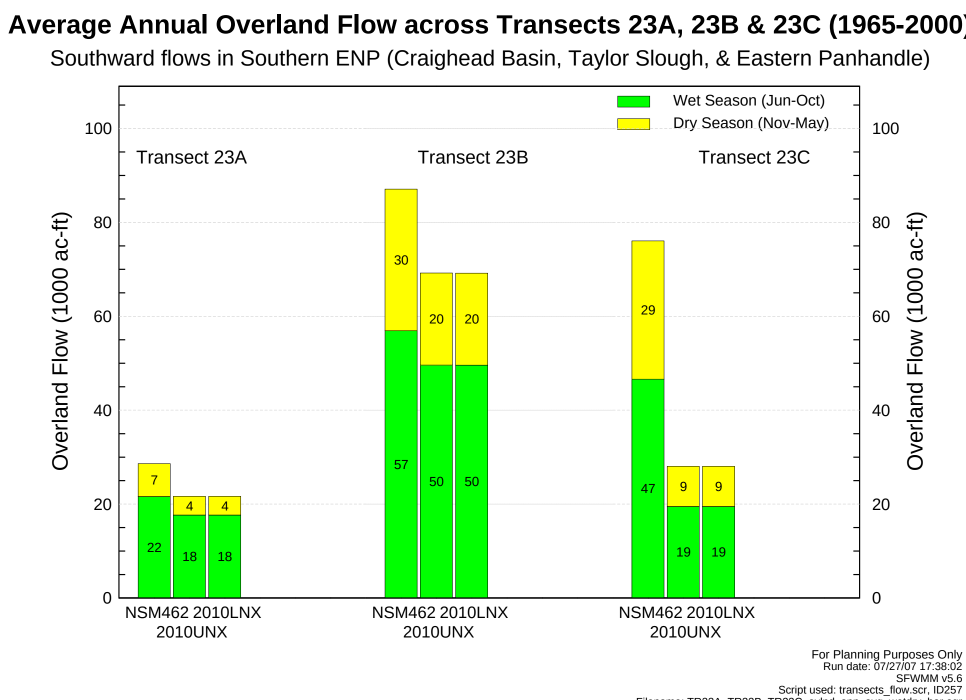

Figure C-88. Average annual overland flow across Transects 23A, 23B and 23C for 2010CP UNIX® and Linux® simulations

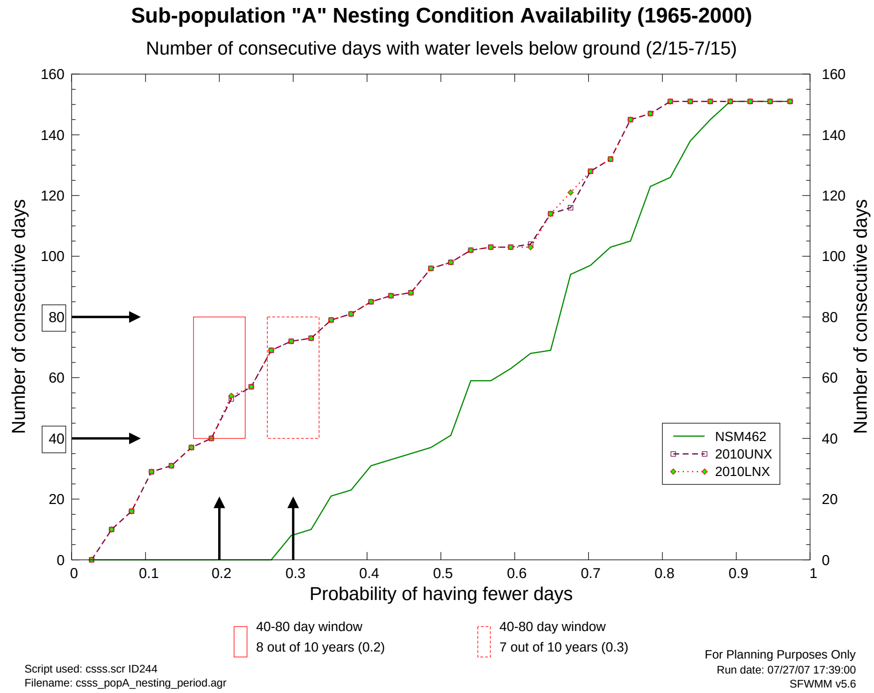

Figure C-89. Sub-population "A" nesting conditions availability for 2010CP UNIX® and Linux® simulations

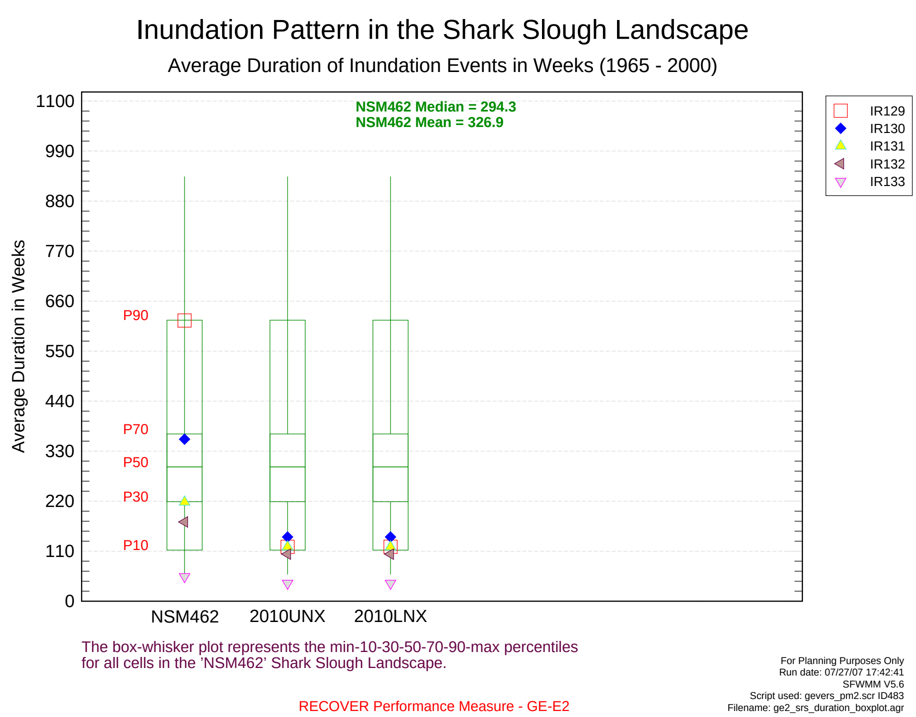

Figure C-90. Inundation pattern in the Shark River Slough landscape for 2010CP UNIX® and Linux® simulations

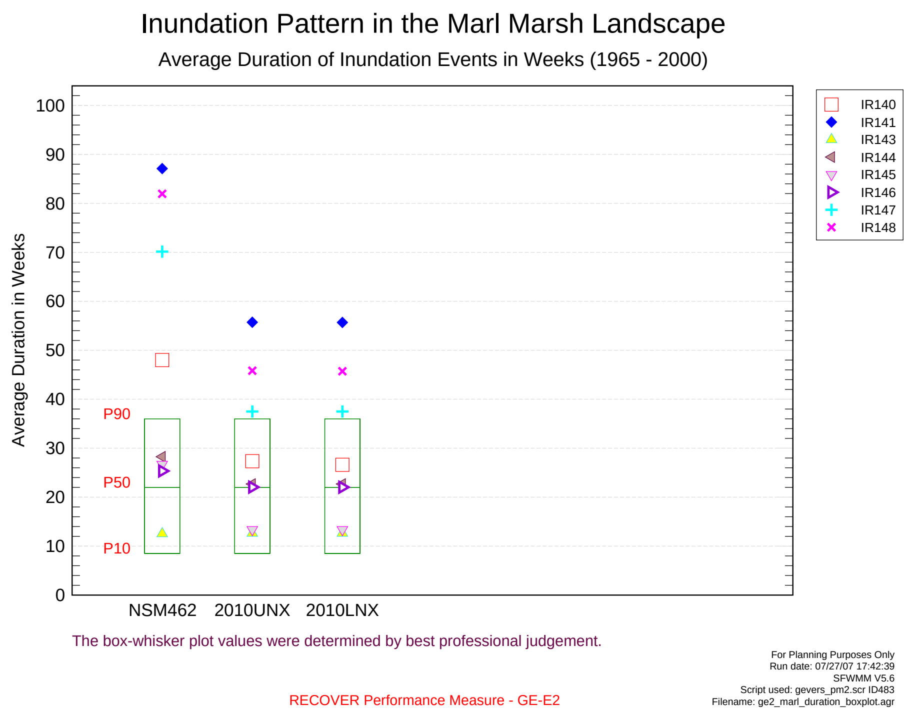

Figure C-91. Inundation pattern in the marl marsh landscape for 2010CP UNIX® and Linux® simulations

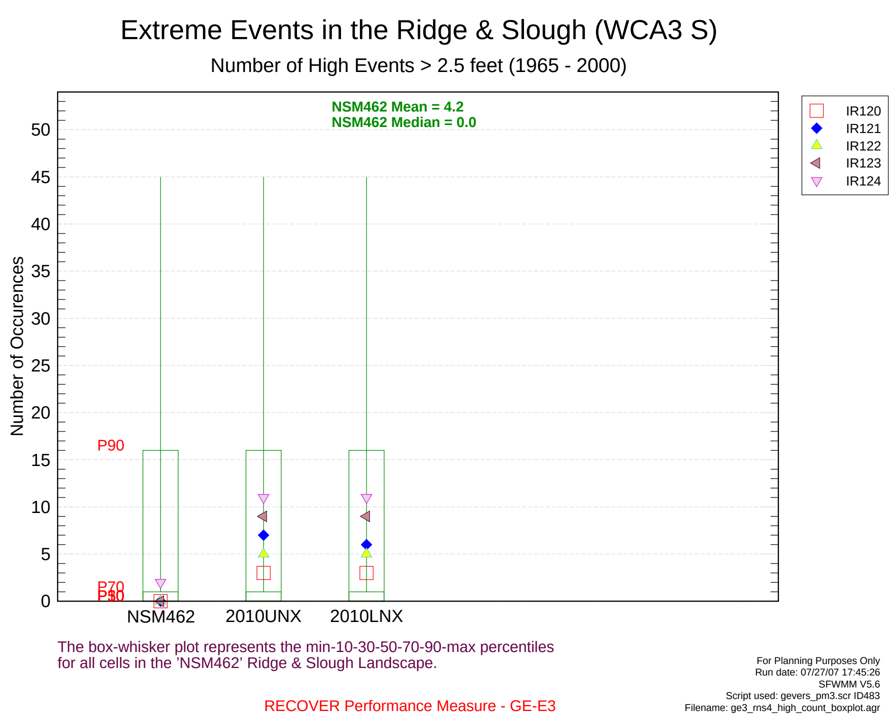

Figure C-92. Extreme events in the ridge and slough for 2010CP UNIX® and Linux® simulations

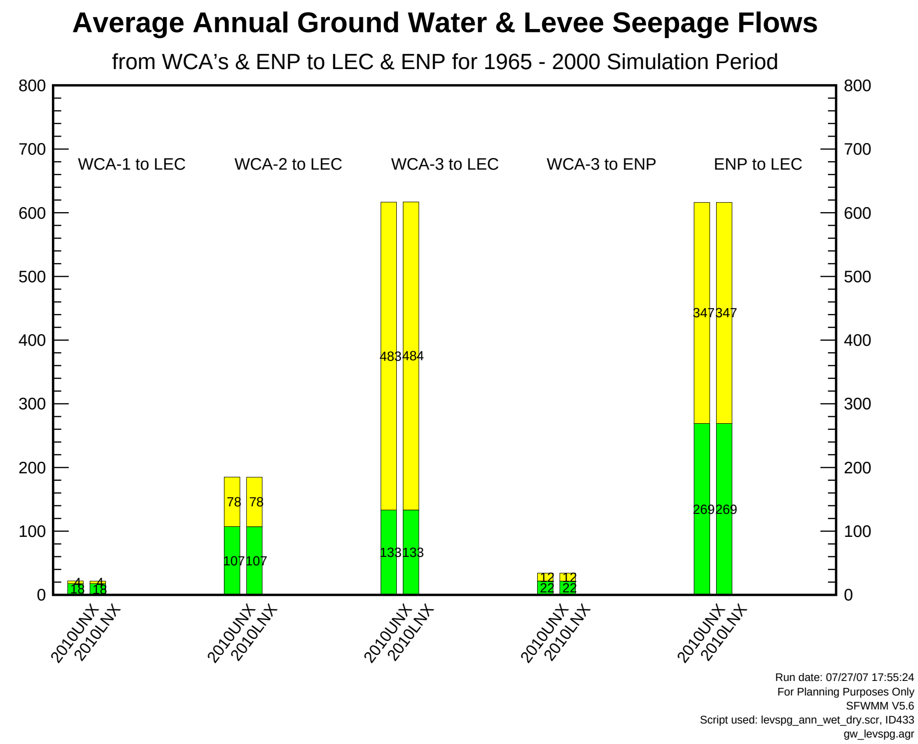

Figure C-93. Average annual ground water and levee seepage flows for 2010CP UNIX® and Linux® simulations

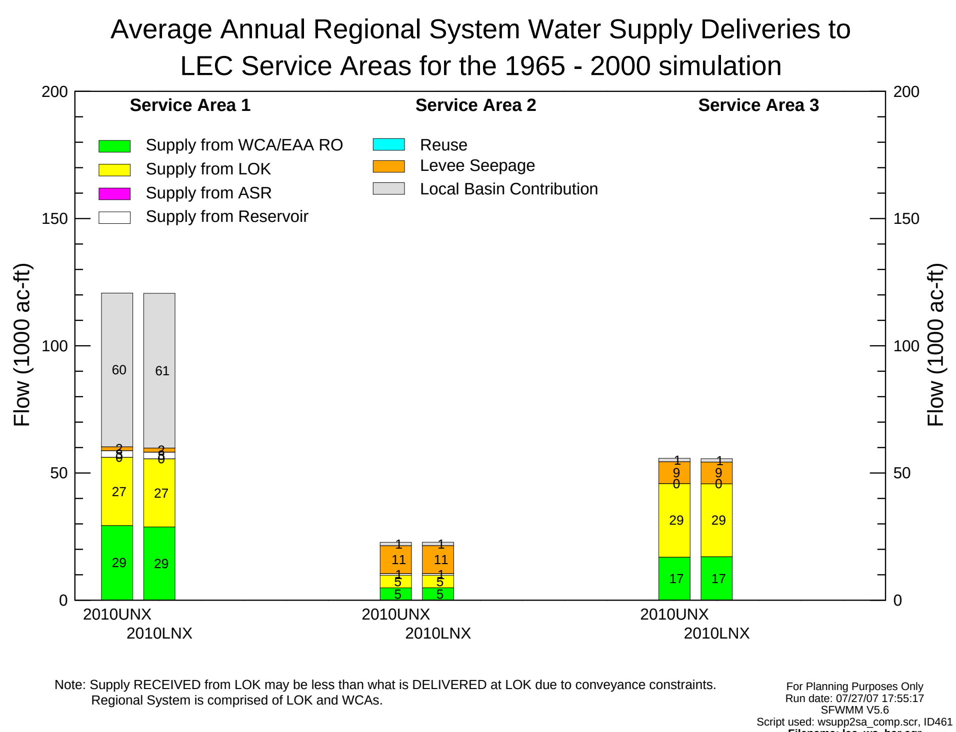

Figure C-94. Average annual regional system water supply deliveries to Lower East Coast service areas for 2010CP UNIX® and Linux® simulations

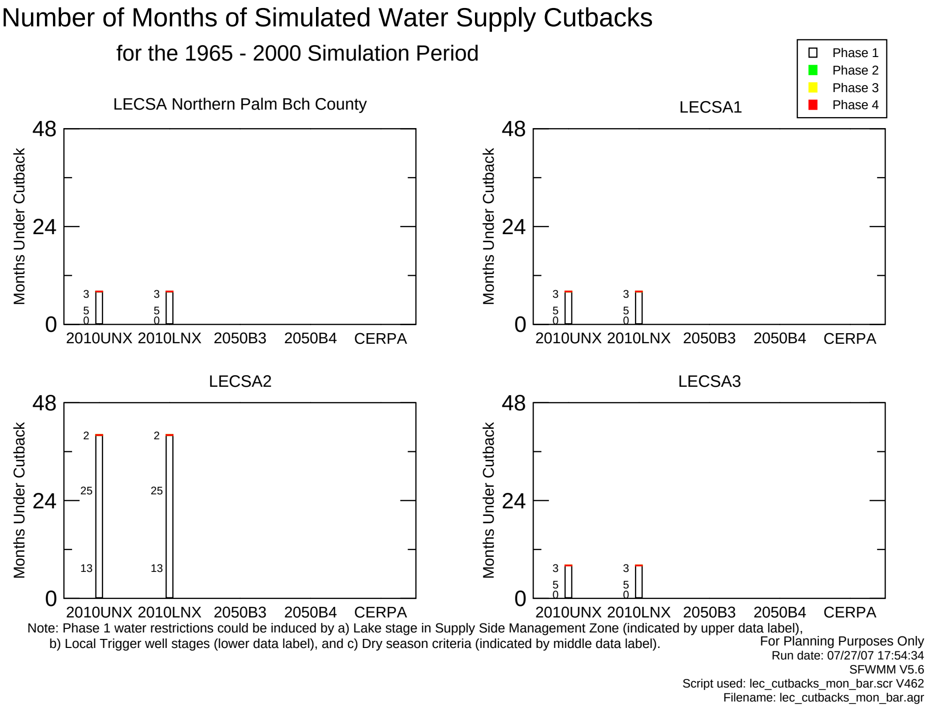

Figure C-95. Number of months of simulated water supply cutbacks for 2010CP UNIX® and Linux® simulations

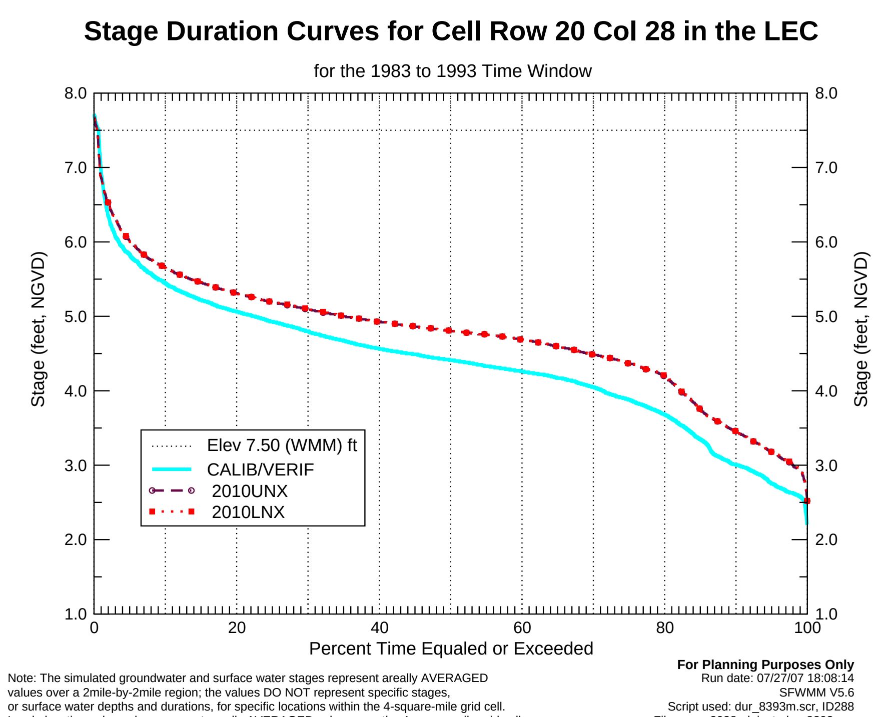

Figure C-96. Stage duration curves for cell row 20 column 28 in the Lower East Coast for 2010CP UNIX® and Linux® simulations

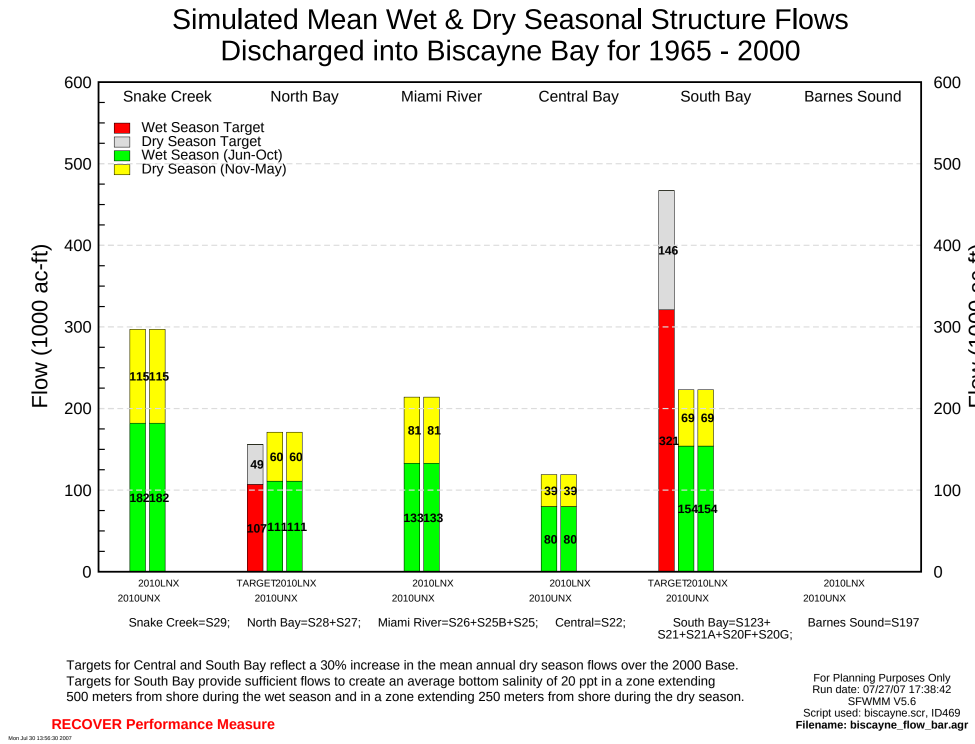

Figure C-97. Simulated mean wet and dry seasonal structure flows discharged into Biscayne Bay for 1965 - 2000 for 2010CP UNIX® and Linux® simulations

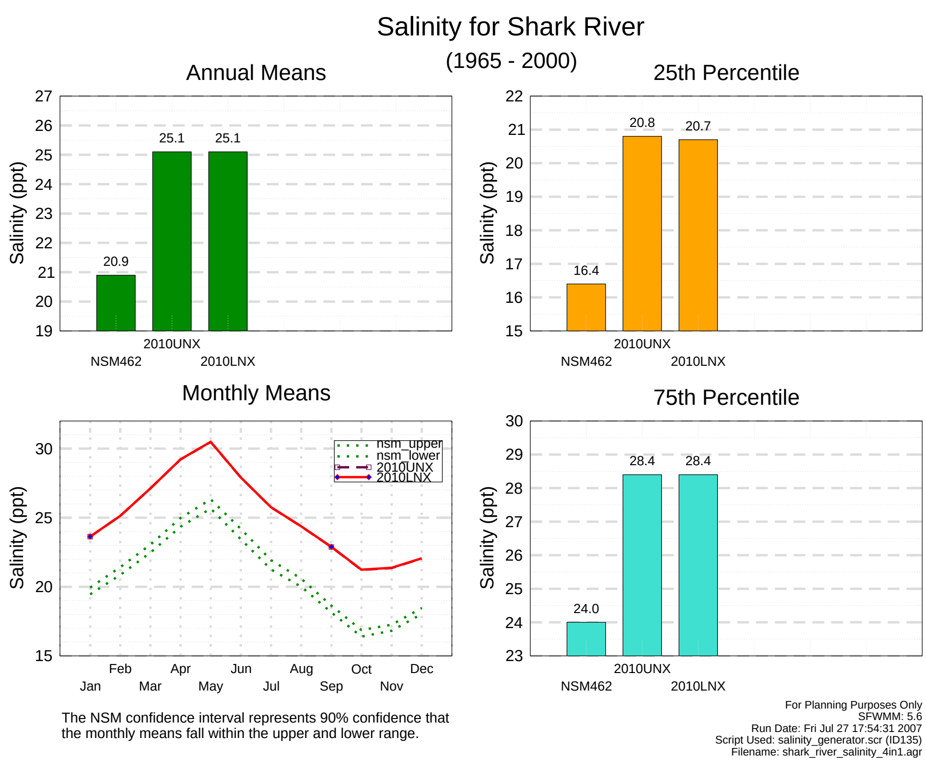

Figure C-98. Salinity for Shark River for 2010CP UNIX® and Linux® simulations

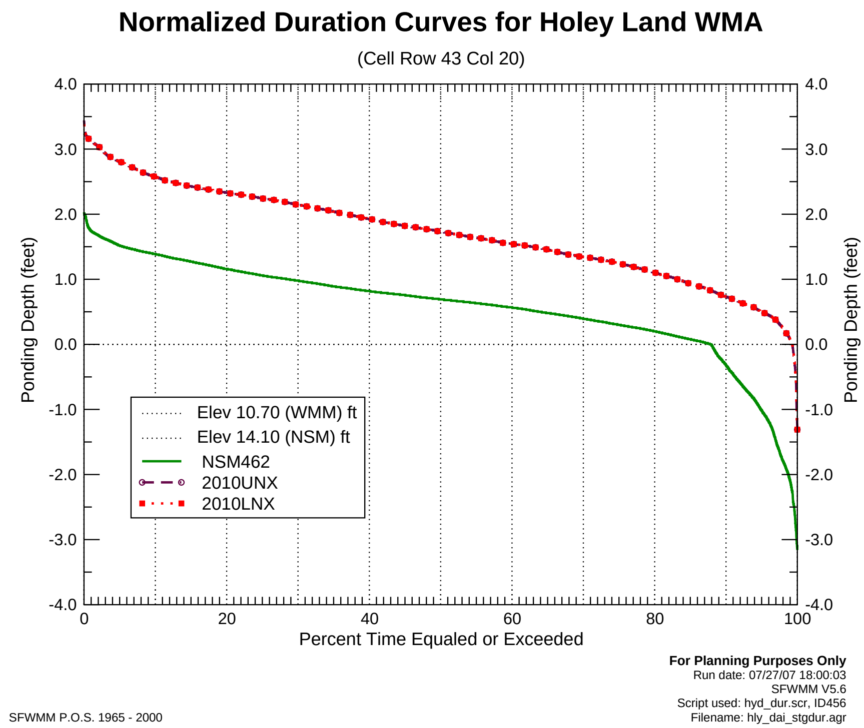

Figure C-99. Normalized duration curves for Holey Land Wildlife Management Area for 2010CP UNIX® and Linux® simulations

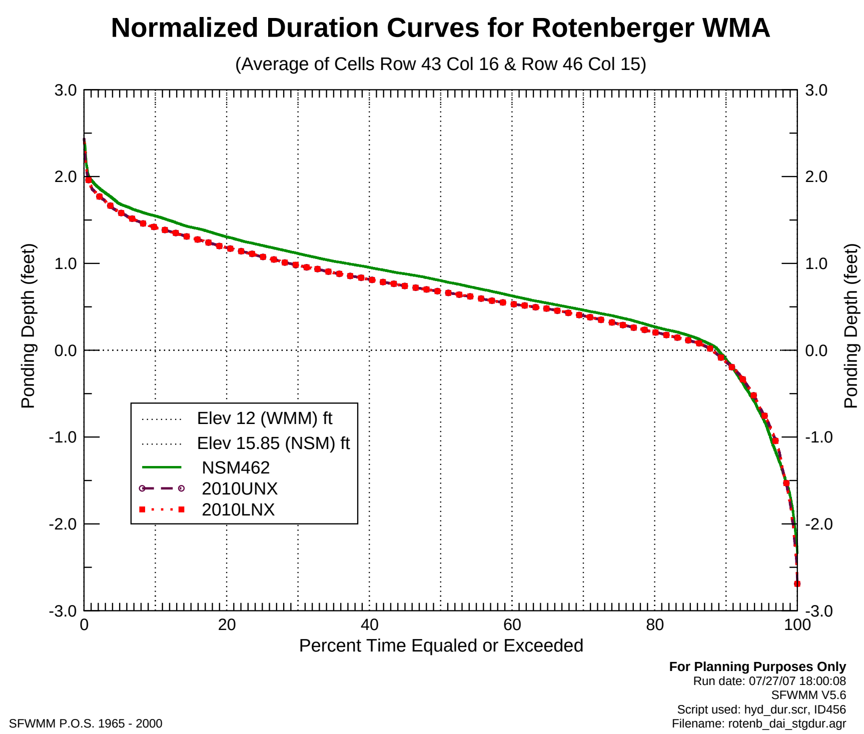

Figure C-100. Normalized duration curves for Rotenberger Wildlife Management Area for 2010CP UNIX® and Linux® simulations

Stage Duration Curves for STA 3&4

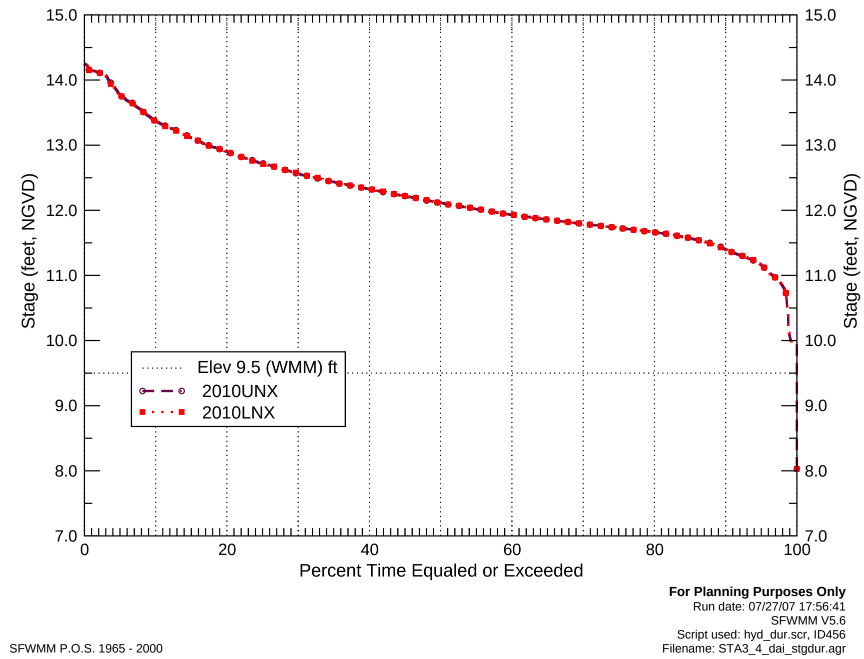

Figure C-101. Stage duration curves for Storm Water Treatment Areas 3 and 4 for 2010CP UNIX® and Linux® simulations

Stage Duration Curves for S332B Reservoir

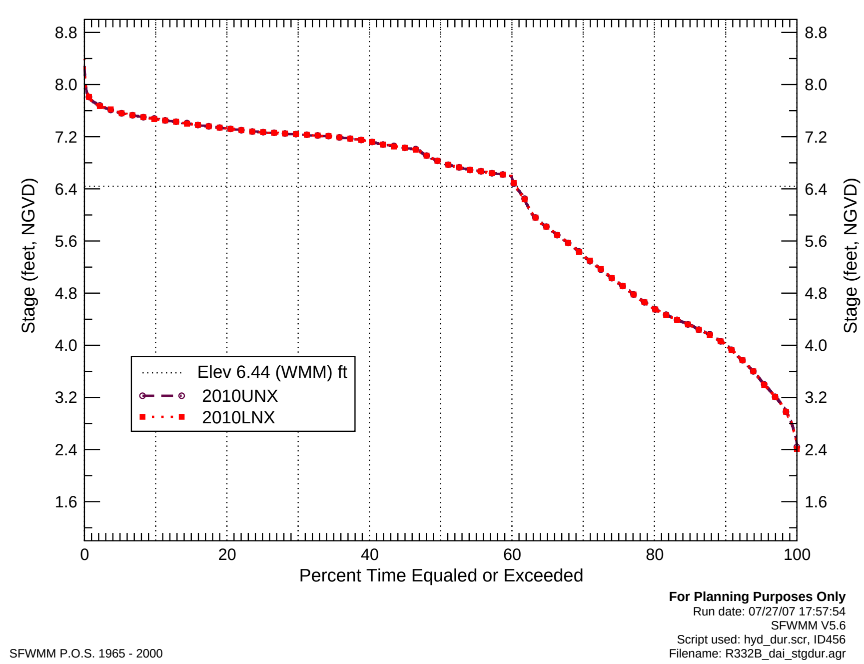

Figure C-102. Stage duration curves for S332B Reservoir for 2010CP UNIX® and Linux® simulations

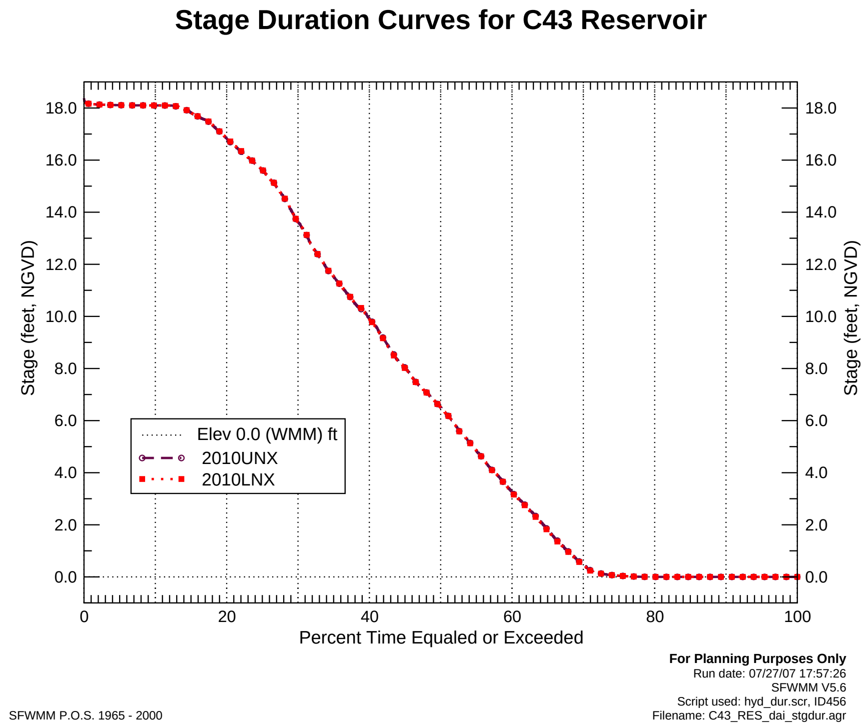

Figure C-103. Stage duration curves for C-43 Reservoir for 2010CP UNIX® and Linux® simulations

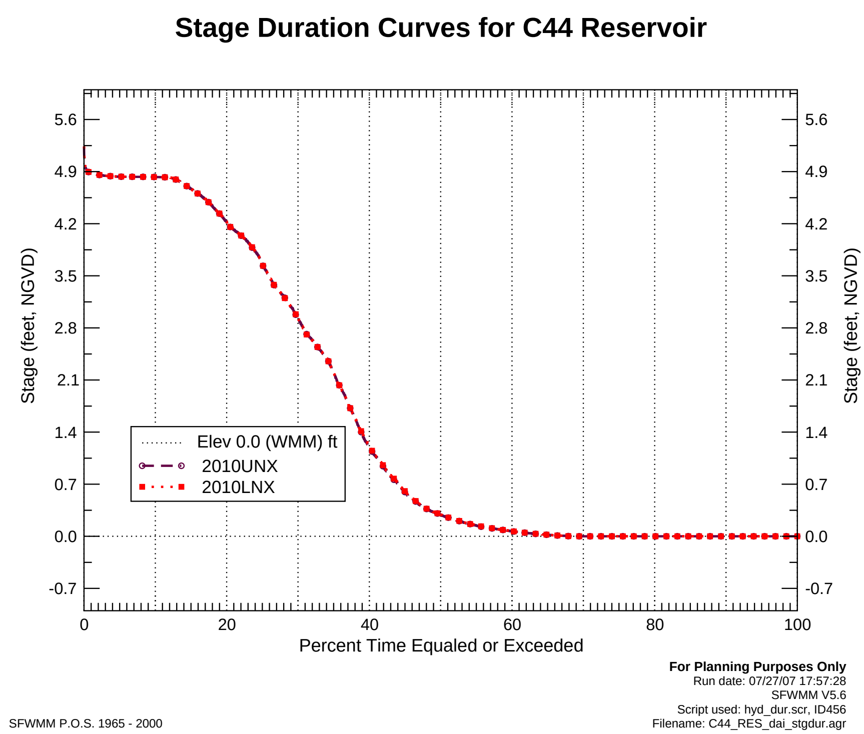

Figure C-104. Stage duration curves for C-44 Reservoir for 2010CP UNIX® and Linux® simulations

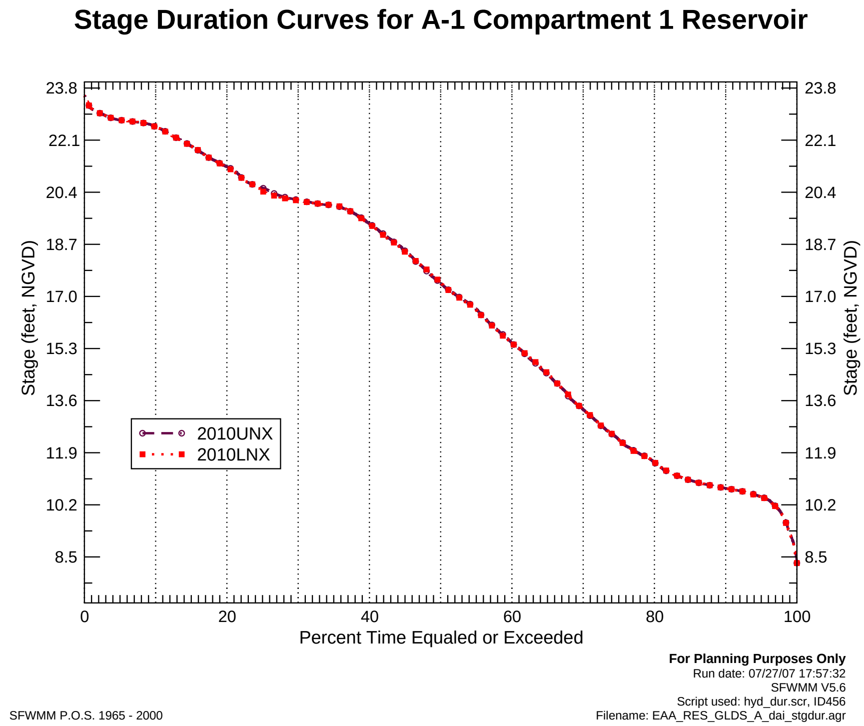

Figure C-105. Stage duration curves for A-1 Compartment 1 Reservoir for 2010CP UNIX® and Linux® simulations

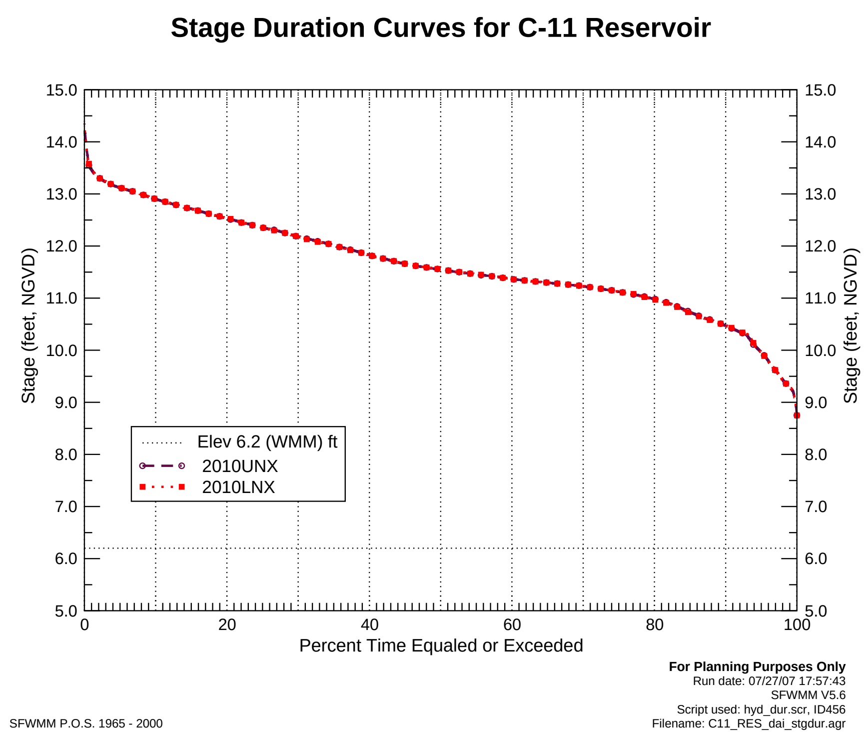

Figure C-106. Stage duration curves for C-11 Reservoir for 2010CP UNIX® and Linux® simulations

APPENDIX D- PERFORMANCE MEASURE REPORTS

Dry Events in Shark Slough - GE-E1 Summary Table

	NSM462	ECBUNX	ECBLNX
IR 129 NE Shark Slough			
Number of Dry Events	2	15	15
Average Duration of Dry Events (Weeks)	10	14	14
IR 130 Mid Shark Slough			
Number of Dry Events	4	15	15
Average Duration of Dry Events (Weeks)	23	14	14
IR 131 SW Shark Slough			
Number of Dry Events	7	17	17
Average Duration of Dry Events (Weeks)	18	15	15
IR 132 South Shark Slough			
Number of Dry Events	9	23	23
Average Duration of Dry Events (Weeks)	14	13	13

NOTES:

1) Period of Record (POR) = 1965 - 2000 Simulation Period

2) Calculating Weekly Average
   a) Non-Leap Years --> Last eight (8) days of calendar year used for weekly average.
   b) Leap Years --> Last nine (9) days of calendar year used for weekly average.

3) A DRY EVENT is calculated as a discrete segment of time from the point at which water levels fall below ground until the point at which water levels rise above 0.2 feet above ground.

4) The Average Duration of Dry Events is the total number of weeks divided by the total number of events (weeks/events), rounded to the nearest whole number.

RUN DATE: Fri Jul 27 17:38:43 EDT 2007 SFWMM V5.6
CREATED BY: gevers_pm1.scr ID483

Inundation Pattern in the Greater Everglades Wetlands
GE-E2 Summary Table

	NSM462	ECBUNX	ECBLNX
IR 100 WCA-1 North			
Number of Inundation Events	17	26	26
Average Duration of Inundation Events (Weeks)	102	63	63
Percent Period of Record of Inundation Events	93	88	88
IR 101 WCA-1 Central			
Number of Inundation Events	17	10	10
Average Duration of Inundation Events (Weeks)	100	178	178
Percent Period of Record of Inundation Events	91	95	95
IR 102 WCA-1 South			
Number of Inundation Events	18	6	6
Average Duration of Inundation Events (Weeks)	91	308	308
Percent Period of Record of Inundation Events	88	99	99
IR 110 WCA-2A North			
Number of Inundation Events	24	22	22
Average Duration of Inundation Events (Weeks)	66	74	74
Percent Period of Record of Inundation Events	84	87	87
IR 111 WCA-2A South			
Number of Inundation Events	13	16	16
Average Duration of Inundation Events (Weeks)	131	106	106
Percent Period of Record of Inundation Events	91	90	91
IR 112 WCA-2B North			
Number of Inundation Events	16	19	18
Average Duration of Inundation Events (Weeks)	107	87	92
Percent Period of Record of Inundation Events	91	88	88
IR 113 WCA-2B South			
Number of Inundation Events	16	12	11
Average Duration of Inundation Events (Weeks)	107	136	149
Percent Period of Record of Inundation Events	92	87	87
IR 114 WCA-3A NW Corner			
Number of Inundation Events	12	20	21
Average Duration of Inundation Events (Weeks)	146	82	78
Percent Period of Record of Inundation Events	94	87	87
IR 115 WCA-3A North			
Number of Inundation Events	14	14	14
Average Duration of Inundation Events (Weeks)	122	123	123
Percent Period of Record of Inundation Events	92	92	92
IR 116 WCA-3A NE			
Number of Inundation Events	19	13	13
Average Duration of Inundation Events (Weeks)	86	133	133
Percent Period of Record of Inundation Events	87	93	93
IR 117 WCA-3A NW			
Number of Inundation Events	10	10	10
Average Duration of Inundation Events (Weeks)	179	178	178
Percent Period of Record of Inundation Events	95	95	95
IR 118 WCA-3A Alley North			
Number of Inundation Events	14	14	14
Average Duration of Inundation Events (Weeks)	122	123	123
Percent Period of Record of Inundation Events	91	92	92
IR 119 WCA-3A East			
Number of Inundation Events	14	6	6
Average Duration of Inundation Events (Weeks)	122	305	305
Percent Period of Record of Inundation Events	91	98	98
IR 120 WCA-3A West			
Number of Inundation Events	10	15	15
Average Duration of Inundation Events (Weeks)	174	115	115
Percent Period of Record of Inundation Events	93	92	92
IR 121 WCA-3A North Central			
Number of Inundation Events	14	11	11
Average Duration of Inundation Events (Weeks)	124	162	162
Percent Period of Record of Inundation Events	92	95	95

IR 122 WCA-3A Gap			
Number of Inundation Events	12	16	16
Average Duration of Inundation Events (Weeks)	145	108	108
Percent Period of Record of Inundation Events	93	93	93
IR 123 WCA-3A South Central			
Number of Inundation Events	16	9	9
Average Duration of Inundation Events (Weeks)	106	196	196
Percent Period of Record of Inundation Events	90	94	94
IR 124 WCA-3A South			
Number of Inundation Events	14	9	9
Average Duration of Inundation Events (Weeks)	124	203	203
Percent Period of Record of Inundation Events	93	97	97
IR 125 WCA-3B North			
Number of Inundation Events	18	9	9
Average Duration of Inundation Events (Weeks)	91	198	198
Percent Period of Record of Inundation Events	87	95	95
IR 126 WCA-3B West			
Number of Inundation Events	10	9	9
Average Duration of Inundation Events (Weeks)	180	196	196
Percent Period of Record of Inundation Events	96	94	94
IR 127 Pennsuco Wetlands			
Number of Inundation Events	7	21	21
Average Duration of Inundation Events (Weeks)	260	70	70
Percent Period of Record of Inundation Events	97	79	79
IR 128 WCA-3B East			
Number of Inundation Events	8	16	16
Average Duration of Inundation Events (Weeks)	226	99	99
Percent Period of Record of Inundation Events	96	85	85
IR 129 NE Shark Slough			
Number of Inundation Events	3	16	16
Average Duration of Inundation Events (Weeks)	617	103	104
Percent Period of Record of Inundation Events	99	88	88
IR 130 Mid Shark Slough			
Number of Inundation Events	5	16	16
Average Duration of Inundation Events (Weeks)	356	103	103
Percent Period of Record of Inundation Events	95	88	88
IR 131 SW Shark Slough			
Number of Inundation Events	8	18	18
Average Duration of Inundation Events (Weeks)	218	90	90
Percent Period of Record of Inundation Events	93	87	87
IR 132 South Shark Slough			
Number of Inundation Events	10	24	24
Average Duration of Inundation Events (Weeks)	174	66	66
Percent Period of Record of Inundation Events	93	84	84
IR 133 Taylor Slough			
Number of Inundation Events	25	34	34
Average Duration of Inundation Events (Weeks)	54	37	37
Percent Period of Record of Inundation Events	72	67	67
IR 140 Lostman’s Slough			
Number of Inundation Events	29	39	39
Average Duration of Inundation Events (Weeks)	48	28	28
Percent Period of Record of Inundation Events	74	59	59
IR 141 Ochopee Marl Marsh			
Number of Inundation Events	18	31	31
Average Duration of Inundation Events (Weeks)	87	40	40
Percent Period of Record of Inundation Events	84	67	67
IR 143 West Perrine Marl Marsh			
Number of Inundation Events	32	29	29
Average Duration of Inundation Events (Weeks)	13	12	12
Percent Period of Record of Inundation Events	21	19	19
IR 144 Craighead Basin			
Number of Inundation Events	31	35	35
Average Duration of Inundation Events (Weeks)	28	22	22
Percent Period of Record of Inundation Events	47	42	42

IR 145 East Perrine Marl Marsh			
Number of Inundation Events	36	43	43
Average Duration of Inundation Events (Weeks)	27	16	16
Percent Period of Record of Inundation Events	51	37	37
IR 146 Model Lands Marl Marsh			
Number of Inundation Events	41	46	46
Average Duration of Inundation Events (Weeks)	25	12	12
Percent Period of Record of Inundation Events	56	29	29
IR 147 Rocky Glades East			
Number of Inundation Events	21	34	34
Average Duration of Inundation Events (Weeks)	70	30	30
Percent Period of Record of Inundation Events	79	54	54
IR 148 Rocky Glades West			
Number of Inundation Events	19	29	29
Average Duration of Inundation Events (Weeks)	82	39	39
Percent Period of Record of Inundation Events	83	60	60
IR 160 Rotenberger WMA			
Number of Inundation Events	29	16	16
Average Duration of Inundation Events (Weeks)	52	110	110
Percent Period of Record of Inundation Events	80	94	94
IR 170 Holey Land WMA			
Number of Inundation Events	17	8	8
Average Duration of Inundation Events (Weeks)	97	226	226
Percent Period of Record of Inundation Events	88	97	97
IR 180 NE Cypress			
Number of Inundation Events	35	30	30
Average Duration of Inundation Events (Weeks)	25	15	15
Percent Period of Record of Inundation Events	47	24	24
IR 181 Mullet Slough			
Number of Inundation Events	26	35	35
Average Duration of Inundation Events (Weeks)	53	34	34
Percent Period of Record of Inundation Events	74	63	63
IR 182 Dwarf Cypress			
Number of Inundation Events	36	43	43
Average Duration of Inundation Events (Weeks)	33	22	22
Percent Period of Record of Inundation Events	63	51	51
IR 183 Roberts Lake Cypress Strand			
Number of Inundation Events	34	41	41
Average Duration of Inundation Events (Weeks)	38	28	28
Percent Period of Record of Inundation Events	69	60	60
IR 190 WCA-3A Sawgrass			
Number of Inundation Events	17	15	15
Average Duration of Inundation Events (Weeks)	97	115	115
Percent Period of Record of Inundation Events	88	92	92

NOTES:

1) Period of Record (POR) = 1965 - 2000 Simulation Period

2) Calculating Weekly Average
  a) Non-Leap Years --> Last eight (8) days of calendar year used for weekly average.
  b) Leap Years --> Last nine (9) days of calendar year used for weekly average.

3) An INUNDATION EVENT is calculated as a discrete segment of time from the point at which water levels rise above 0.2 feet above ground until the point at which water levels drop below ground.

4) The Average Duration of Inundation Events is the total number of weeks divided by the total number of events (weeks/events), rounded to the nearest whole number.

5) The Percent Period of Record of Inundation Events is the total number of weeks multiplied by the total number of events and then divided by the number of weeks in the simulation period, finally multiplied by 100 (weeks * events / simulation_weeks * 100). This number is rounded to the nearest whole number.

RUN DATE: Fri Jul 27 17:40:36 EDT 2007 SFWMM V5.6
CREATED BY: gevers_pm2.scr ID483

Extreme High And Low Water Levels in the Everglades Wetlands
GE-E3 Summary Table

	NSM462	ECBUNX	ECBLNX
IR 100 WCA-1 North (2.5, -1.0)			
Number of Low Events	1	2	2
Average Duration of Low Events (Weeks)	4	4	4
Percent Period of Record of Low Events (Weeks)	0	0	0
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 101 WCA-1 Central (2.5, -1.0)			
Number of Low Events	1	0	0
Average Duration of Low Events (Weeks)	4	0	0
Percent Period of Record of Low Events (Weeks)	0	0	0
Number of High Events	0	10	10
Average Duration of High Events (Weeks)	0	2	2
Percent Period of Record of High Events (Weeks)	0	1	1
IR 102 WCA-1 South (2.5, -1.0)			
Number of Low Events	1	0	0
Average Duration of Low Events (Weeks)	4	0	0
Percent Period of Record of Low Events (Weeks)	0	0	0
Number of High Events	0	32	31
Average Duration of High Events (Weeks)	0	12	13
Percent Period of Record of High Events (Weeks)	0	21	21
IR 110 WCA-2A North (2.5, -1.0)			
Number of Low Events	6	7	7
Average Duration of Low Events (Weeks)	3	7	7
Percent Period of Record of Low Events (Weeks)	1	2	2
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 111 WCA-2A South (2.5, -1.0)			
Number of Low Events	4	6	6
Average Duration of Low Events (Weeks)	3	4	4
Percent Period of Record of Low Events (Weeks)	1	1	1
Number of High Events	0	5	5
Average Duration of High Events (Weeks)	0	3	3
Percent Period of Record of High Events (Weeks)	0	1	1
IR 112 WCA-2B North (2.5, -1.0)			
Number of Low Events	2	5	5
Average Duration of Low Events (Weeks)	2	3	3
Percent Period of Record of Low Events (Weeks)	0	1	1
Number of High Events	2	8	8
Average Duration of High Events (Weeks)	4	4	4
Percent Period of Record of High Events (Weeks)	0	2	2
IR 113 WCA-2B South (2.5, -1.0)			
Number of Low Events	2	15	15
Average Duration of Low Events (Weeks)	2	9	9
Percent Period of Record of Low Events (Weeks)	0	7	7
Number of High Events	5	37	35
Average Duration of High Events (Weeks)	7	24	26
Percent Period of Record of High Events (Weeks)	2	47	48
IR 114 WCA-3A NW Corner (2.5, -1.0)			
Number of Low Events	2	9	9
Average Duration of Low Events (Weeks)	6	7	7
Percent Period of Record of Low Events (Weeks)	1	3	4
Number of High Events	0	2	2
Average Duration of High Events (Weeks)	0	5	5
Percent Period of Record of High Events (Weeks)	0	1	1
IR 115 WCA-3A North (2.0, -1.0)			
Number of Low Events	4	8	6

Average Duration of Low Events (Weeks)	4	4	7
Percent Period of Record of Low Events (Weeks)	1	2	2
Number of High Events	0	8	8
Average Duration of High Events (Weeks)	0	9	9
Percent Period of Record of High Events (Weeks)	0	4	4
IR 116 WCA-3A NE (2.0, -1.0)			
Number of Low Events	6	6	6
Average Duration of Low Events (Weeks)	4	5	5
Percent Period of Record of Low Events (Weeks)	1	2	2
Number of High Events	0	16	15
Average Duration of High Events (Weeks)	0	10	10
Percent Period of Record of High Events (Weeks)	0	8	8
IR 117 WCA-3A NW (2.5, -1.0)			
Number of Low Events	3	2	3
Average Duration of Low Events (Weeks)	3	6	4
Percent Period of Record of Low Events (Weeks)	1	1	1
Number of High Events	0	8	8
Average Duration of High Events (Weeks)	0	7	7
Percent Period of Record of High Events (Weeks)	0	3	3
IR 118 WCA-3A Alley North (2.5, -1.0)			
Number of Low Events	4	8	8
Average Duration of Low Events (Weeks)	5	4	4
Percent Period of Record of Low Events (Weeks)	1	2	2
Number of High Events	0	15	14
Average Duration of High Events (Weeks)	0	11	12
Percent Period of Record of High Events (Weeks)	0	9	9
IR 119 WCA-3A East (2.5, -1.0)			
Number of Low Events	3	1	1
Average Duration of Low Events (Weeks)	6	1	1
Percent Period of Record of Low Events (Weeks)	1	0	0
Number of High Events	0	33	33
Average Duration of High Events (Weeks)	0	32	32
Percent Period of Record of High Events (Weeks)	0	56	56
IR 120 WCA-3A West (2.5, -1.0)			
Number of Low Events	5	7	7
Average Duration of Low Events (Weeks)	5	4	4
Percent Period of Record of Low Events (Weeks)	1	1	1
Number of High Events	0	3	3
Average Duration of High Events (Weeks)	0	10	10
Percent Period of Record of High Events (Weeks)	0	2	2
IR 121 WCA-3A North Central (2.5, -1.0)			
Number of Low Events	6	1	1
Average Duration of Low Events (Weeks)	4	5	5
Percent Period of Record of Low Events (Weeks)	1	0	0
Number of High Events	0	11	11
Average Duration of High Events (Weeks)	0	10	10
Percent Period of Record of High Events (Weeks)	0	6	6
IR 122 WCA-3A Gap (2.5, -1.0)			
Number of Low Events	8	7	7
Average Duration of Low Events (Weeks)	5	4	4
Percent Period of Record of Low Events (Weeks)	2	2	2
Number of High Events	0	8	8
Average Duration of High Events (Weeks)	0	8	8
Percent Period of Record of High Events (Weeks)	0	4	4
IR 123 WCA-3A South Central (2.5, -1.0)			
Number of Low Events	7	3	3
Average Duration of Low Events (Weeks)	5	4	4
Percent Period of Record of Low Events (Weeks)	2	1	1
Number of High Events	0	17	17
Average Duration of High Events (Weeks)	0	11	11
Percent Period of Record of High Events (Weeks)	0	10	10
IR 124 WCA-3A South (2.5, -1.0)			
Number of Low Events	6	1	1

Average Duration of Low Events (Weeks)	3	2	2
Percent Period of Record of Low Events (Weeks)	1	0	0
Number of High Events	2	29	29
Average Duration of High Events (Weeks)	1	15	15
Percent Period of Record of High Events (Weeks)	0	24	24
IR 125 WCA-3B North (2.5, -1.0)			
Number of Low Events	7	0	0
Average Duration of Low Events (Weeks)	7	0	0
Percent Period of Record of Low Events (Weeks)	3	0	0
Number of High Events	1	3	2
Average Duration of High Events (Weeks)	1	4	6
Percent Period of Record of High Events (Weeks)	0	1	1
IR 126 WCA-3B West (2.5, -1.0)			
Number of Low Events	0	1	1
Average Duration of Low Events (Weeks)	0	1	1
Percent Period of Record of Low Events (Weeks)	0	0	0
Number of High Events	10	4	4
Average Duration of High Events (Weeks)	9	5	5
Percent Period of Record of High Events (Weeks)	5	1	1
IR 127 Pennsuco Wetlands (2.0, -1.0)			
Number of Low Events	0	24	23
Average Duration of Low Events (Weeks)	0	5	6
Percent Period of Record of Low Events (Weeks)	0	7	7
Number of High Events	33	6	6
Average Duration of High Events (Weeks)	13	5	5
Percent Period of Record of High Events (Weeks)	23	2	2
IR 128 WCA-3B East (2.5, -1.0)			
Number of Low Events	0	11	11
Average Duration of Low Events (Weeks)	0	6	6
Percent Period of Record of Low Events (Weeks)	0	3	3
Number of High Events	13	6	6
Average Duration of High Events (Weeks)	8	6	6
Percent Period of Record of High Events (Weeks)	6	2	2
IR 129 NE Shark Slough (2.5, -1.0)			
Number of Low Events	1	10	10
Average Duration of Low Events (Weeks)	1	6	6
Percent Period of Record of Low Events (Weeks)	0	3	3
Number of High Events	32	0	0
Average Duration of High Events (Weeks)	10	0	0
Percent Period of Record of High Events (Weeks)	17	0	0
IR 130 Mid Shark Slough (2.5, -1.0)			
Number of Low Events	2	8	8
Average Duration of Low Events (Weeks)	10	8	8
Percent Period of Record of Low Events (Weeks)	1	3	3
Number of High Events	3	1	1
Average Duration of High Events (Weeks)	2	1	1
Percent Period of Record of High Events (Weeks)	0	0	0
IR 131 SW Shark Slough (2.5, -1.0)			
Number of Low Events	3	13	13
Average Duration of Low Events (Weeks)	9	6	6
Percent Period of Record of Low Events (Weeks)	1	4	4
Number of High Events	1	0	0
Average Duration of High Events (Weeks)	1	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 132 South Shark Slough (2.5, -1.0)			
Number of Low Events	4	11	11
Average Duration of Low Events (Weeks)	6	4	4
Percent Period of Record of Low Events (Weeks)	1	2	2
Number of High Events	1	0	0
Average Duration of High Events (Weeks)	1	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 133 Taylor Slough (2.5, -1.0)			
Number of Low Events	24	26	26

Average Duration of Low Events (Weeks)	5	5	5
Percent Period of Record of Low Events (Weeks)	7	7	7
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 140 Lostman's Slough (2.0, -1.0)			
Number of Low Events	22	37	37
Average Duration of Low Events (Weeks)	11	10	10
Percent Period of Record of Low Events (Weeks)	13	19	19
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 141 Ochopee Marl Marsh (2.0, -1.0)			
Number of Low Events	12	23	22
Average Duration of Low Events (Weeks)	11	11	12
Percent Period of Record of Low Events (Weeks)	7	14	14
Number of High Events	16	3	3
Average Duration of High Events (Weeks)	6	3	3
Percent Period of Record of High Events (Weeks)	5	0	0
IR 143 West Perrine Marl Marsh (1.5, -1.0)			
Number of Low Events	49	47	47
Average Duration of Low Events (Weeks)	14	16	16
Percent Period of Record of Low Events (Weeks)	37	41	41
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 144 Craighead Basin (1.5, -1.0)			
Number of Low Events	28	42	42
Average Duration of Low Events (Weeks)	9	8	8
Percent Period of Record of Low Events (Weeks)	13	17	17
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 145 East Perrine Marl Marsh (1.5, -1.0)			
Number of Low Events	36	45	45
Average Duration of Low Events (Weeks)	10	7	7
Percent Period of Record of Low Events (Weeks)	19	17	17
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 146 Model Lands Marl Marsh (2.0, -1.0)			
Number of Low Events	32	44	44
Average Duration of Low Events (Weeks)	8	7	7
Percent Period of Record of Low Events (Weeks)	13	16	16
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 147 Rocky Glades East (1.5, -1.0)			
Number of Low Events	26	30	31
Average Duration of Low Events (Weeks)	8	15	14
Percent Period of Record of Low Events (Weeks)	12	24	24
Number of High Events	9	0	0
Average Duration of High Events (Weeks)	6	0	0
Percent Period of Record of High Events (Weeks)	3	0	0
IR 148 Rocky Glades West (2.0, -1.0)			
Number of Low Events	15	30	30
Average Duration of Low Events (Weeks)	10	13	13
Percent Period of Record of Low Events (Weeks)	8	20	20
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 160 Rotenberger WMA (1.75, -1.0)			
Number of Low Events	12	4	4

Average Duration of Low Events (Weeks)	4	6	6
Percent Period of Record of Low Events (Weeks)	3	1	1
Number of High Events	2	9	9
Average Duration of High Events (Weeks)	3	2	2
Percent Period of Record of High Events (Weeks)	0	1	1
IR 170 Holey Land WMA (1.75, -1.0)			
Number of Low Events	8	2	3
Average Duration of Low Events (Weeks)	7	3	2
Percent Period of Record of Low Events (Weeks)	3	0	0
Number of High Events	10	36	36
Average Duration of High Events (Weeks)	7	25	25
Percent Period of Record of High Events (Weeks)	3	47	47
IR 180 NE Cypress (0.25, -1.0)			
Number of Low Events	42	59	59
Average Duration of Low Events (Weeks)	9	12	12
Percent Period of Record of Low Events (Weeks)	20	37	37
Number of High Events	52	40	40
Average Duration of High Events (Weeks)	6	2	2
Percent Period of Record of High Events (Weeks)	18	5	5
IR 181 Mullet Slough (0.25, -1.0)			
Number of Low Events	27	36	36
Average Duration of Low Events (Weeks)	7	9	9
Percent Period of Record of Low Events (Weeks)	11	17	17
Number of High Events	45	56	55
Average Duration of High Events (Weeks)	25	15	15
Percent Period of Record of High Events (Weeks)	60	45	45
IR 182 Dwarf Cypress (0.25, -1.0)			
Number of Low Events	29	32	32
Average Duration of Low Events (Weeks)	10	11	11
Percent Period of Record of Low Events (Weeks)	15	20	20
Number of High Events	73	72	72
Average Duration of High Events (Weeks)	11	7	7
Percent Period of Record of High Events (Weeks)	41	28	28
IR 183 Roberts Lake Cypress Strand (0.25, -1.0)			
Number of Low Events	24	35	35
Average Duration of Low Events (Weeks)	10	9	9
Percent Period of Record of Low Events (Weeks)	13	16	16
Number of High Events	58	60	60
Average Duration of High Events (Weeks)	17	13	13
Percent Period of Record of High Events (Weeks)	51	42	42
IR 190 WCA-3A Sawgrass (2.0, -1.0)			
Number of Low Events	10	6	6
Average Duration of Low Events (Weeks)	7	4	4
Percent Period of Record of Low Events (Weeks)	4	1	1
Number of High Events	3	9	9
Average Duration of High Events (Weeks)	2	12	12
Percent Period of Record of High Events (Weeks)	0	6	6

NOTES:

1) Period of Record (POR) = 1965 - 2000 Simulation Period

2) Calculating Weekly Average
  a) Non-Leap Years --> Last eight (8) days of calendar year used for weekly average.
  b) Leap Years --> Last nine (9) days of calendar year used for weekly average.

3) A HIGH WATER EVENT (HWE) is characterized as an occurrence where the weekly average depth is continuously (one or more weeks) over the High Water Threshold.
Caveat: For the MARL MARSH Landscape, an event must occur for at least two (2) weeks.

4) A LOW WATER EVENT (LWE) is characterized as an occurrence where the weekly average depth is continuously (one or more weeks) under the Low Water Threshold.

5) The high and low threshold values are listed next to the IR name.
EX: IR 100 WCA-1 North (2.5, -1.0)

```
6) The Average Duration of Events is the total number of weeks divided by the
   total number of events (weeks/events), rounded to the nearest whole number.

7) The Percent Period of Record of Events is the average duration in weeks multiplied by the
   total number of events, divided by the number of weeks in the simulation period, and
   multiplied by 100 (average_weeks * events / simulation_weeks * 100). This number is rounded
   to the nearest whole number.

       RUN DATE: Fri Jul 27 17:43:09 EDT 2007                              SFWMM V5.6
       CREATED BY: gevers_pm3.scr ID483
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MFL Exceedances for Key Gauges

Location	MFL Stage (ft)	Duration (days)	Number of Times Criteria Not Met ECBUNX	ECBLNX
WCA-1_1-7	-1.00	30	0	0
WCA-2A_2A-17	-1.00	30	3	3
WCA-2B_3-99	-1.00	30	8	8
WCA-3A_NOR_3A-NE	-1.00	30	2	2
WCA-3A_NOR_3A-NW	-1.00	30	4	4
WCA-3A_NOR_3A-2	-1.00	30	1	1
WCA-3A_NOR_3A-3	-1.00	30	5	5
WCA-3A_CEN_3A-4	-1.00	30	1	1
WCA-3A_STH_3A-28	-1.00	30	0	0
WCA-3B_3B-SE	-1.00	30	5	6
ROTENBERGER_ROTTS	-1.00	30	1	1
HOLEY_LAND_HOLEYG	-1.00	30	2	2
NE_SRS_NESRS-2	-1.00	30	6	6
CEN_SRS_NP-33	-1.00	30	6	6
CEN_SRS_NP-36	-1.00	30	5	5
MARL_EAST_NP-38	-1.50	90	0	0
MARL_WEST_NP-201	-1.50	90	4	5
MARL_WEST_G-620	-1.50	90	5	5
ROCKLAND_G3273	-1.50	90	8	8
TAYLOR_NP-67	-1.50	90	0	0

Note: MFL Criteria is not met when stages fall below ground for longer than the number of specified days (duration) with the additional condition that stages fall below the MFL value at least once during the interval.

Location	Target Max. Frequency of Occurrences	Return Frequency of Occurrences ECBUNX	ECBLNX
WCA-1_1-7	1_in_4	None	None
WCA-2A_2A-17	1_in_4	1_in_12.0	1_in_12.0
WCA-2B_3-99	1_in_3	1_in_4.5	1_in_4.5
WCA-3A_NOR_3A-NE	1_in_2	1_in_18.0	1_in_18.0
WCA-3A_NOR_3A-NW	1_in_4	1_in_9.0	1_in_9.0
WCA-3A_NOR_3A-2	1_in_4	1_in_36.0	1_in_36.0
WCA-3A_NOR_3A-3	1_in_3	1_in_7.2	1_in_7.2
WCA-3A_CEN_3A-4	1_in_4	1_in_36.0	1_in_36.0
WCA-3A_STH_3A-28	1_in_4	None	None
WCA-3B_3B-SE	1_in_7	1_in_7.2	1_in_6.0
ROTENBERGER_ROTTS	1_in_2	1_in_36.0	1_in_36.0
HOLEY_LAND_HOLEYG	1_in_3	1_in_18.0	1_in_18.0
NE_SRS_NESRS-2	1_in_10	1_in_6.0	1_in_6.0
CEN_SRS_NP-33	1_in_10	1_in_6.0	1_in_6.0
CEN_SRS_NP-36	1_in_7	1_in_7.2	1_in_7.2
MARL_EAST_NP-38	1_in_3	None	None
MARL_WEST_NP-201	1_in_5	1_in_9.0	1_in_7.2
MARL_WEST_G-620	1_in_5	1_in_7.2	1_in_7.2
ROCKLAND_G3273	1_in_2	1_in_4.5	1_in_4.5
TAYLOR_NP-67	1_in_2	None	None

Note: The Return Frequency of Occurrences is determined by comparing the number of times the criteria is not met (as shown above) to the 36 year period of simulation.

Location	Criteria Stage (ft)	Target	Percent of Time Below Criteria ECBUNX	ECBLNX
WCA-1_1-7	-1.00	NA	0%	0%
WCA-2A_2A-17	-1.00	NA	1%	1%
WCA-2B_3-99	-1.00	NA	10%	10%
WCA-3A_NOR_3A-NE	-1.00	NA	2%	2%
WCA-3A_NOR_3A-NW	-1.00	NA	2%	3%
WCA-3A_NOR_3A-2	-1.00	NA	0%	0%
WCA-3A_NOR_3A-3	-1.00	NA	3%	3%
WCA-3A_CEN_3A-4	-1.00	NA	1%	1%
WCA-3A_STH_3A-28	-1.00	NA	0%	0%
WCA-3B_3B-SE	-1.00	NA	4%	4%
ROTENBERGER_ROTTS	-1.00	NA	1%	1%
HOLEY_LAND_HOLEYG	-1.00	NA	1%	1%
NE_SRS_NESRS-2	-1.00	NA	4%	4%
CEN_SRS_NP-33	-1.00	NA	4%	4%

CEN_SRS_NP-36	-1.00	NA	4%	4%
MARL_EAST_NP-38	-1.50	NA	2%	2%
MARL_WEST_NP-201	-1.50	NA	7%	7%
MARL_WEST_G-620	-1.50	NA	8%	8%
ROCKLAND_G3273	-1.50	NA	18%	18%
TAYLOR_NP-67	-1.50	NA	2%	2%

Note: Percent of time below the criteria elevation is calculated relative to a 36 year period of simulation.

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Run date: 07/27/07 18:07:46
SFWMM V5.6
SFWMM P.O.S. 1965 - 2000
Script used: 'mfl.scr', ID'442'

MFL Criteria for Biscayne Aquifer

Location	MFL Stage (ft)	Duration (days)	Number of Times Criteria Not Met ECBUNX	ECBLNX
C-15@S-40	7.80	180	0	0
Hillsboro@G-56	6.75	180	0	0
C-14@S-37B	6.50	180	0	0
C-13@S-36	4.00	180	0	0
NNRiver@G-54	3.50	180	0	0
C-9@S-29	2.00	180	0	0
C-6@S-26	2.50	180	0	0
C-4@S-25B	2.50	180	0	0

Note: MFL Criteria is not met when stages fall below ground for longer than the number of specified days (duration) with the additional condition that stages fall below the MFL value at least once during the interval.

Location	Criteria Stage (ft)	Target	Percent of Time Below Criteria ECBUNX	ECBLNX
C-15@S-40	7.80	NA	0%	0%
Hillsboro@G-56	6.75	NA	0%	0%
C-14@S-37B	6.50	NA	2%	2%
C-13@S-36	4.00	NA	1%	1%
NNRiver@G-54	3.50	NA	0%	0%
C-9@S-29	2.00	NA	15%	15%
C-6@S-26	2.50	NA	11%	10%
C-4@S-25B	2.50	NA	8%	8%

Note: Percent of time below the criteria elevation is calculated relative to a 36 year period of simulation.
Short-term lowering of canal stages due to operational changes associated with local rainfall are not included in the calculation of percent of time below criteria.

For Planning Purposes Only
Run date: 07/27/07 18:09:11
SFWMM V5.6
SFWMM P.O.S. 1965 - 2000
Script used: 'mfl.scr', ID'442'

Dry Events in Shark Slough - GE-E1 Summary Table

	NSM462	2050UNX	2050LNX
IR 129 NE Shark Slough			
Number of Dry Events	2	11	11
Average Duration of Dry Events (Weeks)	10	17	17
IR 130 Mid Shark Slough			
Number of Dry Events	4	9	9
Average Duration of Dry Events (Weeks)	23	20	20
IR 131 SW Shark Slough			
Number of Dry Events	7	13	13
Average Duration of Dry Events (Weeks)	18	16	16
IR 132 South Shark Slough			
Number of Dry Events	9	19	19
Average Duration of Dry Events (Weeks)	14	13	13

NOTES:

1) Period of Record (POR) = 1965 - 2000 Simulation Period

2) Calculating Weekly Average
  a) Non-Leap Years --> Last eight (8) days of calendar year used for weekly average.
  b) Leap Years --> Last nine (9) days of calendar year used for weekly average.

3) A DRY EVENT is calculated as a discrete segment of time from the point at which water levels fall below ground until the point at which water levels rise above 0.2 feet above ground.

4) The Average Duration of Dry Events is the total number of weeks divided by the total number of events (weeks/events), rounded to the nearest whole number.

RUN DATE: Fri Jul 27 17:45:02 EDT 2007 SFWMM V5.6
CREATED BY: gevers_pm1.scr ID483

Inundation Pattern in the Greater Everglades Wetlands
GE-E2 Summary Table

	NSM462	2050UNX	2050LNX
IR 100 WCA-1 North			
Number of Inundation Events	17	26	27
Average Duration of Inundation Events (Weeks)	102	62	60
Percent Period of Record of Inundation Events	93	86	86
IR 101 WCA-1 Central			
Number of Inundation Events	17	14	14
Average Duration of Inundation Events (Weeks)	100	125	125
Percent Period of Record of Inundation Events	91	94	94
IR 102 WCA-1 South			
Number of Inundation Events	18	6	6
Average Duration of Inundation Events (Weeks)	91	305	305
Percent Period of Record of Inundation Events	88	98	98
IR 110 WCA-2A North			
Number of Inundation Events	24	18	18
Average Duration of Inundation Events (Weeks)	66	94	94
Percent Period of Record of Inundation Events	84	90	90
IR 111 WCA-2A South			
Number of Inundation Events	13	19	19
Average Duration of Inundation Events (Weeks)	131	88	88
Percent Period of Record of Inundation Events	91	89	89
IR 112 WCA-2B North			
Number of Inundation Events	16	18	18
Average Duration of Inundation Events (Weeks)	107	92	92
Percent Period of Record of Inundation Events	91	89	89
IR 113 WCA-2B South			
Number of Inundation Events	16	13	13
Average Duration of Inundation Events (Weeks)	107	129	129
Percent Period of Record of Inundation Events	92	90	89
IR 114 WCA-3A NW Corner			
Number of Inundation Events	12	21	22
Average Duration of Inundation Events (Weeks)	146	77	74
Percent Period of Record of Inundation Events	94	87	87
IR 115 WCA-3A North			
Number of Inundation Events	14	17	17
Average Duration of Inundation Events (Weeks)	122	99	99
Percent Period of Record of Inundation Events	92	90	90
IR 116 WCA-3A NE			
Number of Inundation Events	19	16	16
Average Duration of Inundation Events (Weeks)	86	106	106
Percent Period of Record of Inundation Events	87	91	91
IR 117 WCA-3A NW			
Number of Inundation Events	10	12	12
Average Duration of Inundation Events (Weeks)	179	146	146
Percent Period of Record of Inundation Events	95	94	94
IR 118 WCA-3A Alley North			
Number of Inundation Events	14	19	19
Average Duration of Inundation Events (Weeks)	122	85	85
Percent Period of Record of Inundation Events	91	87	87
IR 119 WCA-3A East			
Number of Inundation Events	14	12	12
Average Duration of Inundation Events (Weeks)	122	144	144
Percent Period of Record of Inundation Events	91	92	92
IR 120 WCA-3A West			
Number of Inundation Events	10	15	15
Average Duration of Inundation Events (Weeks)	174	115	115
Percent Period of Record of Inundation Events	93	92	92
IR 121 WCA-3A North Central			
Number of Inundation Events	14	12	12
Average Duration of Inundation Events (Weeks)	124	146	146
Percent Period of Record of Inundation Events	92	93	93

IR 122 WCA-3A Gap			
Number of Inundation Events	12	16	16
Average Duration of Inundation Events (Weeks)	145	107	107
Percent Period of Record of Inundation Events	93	92	92
IR 123 WCA-3A South Central			
Number of Inundation Events	16	17	17
Average Duration of Inundation Events (Weeks)	106	98	98
Percent Period of Record of Inundation Events	90	89	89
IR 124 WCA-3A South			
Number of Inundation Events	14	11	11
Average Duration of Inundation Events (Weeks)	124	161	161
Percent Period of Record of Inundation Events	93	94	94
IR 125 WCA-3B North			
Number of Inundation Events	18	12	11
Average Duration of Inundation Events (Weeks)	91	144	157
Percent Period of Record of Inundation Events	87	92	92
IR 126 WCA-3B West			
Number of Inundation Events	10	8	8
Average Duration of Inundation Events (Weeks)	180	227	227
Percent Period of Record of Inundation Events	96	97	97
IR 127 Pennsuco Wetlands			
Number of Inundation Events	7	16	16
Average Duration of Inundation Events (Weeks)	260	99	99
Percent Period of Record of Inundation Events	97	85	85
IR 128 WCA-3B East			
Number of Inundation Events	8	12	12
Average Duration of Inundation Events (Weeks)	226	138	138
Percent Period of Record of Inundation Events	96	89	88
IR 129 NE Shark Slough			
Number of Inundation Events	3	12	12
Average Duration of Inundation Events (Weeks)	617	141	141
Percent Period of Record of Inundation Events	99	90	90
IR 130 Mid Shark Slough			
Number of Inundation Events	5	10	10
Average Duration of Inundation Events (Weeks)	356	169	169
Percent Period of Record of Inundation Events	95	90	90
IR 131 SW Shark Slough			
Number of Inundation Events	8	14	14
Average Duration of Inundation Events (Weeks)	218	119	119
Percent Period of Record of Inundation Events	93	89	89
IR 132 South Shark Slough			
Number of Inundation Events	10	20	20
Average Duration of Inundation Events (Weeks)	174	82	82
Percent Period of Record of Inundation Events	93	87	87
IR 133 Taylor Slough			
Number of Inundation Events	25	32	32
Average Duration of Inundation Events (Weeks)	54	40	40
Percent Period of Record of Inundation Events	72	68	68
IR 140 Lostman’s Slough			
Number of Inundation Events	29	35	35
Average Duration of Inundation Events (Weeks)	48	31	31
Percent Period of Record of Inundation Events	74	59	59
IR 141 Ochopee Marl Marsh			
Number of Inundation Events	18	26	26
Average Duration of Inundation Events (Weeks)	87	52	52
Percent Period of Record of Inundation Events	84	72	72
IR 143 West Perrine Marl Marsh			
Number of Inundation Events	32	29	29
Average Duration of Inundation Events (Weeks)	13	12	12
Percent Period of Record of Inundation Events	21	19	19
IR 144 Craighead Basin			
Number of Inundation Events	31	33	33
Average Duration of Inundation Events (Weeks)	28	24	24
Percent Period of Record of Inundation Events	47	42	42

IR 145 East Perrine Marl Marsh			
Number of Inundation Events	36	39	40
Average Duration of Inundation Events (Weeks)	27	19	18
Percent Period of Record of Inundation Events	51	39	39
IR 146 Model Lands Marl Marsh			
Number of Inundation Events	41	45	45
Average Duration of Inundation Events (Weeks)	25	12	12
Percent Period of Record of Inundation Events	56	28	28
IR 147 Rocky Glades East			
Number of Inundation Events	21	34	34
Average Duration of Inundation Events (Weeks)	70	32	32
Percent Period of Record of Inundation Events	79	58	58
IR 148 Rocky Glades West			
Number of Inundation Events	19	30	30
Average Duration of Inundation Events (Weeks)	82	42	42
Percent Period of Record of Inundation Events	83	67	67
IR 160 Rotenberger WMA			
Number of Inundation Events	29	18	18
Average Duration of Inundation Events (Weeks)	52	94	94
Percent Period of Record of Inundation Events	80	91	91
IR 170 Holey Land WMA			
Number of Inundation Events	17	10	10
Average Duration of Inundation Events (Weeks)	97	175	175
Percent Period of Record of Inundation Events	88	94	94
IR 180 NE Cypress			
Number of Inundation Events	35	30	30
Average Duration of Inundation Events (Weeks)	25	15	15
Percent Period of Record of Inundation Events	47	24	24
IR 181 Mullet Slough			
Number of Inundation Events	26	36	36
Average Duration of Inundation Events (Weeks)	53	33	33
Percent Period of Record of Inundation Events	74	63	63
IR 182 Dwarf Cypress			
Number of Inundation Events	36	44	44
Average Duration of Inundation Events (Weeks)	33	21	21
Percent Period of Record of Inundation Events	63	49	49
IR 183 Roberts Lake Cypress Strand			
Number of Inundation Events	34	41	41
Average Duration of Inundation Events (Weeks)	38	27	27
Percent Period of Record of Inundation Events	69	60	60
IR 190 WCA-3A Sawgrass			
Number of Inundation Events	17	16	16
Average Duration of Inundation Events (Weeks)	97	106	106
Percent Period of Record of Inundation Events	88	90	90

NOTES:

1) Period of Record (POR) = 1965 - 2000 Simulation Period

2) Calculating Weekly Average
   a) Non-Leap Years --> Last eight (8) days of calendar year used for weekly average.
   b) Leap Years --> Last nine (9) days of calendar year used for weekly average.

3) An INUNDATION EVENT is calculated as a discrete segment of time from the point at which water levels rise above 0.2 feet above ground until the point at which water levels drop below ground.

4) The Average Duration of Inundation Events is the total number of weeks divided by the total number of events (weeks/events), rounded to the nearest whole number.

5) The Percent Period of Record of Inundation Events is the total number of weeks multiplied by the total number of events and then divided by the number of weeks in the simulation period, finally multiplied by 100 (weeks * events / simulation_weeks * 100). This number is rounded to the nearest whole number.

RUN DATE: Fri Jul 27 17:47:24 EDT 2007 SFWMM V5.6
CREATED BY: gevers_pm2.scr ID483

Extreme High And Low Water Levels in the Everglades Wetlands
GE-E3 Summary Table

	NSM462	2050UNX	2050LNX
IR 100 WCA-1 North (2.5, -1.0)			
Number of Low Events	1	2	2
Average Duration of Low Events (Weeks)	4	4	4
Percent Period of Record of Low Events (Weeks)	0	0	0
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 101 WCA-1 Central (2.5, -1.0)			
Number of Low Events	1	0	0
Average Duration of Low Events (Weeks)	4	0	0
Percent Period of Record of Low Events (Weeks)	0	0	0
Number of High Events	0	8	7
Average Duration of High Events (Weeks)	0	2	2
Percent Period of Record of High Events (Weeks)	0	1	1
IR 102 WCA-1 South (2.5, -1.0)			
Number of Low Events	1	0	0
Average Duration of Low Events (Weeks)	4	0	0
Percent Period of Record of Low Events (Weeks)	0	0	0
Number of High Events	0	30	28
Average Duration of High Events (Weeks)	0	12	13
Percent Period of Record of High Events (Weeks)	0	19	19
IR 110 WCA-2A North (2.5, -1.0)			
Number of Low Events	6	9	9
Average Duration of Low Events (Weeks)	3	3	3
Percent Period of Record of Low Events (Weeks)	1	2	2
Number of High Events	0	3	2
Average Duration of High Events (Weeks)	0	1	2
Percent Period of Record of High Events (Weeks)	0	0	0
IR 111 WCA-2A South (2.5, -1.0)			
Number of Low Events	4	7	7
Average Duration of Low Events (Weeks)	3	4	4
Percent Period of Record of Low Events (Weeks)	1	1	1
Number of High Events	0	8	7
Average Duration of High Events (Weeks)	0	3	3
Percent Period of Record of High Events (Weeks)	0	1	1
IR 112 WCA-2B North (2.5, -1.0)			
Number of Low Events	2	6	6
Average Duration of Low Events (Weeks)	2	3	3
Percent Period of Record of Low Events (Weeks)	0	1	1
Number of High Events	2	7	7
Average Duration of High Events (Weeks)	4	4	4
Percent Period of Record of High Events (Weeks)	0	2	2
IR 113 WCA-2B South (2.5, -1.0)			
Number of Low Events	2	13	13
Average Duration of Low Events (Weeks)	2	7	7
Percent Period of Record of Low Events (Weeks)	0	5	5
Number of High Events	5	34	34
Average Duration of High Events (Weeks)	7	27	27
Percent Period of Record of High Events (Weeks)	2	48	48
IR 114 WCA-3A NW Corner (2.5, -1.0)			
Number of Low Events	2	10	9
Average Duration of Low Events (Weeks)	6	8	9
Percent Period of Record of Low Events (Weeks)	1	4	4
Number of High Events	0	1	1
Average Duration of High Events (Weeks)	0	7	7
Percent Period of Record of High Events (Weeks)	0	0	0
IR 115 WCA-3A North (2.0, -1.0)			
Number of Low Events	4	9	9

Average Duration of Low Events (Weeks)	4	6	6
Percent Period of Record of Low Events (Weeks)	1	3	3
Number of High Events	0	5	5
Average Duration of High Events (Weeks)	0	8	8
Percent Period of Record of High Events (Weeks)	0	2	2
IR 116 WCA-3A NE (2.0, -1.0)			
Number of Low Events	6	10	10
Average Duration of Low Events (Weeks)	4	6	6
Percent Period of Record of Low Events (Weeks)	1	3	3
Number of High Events	0	14	14
Average Duration of High Events (Weeks)	0	8	8
Percent Period of Record of High Events (Weeks)	0	6	6
IR 117 WCA-3A NW (2.5, -1.0)			
Number of Low Events	3	5	5
Average Duration of Low Events (Weeks)	3	5	5
Percent Period of Record of Low Events (Weeks)	1	1	1
Number of High Events	0	5	5
Average Duration of High Events (Weeks)	0	6	6
Percent Period of Record of High Events (Weeks)	0	2	2
IR 118 WCA-3A Alley North (2.5, -1.0)			
Number of Low Events	4	11	11
Average Duration of Low Events (Weeks)	5	7	7
Percent Period of Record of Low Events (Weeks)	1	4	4
Number of High Events	0	15	15
Average Duration of High Events (Weeks)	0	8	8
Percent Period of Record of High Events (Weeks)	0	7	7
IR 119 WCA-3A East (2.5, -1.0)			
Number of Low Events	3	6	6
Average Duration of Low Events (Weeks)	6	4	4
Percent Period of Record of Low Events (Weeks)	1	1	1
Number of High Events	0	39	39
Average Duration of High Events (Weeks)	0	18	18
Percent Period of Record of High Events (Weeks)	0	38	38
IR 120 WCA-3A West (2.5, -1.0)			
Number of Low Events	5	6	6
Average Duration of Low Events (Weeks)	5	5	5
Percent Period of Record of Low Events (Weeks)	1	2	2
Number of High Events	0	3	3
Average Duration of High Events (Weeks)	0	6	6
Percent Period of Record of High Events (Weeks)	0	1	1
IR 121 WCA-3A North Central (2.5, -1.0)			
Number of Low Events	6	4	4
Average Duration of Low Events (Weeks)	4	3	3
Percent Period of Record of Low Events (Weeks)	1	1	1
Number of High Events	0	5	5
Average Duration of High Events (Weeks)	0	10	10
Percent Period of Record of High Events (Weeks)	0	3	3
IR 122 WCA-3A Gap (2.5, -1.0)			
Number of Low Events	8	8	8
Average Duration of Low Events (Weeks)	5	5	5
Percent Period of Record of Low Events (Weeks)	2	2	2
Number of High Events	0	4	4
Average Duration of High Events (Weeks)	0	7	7
Percent Period of Record of High Events (Weeks)	0	1	1
IR 123 WCA-3A South Central (2.5, -1.0)			
Number of Low Events	7	8	8
Average Duration of Low Events (Weeks)	5	4	4
Percent Period of Record of Low Events (Weeks)	2	2	2
Number of High Events	0	7	7
Average Duration of High Events (Weeks)	0	10	9
Percent Period of Record of High Events (Weeks)	0	4	4
IR 124 WCA-3A South (2.5, -1.0)			
Number of Low Events	6	2	2

Average Duration of Low Events (Weeks)	3	5	5
Percent Period of Record of Low Events (Weeks)	1	0	0
Number of High Events	2	34	37
Average Duration of High Events (Weeks)	1	6	5
Percent Period of Record of High Events (Weeks)	0	10	10
IR 125 WCA-3B North (2.5, -1.0)			
Number of Low Events	7	6	6
Average Duration of Low Events (Weeks)	7	7	7
Percent Period of Record of Low Events (Weeks)	3	2	2
Number of High Events	1	4	4
Average Duration of High Events (Weeks)	1	13	13
Percent Period of Record of High Events (Weeks)	0	3	3
IR 126 WCA-3B West (2.5, -1.0)			
Number of Low Events	0	1	1
Average Duration of Low Events (Weeks)	0	1	1
Percent Period of Record of Low Events (Weeks)	0	0	0
Number of High Events	10	4	4
Average Duration of High Events (Weeks)	9	14	14
Percent Period of Record of High Events (Weeks)	5	3	3
IR 127 Pennsuco Wetlands (2.0, -1.0)			
Number of Low Events	0	20	20
Average Duration of Low Events (Weeks)	0	6	6
Percent Period of Record of Low Events (Weeks)	0	6	7
Number of High Events	33	5	5
Average Duration of High Events (Weeks)	13	6	6
Percent Period of Record of High Events (Weeks)	23	2	2
IR 128 WCA-3B East (2.5, -1.0)			
Number of Low Events	0	9	9
Average Duration of Low Events (Weeks)	0	6	6
Percent Period of Record of Low Events (Weeks)	0	3	3
Number of High Events	13	12	13
Average Duration of High Events (Weeks)	8	8	8
Percent Period of Record of High Events (Weeks)	6	5	5
IR 129 NE Shark Slough (2.5, -1.0)			
Number of Low Events	1	7	7
Average Duration of Low Events (Weeks)	1	5	5
Percent Period of Record of Low Events (Weeks)	0	2	2
Number of High Events	32	5	5
Average Duration of High Events (Weeks)	10	8	8
Percent Period of Record of High Events (Weeks)	17	2	2
IR 130 Mid Shark Slough (2.5, -1.0)			
Number of Low Events	2	8	8
Average Duration of Low Events (Weeks)	10	5	5
Percent Period of Record of Low Events (Weeks)	1	2	2
Number of High Events	3	1	1
Average Duration of High Events (Weeks)	2	1	1
Percent Period of Record of High Events (Weeks)	0	0	0
IR 131 SW Shark Slough (2.5, -1.0)			
Number of Low Events	3	10	10
Average Duration of Low Events (Weeks)	9	6	6
Percent Period of Record of Low Events (Weeks)	1	3	3
Number of High Events	1	0	0
Average Duration of High Events (Weeks)	1	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 132 South Shark Slough (2.5, -1.0)			
Number of Low Events	4	7	7
Average Duration of Low Events (Weeks)	6	6	6
Percent Period of Record of Low Events (Weeks)	1	2	2
Number of High Events	1	0	0
Average Duration of High Events (Weeks)	1	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 133 Taylor Slough (2.5, -1.0)			
Number of Low Events	24	27	27

Average Duration of Low Events (Weeks)	5	5	5
Percent Period of Record of Low Events (Weeks)	7	8	8
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 140 Lostman's Slough (2.0, -1.0)			
Number of Low Events	22	36	36
Average Duration of Low Events (Weeks)	11	10	10
Percent Period of Record of Low Events (Weeks)	13	19	19
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 141 Ochopee Marl Marsh (2.0, -1.0)			
Number of Low Events	12	22	22
Average Duration of Low Events (Weeks)	11	10	10
Percent Period of Record of Low Events (Weeks)	7	11	11
Number of High Events	16	3	3
Average Duration of High Events (Weeks)	6	6	6
Percent Period of Record of High Events (Weeks)	5	1	1
IR 143 West Perrine Marl Marsh (1.5, -1.0)			
Number of Low Events	49	46	46
Average Duration of Low Events (Weeks)	14	17	17
Percent Period of Record of Low Events (Weeks)	37	41	41
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 144 Craighead Basin (1.5, -1.0)			
Number of Low Events	28	37	38
Average Duration of Low Events (Weeks)	9	8	8
Percent Period of Record of Low Events (Weeks)	13	16	16
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 145 East Perrine Marl Marsh (1.5, -1.0)			
Number of Low Events	36	48	48
Average Duration of Low Events (Weeks)	10	8	8
Percent Period of Record of Low Events (Weeks)	19	19	19
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 146 Model Lands Marl Marsh (2.0, -1.0)			
Number of Low Events	32	54	54
Average Duration of Low Events (Weeks)	8	7	7
Percent Period of Record of Low Events (Weeks)	13	21	21
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 147 Rocky Glades East (1.5, -1.0)			
Number of Low Events	26	39	39
Average Duration of Low Events (Weeks)	8	11	11
Percent Period of Record of Low Events (Weeks)	12	24	24
Number of High Events	9	1	1
Average Duration of High Events (Weeks)	6	2	2
Percent Period of Record of High Events (Weeks)	3	0	0
IR 148 Rocky Glades West (2.0, -1.0)			
Number of Low Events	15	24	24
Average Duration of Low Events (Weeks)	10	12	12
Percent Period of Record of Low Events (Weeks)	8	16	16
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 160 Rotenberger WMA (1.75, -1.0)			
Number of Low Events	12	8	8

Average Duration of Low Events (Weeks)	4	5	5
Percent Period of Record of Low Events (Weeks)	3	2	2
Number of High Events	2	6	6
Average Duration of High Events (Weeks)	3	1	1
Percent Period of Record of High Events (Weeks)	0	0	0
IR 170 Holey Land WMA (1.75, -1.0)			
Number of Low Events	8	9	9
Average Duration of Low Events (Weeks)	7	3	3
Percent Period of Record of Low Events (Weeks)	3	2	2
Number of High Events	10	34	34
Average Duration of High Events (Weeks)	7	21	21
Percent Period of Record of High Events (Weeks)	3	39	39
IR 180 NE Cypress (0.25, -1.0)			
Number of Low Events	42	59	59
Average Duration of Low Events (Weeks)	9	12	12
Percent Period of Record of Low Events (Weeks)	20	37	37
Number of High Events	52	39	39
Average Duration of High Events (Weeks)	6	2	2
Percent Period of Record of High Events (Weeks)	18	4	4
IR 181 Mullet Slough (0.25, -1.0)			
Number of Low Events	27	36	36
Average Duration of Low Events (Weeks)	7	9	9
Percent Period of Record of Low Events (Weeks)	11	17	17
Number of High Events	45	56	55
Average Duration of High Events (Weeks)	25	15	15
Percent Period of Record of High Events (Weeks)	60	45	45
IR 182 Dwarf Cypress (0.25, -1.0)			
Number of Low Events	29	36	36
Average Duration of Low Events (Weeks)	10	11	11
Percent Period of Record of Low Events (Weeks)	15	21	21
Number of High Events	73	78	78
Average Duration of High Events (Weeks)	11	6	6
Percent Period of Record of High Events (Weeks)	41	25	25
IR 183 Roberts Lake Cypress Strand (0.25, -1.0)			
Number of Low Events	24	37	37
Average Duration of Low Events (Weeks)	10	9	9
Percent Period of Record of Low Events (Weeks)	13	17	17
Number of High Events	58	60	60
Average Duration of High Events (Weeks)	17	13	13
Percent Period of Record of High Events (Weeks)	51	40	40
IR 190 WCA-3A Sawgrass (2.0, -1.0)			
Number of Low Events	10	6	6
Average Duration of Low Events (Weeks)	7	6	6
Percent Period of Record of Low Events (Weeks)	4	2	2
Number of High Events	3	8	8
Average Duration of High Events (Weeks)	2	8	8
Percent Period of Record of High Events (Weeks)	0	3	3

NOTES:

1) Period of Record (POR) = 1965 - 2000 Simulation Period

2) Calculating Weekly Average
   a) Non-Leap Years --> Last eight (8) days of calendar year used for weekly average.
   b) Leap Years --> Last nine (9) days of calendar year used for weekly average.

3) A HIGH WATER EVENT (HWE) is characterized as an occurrence where the weekly average depth is continuously (one or more weeks) over the High Water Threshold.
   Caveat: For the MARL MARSH Landscape, an event must occur for at least two (2) weeks.

4) A LOW WATER EVENT (LWE) is characterized as an occurrence where the weekly average depth is continuously (one or more weeks) under the Low Water Threshold.

5) The high and low threshold values are listed next to the IR name.
   EX: IR 100 WCA-1 North (2.5, -1.0)

```
6) The Average Duration of Events is the total number of weeks divided by the
   total number of events (weeks/events), rounded to the nearest whole number.

7) The Percent Period of Record of Events is the average duration in weeks multiplied by the
   total number of events, divided by the number of weeks in the simulation period, and
   multiplied by 100 (average_weeks * events / simulation_weeks * 100). This number is rounded
   to the nearest whole number.

       RUN DATE: Fri Jul 27 17:50:09 EDT 2007                              SFWMM V5.6
       CREATED BY: gevers_pm3.scr ID483
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MFL Exceedances for Indicator Regions

Location	MFL Stage (ft)	Duration (days)	Number of Times Criteria Not Met 2050UNX	2050LNX
WCA-1_IR101	-1.00	30	0	0
WCA-2A_IR111	-1.00	30	2	2
WCA-2B_IR113	-1.00	30	7	7
WCA-3A_NOR_IR116	-1.00	30	5	5
WCA-3A_NOR_IR114	-1.00	30	6	6
WCA-3A_NOR_IR117	-1.00	30	3	3
WCA-3A_NOR_IR118	-1.00	30	6	6
WCA-3A_CEN_IR123	-1.00	30	2	2
WCA-3A_STH_IR124	-1.00	30	1	1
WCA-3B_IR128	-1.00	30	5	4
ROTENBERGER_IR160	-1.00	30	4	4
HOLEY_LAND_IR170	-1.00	30	3	3
NE_SRS_IR129	-1.00	30	3	3
CEN_SRS_IR130	-1.00	30	3	3
CEN_SRS_IR131	-1.00	30	4	4
MARL_EAST_IR132	-1.50	90	0	0
ROCKLAND_IR147	-1.50	90	10	10
TAYLOR_IR133	-1.50	90	0	0

Note: MFL Criteria is not met when stages fall below ground for longer than the number of specified days (duration) with the additional condition that stages fall below the MFL value at least once during the interval.

Location	Target Max. Frequency of Occurrences	Return Frequency of Occurrences 2050UNX	2050LNX
WCA-1_IR101	1_in_4	None	None
WCA-2A_IR111	1_in_4	1_in_18.0	1_in_18.0
WCA-2B_IR113	1_in_3	1_in_5.1	1_in_5.1
WCA-3A_NOR_IR116	1_in_2	1_in_7.2	1_in_7.2
WCA-3A_NOR_IR114	1_in_4	1_in_6.0	1_in_6.0
WCA-3A_NOR_IR117	1_in_4	1_in_12.0	1_in_12.0
WCA-3A_NOR_IR118	1_in_3	1_in_6.0	1_in_6.0
WCA-3A_CEN_IR123	1_in_4	1_in_18.0	1_in_18.0
WCA-3A_STH_IR124	1_in_4	1_in_36.0	1_in_36.0
WCA-3B_IR128	1_in_7	1_in_7.2	1_in_9.0
ROTENBERGER_IR160	1_in_2	1_in_9.0	1_in_9.0
HOLEY_LAND_IR170	1_in_3	1_in_12.0	1_in_12.0
NE_SRS_IR129	1_in_10	1_in_12.0	1_in_12.0
CEN_SRS_IR130	1_in_10	1_in_12.0	1_in_12.0
CEN_SRS_IR131	1_in_7	1_in_9.0	1_in_9.0
MARL_EAST_IR132	1_in_3	None	None
ROCKLAND_IR147	1_in_2	1_in_3.6	1_in_3.6
TAYLOR_IR133	1_in_2	None	None

Note: The Return Frequency of Occurrences is determined by comparing the number of times the criteria is not met (as shown above) to the 36 year period of simulation.

Location	Criteria Stage (ft)	Target	Percent of Time Below Criteria 2050UNX	2050LNX
WCA-1_IR101	-1.00	NA	0%	0%
WCA-2A_IR111	-1.00	NA	1%	1%
WCA-2B_IR113	-1.00	NA	5%	5%
WCA-3A_NOR_IR116	-1.00	NA	3%	3%
WCA-3A_NOR_IR114	-1.00	NA	4%	4%
WCA-3A_NOR_IR117	-1.00	NA	1%	1%
WCA-3A_NOR_IR118	-1.00	NA	4%	4%
WCA-3A_CEN_IR123	-1.00	NA	2%	2%
WCA-3A_STH_IR124	-1.00	NA	0%	0%
WCA-3B_IR128	-1.00	NA	3%	3%
ROTENBERGER_IR160	-1.00	NA	2%	2%
HOLEY_LAND_IR170	-1.00	NA	2%	2%
NE_SRS_IR129	-1.00	NA	2%	2%
CEN_SRS_IR130	-1.00	NA	2%	2%
CEN_SRS_IR131	-1.00	NA	3%	3%
MARL_EAST_IR132	-1.50	NA	0%	0%
ROCKLAND_IR147	-1.50	NA	17%	17%
TAYLOR_IR133	-1.50	NA	2%	2%

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Note: Percent of time below the criteria elevation is calculated relative to a 36 year
      period of simulation.

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For Planning Purposes Only
Run date: 07/27/07 18:15:57
SFWMM V5.6
SFWMM P.O.S. 1965 - 2000
Script used: 'mfl.scr', ID'442'
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MFL Criteria for Biscayne Aquifer

Location	MFL Stage (ft)	Duration (days)	Number of Times Criteria Not Met 2050UNX	2050LNX
C-15@S-40	7.80	180	0	0
Hillsboro@G-56	6.75	180	0	0
C-14@S-37B	6.50	180	0	0
C-13@S-36	4.00	180	0	0
NNRiver@G-54	3.50	180	0	0
C-9@S-29	2.00	180	0	0
C-6@S-26	2.50	180	0	0
C-4@S-25B	2.50	180	1	1

Note: MFL Criteria is not met when stages fall below ground for longer than the number of specified days (duration) with the additional condition that stages fall below the MFL value at least once during the interval.

Location	Criteria Stage (ft)	Target	Percent of Time Below Criteria 2050UNX	2050LNX
C-15@S-40	7.80	NA	0%	0%
Hillsboro@G-56	6.75	NA	0%	0%
C-14@S-37B	6.50	NA	6%	6%
C-13@S-36	4.00	NA	3%	3%
NNRiver@G-54	3.50	NA	0%	0%
C-9@S-29	2.00	NA	7%	7%
C-6@S-26	2.50	NA	2%	2%
C-4@S-25B	2.50	NA	8%	8%

Note: Percent of time below the criteria elevation is calculated relative to a 36 year period of simulation.
Short-term lowering of canal stages due to operational changes associated with local rainfall are not included in the calculation of percent of time below criteria.

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Run date: 07/27/07 18:16:15
SFWMM V5.6
SFWMM P.O.S. 1965 - 2000
Script used: 'mfl.scr', ID'442'

Dry Events in Shark Slough - GE-E1 Summary Table

	NSM462	2010UNX	2010LNX
IR 129 NE Shark Slough			
Number of Dry Events	2	13	13
Average Duration of Dry Events (Weeks)	10	15	15
IR 130 Mid Shark Slough			
Number of Dry Events	4	11	11
Average Duration of Dry Events (Weeks)	23	16	16
IR 131 SW Shark Slough			
Number of Dry Events	7	13	13
Average Duration of Dry Events (Weeks)	18	15	15
IR 132 South Shark Slough			
Number of Dry Events	9	15	15
Average Duration of Dry Events (Weeks)	14	14	14

NOTES:

1) Period of Record (POR) = 1965 - 2000 Simulation Period

2) Calculating Weekly Average
  a) Non-Leap Years --> Last eight (8) days of calendar year used for weekly average.
  b) Leap Years --> Last nine (9) days of calendar year used for weekly average.

3) A DRY EVENT is calculated as a discrete segment of time from the point at which water levels fall below ground until the point at which water levels rise above 0.2 feet above ground.

4) The Average Duration of Dry Events is the total number of weeks divided by the total number of events (weeks/events), rounded to the nearest whole number.

RUN DATE: Fri Jul 27 17:40:33 EDT 2007 SFWMM V5.6
CREATED BY: gevers_pm1.scr ID483

Inundation Pattern in the Greater Everglades Wetlands
GE-E2 Summary Table

	NSM462	2010UNX	2010LNX
IR 100 WCA-1 North			
Number of Inundation Events	17	28	28
Average Duration of Inundation Events (Weeks)	102	57	57
Percent Period of Record of Inundation Events	93	85	85
IR 101 WCA-1 Central			
Number of Inundation Events	17	10	11
Average Duration of Inundation Events (Weeks)	100	175	158
Percent Period of Record of Inundation Events	91	93	93
IR 102 WCA-1 South			
Number of Inundation Events	18	6	6
Average Duration of Inundation Events (Weeks)	91	306	306
Percent Period of Record of Inundation Events	88	98	98
IR 110 WCA-2A North			
Number of Inundation Events	24	24	24
Average Duration of Inundation Events (Weeks)	66	64	64
Percent Period of Record of Inundation Events	84	82	82
IR 111 WCA-2A South			
Number of Inundation Events	13	19	19
Average Duration of Inundation Events (Weeks)	131	86	86
Percent Period of Record of Inundation Events	91	88	88
IR 112 WCA-2B North			
Number of Inundation Events	16	20	20
Average Duration of Inundation Events (Weeks)	107	80	79
Percent Period of Record of Inundation Events	91	85	85
IR 113 WCA-2B South			
Number of Inundation Events	16	14	15
Average Duration of Inundation Events (Weeks)	107	114	106
Percent Period of Record of Inundation Events	92	85	85
IR 114 WCA-3A NW Corner			
Number of Inundation Events	12	19	19
Average Duration of Inundation Events (Weeks)	146	92	92
Percent Period of Record of Inundation Events	94	93	93
IR 115 WCA-3A North			
Number of Inundation Events	14	19	19
Average Duration of Inundation Events (Weeks)	122	88	88
Percent Period of Record of Inundation Events	92	89	89
IR 116 WCA-3A NE			
Number of Inundation Events	19	14	14
Average Duration of Inundation Events (Weeks)	86	121	121
Percent Period of Record of Inundation Events	87	90	90
IR 117 WCA-3A NW			
Number of Inundation Events	10	12	12
Average Duration of Inundation Events (Weeks)	179	146	146
Percent Period of Record of Inundation Events	95	94	94
IR 118 WCA-3A Alley North			
Number of Inundation Events	14	19	19
Average Duration of Inundation Events (Weeks)	122	83	83
Percent Period of Record of Inundation Events	91	85	85
IR 119 WCA-3A East			
Number of Inundation Events	14	13	14
Average Duration of Inundation Events (Weeks)	122	129	120
Percent Period of Record of Inundation Events	91	89	90
IR 120 WCA-3A West			
Number of Inundation Events	10	15	15
Average Duration of Inundation Events (Weeks)	174	115	115
Percent Period of Record of Inundation Events	93	92	92
IR 121 WCA-3A North Central			
Number of Inundation Events	14	14	14
Average Duration of Inundation Events (Weeks)	124	125	125
Percent Period of Record of Inundation Events	92	94	94

IR 122 WCA-3A Gap			
Number of Inundation Events	12	16	16
Average Duration of Inundation Events (Weeks)	145	108	108
Percent Period of Record of Inundation Events	93	92	92
IR 123 WCA-3A South Central			
Number of Inundation Events	16	17	17
Average Duration of Inundation Events (Weeks)	106	97	97
Percent Period of Record of Inundation Events	90	88	88
IR 124 WCA-3A South			
Number of Inundation Events	14	15	15
Average Duration of Inundation Events (Weeks)	124	115	115
Percent Period of Record of Inundation Events	93	92	92
IR 125 WCA-3B North			
Number of Inundation Events	18	18	18
Average Duration of Inundation Events (Weeks)	91	90	90
Percent Period of Record of Inundation Events	87	87	87
IR 126 WCA-3B West			
Number of Inundation Events	10	9	10
Average Duration of Inundation Events (Weeks)	180	195	177
Percent Period of Record of Inundation Events	96	94	95
IR 127 Pennsuco Wetlands			
Number of Inundation Events	7	18	18
Average Duration of Inundation Events (Weeks)	260	84	84
Percent Period of Record of Inundation Events	97	81	81
IR 128 WCA-3B East			
Number of Inundation Events	8	16	16
Average Duration of Inundation Events (Weeks)	226	98	98
Percent Period of Record of Inundation Events	96	84	84
IR 129 NE Shark Slough			
Number of Inundation Events	3	14	14
Average Duration of Inundation Events (Weeks)	617	120	120
Percent Period of Record of Inundation Events	99	89	90
IR 130 Mid Shark Slough			
Number of Inundation Events	5	12	12
Average Duration of Inundation Events (Weeks)	356	141	141
Percent Period of Record of Inundation Events	95	91	91
IR 131 SW Shark Slough			
Number of Inundation Events	8	14	14
Average Duration of Inundation Events (Weeks)	218	120	120
Percent Period of Record of Inundation Events	93	89	89
IR 132 South Shark Slough			
Number of Inundation Events	10	16	16
Average Duration of Inundation Events (Weeks)	174	104	104
Percent Period of Record of Inundation Events	93	89	89
IR 133 Taylor Slough			
Number of Inundation Events	25	32	32
Average Duration of Inundation Events (Weeks)	54	39	39
Percent Period of Record of Inundation Events	72	67	67
IR 140 Lostman’s Slough			
Number of Inundation Events	29	38	39
Average Duration of Inundation Events (Weeks)	48	27	27
Percent Period of Record of Inundation Events	74	56	55
IR 141 Ochopee Marl Marsh			
Number of Inundation Events	18	25	25
Average Duration of Inundation Events (Weeks)	87	56	56
Percent Period of Record of Inundation Events	84	74	74
IR 143 West Perrine Marl Marsh			
Number of Inundation Events	32	29	29
Average Duration of Inundation Events (Weeks)	13	13	13
Percent Period of Record of Inundation Events	21	20	20
IR 144 Craighead Basin			
Number of Inundation Events	31	35	35
Average Duration of Inundation Events (Weeks)	28	23	23
Percent Period of Record of Inundation Events	47	42	42

IR 145 East Perrine Marl Marsh			
Number of Inundation Events	36	32	32
Average Duration of Inundation Events (Weeks)	27	13	13
Percent Period of Record of Inundation Events	51	23	23
IR 146 Model Lands Marl Marsh			
Number of Inundation Events	41	40	40
Average Duration of Inundation Events (Weeks)	25	22	22
Percent Period of Record of Inundation Events	56	47	47
IR 147 Rocky Glades East			
Number of Inundation Events	21	31	31
Average Duration of Inundation Events (Weeks)	70	37	37
Percent Period of Record of Inundation Events	79	62	62
IR 148 Rocky Glades West			
Number of Inundation Events	19	28	28
Average Duration of Inundation Events (Weeks)	82	46	46
Percent Period of Record of Inundation Events	83	69	68
IR 160 Rotenberger WMA			
Number of Inundation Events	29	24	24
Average Duration of Inundation Events (Weeks)	52	66	66
Percent Period of Record of Inundation Events	80	85	85
IR 170 Holey Land WMA			
Number of Inundation Events	17	9	9
Average Duration of Inundation Events (Weeks)	97	202	202
Percent Period of Record of Inundation Events	88	97	97
IR 180 NE Cypress			
Number of Inundation Events	35	30	30
Average Duration of Inundation Events (Weeks)	25	15	15
Percent Period of Record of Inundation Events	47	24	24
IR 181 Mullet Slough			
Number of Inundation Events	26	36	36
Average Duration of Inundation Events (Weeks)	53	33	33
Percent Period of Record of Inundation Events	74	63	63
IR 182 Dwarf Cypress			
Number of Inundation Events	36	42	42
Average Duration of Inundation Events (Weeks)	33	22	22
Percent Period of Record of Inundation Events	63	50	50
IR 183 Roberts Lake Cypress Strand			
Number of Inundation Events	34	41	41
Average Duration of Inundation Events (Weeks)	38	27	27
Percent Period of Record of Inundation Events	69	60	60
IR 190 WCA-3A Sawgrass			
Number of Inundation Events	17	15	15
Average Duration of Inundation Events (Weeks)	97	113	113
Percent Period of Record of Inundation Events	88	91	91

NOTES:

1) Period of Record (POR) = 1965 - 2000 Simulation Period

2) Calculating Weekly Average
  a) Non-Leap Years --> Last eight (8) days of calendar year used for weekly average.
  b) Leap Years --> Last nine (9) days of calendar year used for weekly average.

3) An INUNDATION EVENT is calculated as a discrete segment of time from the point at which water levels rise above 0.2 feet above ground until the point at which water levels drop below ground.

4) The Average Duration of Inundation Events is the total number of weeks divided by the total number of events (weeks/events), rounded to the nearest whole number.

5) The Percent Period of Record of Inundation Events is the total number of weeks multiplied by the total number of events and then divided by the number of weeks in the simulation period, finally multiplied by 100 (weeks * events / simulation_weeks * 100). This number is rounded to the nearest whole number.

RUN DATE: Fri Jul 27 17:42:55 EDT 2007 SFWMM V5.6
CREATED BY: gevers_pm2.scr ID483

Extreme High And Low Water Levels in the Everglades Wetlands
GE-E3 Summary Table

	NSM462	2010UNX	2010LNX
IR 100 WCA-1 North (2.5, -1.0)			
Number of Low Events	1	2	2
Average Duration of Low Events (Weeks)	4	5	5
Percent Period of Record of Low Events (Weeks)	0	0	0
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 101 WCA-1 Central (2.5, -1.0)			
Number of Low Events	1	0	0
Average Duration of Low Events (Weeks)	4	0	0
Percent Period of Record of Low Events (Weeks)	0	0	0
Number of High Events	0	7	7
Average Duration of High Events (Weeks)	0	2	2
Percent Period of Record of High Events (Weeks)	0	1	1
IR 102 WCA-1 South (2.5, -1.0)			
Number of Low Events	1	0	0
Average Duration of Low Events (Weeks)	4	0	0
Percent Period of Record of Low Events (Weeks)	0	0	0
Number of High Events	0	25	23
Average Duration of High Events (Weeks)	0	13	13
Percent Period of Record of High Events (Weeks)	0	18	17
IR 110 WCA-2A North (2.5, -1.0)			
Number of Low Events	6	11	11
Average Duration of Low Events (Weeks)	3	6	6
Percent Period of Record of Low Events (Weeks)	1	4	4
Number of High Events	0	1	1
Average Duration of High Events (Weeks)	0	1	1
Percent Period of Record of High Events (Weeks)	0	0	0
IR 111 WCA-2A South (2.5, -1.0)			
Number of Low Events	4	7	7
Average Duration of Low Events (Weeks)	3	4	4
Percent Period of Record of Low Events (Weeks)	1	1	1
Number of High Events	0	8	8
Average Duration of High Events (Weeks)	0	3	3
Percent Period of Record of High Events (Weeks)	0	1	1
IR 112 WCA-2B North (2.5, -1.0)			
Number of Low Events	2	6	7
Average Duration of Low Events (Weeks)	2	3	3
Percent Period of Record of Low Events (Weeks)	0	1	1
Number of High Events	2	9	10
Average Duration of High Events (Weeks)	4	4	4
Percent Period of Record of High Events (Weeks)	0	2	2
IR 113 WCA-2B South (2.5, -1.0)			
Number of Low Events	2	17	17
Average Duration of Low Events (Weeks)	2	10	10
Percent Period of Record of Low Events (Weeks)	0	9	9
Number of High Events	5	33	35
Average Duration of High Events (Weeks)	7	26	24
Percent Period of Record of High Events (Weeks)	2	46	46
IR 114 WCA-3A NW Corner (2.5, -1.0)			
Number of Low Events	2	4	4
Average Duration of Low Events (Weeks)	6	5	5
Percent Period of Record of Low Events (Weeks)	1	1	1
Number of High Events	0	1	1
Average Duration of High Events (Weeks)	0	6	6
Percent Period of Record of High Events (Weeks)	0	0	0
IR 115 WCA-3A North (2.0, -1.0)			
Number of Low Events	4	7	7

Average Duration of Low Events (Weeks)	4	8	8
Percent Period of Record of Low Events (Weeks)	1	3	3
Number of High Events	0	8	8
Average Duration of High Events (Weeks)	0	7	7
Percent Period of Record of High Events (Weeks)	0	3	3
IR 116 WCA-3A NE (2.0, -1.0)			
Number of Low Events	6	11	11
Average Duration of Low Events (Weeks)	4	5	5
Percent Period of Record of Low Events (Weeks)	1	3	3
Number of High Events	0	11	11
Average Duration of High Events (Weeks)	0	12	12
Percent Period of Record of High Events (Weeks)	0	7	7
IR 117 WCA-3A NW (2.5, -1.0)			
Number of Low Events	3	4	5
Average Duration of Low Events (Weeks)	3	2	2
Percent Period of Record of Low Events (Weeks)	1	0	1
Number of High Events	0	6	6
Average Duration of High Events (Weeks)	0	7	7
Percent Period of Record of High Events (Weeks)	0	2	2
IR 118 WCA-3A Alley North (2.5, -1.0)			
Number of Low Events	4	12	12
Average Duration of Low Events (Weeks)	5	7	7
Percent Period of Record of Low Events (Weeks)	1	5	4
Number of High Events	0	13	13
Average Duration of High Events (Weeks)	0	11	11
Percent Period of Record of High Events (Weeks)	0	8	8
IR 119 WCA-3A East (2.5, -1.0)			
Number of Low Events	3	9	9
Average Duration of Low Events (Weeks)	6	4	4
Percent Period of Record of Low Events (Weeks)	1	2	2
Number of High Events	0	27	25
Average Duration of High Events (Weeks)	0	21	23
Percent Period of Record of High Events (Weeks)	0	30	30
IR 120 WCA-3A West (2.5, -1.0)			
Number of Low Events	5	8	8
Average Duration of Low Events (Weeks)	5	3	3
Percent Period of Record of Low Events (Weeks)	1	1	1
Number of High Events	0	3	3
Average Duration of High Events (Weeks)	0	5	5
Percent Period of Record of High Events (Weeks)	0	1	1
IR 121 WCA-3A North Central (2.5, -1.0)			
Number of Low Events	6	4	4
Average Duration of Low Events (Weeks)	4	2	2
Percent Period of Record of Low Events (Weeks)	1	0	0
Number of High Events	0	7	6
Average Duration of High Events (Weeks)	0	11	13
Percent Period of Record of High Events (Weeks)	0	4	4
IR 122 WCA-3A Gap (2.5, -1.0)			
Number of Low Events	8	7	7
Average Duration of Low Events (Weeks)	5	5	5
Percent Period of Record of Low Events (Weeks)	2	2	2
Number of High Events	0	5	5
Average Duration of High Events (Weeks)	0	7	7
Percent Period of Record of High Events (Weeks)	0	2	2
IR 123 WCA-3A South Central (2.5, -1.0)			
Number of Low Events	7	9	9
Average Duration of Low Events (Weeks)	5	4	4
Percent Period of Record of Low Events (Weeks)	2	2	2
Number of High Events	0	9	9
Average Duration of High Events (Weeks)	0	12	12
Percent Period of Record of High Events (Weeks)	0	6	6
IR 124 WCA-3A South (2.5, -1.0)			
Number of Low Events	6	4	4

Average Duration of Low Events (Weeks)	3	4	4
Percent Period of Record of Low Events (Weeks)	1	1	1
Number of High Events	2	11	11
Average Duration of High Events (Weeks)	1	17	17
Percent Period of Record of High Events (Weeks)	0	10	10
IR 125 WCA-3B North (2.5, -1.0)			
Number of Low Events	7	11	10
Average Duration of Low Events (Weeks)	7	6	6
Percent Period of Record of Low Events (Weeks)	3	3	3
Number of High Events	1	8	8
Average Duration of High Events (Weeks)	1	11	11
Percent Period of Record of High Events (Weeks)	0	5	5
IR 126 WCA-3B West (2.5, -1.0)			
Number of Low Events	0	3	4
Average Duration of Low Events (Weeks)	0	2	2
Percent Period of Record of Low Events (Weeks)	0	0	0
Number of High Events	10	11	11
Average Duration of High Events (Weeks)	9	11	11
Percent Period of Record of High Events (Weeks)	5	7	7
IR 127 Pennsuco Wetlands (2.0, -1.0)			
Number of Low Events	0	23	24
Average Duration of Low Events (Weeks)	0	8	7
Percent Period of Record of Low Events (Weeks)	0	9	9
Number of High Events	33	9	8
Average Duration of High Events (Weeks)	13	6	6
Percent Period of Record of High Events (Weeks)	23	3	3
IR 128 WCA-3B East (2.5, -1.0)			
Number of Low Events	0	10	12
Average Duration of Low Events (Weeks)	0	8	7
Percent Period of Record of Low Events (Weeks)	0	4	4
Number of High Events	13	17	17
Average Duration of High Events (Weeks)	8	12	12
Percent Period of Record of High Events (Weeks)	6	11	11
IR 129 NE Shark Slough (2.5, -1.0)			
Number of Low Events	1	9	9
Average Duration of Low Events (Weeks)	1	5	5
Percent Period of Record of Low Events (Weeks)	0	2	2
Number of High Events	32	10	10
Average Duration of High Events (Weeks)	10	7	7
Percent Period of Record of High Events (Weeks)	17	4	4
IR 130 Mid Shark Slough (2.5, -1.0)			
Number of Low Events	2	7	7
Average Duration of Low Events (Weeks)	10	6	6
Percent Period of Record of Low Events (Weeks)	1	2	2
Number of High Events	3	1	1
Average Duration of High Events (Weeks)	2	1	1
Percent Period of Record of High Events (Weeks)	0	0	0
IR 131 SW Shark Slough (2.5, -1.0)			
Number of Low Events	3	6	6
Average Duration of Low Events (Weeks)	9	8	8
Percent Period of Record of Low Events (Weeks)	1	3	3
Number of High Events	1	0	0
Average Duration of High Events (Weeks)	1	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 132 South Shark Slough (2.5, -1.0)			
Number of Low Events	4	6	6
Average Duration of Low Events (Weeks)	6	6	6
Percent Period of Record of Low Events (Weeks)	1	2	2
Number of High Events	1	0	0
Average Duration of High Events (Weeks)	1	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 133 Taylor Slough (2.5, -1.0)			
Number of Low Events	24	28	28

Average Duration of Low Events (Weeks)	5	5	5
Percent Period of Record of Low Events (Weeks)	7	8	8
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 140 Lostman's Slough (2.0, -1.0)			
Number of Low Events	22	41	41
Average Duration of Low Events (Weeks)	11	9	9
Percent Period of Record of Low Events (Weeks)	13	20	20
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 141 Ochopee Marl Marsh (2.0, -1.0)			
Number of Low Events	12	21	21
Average Duration of Low Events (Weeks)	11	10	10
Percent Period of Record of Low Events (Weeks)	7	11	11
Number of High Events	16	4	4
Average Duration of High Events (Weeks)	6	6	6
Percent Period of Record of High Events (Weeks)	5	1	1
IR 143 West Perrine Marl Marsh (1.5, -1.0)			
Number of Low Events	49	48	48
Average Duration of Low Events (Weeks)	14	16	16
Percent Period of Record of Low Events (Weeks)	37	40	40
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 144 Craighead Basin (1.5, -1.0)			
Number of Low Events	28	35	35
Average Duration of Low Events (Weeks)	9	9	9
Percent Period of Record of Low Events (Weeks)	13	16	16
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 145 East Perrine Marl Marsh (1.5, -1.0)			
Number of Low Events	36	50	50
Average Duration of Low Events (Weeks)	10	8	8
Percent Period of Record of Low Events (Weeks)	19	21	21
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 146 Model Lands Marl Marsh (2.0, -1.0)			
Number of Low Events	32	34	34
Average Duration of Low Events (Weeks)	8	7	7
Percent Period of Record of Low Events (Weeks)	13	12	12
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 147 Rocky Glades East (1.5, -1.0)			
Number of Low Events	26	36	36
Average Duration of Low Events (Weeks)	8	11	11
Percent Period of Record of Low Events (Weeks)	12	21	21
Number of High Events	9	2	2
Average Duration of High Events (Weeks)	6	3	3
Percent Period of Record of High Events (Weeks)	3	0	0
IR 148 Rocky Glades West (2.0, -1.0)			
Number of Low Events	15	24	24
Average Duration of Low Events (Weeks)	10	12	12
Percent Period of Record of Low Events (Weeks)	8	15	15
Number of High Events	0	0	0
Average Duration of High Events (Weeks)	0	0	0
Percent Period of Record of High Events (Weeks)	0	0	0
IR 160 Rotenberger WMA (1.75, -1.0)			
Number of Low Events	12	16	16

Average Duration of Low Events (Weeks)	4	6	6
Percent Period of Record of Low Events (Weeks)	3	5	5
Number of High Events	2	11	11
Average Duration of High Events (Weeks)	3	6	6
Percent Period of Record of High Events (Weeks)	0	4	4
IR 170 Holey Land WMA (1.75, -1.0)			
Number of Low Events	8	3	3
Average Duration of Low Events (Weeks)	7	4	4
Percent Period of Record of Low Events (Weeks)	3	1	1
Number of High Events	10	28	28
Average Duration of High Events (Weeks)	7	24	24
Percent Period of Record of High Events (Weeks)	3	36	36
IR 180 NE Cypress (0.25, -1.0)			
Number of Low Events	42	59	59
Average Duration of Low Events (Weeks)	9	12	12
Percent Period of Record of Low Events (Weeks)	20	37	37
Number of High Events	52	40	40
Average Duration of High Events (Weeks)	6	2	2
Percent Period of Record of High Events (Weeks)	18	5	5
IR 181 Mullet Slough (0.25, -1.0)			
Number of Low Events	27	36	36
Average Duration of Low Events (Weeks)	7	9	9
Percent Period of Record of Low Events (Weeks)	11	17	17
Number of High Events	45	55	55
Average Duration of High Events (Weeks)	25	15	15
Percent Period of Record of High Events (Weeks)	60	45	45
IR 182 Dwarf Cypress (0.25, -1.0)			
Number of Low Events	29	36	36
Average Duration of Low Events (Weeks)	10	11	11
Percent Period of Record of Low Events (Weeks)	15	21	21
Number of High Events	73	75	76
Average Duration of High Events (Weeks)	11	6	6
Percent Period of Record of High Events (Weeks)	41	25	25
IR 183 Roberts Lake Cypress Strand (0.25, -1.0)			
Number of Low Events	24	37	37
Average Duration of Low Events (Weeks)	10	9	9
Percent Period of Record of Low Events (Weeks)	13	17	17
Number of High Events	58	62	62
Average Duration of High Events (Weeks)	17	12	12
Percent Period of Record of High Events (Weeks)	51	40	40
IR 190 WCA-3A Sawgrass (2.0, -1.0)			
Number of Low Events	10	11	11
Average Duration of Low Events (Weeks)	7	3	3
Percent Period of Record of Low Events (Weeks)	4	2	2
Number of High Events	3	9	9
Average Duration of High Events (Weeks)	2	10	10
Percent Period of Record of High Events (Weeks)	0	5	5

NOTES:

1) Period of Record (POR) = 1965 - 2000 Simulation Period

2) Calculating Weekly Average
  a) Non-Leap Years --> Last eight (8) days of calendar year used for weekly average.
  b) Leap Years --> Last nine (9) days of calendar year used for weekly average.

3) A HIGH WATER EVENT (HWE) is characterized as an occurrence where the weekly average depth is continuously (one or more weeks) over the High Water Threshold.
   Caveat: For the MARL MARSH Landscape, an event must occur for at least two (2) weeks.

4) A LOW WATER EVENT (LWE) is characterized as an occurrence where the weekly average depth is continuously (one or more weeks) under the Low Water Threshold.

5) The high and low threshold values are listed next to the IR name.
   EX: IR 100 WCA-1 North (2.5, -1.0)

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6) The Average Duration of Events is the total number of weeks divided by the
   total number of events (weeks/events), rounded to the nearest whole number.

7) The Percent Period of Record of Events is the average duration in weeks multiplied by the
   total number of events, divided by the number of weeks in the simulation period, and
   multiplied by 100 (average_weeks * events / simulation_weeks * 100). This number is rounded
   to the nearest whole number.


       RUN DATE: Fri Jul 27 17:45:35 EDT 2007                              SFWMM V5.6
       CREATED BY: gevers_pm3.scr ID483
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MFL Exceedances for Key Gauges

Location	MFL Stage (ft)	Duration (days)	Number of Times Criteria Not Met 2010UNX	2010LNX
WCA-1_1-7	-1.00	30	0	0
WCA-2A_2A-17	-1.00	30	3	3
WCA-2B_3-99	-1.00	30	9	9
WCA-3A_NOR_3A-NE	-1.00	30	4	4
WCA-3A_NOR_3A-NW	-1.00	30	4	5
WCA-3A_NOR_3A-2	-1.00	30	0	0
WCA-3A_NOR_3A-3	-1.00	30	10	9
WCA-3A_CEN_3A-4	-1.00	30	7	7
WCA-3A_STH_3A-28	-1.00	30	1	1
WCA-3B_3B-SE	-1.00	30	9	8
ROTENBERGER_ROTTS	-1.00	30	7	7
HOLEY_LAND_HOLEYG	-1.00	30	4	4
NE_SRS_NESRS-2	-1.00	30	5	5
CEN_SRS_NP-33	-1.00	30	4	4
CEN_SRS_NP-36	-1.00	30	4	4
MARL_EAST_NP-38	-1.50	90	0	0
MARL_WEST_NP-201	-1.50	90	5	5
MARL_WEST_G-620	-1.50	90	3	3
ROCKLAND_G3273	-1.50	90	7	7
TAYLOR_NP-67	-1.50	90	0	0

Note: MFL Criteria is not met when stages fall below ground for longer than the number of specified days (duration) with the additional condition that stages fall below the MFL value at least once during the interval.

Location	Target Max. Frequency of Occurrences	Return Frequency of Occurrences 2010UNX	2010LNX
WCA-1_1-7	1_in_4	None	None
WCA-2A_2A-17	1_in_4	1_in_12.0	1_in_12.0
WCA-2B_3-99	1_in_3	1_in_4.0	1_in_4.0
WCA-3A_NOR_3A-NE	1_in_2	1_in_9.0	1_in_9.0
WCA-3A_NOR_3A-NW	1_in_4	1_in_9.0	1_in_7.2
WCA-3A_NOR_3A-2	1_in_4	None	None
WCA-3A_NOR_3A-3	1_in_3	1_in_3.6	1_in_4.0
WCA-3A_CEN_3A-4	1_in_4	1_in_5.1	1_in_5.1
WCA-3A_STH_3A-28	1_in_4	1_in_36.0	1_in_36.0
WCA-3B_3B-SE	1_in_7	1_in_4.0	1_in_4.5
ROTENBERGER_ROTTS	1_in_2	1_in_5.1	1_in_5.1
HOLEY_LAND_HOLEYG	1_in_3	1_in_9.0	1_in_9.0
NE_SRS_NESRS-2	1_in_10	1_in_7.2	1_in_7.2
CEN_SRS_NP-33	1_in_10	1_in_9.0	1_in_9.0
CEN_SRS_NP-36	1_in_7	1_in_9.0	1_in_9.0
MARL_EAST_NP-38	1_in_3	None	None
MARL_WEST_NP-201	1_in_5	1_in_7.2	1_in_7.2
MARL_WEST_G-620	1_in_5	1_in_12.0	1_in_12.0
ROCKLAND_G3273	1_in_2	1_in_5.1	1_in_5.1
TAYLOR_NP-67	1_in_2	None	None

Note: The Return Frequency of Occurrences is determined by comparing the number of times the criteria is not met (as shown above) to the 36 year period of simulation.

Location	Criteria Stage (ft)	Target	Percent of Time Below Criteria 2010UNX	2010LNX
WCA-1_1-7	-1.00	NA	0%	0%
WCA-2A_2A-17	-1.00	NA	2%	2%
WCA-2B_3-99	-1.00	NA	11%	12%
WCA-3A_NOR_3A-NE	-1.00	NA	3%	3%
WCA-3A_NOR_3A-NW	-1.00	NA	2%	2%
WCA-3A_NOR_3A-2	-1.00	NA	0%	0%
WCA-3A_NOR_3A-3	-1.00	NA	6%	6%
WCA-3A_CEN_3A-4	-1.00	NA	3%	3%
WCA-3A_STH_3A-28	-1.00	NA	1%	1%
WCA-3B_3B-SE	-1.00	NA	6%	6%
ROTENBERGER_ROTTS	-1.00	NA	5%	5%
HOLEY_LAND_HOLEYG	-1.00	NA	2%	2%
NE_SRS_NESRS-2	-1.00	NA	3%	3%
CEN_SRS_NP-33	-1.00	NA	3%	3%

```
CEN_SRS_NP-36      -1.00      NA        3%       3%
MARL_EAST_NP-38    -1.50      NA        2%       2%
MARL_WEST_NP-201   -1.50      NA        8%       8%
MARL_WEST_G-620    -1.50      NA        6%       6%
ROCKLAND_G3273     -1.50      NA        13%      13%
TAYLOR_NP-67       -1.50      NA        3%       3%

Note: Percent of time below the criteria elevation is calculated relative to a 36 year
      period of simulation.

---------------------------------------------------------------------------------------------------

For Planning Purposes Only
Run date: 07/27/07 18:10:42
SFWMM V5.6
SFWMM P.O.S. 1965 - 2000
Script used: 'mfl.scr', ID'442'
```

MFL Criteria for Biscayne Aquifer

Location	MFL Stage (ft)	Duration (days)	Number of Times Criteria Not Met 2010UNX	2010LNX
C-15@S-40	7.80	180	0	0
Hillsboro@G-56	6.75	180	0	0
C-14@S-37B	6.50	180	0	0
C-13@S-36	4.00	180	0	0
NNRiver@G-54	3.50	180	0	0
C-9@S-29	2.00	180	0	0
C-6@S-26	2.50	180	0	0
C-4@S-25B	2.50	180	1	1

Note: MFL Criteria is not met when stages fall below ground for longer than the number of specified days (duration) with the additional condition that stages fall below the MFL value at least once during the interval.

Location	Criteria Stage (ft)	Target	Percent of Time Below Criteria 2010UNX	2010LNX
C-15@S-40	7.80	NA	0%	0%
Hillsboro@G-56	6.75	NA	0%	0%
C-14@S-37B	6.50	NA	4%	4%
C-13@S-36	4.00	NA	2%	2%
NNRiver@G-54	3.50	NA	0%	0%
C-9@S-29	2.00	NA	4%	4%
C-6@S-26	2.50	NA	2%	2%
C-4@S-25B	2.50	NA	9%	9%

Note: Percent of time below the criteria elevation is calculated relative to a 36 year period of simulation.
Short-term lowering of canal stages due to operational changes associated with local rainfall are not included in the calculation of percent of time below criteria.

For Planning Purposes Only
Run date: 07/27/07 18:12:03
SFWMM V5.6
SFWMM P.O.S. 1965 - 2000
Script used: 'mfl.scr', ID'442'

APPENDIX E - SUMMARY STATISTICS

Table E-1. Comparision of ECB minimum and maximum canal stage and delta offset for UNIX® and Linux® simulations

Canal	UNIX® minimum (ft)	UNIX® (maximum, ft)	Linux® (minimum, ft)	Linux® (maximum, ft)	Delta offset (absolute difference above - below offset, in days)
DPRES	16.47	20.9	16.47	20.89	17
CORBT	17.73	23.18	17.72	23.17	219
MOCLB	14.98	19.55	14.98	19.54	41
MOCUB	15.98	22.01	15.98	22.04	344
L8	8.28	19.08	8.31	19.11	1148
STA3C	9.93	15.45	9.94	15.43	41
MCNL	14.2	19.51	14.28	19.5	441
C17DR	7.48	12.94	7.48	12.96	114
C17	6.5	9.23	6.49	9.2	227
L10	6.24	11.99	6.24	11.99	30
NNRFG	3.81	7.21	3.78	7.22	50
L20	7.5	11.4	7.5	11.4	104
WPCB	10.29	16.19	10.29	16.19	4591
LWD1	14.02	17.32	14.01	17.33	57
LW2DR	12.7	18.77	12.7	18.73	158
LWD2	13.39	18.43	13.38	18.43	55
LWD3	11.43	13.66	11.43	13.64	28
WELDN	13.24	17.08	13.24	17.08	324
C1324	11.55	15.31	11.56	15.31	81
L25	8.91	12.72	8.91	12.72	90
L5	9.38	11.27	9.38	11.27	22
CA1	13.68	18.04	13.62	18.05	909
C13DR	1.23	8.18	1.23	8.18	750
I75L4	7.97	12.53	7.99	12.53	39
L4	7.26	12.31	7.26	12.29	35
C60	7.84	13.53	7.83	13.51	110
G57DR	1.48	7.03	1.48	7.05	213
C14DR	1.95	9.89	1.95	9.88	149
CA3	5.33	12.64	5.38	12.64	460
L38	8.62	13.88	8.56	14.09	54
CA2A	9.56	15.37	9.56	15.39	425

Table E-1. Comparision of ECB minimum and maximum canal stage and delta offset for UNIX® and Linux® simulations

Canal	UNIX® minimum (ft)	UNIX® (maximum, ft)	Linux® (minimum, ft)	Linux® (maximum, ft)	Delta offset (absolute difference above - below offset, in days)
NSMP1	7.09	11.66	7.09	11.62	1
NSMP2	7.51	11.78	7.5	11.77	268
HLSB	4.56	8.03	4.57	8.03	76
LWDSO	8.13	12.02	8.13	12	88
L28W	8.24	13.86	8.25	13.87	93
C13	3.4	5.22	3.42	5.23	164
C13E	0.41	2.17	0.41	2.19	32
L28A	4.75	9.72	4.75	9.74	244
L37	5.58	8.03	5.57	8.03	289
LWDSE	3.17	9.43	3.14	9.46	5
BRI95	0.41	14.81	0.41	14.82	81
HLBSE	0.33	4.63	0.33	4.6	110
ETPKC	0.79	4.3	0.79	4.28	182
L33	2.98	7.03	2.97	7.02	58
US27N	5.39	7.69	5.39	7.66	105
US27S	3.13	6.56	3.13	6.53	115
L29	4.5	8.56	4.51	8.55	397
C304	4.35	9.68	4.38	9.66	136
C6DR	1.49	6.1	1.49	6.11	66
C6	1.65	4.75	1.65	4.77	1
L30	3.32	8.35	3.32	8.35	356
CDRN	8.64	9.68	8.64	9.71	15
C8DR	1.23	3.1	1.24	3.12	82
C8	1.22	2.23	1.22	2.23	3
DBLEV	2.41	6.01	2.41	6.02	74
C7DR	1.58	2.15	1.58	2.17	22
C7	1.39	2.12	1.4	2.13	53
C11ED	0.69	5.36	0.68	5.38	45
C9DW1	2.07	4.96	2.07	4.96	68
C9DW2	1.27	4.64	1.25	4.64	28
C9DR	0.85	2.81	0.85	2.84	369

Table E-1. Comparision of ECB minimum and maximum canal stage and delta offset for UNIX® and Linux® simulations

Canal	UNIX® minimum (ft)	UNIX® (maximum, ft)	Linux® (minimum, ft)	Linux® (maximum, ft)	Delta offset (absolute difference above - below offset, in days)
C9DEN	-0.26	2.85	-0.25	2.83	116
L31NC	3.12	7.13	3.11	7.23	109
L31N	2.86	7.29	2.86	7.31	10
C100C	0.82	5.33	0.82	5.34	183
S148U	1.8	5.49	1.83	5.44	242
C100	1.25	5.27	1.26	5.24	377
RVBDR	2.02	3.97	2.02	4	136
C1N	1.53	5.55	1.5	5.5	24
C103D	1.84	8.3	1.82	8.34	53
L31S	2.53	6.51	2.52	6.51	0
C102	1.48	4.7	1.48	4.7	136
S21	1.12	2.53	1.11	2.53	63
C102N	0.61	2.43	0.61	2.43	117
C103S	1.18	6.83	1.17	6.81	151
C103N	0.89	5.71	0.89	5.69	44
S179	0.17	3.93	0.16	3.94	196
L31W	0.95	6.43	0.97	6.46	10
C111	0.68	5.34	0.72	5.35	121
CNO	-0.31	2.34	-0.3	2.34	2
HW295	12.83	16.5	12.83	16.5	5
HW294	11.8	14.08	11.8	14.07	31
HW293	3.38	5.67	3.38	5.67	107
HW292	2.01	4.85	2	4.86	188
HW291	1.23	7.18	1.23	7.22	132
HW290	0.43	2.96	0.46	2.94	14
C111E	-0.07	3.5	-0.08	3.47	156
S197	-0.39	3.31	-0.39	3.33	302
C14WN	8.02	12.73	8.01	12.73	169
C14WD	4.65	7.22	4.69	7.2	377
PBDR	2.3	8.3	2.3	8.29	16
C11D1	2.82	6.47	2.84	6.42	100

Table E-1. Comparision of ECB minimum and maximum canal stage and delta offset for UNIX® and Linux® simulations

Canal	UNIX® minimum (ft)	UNIX® (maximum, ft)	Linux® (minimum, ft)	Linux® (maximum, ft)	Delta offset (absolute difference above - below offset, in days)
C11DR	2.66	5.33	2.66	5.32	12
HLSP	10.49	14.61	10.47	14.57	67
L28T	6.77	13.05	6.76	13.04	330
C4DR	1.29	4.56	1.31	4.52	27
L28B	6.53	13	6.52	13	363
C9DRS	1.44	2.83	1.42	2.85	122
C9	1.11	2.83	1.13	2.83	113
NNRC	2.28	5.62	2.27	5.62	68
PLNTW	3.32	4.34	3.34	4.35	8
C12	1.87	4.27	1.88	4.29	221
C57	0.57	1.9	0.56	1.92	13
TAMIA	3.67	9.21	3.67	9.2	263
S12AD	4.28	10.17	4.27	10.21	6
S12BD	5.44	10.99	5.44	11.01	434
S12CD	5.39	11.03	5.36	11.04	153
S12DD	4.91	11.84	4.92	11.85	11
M1	8	16.77	8.02	16.75	37
DDTCH	10.34	14.15	10.35	14.16	80
CULV1	9.15	14.12	9.14	14.14	513
CULV2	9.08	14.07	9.08	14.09	35
CULV3	9.27	14.12	9.27	14.13	215
DCLV2	8.72	13.72	8.71	13.74	298
DCLV3	8.5	13.72	8.5	13.68	108
SNCRE	1.64	5.88	1.66	5.87	240
HMLKS	2.26	8.14	2.29	8.12	160
C100A	0.94	3.54	0.95	3.53	89
NWFCL	2.23	5.61	2.25	5.6	22
S175D	-0.14	4.4	-0.14	4.4	253
L67E	4.41	9.56	4.4	9.55	43
MCNLE	13.32	16.72	13.32	16.71	168
S9UP	3.17	4.14	3.17	4.15	308

Table E-1. Comparision of ECB minimum and maximum canal stage and delta offset for UNIX® and Linux® simulations

Canal	UNIX® minimum (ft)	UNIX® (maximum, ft)	Linux® (minimum, ft)	Linux® (maximum, ft)	Delta offset (absolute difference above - below offset, in days)
C11W	2.08	4.14	2.1	4.15	40
C11	0.61	5.59	0.61	5.58	93
C10	0.05	2.56	0.04	2.53	25
S29DN	0.52	2.03	0.52	2.04	1
G93UP	1.2	3.07	1.21	3.09	230
C4W	1.82	7.12	1.82	7.14	58
C4	0.65	3.39	0.67	3.4	43
CGBLE	0.63	1.64	0.63	1.63	140
C6E	0.68	2.11	0.69	2.06	144
LKMNG	10.4	15.72	10.4	15.72	122
C18W	14.25	21.52	14.25	21.54	153
NPBDR	1.2	11.06	1.19	11.07	117
C51W	8.18	14.2	8.21	14.64	465
C51	6.84	8.42	6.84	8.41	215
LGROV	14.4	16.57	14.38	16.57	246
L38E	6.68	11.81	6.68	11.83	1398
ACMEB	11.91	12.21	11.89	12.18	135
ACMEA	10.86	12.15	10.86	12.15	45
S178U	-0.05	4.49	-0.04	4.5	139
C44	13.56	14.13	13.56	14.13	1
C110	-0.52	3.32	-0.52	3.33	488
C9DES	1.32	3.57	1.35	3.56	81
LXTRB	0.16	3.85	0.15	3.87	83
HLBE	6.13	15.72	6.15	15.7	118
C14	5.35	8.05	5.36	8.05	113
SUNWD	6.4	6.85	6.41	6.85	112
POMPD	3.97	10.72	3.97	10.72	135
C14E	3.19	6.56	3.18	6.54	48
POMP	3.43	9.22	3.47	9.23	26
L23E	6.24	14.19	6.18	14.19	176
C123	5.25	13.49	5.39	13.49	71

Table E-1. Comparision of ECB minimum and maximum canal stage and delta offset for UNIX® and Linux® simulations

Canal	UNIX® minimum (ft)	UNIX® (maximum, ft)	Linux® (minimum, ft)	Linux® (maximum, ft)	Delta offset (absolute difference above - below offset, in days)
CMFT	1.11	7.64	1.09	7.79	75
MILIT	0.14	2.04	0.14	2.04	71
G57DN	0.52	3.67	0.52	3.71	7
MODLD	-0.93	2.71	-0.91	2.76	318
C18DR	12.37	16.05	12.37	16.1	27
C18D2	11.27	16.19	11.27	16.17	155
C18DN	15.15	19.97	15.15	19.99	118
C18	11.67	16.26	11.67	16.25	116
SIRWD	11.98	20.18	11.98	20.18	39
SR706	6.71	12.31	6.72	12.3	164
LOXRV	0.48	4.32	0.47	4.34	51
ROOKB	-0.35	1.67	-0.35	1.63	26
NRIV	-0.29	1.16	-0.29	1.14	30
ROBRV	-0.02	1.11	-0.02	1.08	45
LMDBC	-0.6	0.92	-0.6	0.93	301
JOEBC	-0.1	1.48	-0.1	1.45	213
ROTEN	10.17	69.81	10.17	69.81	26
S355U	4.69	9.19	4.7	9.18	113

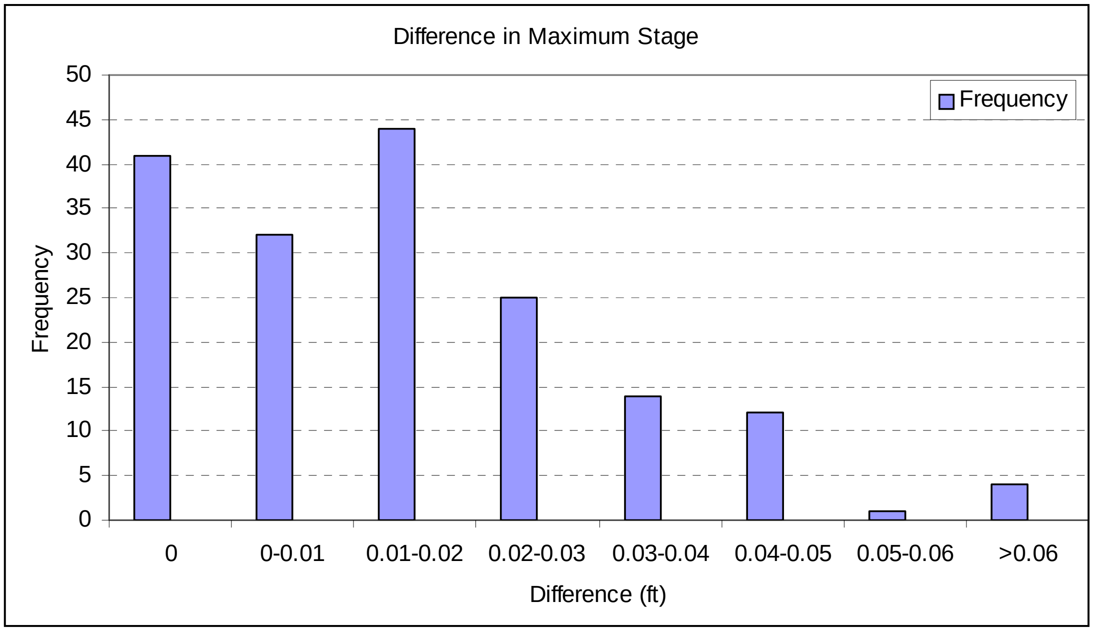

Figure E-1. Histogram depicting frequency of difference in maximum stage for UNIX® and Linux® ECB simulations

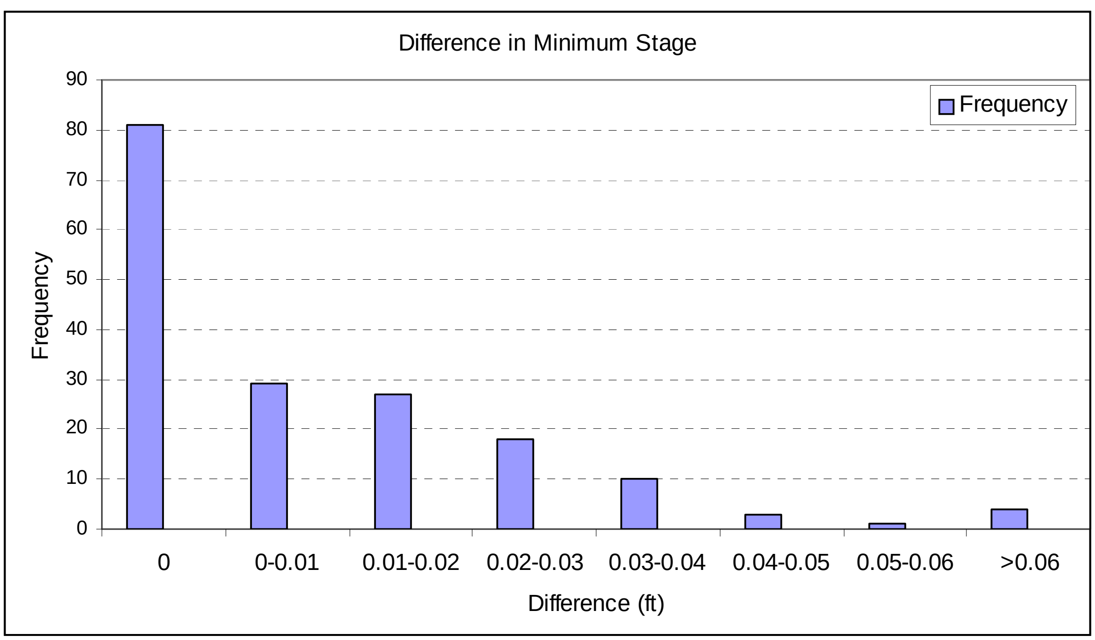

Figure E-2. Histogram depicting frequency of difference in minimum stage for UNIX® and Linux® ECB simulations

Table E-2. Comparision of 2050B4 minimum and maximum canal stage and delta offset for UNIX® and Linux® simulations

Canal	UNIX® (minimum, ft)	UNIX® (maximum, ft)	Linux® (minimum, ft)	Linux® (maximum, ft)	Delta offset (absolute difference above - below offset, in days)
DPRES	16.47	20.89	16.47	20.92	195
CORBT	17.75	23.05	17.76	23.06	16
MOCLB	14.98	19.55	14.98	19.57	18
MOCUB	15.98	22	15.98	21.98	27
L8	6.76	18.86	6.78	18.87	829
STA3C	9.93	15.47	9.95	15.45	262
MCNL	14.52	19.53	14.5	19.52	409
C17DR	7.47	13	7.48	12.97	133
C17	6.49	9.19	6.49	9.16	160
L10	6.27	11.99	6.27	11.99	5
NNRFG	3.51	7.3	3.52	7.27	55
L20	7.62	11.62	7.62	11.62	39
WPCB	8.25	14.16	8.23	14.16	1080
LWD1	14.19	17.27	14.18	17.27	126
LW2DR	12.13	18.76	12.13	18.74	21
LWD2	12.97	18.16	12.99	18.12	218
LWD3	8.91	13.73	8.9	13.75	21
WELDN	13.24	17.08	13.24	17.08	89
C1324	11.58	11.72	11.58	11.72	20
L25	8.92	12.72	8.92	12.72	59
L5	9.54	11.27	9.54	11.27	4
CA1	13.72	18.05	13.72	18.1	1510
C13DR	-0.14	8.2	-0.14	8.2	223
I75L4	8.01	12.36	8.01	12.32	196
L4	7.81	12.16	7.81	12.16	51
C60	7.82	13.29	7.8	13.29	271
G57DR	0.57	7.02	0.57	7.06	12
C14DR	-0.14	9.82	-0.14	9.81	263
S333U	5.97	10.97	5.98	10.99	84
S349D	5.94	11.26	5.51	11.27	158
S349C	5.37	11.34	5.3	11.33	208

Table E-2. Comparision of 2050B4 minimum and maximum canal stage and delta offset for UNIX® and Linux® simulations

Canal	UNIX® (minimum, ft)	UNIX® (maximum, ft)	Linux® (minimum, ft)	Linux® (maximum, ft)	Delta offset (absolute difference above - below offset, in days)
CA3	4.73	12.73	4.78	12.73	18
L38	7.99	13.98	8	14.07	20
CA2A	9.59	15.37	9.59	15.4	570
NSMP1	7.09	11.68	7.09	11.67	52
NSMP2	7.53	11.82	7.54	11.83	19
HLSB	4.56	8.04	4.56	8.04	45
LWDSO	6.72	12	6.73	12	136
L28W	8.28	13.63	8.25	13.61	3
C13	2.77	5.23	2.79	5.22	3
C13E	0.4	2.19	0.41	2.2	48
L28A	4.57	9.72	4.57	9.7	119
L37	5.21	8.04	5.23	8.03	241
LWDSE	2.44	9.53	2.46	9.53	172
BRI95	-2.87	14.79	-2.86	14.78	39
HLBSE	-0.13	4.67	-0.13	4.68	186
ETPKC	0.98	4.36	0.98	4.36	11
L33	2.97	7	2.97	7.03	447
US27N	5.06	7.68	5.05	7.68	56
US27S	3.01	6.6	3.01	6.58	25
L29	4.52	9.54	4.55	9.53	81
C304	4	10.27	4.01	10.29	297
C6DR	1.43	6.16	1.44	6.14	3
C6	1.72	4.81	1.75	4.78	173
L30	3.51	8.5	3.46	8.49	130
CDRN	8.63	9.76	8.63	9.74	170
C8DR	1.23	3.12	1.24	3.09	24
C8	1.21	2.23	1.21	2.23	242
DBLEV	2.47	5.96	2.47	5.98	162
C7DR	1.63	2.15	1.64	2.16	33
C7	1.1	2.13	1.1	2.13	94
C11ED	0.63	5.4	0.61	5.38	30

Table E-2. Comparision of 2050B4 minimum and maximum canal stage and delta offset for UNIX® and Linux® simulations

Canal	UNIX® (minimum, ft)	UNIX® (maximum, ft)	Linux® (minimum, ft)	Linux® (maximum, ft)	Delta offset (absolute difference above - below offset, in days)
C9DW1	2.07	5.05	2.07	5.05	68
C9DW2	1.31	4.67	1.33	4.67	204
C9DR	0.79	2.82	0.8	2.83	44
C9DEN	-0.38	2.8	-0.37	2.84	416
L31NC	3.21	6.98	3.26	7	182
L31N	2.88	6.07	3.09	6.06	230
C100C	0.87	5.33	0.9	5.34	17
S148U	1.72	5.25	1.77	5.25	223
C100	1.3	5.37	1.3	5.41	147
RVBDR	1.77	4.04	1.77	4.03	143
C1N	1.49	4.8	1.5	4.84	258
C103D	1.43	8.3	1.41	8.32	28
L31S	1.96	6.54	1.95	6.53	289
C102	1.28	4.73	1.27	4.74	242
S21	1.17	2.53	1.17	2.53	47
C102N	0.5	2.44	0.47	2.43	41
C103S	0.73	6.72	0.75	6.69	202
C103N	0.54	5.61	0.53	5.6	98
S179	-0.42	3.93	-0.43	3.93	23
L31W	0.6	6.56	0.61	6.56	228
C111	0.45	5.19	0.45	5.17	84
CNO	-0.55	2.37	-0.54	2.39	1
HW295	12.83	16.48	12.83	16.52	23
HW294	11.81	14.08	11.8	14.06	224
HW293	3.39	5.66	3.39	5.65	30
HW292	2.01	4.86	2.01	4.88	13
HW291	1.22	7.2	1.22	7.21	39
HW290	0.42	2.95	0.42	2.95	30
C111E	-0.82	3.31	-0.85	3.35	110
S197	-0.53	3.06	-0.52	3.08	6
C14WN	7.67	12.7	7.67	12.7	254

Table E-2. Comparision of 2050B4 minimum and maximum canal stage and delta offset for UNIX® and Linux® simulations

Canal	UNIX® (minimum, ft)	UNIX® (maximum, ft)	Linux® (minimum, ft)	Linux® (maximum, ft)	Delta offset (absolute difference above - below offset, in days)
C14WD	4.12	7.2	4.11	7.19	192
PBDR	2.12	8.3	2.12	8.3	85
C11D1	2.97	6.41	2.97	6.42	37
C11DR	2.76	5.31	2.76	5.31	16
HLSP	10.09	14.66	10.1	14.7	85
L28T	6.71	12.52	6.7	12.53	106
C4DR	1.07	4.86	1.03	4.86	74
L28B	6.32	12.23	6.33	12.23	2
C9DRS	1.69	2.85	1.68	2.83	54
C9	1.1	2.82	1.12	2.83	5
NNRC	2.27	5.71	2.27	5.67	43
PLNTW	2.82	4.33	2.83	4.36	151
C12	1.45	4.37	1.46	4.35	121
C57	0.58	1.97	0.59	1.97	194
TAMIA	3.64	9.21	3.64	9.19	0
S12AD	4.4	9.98	4.37	9.94	85
S12BD	5.51	10.6	5.49	10.61	248
S12CD	5.43	10.6	5.43	10.65	141
S12DD	5.04	10.6	5.04	10.6	107
M1	7.98	17.09	7.98	17.07	105
DDTCH	9.8	14.15	9.8	14.15	125
CULV1	9.06	14.11	9.06	14.12	194
CULV2	8.96	14.09	8.96	14.07	335
CULV3	8.99	14.11	8.99	14.1	10
DCLV2	8.53	13.58	8.53	13.61	412
DCLV3	8.45	13.66	8.46	13.64	261
SNCRE	1.73	5.85	1.73	5.83	21
HMLKS	2.32	8.05	2.28	8.09	146
C100A	0.91	3.54	0.91	3.54	226
NWFCL	2.25	4.86	2.22	4.85	3
S175D	-0.32	4.18	-0.35	4.17	32

Table E-2. Comparision of 2050B4 minimum and maximum canal stage and delta offset for UNIX® and Linux® simulations

Canal	UNIX® (minimum, ft)	UNIX® (maximum, ft)	Linux® (minimum, ft)	Linux® (maximum, ft)	Delta offset (absolute difference above - below offset, in days)
MCNLE	12.72	16.8	12.71	16.82	81
S9UP	2.95	4.12	2.95	4.13	53
C11W	2.74	4.15	2.76	4.13	246
C11	0.62	5.59	0.61	5.6	119
C10	0.17	2.63	0.17	2.62	148
S29DN	0.52	2.08	0.52	2.08	58
G93UP	0.92	3.06	0.94	3.05	239
C4W	1.3	7.08	1.28	7.08	338
C4	0.31	3.42	0.28	3.4	76
CGBLE	0.57	1.56	0.57	1.56	292
C6E	0.64	2.07	0.65	2.08	61
LKMNG	7.29	15.64	7.29	15.64	479
C18W	15.83	21.58	15.83	21.54	17
C51W	8.2	16.5	8.21	16.54	321
C51	6.89	8.41	6.89	8.41	47
LGROV	14.53	16.57	14.42	16.57	1
L38E	6.2	12	6.22	11.99	92
ACMEB	11.97	12.18	11.97	12.18	61
ACMEA	10.97	12.15	10.97	12.15	270
S178U	-0.33	4.52	-0.3	4.51	12
C44	13.56	14.13	13.56	14.13	1
C110	-0.64	3.11	-0.65	3.09	52
C9DES	1.19	3.58	1.2	3.5	154
HLBE	5.79	15.7	5.8	15.66	170
C14	3.86	8.1	3.87	8.06	164
SUNWD	6.23	6.85	6.23	6.85	32
POMPD	3.68	10.75	3.68	10.74	226
C14E	2.47	6.57	2.47	6.54	414
POMP	2.46	9.18	2.46	9.2	45
L23E	5.03	13.96	5.11	13.96	106
C123	4.86	13.34	4.94	13.32	105

Table E-2. Comparision of 2050B4 minimum and maximum canal stage and delta offset for UNIX® and Linux® simulations

Canal	UNIX® (minimum, ft)	UNIX® (maximum, ft)	Linux® (minimum, ft)	Linux® (maximum, ft)	Delta offset (absolute difference above - below offset, in days)
CMFT	1.12	7.67	1.12	7.78	174
MILIT	-0.08	2.03	-0.08	2.03	100
G57DN	0.52	3.66	0.52	3.69	45
MODLD	-1.05	2.71	-1.06	2.73	137
C18DR	12.13	16.08	12.13	16.04	6
C18D2	10.58	16.22	10.58	16.18	77
C18DN	14.88	19.51	14.88	19.54	56
C18	11.46	16.23	11.46	16.24	133
NPBDR	0.87	10.62	0.9	10.62	58
LXTRB	2.98	6.55	2.98	6.56	300
SIRWD	11.98	20.43	11.97	20.46	121
SR706	7.42	12.7	7.42	12.74	139
LOXRV	0.45	4.71	0.46	4.72	57
ROOKB	-0.35	1.66	-0.35	1.62	85
NRIV	-0.28	1.17	-0.28	1.16	109
ROBRV	-0.01	1.09	-0.01	1.05	55
LMDBC	-0.59	0.93	-0.59	0.9	34
JOEBC	-0.1	1.41	-0.1	1.4	64
ROTEN	9.77	49.64	9.77	49.64	56
RESC	3.15	5.82	3.18	5.79	229
S355U	4.7	9.64	4.71	9.66	218

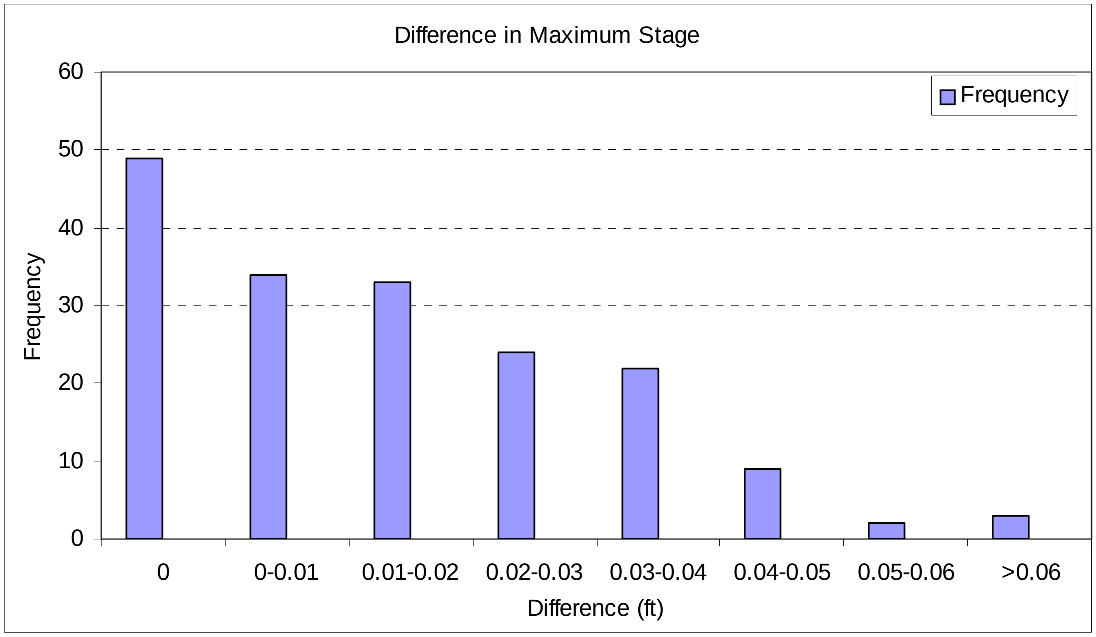

Figure E-3. Histogram depicting frequency of difference in maximum stage for UNIX® and Linux® 2050B4 simulations

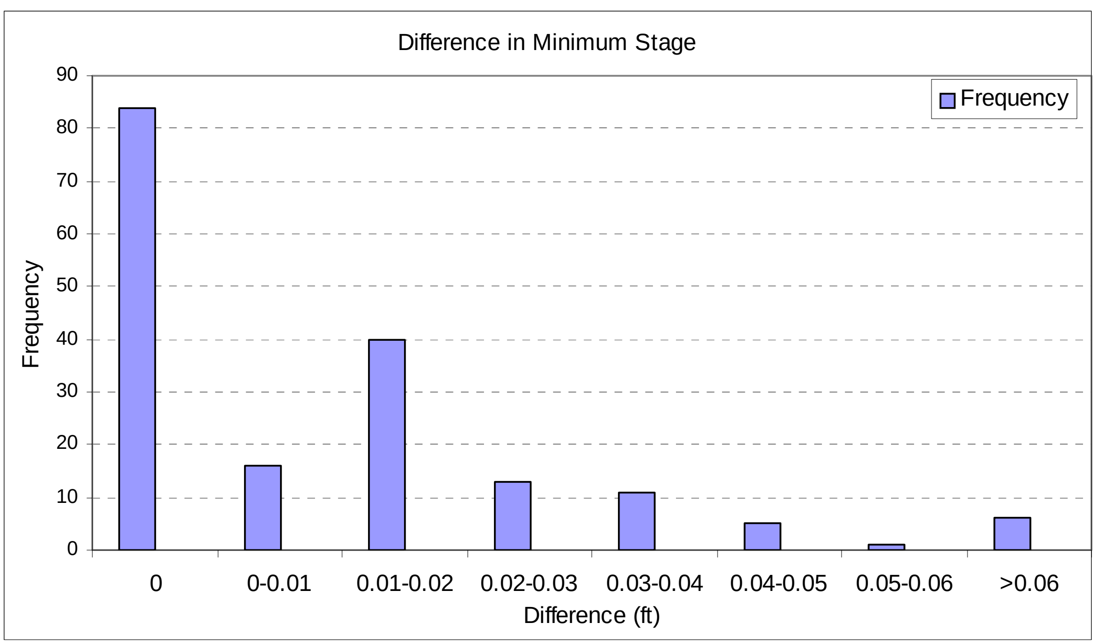

Figure E-4. Histogram depicting frequency of difference in minimum stage for UNIX® and Linux® 2050B4 simulations

Table E-3. Comparision of 2010CP minimum and maximum canal stage and delta offset for UNIX® and Linux® simulations.

Canal	UNIX® (minimum, ft)	UNIX® (maximum, ft)	Linux® (minimum, ft)	Linux® (maximum, ft)	Delta offset (absolute difference above - below offset, in days)
DPRES	16.48	20.93	16.48	20.89	174
CORBT	17.73	23.06	17.75	23.06	72
MOCLB	14.97	19.53	14.98	19.49	14
MOCUB	15.98	21.98	15.98	21.98	15
L8	7.43	18.83	7.43	18.87	80
STA3C	9.93	15.95	9.93	15.94	321
MCNL	14.62	19.46	14.68	19.49	167
C17DR	7.48	12.97	7.48	12.98	118
C17	6.51	9.16	6.5	9.19	74
L10	6.23	11.99	6.23	11.99	39
NNRFG	3.53	7.22	3.46	7.2	193
L20	7.68	11.84	7.68	11.84	233
WPCB	8.26	13.97	8.27	13.97	785
LWD1	14.36	17.28	14.25	17.3	40
LW2DR	11.78	18.75	11.78	18.78	165
LWD2	13.4	18.15	13.35	18.11	72
LWD3	8.73	13.61	8.7	13.6	403
WELDN	13.24	17.36	13.24	17.4	427
C1324	11.58	14.69	11.58	14.68	45
L25	8.92	12.72	8.92	12.72	113
L5	9.25	11.27	9.25	11.27	25
EARCN	8.37	23	8.38	22.96	238
EARCS	7.33	21.58	7.31	21.61	50
CA1	13.73	18.07	13.73	18.08	1272
C13DR	1.37	8.23	1.36	8.23	1268
I75L4	8.05	12.36	8.03	12.35	73
L4	7.82	12.15	7.84	12.16	73
C60	8.11	13.33	8.11	13.32	221
G57DR	1.01	7.05	1.01	7.02	127
C14DR	1.03	9.84	1.03	9.83	376
S333U	5.22	11.36	5.31	11.35	159

Table E-3. Comparision of 2010CP minimum and maximum canal stage and delta offset for UNIX® and Linux® simulations.

Canal	UNIX® (minimum, ft)	UNIX® (maximum, ft)	Linux® (minimum, ft)	Linux® (maximum, ft)	Delta offset (absolute difference above - below offset, in days)
S349D	5.87	11.38	5.79	11.37	310
S349C	5.25	11.35	5.43	11.34	118
CA3	4.95	12.61	4.93	12.63	364
L38	8.18	14.11	8.24	14.14	204
CA2A	9.53	15.4	9.53	15.39	611
NSMP1	7.08	11.74	7.08	11.74	104
NSMP2	7.58	11.71	7.57	11.7	53
HLSB	4.56	8.03	4.56	8.03	135
LWDSO	7.11	11.95	7.11	11.96	143
L28W	8.31	13.54	8.32	13.54	46
C13	2.96	5.23	2.93	5.23	308
C13E	0.4	2.15	0.4	2.13	133
L28A	4.55	9.71	4.54	9.71	131
L37	5.31	7.53	5.32	7.53	154
LWDSE	3.8	9.49	3.76	9.51	274
BRI95	0.03	14.8	0.03	14.82	94
HLBSE	0.46	4.45	0.45	4.42	4
ETPKC	1.1	4.28	1.1	4.31	291
L33	2.97	6.25	2.97	6.22	201
US27N	5.15	7.5	5.15	7.53	189
US27S	3.03	7.04	3.03	7.04	86
L29	4.39	9.76	4.38	9.76	353
C304	4.08	10.41	4.09	10.4	273
C6DR	1.48	6.12	1.49	6.12	73
C6	1.75	4.75	1.75	4.74	98
L30	2.94	8.66	2.92	8.64	783
CDRN	8.95	9.7	8.95	9.68	176
C8DR	1.36	3.09	1.34	3.09	127
C8	1.33	2.23	1.33	2.23	5
DBLEV	2.19	6.06	2.17	6.07	200
C7DR	1.71	2.14	1.71	2.16	179

Table E-3. Comparision of 2010CP minimum and maximum canal stage and delta offset for UNIX® and Linux® simulations.

Canal	UNIX® (minimum, ft)	UNIX® (maximum, ft)	Linux® (minimum, ft)	Linux® (maximum, ft)	Delta offset (absolute difference above - below offset, in days)
C7	1.31	2.13	1.31	2.13	218
C11ED	0.52	5.38	0.53	5.38	144
C9DW1	1.92	4.96	1.92	4.93	198
C9DW2	1.27	4.69	1.26	4.69	21
C9DR	0.77	2.62	0.77	2.61	115
C9DEN	-0.37	2.59	-0.37	2.6	41
L31NC	2.93	7.44	2.92	7.47	198
L31N	2.66	6.07	2.63	6.05	64
C100C	1.01	5.34	0.99	5.33	4
S148U	1.56	5.26	1.53	5.23	98
C100	1.32	5.28	1.32	5.23	35
RVBDR	2.01	4	2.01	3.99	245
C1N	1.6	4.83	1.61	4.83	31
C103D	1.62	8.29	1.58	8.33	14
L31S	2.02	6.59	2	6.59	222
C102	1.47	4.73	1.43	4.73	194
S21	1.27	2.53	1.26	2.53	28
C102N	0.74	2.44	0.71	2.43	164
C103S	1.09	6.72	1.08	6.71	401
C103N	1.01	5.64	0.99	5.6	99
S179	0.25	3.93	0.26	3.93	181
L31W	0.79	6.56	0.81	6.56	138
C111	0.67	5.38	0.64	5.37	97
CNO	-0.19	2.36	-0.21	2.35	34
HW295	12.83	16.52	12.83	16.48	38
HW294	11.8	14.04	11.81	14.06	107
HW293	3.39	5.68	3.39	5.66	211
HW292	2.01	4.87	2	4.85	153
HW291	1.22	7.2	1.23	7.23	19
HW290	0.42	2.95	0.42	2.94	5
C111E	-0.21	4.54	-0.22	4.52	167

Table E-3. Comparision of 2010CP minimum and maximum canal stage and delta offset for UNIX® and Linux® simulations.

Canal	UNIX® (minimum, ft)	UNIX® (maximum, ft)	Linux® (minimum, ft)	Linux® (maximum, ft)	Delta offset (absolute difference above - below offset, in days)
C500E	-0.5	4.52	-0.49	4.5	114
C14WN	7.93	12.71	7.91	12.71	437
C14WD	4.64	7.24	4.62	7.27	244
PBDR	2.45	8.32	2.45	8.31	82
C11D1	2.94	6.46	2.93	6.44	38
C11DR	2.68	5.31	2.68	5.33	214
HLSP	10.58	14.6	10.51	14.58	149
L28T	6.69	12.43	6.71	12.43	35
C4DR	1.31	4.76	1.3	4.74	4
L28B	6.34	12.17	6.31	12.17	496
C9DRS	1.75	2.94	1.74	2.9	145
C9	1.16	2.83	1.13	2.83	51
NNRC	2.27	5.39	2.27	5.36	105
PLNTW	2.65	4.35	2.6	4.34	1
C12	1.59	4.28	1.55	4.33	294
C57	0.58	1.99	0.57	2	123
TAMIA	3.63	9.21	3.63	9.15	2
S12AD	4.04	10.06	4.05	10.09	108
S12BD	5.29	10.54	5.33	10.53	373
S12CD	5.31	10.58	5.33	10.58	199
S12DD	5	10.67	5	10.68	190
M1	7.99	16.7	7.99	16.7	98
DDTCH	10.34	14.18	10.29	14.17	220
CULV1	8.78	14.11	8.78	14.14	369
CULV2	8.67	14.06	8.67	14.08	478
CULV3	8.64	14.12	8.64	14.11	324
DCLV2	8.46	13.43	8.46	13.43	393
DCLV3	8.13	13.43	8.13	13.42	682
SNCRE	1.68	5.94	1.66	5.98	205
HMLKS	2.17	8.16	2.16	8.15	144
C100A	1.14	3.54	1.11	3.53	175

Table E-3. Comparision of 2010CP minimum and maximum canal stage and delta offset for UNIX® and Linux® simulations.

Canal	UNIX® (minimum, ft)	UNIX® (maximum, ft)	Linux® (minimum, ft)	Linux® (maximum, ft)	Delta offset (absolute difference above - below offset, in days)
NWFCL	2	4.83	2.01	4.81	43
S175D	-0.29	4.19	-0.27	4.16	67
MCNLE	13.46	16.8	13.46	16.83	95
S9UP	2.95	4.73	2.95	4.74	7
C11W	2.47	4.72	2.48	4.77	21
C11	0.61	5.6	0.61	5.57	130
C10	0.12	2.38	0.12	2.39	105
S29DN	0.52	2.09	0.53	2.13	1
G93UP	1.25	3.06	1.27	3.05	31
C4W	1.58	7.66	1.59	7.45	203
C4	0.56	3.32	0.56	3.35	29
CGBLE	0.62	1.58	0.62	1.58	16
C6E	0.66	2.07	0.65	2.08	221
LKMNG	11.13	15.59	11.12	15.6	198
C18W	15.05	21.49	15.05	21.5	93
C51W	8.23	16.48	8.22	16.47	75
C51	6.89	8.41	6.9	8.41	118
LGROV	14.41	16.57	14.44	16.57	317
L38E	6.27	12.01	6.25	12.03	975
ACMEB	11.97	12.18	11.97	12.18	78
ACMEA	10.89	12.15	10.89	12.15	169
S178U	-0.18	4.65	-0.16	4.7	43
C44	13.56	14.13	13.56	14.13	0
C9DES	1.38	3.57	1.4	3.55	74
HLBE	6.71	15.69	6.71	15.69	106
C14	5.18	8.09	5.16	8.14	171
SUNWD	6.36	6.85	6.36	6.85	29
POMPD	3.97	10.76	3.97	10.73	30
C14E	2.98	6.59	2.96	6.61	216
POMP	3.09	9.23	3.09	9.21	274
L23E	5.54	13.81	5.65	13.81	4

Table E-3. Comparision of 2010CP minimum and maximum canal stage and delta offset for UNIX® and Linux® simulations.

Canal	UNIX® (minimum, ft)	UNIX® (maximum, ft)	Linux® (minimum, ft)	Linux® (maximum, ft)	Delta offset (absolute difference above - below offset, in days)
C123	4.95	13.22	4.99	13.2	110
CMFT	1.13	7.7	1.15	7.81	89
MILIT	0.28	2.03	0.27	2.03	133
G57DN	0.52	3.7	0.52	3.68	58
MODLD	-0.69	2.95	-0.71	2.91	237
C18DR	12.57	16.14	12.57	16.11	13
C18D2	10.72	16.19	10.72	16.2	238
C18DN	15.07	19.55	15.07	19.56	128
C18	11.59	16.33	11.59	16.3	303
NPBDR	4.02	11.1	4.05	11.09	117
LXTRB	4.14	6.56	4.13	6.57	116
SIRWD	11.97	20.15	11.97	20.11	11
SR706	6.95	12.54	6.95	12.57	30
LOXRV	0.47	4.41	0.47	4.38	44
ROOKB	-0.54	1.64	-0.54	1.66	155
NRIV	-0.29	1.16	-0.29	1.12	109
ROBRV	0.01	1.07	0.01	1.1	16
LMDBC	-0.57	0.92	-0.57	0.9	7
JOEBC	-0.16	1.37	-0.16	1.36	168
ROTEN	10.09	86	10.09	86	143
RESC	3.11	5.8	3.03	5.81	135
S355U	4.68	9.84	4.68	9.85	187

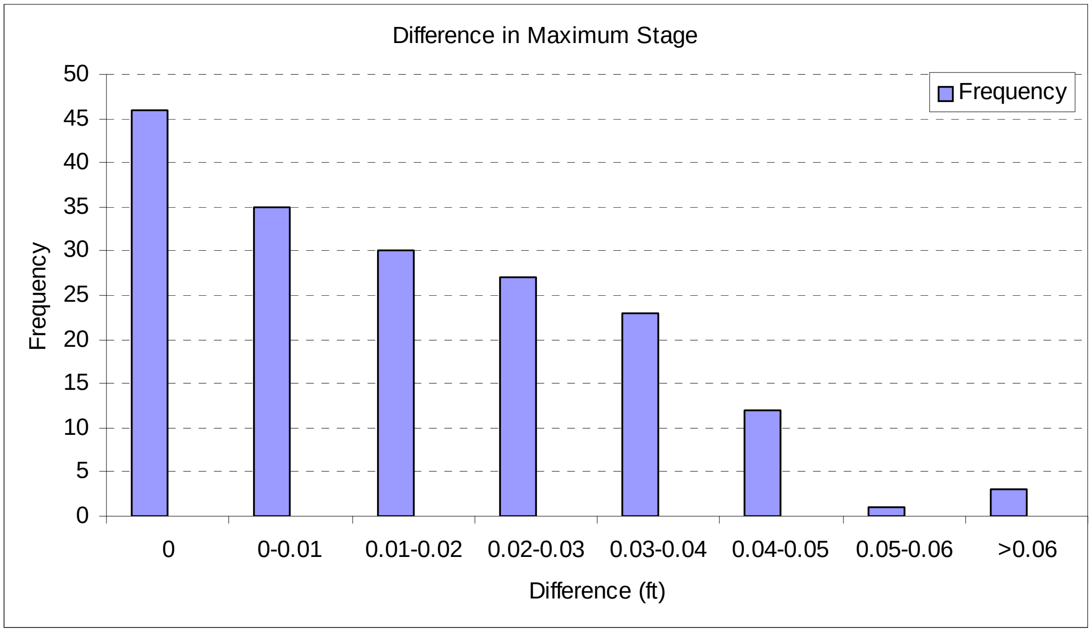

Figure E-5. Histogram depicting frequency of difference in maximum stage for UNIX® and Linux® 2010CP simulations.

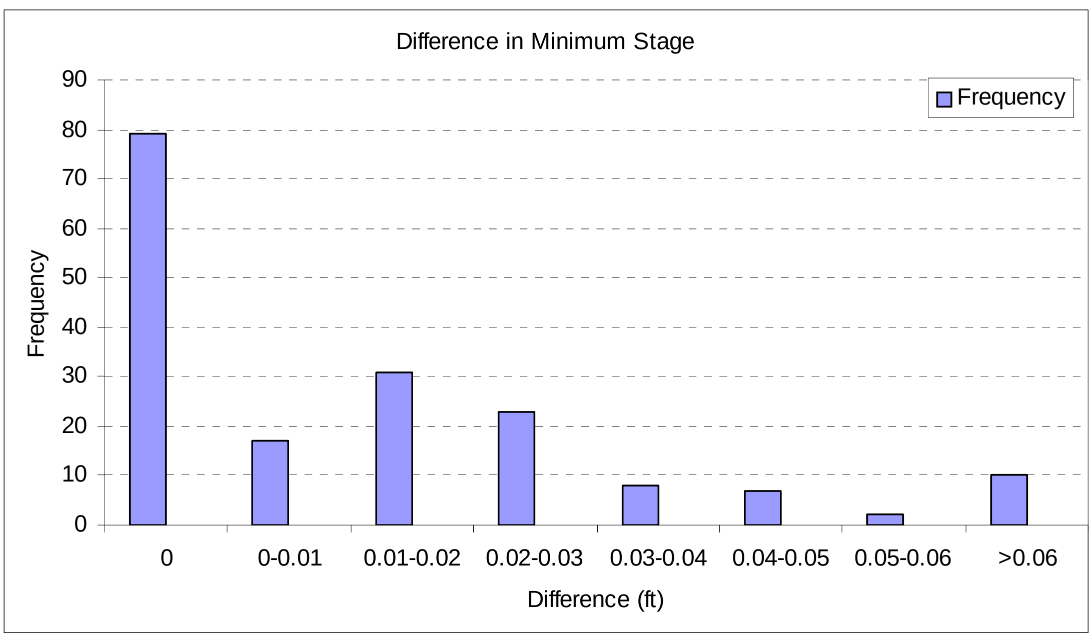

Figure E-6. Histogram depicting frequency of difference in minimum stage for UNIX® and Linux® 2010CP simulations.

APPENDIX F - STRUCTURE FLOWS

Table F-1. Monthly and annual absolute percent difference for ECB simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
333FCN	32.80	32.80	0	0.0%		393	394	1	0.3%	
333FCR	407.60	412.90	5.40	1.3%		4891	4955	64	1.3%	
333FLC	440.30	445.70	5.40	1.2%		5284	5349	65	1.2%	
351RG	1766.60	1766.20	-0.40	0.0%		21199	21195	-5	0.0%	
351WS	479.20	495.20	16	3.3%	HERE	5750	5942	192	3.3%	HERE
352WS	190.50	192.30	1.90	0.9%		2286	2308	22	1.0%	
354RG	2127.90	2112.40	-15.40	0.7%		25534	25349	-185	0.7%	
354WS	1895.90	1848.80	-47.10	2.5%	HERE	22750	22185	-565	2.5%	HERE
356L29	3063.90	3063.20	-0.70	0.0%		36767	36758	-9	0.0%	
715FLK	208	208.10	0.10	0.0%		2496	2497	1	0.0%	
715ST2	41.70	41.70	0	0.0%		501	500	0	0.2%	
ACME2	0.70	0.70	0	0.0%		8	8	0	0.0%	
ACME3	1755.90	1758.30	2.40	0.1%		21071	21100	29	0.1%	
ACME4W	31	30.90	-0.10	0.3%		372	371	-1	0.3%	
ACME6	32.10	32.10	-0.10	0.0%		386	385	-1	0.3%	
ACMEBA	0.70	0.60	0	14.3%		8	8	0	0.0%	
ACMECU	1380	1380.10	0.10	0.0%		16560	16561	1	0.0%	
ACMEWS	0.70	0.70	0	0.0%		8	8	0	0.0%	
ADDSLW	256.30	258.60	2.30	0.9%		3076	3103	27	0.9%	
AGQ	-756.80	-756.90	-0.20	0.0%		-9081	-9083	-2	0.0%	
AGQRF	1336.70	1337	0.30	0.0%		16040	16044	4	0.0%	
AGQWS	579.90	580.10	0.20	0.0%		6959	6961	2	0.0%	
AM4WS1	0.80	0.70	-0.20	12.5%		10	8	-2	20.0%	
BDOUT	2721.20	2721.20	0	0.0%		32654	32654	0	0.0%	
BERM1E	287.60	287.80	0.20	0.1%		3452	3453	2	0.0%	
BERM2E	-24.20	-24.40	-0.20	0.8%		-291	-293	-2	0.7%	
BERM3S	1153.10	1152.70	-0.30	0.0%		13837	13833	-4	0.0%	
BERM4S	830.20	830	-0.20	0.0%		9963	9960	-3	0.0%	
BRI95Q	432.10	432.10	0	0.0%		5186	5186	0	0.0%	
C103D1	674.30	674.50	0.20	0.0%		8092	8094	2	0.0%	
C103D2	455	454.90	-0.10	0.0%		5460	5459	-1	0.0%	
C103D3	343.70	343.70	0	0.0%		4124	4124	0	0.0%	
C10ABK	2468.20	2474.70	6.50	0.3%		29618	29696	78	0.3%	
C10Q	7545.40	7530.80	-14.60	0.2%		90545	90370	-175	0.2%	
C11DP1	1260.70	1260.60	0	0.0%		15128	15128	-1	0.0%	
C11ED1	620.50	620.20	-0.40	0.0%		7447	7442	-4	0.1%	
C11ED2	620.40	620.10	-0.40	0.0%		7445	7441	-4	0.1%	

Table F-1. Monthly and annual absolute percent difference for ECB simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
C11WP1	699.20	698.70	-0.50	0.1%		8391	8385	-6	0.1%	
C13DRQ	91.90	92	0	0.1%		1103	1104	1	0.1%	
C14DQ1	163.90	163.90	0	0.0%		1967	1967	0	0.0%	
C14DQ2	254.70	254.70	0	0.0%		3056	3057	0	0.0%	
C14WNQ	88	88	0	0.0%		1056	1056	0	0.0%	
C14WQ1	1305.70	1305.80	0.10	0.0%		15668	15670	2	0.0%	
C14WQ2	507.20	507.80	0.60	0.1%		6086	6094	8	0.1%	
C14WQ3	698.80	699	0.30	0.0%		8385	8389	3	0.0%	
C17DRQ	3665.40	3666.20	0.80	0.0%		43984	43994	10	0.0%	
C18D1	266.60	266.60	0.10	0.0%		3199	3200	1	0.0%	
C18D2	266.60	266.60	0.10	0.0%		3199	3200	1	0.0%	
C18D3	88.30	88.30	0	0.0%		1060	1059	0	0.1%	
C18DN1	197	197	0	0.0%		2364	2364	0	0.0%	
C18DN2	196.10	196.10	0	0.0%		2353	2353	0	0.0%	
C18DQ1	271.60	271.60	0	0.0%		3259	3259	0	0.0%	
C18DQ2	195.90	196	0.10	0.1%		2350	2352	1	0.1%	
C18WR	1940.50	1940.50	0	0.0%		23286	23286	0	0.0%	
C304O	4308	4311.70	3.70	0.1%		51696	51740	44	0.1%	
C42PLQ	192.20	192.30	0	0.1%		2307	2307	1	0.0%	
C4DQ1	14.30	14	-0.30	2.1%		172	168	-4	2.3%	
C4DQ2	3304.30	3312.70	8.40	0.3%		39651	39752	101	0.3%	
C4LSP1	46.90	42.40	-4.50	9.6%		562	509	-54	9.4%	
C4LSP2	318.20	312.80	-5.40	1.7%		3818	3754	-64	1.7%	
C4LSP3	-189	-195.30	-6.30	3.3%	HERE	-2268	-2344	-75	3.4%	HERE
C51LGQ	38.20	40	1.80	4.7%		459	480	21	4.6%	
C6DRQ	474.20	474.30	0.10	0.0%		5691	5692	1	0.0%	
C6EQ	11914.80	11935.90	21.20	0.2%		142977	143231	254	0.2%	
C7DQ1	648.80	648.90	0.10	0.0%		7786	7787	1	0.0%	
C7DQ2	643.10	643.40	0.30	0.0%		7717	7721	4	0.1%	
C8DRQ	424.30	424.30	0	0.0%		5091	5091	0	0.0%	
C9DENQ	114.70	114.70	0	0.0%		1377	1376	-1	0.1%	
C9DESQ	236.30	236.20	-0.10	0.0%		2835	2834	-1	0.0%	
C9DRSQ	865.80	866	0.20	0.0%		10390	10393	2	0.0%	
C9DW1Q	241.10	241.20	0.10	0.0%		2893	2895	1	0.1%	
C9W2Q1	966.90	966.70	-0.30	0.0%		11603	11600	-3	0.0%	
C9W2Q2	966.90	966.70	-0.30	0.0%		11603	11600	-3	0.0%	
CAEST	457.60	457.20	-0.40	0.1%		5491	5486	-5	0.1%	

Table F-1. Monthly and annual absolute percent difference for ECB simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
CAIRR	4727.10	4729	1.90	0.0%		56726	56749	23	0.0%	
CAREG	15313.60	15340.30	26.70	0.2%		183763	184083	320	0.2%	
CDRNQ	1160.70	1160.70	0	0.0%		13928	13929	0	0.0%	
CGBLEQ	1058.50	1037.30	-21.10	2.0%	HERE	12702	12448	-253	2.0%	
CGTC4	565	581.80	16.80	3.0%	HERE	6780	6982	202	3.0%	HERE
COMBQ	8123.50	8140.10	16.70	0.2%		97481	97682	200	0.2%	
CORBT1	1210.40	1210.40	0	0.0%		14524	14525	0	0.0%	
CORBT2	736.20	736.20	0	0.0%		8835	8835	0	0.0%	
CS12	871.70	868.80	-2.90	0.3%		10460	10426	-35	0.3%	
CS17E	501.80	501.80	0	0.0%		6021	6021	0	0.0%	
CS17W	119.10	119.20	0.10	0.1%		1429	1430	1	0.1%	
CS2	297.40	296.20	-1.20	0.4%		3569	3555	-14	0.4%	
CS4	63.90	63.60	-0.40	0.5%		767	763	-5	0.5%	
CS9	383.50	382.30	-1.30	0.3%		4602	4587	-15	0.3%	
DBLEVQ	3663.80	3654	-9.70	0.3%		43965	43848	-117	0.3%	
DIVERS	2428.10	2428.30	0.20	0.0%		29137	29140	2	0.0%	
DMDSEM	1143.90	1144.70	0.90	0.1%		13726	13737	10	0.1%	
DPRESO	769.30	769.30	0	0.0%		9232	9232	0	0.0%	
EBDTLK	474.10	474.10	0	0.0%		5689	5690	1	0.0%	
ESDST2	114.90	114.80	-0.10	0.1%		1379	1377	-2	0.1%	
ESDTLK	484.30	484.50	0.20	0.0%		5811	5814	2	0.1%	
ETPKCO	138.10	138.10	0	0.0%		1657	1657	0	0.0%	
FLIMPM	0.10	0.50	0.40	400.0%		1	5	5	400.0%	
FLWIMP	0.10	0.50	0.40	400.0%		1	5	5	400.0%	
G123	103.50	111.70	8.10	7.9%		1242	1340	98	7.9%	
G136EA	194.30	194.30	0	0.0%		2332	2332	0	0.0%	
G136SO	528.70	528.70	0	0.0%		6344	6344	0	0.0%	
G155PS	4127	4127	0	0.0%		49524	49524	0	0.0%	
G204	32.40	32.40	0	0.0%		388	388	0	0.0%	
G205	45	45	0	0.0%		540	540	0	0.0%	
G206	37.10	37	0	0.3%		445	445	0	0.0%	
G211	5775.80	5787.30	11.50	0.2%		69309	69448	138	0.2%	
G211N	190.30	187.80	-2.50	1.3%		2284	2254	-30	1.3%	
G404	4842.10	4845.30	3.20	0.1%		58105	58144	39	0.1%	
G420	156.30	140	-16.30	10.4%		1875	1680	-195	10.4%	
G421	2	2	-0.10	0.0%		24	23	-1	4.2%	
G54	3747.20	3733.50	-13.70	0.4%		44966	44802	-164	0.4%	

Table F-1. Monthly and annual absolute percent difference for ECB simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
G56	6489.80	6491.70	1.90	0.0%		77878	77901	23	0.0%	
G57	700.60	700.70	0.10	0.0%		8407	8409	1	0.0%	
G57DNQ	7146.60	7163.60	17.10	0.2%		85759	85964	205	0.2%	
G57DRQ	202.50	202.50	0	0.0%		2430	2430	0	0.0%	
G65	29.70	29.70	0	0.0%		356	356	0	0.0%	
G72	3.40	3.40	0	0.0%		40	40	0	0.0%	
G86N	1570.70	1568.50	-2.20	0.1%		18848	18822	-26	0.1%	
G86S	1020.80	1017.40	-3.40	0.3%		12250	12209	-41	0.3%	
G92TRV	425.10	425.20	0.10	0.0%		5102	5102	1	0.0%	
G93	236.10	213.30	-22.80	9.7%	HERE	2833	2559	-274	9.7%	HERE
G94AB	650.50	650.60	0.10	0.0%		7807	7808	1	0.0%	
G94C	674.10	677.40	3.20	0.5%		8089	8128	39	0.5%	
HLBEQ	24.70	24.70	0	0.0%		296	296	0	0.0%	
HLSBEQ	9721.20	9722.70	1.50	0.0%		116654	116673	18	0.0%	
HLSBR1	607.30	607.20	-0.10	0.0%		7287	7286	-1	0.0%	
HLSBR2	283.80	283.70	-0.10	0.0%		3405	3404	-1	0.0%	
HLSOQ	171.10	171.10	0	0.0%		2053	2054	0	0.0%	
HLSPQ1	9.40	9.40	0	0.0%		112	112	0	0.0%	
HLSPQ2	9.40	9.40	0	0.0%		112	112	0	0.0%	
HLYDS	114.40	114.40	0	0.0%		1373	1373	0	0.0%	
HLYQIN	11.80	11.90	0.10	0.8%		142	143	1	0.7%	
HW290Q	6418.50	6418.50	0	0.0%		77022	77022	0	0.0%	
HW291O	5018.30	5018.30	0	0.0%		60220	60220	0	0.0%	
HW292O	4111.70	4111.70	0	0.0%		49340	49340	0	0.0%	
HW293O	3059.80	3059.80	0	0.0%		36718	36718	0	0.0%	
HW294O	2803.50	2803.50	0	0.0%		33642	33642	0	0.0%	
HW295O	1015.70	1015.60	0	0.0%		12188	12188	0	0.0%	
I75L4Q	279.70	279.70	0	0.0%		3356	3356	0	0.0%	
IPGTLK	156	156	0	0.0%		1872	1872	0	0.0%	
ITLBO	2963.60	2951.90	-11.70	0.4%		35563	35422	-140	0.4%	
ITUBO	1777.10	1765.30	-11.80	0.7%		21325	21184	-142	0.7%	
JOEBQ1	471.80	472	0.30	0.0%		5661	5664	3	0.1%	
JOEBQ2	3046.80	3048.50	1.70	0.1%		36562	36582	20	0.1%	
L101OT	254.60	254.10	-0.50	0.2%		3055	3049	-6	0.2%	
L28WQ	4941.90	4941.50	-0.40	0.0%		59303	59298	-4	0.0%	
L8C51W	2376.50	2372.80	-3.70	0.2%		28518	28474	-44	0.2%	
L8CP	4036.90	4038	1.10	0.0%		48443	48456	13	0.0%	

Table F-1. Monthly and annual absolute percent difference for ECB simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
L8RNF	2376.50	2372.80	-3.70	0.2%		28518	28474	-44	0.2%	
LCWSS1	2196.80	2189.90	-6.90	0.3%		26362	26279	-83	0.3%	
LCWSS2	35.80	38	2.20	6.1%		430	456	27	6.0%	
LCWSS3	415.60	415.20	-0.40	0.1%		4987	4982	-5	0.1%	
LGROVQ	705.20	707.50	2.30	0.3%		8462	8490	28	0.3%	
LKMNGQ	37.30	37.30	0	0.0%		448	448	0	0.0%	
LKRGL8	3151.60	3156.50	4.90	0.2%		37819	37878	59	0.2%	
LKST2W	4	4	0	0.0%		48	48	0	0.0%	
LKTFPL	959.20	959.20	0	0.0%		11510	11510	0	0.0%	
LKTIPG	248	248.20	0.10	0.1%		2976	2978	2	0.1%	
LKTNEL	308.70	308.90	0.20	0.1%		3705	3707	2	0.1%	
LKTNLS	28.70	28.70	0	0.0%		344	344	0	0.0%	
LKTSEM	817.30	818.90	1.60	0.2%		9807	9827	19	0.2%	
LMDBQ1	579.90	580	0.20	0.0%		6959	6960	2	0.0%	
LMDBQ2	579.90	580	0.20	0.0%		6959	6960	2	0.0%	
LMDBQ3	1159.80	1160.10	0.30	0.0%		13917	13921	4	0.0%	
LOKTPK	86	85.90	-0.10	0.1%		1032	1031	-2	0.1%	
LOXRVQ	19860.90	19862.50	1.50	0.0%		238331	238350	18	0.0%	
LSPC6	1332.20	1332	-0.10	0.0%		15986	15985	-1	0.0%	
LSPL33	394.90	397	2.10	0.5%		4739	4765	26	0.5%	
LSPWS1	64.10	60.90	-3.20	5.0%		769	730	-39	5.1%	
LSPWS2	396.70	396.50	-0.20	0.1%		4760	4758	-2	0.0%	
LSPWS3	362.20	362.80	0.50	0.2%		4347	4353	6	0.1%	
LW2DRQ	48.80	48.80	0	0.0%		585	585	0	0.0%	
LWSEQ	1320.50	1320.10	-0.40	0.0%		15846	15842	-4	0.0%	
LXTRBQ	306.40	306.40	0	0.0%		3677	3677	0	0.0%	
M1Q	3947.50	3936.50	-11	0.3%		47370	47238	-132	0.3%	
MCELMG	1205.70	1205.70	0	0.0%		14469	14469	0	0.0%	
MCMCLE	963	962.90	0	0.0%		11556	11555	-1	0.0%	
MDSLK	11943.10	11943.10	0	0.0%		143317	143317	0	0.0%	
MIAST3	11304.60	11308	3.40	0.0%		135655	135696	41	0.0%	
NELTLK	295.90	295.90	0	0.0%		3550	3550	0	0.0%	
NLSTLK	3.30	3.30	0	0.0%		39	39	0	0.0%	
NNRFP	874	875.20	1.20	0.1%		10488	10502	15	0.1%	
NNRRG1	1766.60	1766.20	-0.40	0.0%		21199	21195	-5	0.0%	
NNRST3	10414.10	10413.90	-0.20	0.0%		124969	124967	-2	0.0%	
NPBDRQ	114.80	114.80	0	0.0%		1378	1378	0	0.0%	

Table F-1. Monthly and annual absolute percent difference for ECB simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
NRCPLQ	48.20	48.20	0	0.0%		578	578	0	0.0%	
NRIVQ	2186.50	2187	0.50	0.0%		26238	26244	6	0.0%	
NSIMP1	694.30	694.30	0.10	0.0%		8331	8332	1	0.0%	
NSIMP2	3.80	3.90	0.10	2.6%		46	47	1	2.2%	
NSIMP3	2.30	2.30	0	0.0%		28	28	0	0.0%	
NSIMP4	197.70	197.50	-0.20	0.1%		2372	2371	-2	0.0%	
NSIMP5	152.50	152.70	0.20	0.1%		1830	1832	2	0.1%	
NSMPB	3	3	0	0.0%		35	36	0	2.9%	
NWFCLQ	1276	1276.50	0.40	0.0%		15312	15318	5	0.0%	
NWWFLD	319.90	318.40	-1.40	0.5%		3838	3821	-17	0.4%	
PBDRQ	1685.50	1685.40	0	0.0%		20226	20225	0	0.0%	
PLMEC4	100	106.30	6.20	6.3%		1201	1275	74	6.2%	
PLMEC7	851	853.20	2.20	0.3%		10212	10239	26	0.3%	
PLTC12	9.80	9.80	0	0.0%		117	118	0	0.9%	
PLTWQ1	327.90	327.90	0.10	0.0%		3935	3935	1	0.0%	
PLTWQ2	143.90	143.90	0	0.0%		1726	1727	0	0.1%	
POMPDQ	484.10	484.10	0	0.0%		5809	5809	0	0.0%	
Q1C57	2064.30	2051.10	-13.20	0.6%		24771	24614	-158	0.6%	
Q1C9D	165.20	165.10	-0.20	0.1%		1983	1981	-2	0.1%	
Q1LW1	704	704	0	0.0%		8448	8448	0	0.0%	
Q1LW2	1165.40	1165.10	-0.30	0.0%		13985	13981	-4	0.0%	
Q1LW3	583.20	583	-0.20	0.0%		6998	6996	-2	0.0%	
Q1LWSO	43.20	43.20	0	0.0%		519	519	0	0.0%	
Q1WDN	353.50	353.80	0.40	0.1%		4242	4246	4	0.1%	
Q2C57	4033.70	4033.20	-0.50	0.0%		48404	48398	-6	0.0%	
Q2C9D	113.70	113.90	0.20	0.2%		1364	1366	2	0.1%	
Q2LW1	704	704	0	0.0%		8448	8448	0	0.0%	
Q2LW2	1165.40	1165.10	-0.30	0.0%		13985	13981	-4	0.0%	
Q2LW3	583.20	583	-0.20	0.0%		6998	6996	-2	0.0%	
Q2LWSO	43.20	43.20	0	0.0%		519	519	0	0.0%	
Q3LW2	1165.40	1165.10	-0.30	0.0%		13985	13981	-4	0.0%	
QC13E	3343.70	3343.20	-0.50	0.0%		40125	40118	-6	0.0%	
RESTL8	1108.50	1122.60	14.10	1.3%		13302	13471	169	1.3%	
RFTST2	11173.80	11174	0.20	0.0%		134086	134088	2	0.0%	
RFWPBB	9599.60	9600.30	0.70	0.0%		115195	115204	9	0.0%	
RGTCAE	364.30	371.80	7.50	2.1%	HERE	4371	4461	90	2.1%	HERE
ROBRVQ	585.10	585.30	0.20	0.0%		7021	7023	2	0.0%	

Table F-1. Monthly and annual absolute percent difference for ECB simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
ROOKBQ	15902.70	15907.20	4.60	0.0%		190832	190887	55	0.0%	
ROTONW	3879.20	3880.90	1.70	0.0%		46551	46571	21	0.0%	
ROTOT1	3973.50	3974.90	1.40	0.0%		47682	47698	17	0.0%	
ROTOT2	786.40	785.50	-0.90	0.1%		9437	9426	-11	0.1%	
ROTOT3	599.10	598.50	-0.60	0.1%		7190	7182	-7	0.1%	
ROTTS8	979.40	977.50	-1.90	0.2%		11753	11730	-23	0.2%	
ROTTWS	4024.80	4026.40	1.60	0.0%		48298	48317	19	0.0%	
RTTHLY	354.90	355	0.10	0.0%		4258	4260	2	0.0%	
RTTSEM	145.60	145.50	-0.10	0.1%		1747	1746	-1	0.1%	
RTTWCA	3879.20	3880.90	1.70	0.0%		46551	46571	21	0.0%	
RVBDRQ	1072.10	1072.10	0.10	0.0%		12865	12865	1	0.0%	
S10	10093	10197.90	105	1.0%		121116	122375	1260	1.0%	
S10REG	10093	10197.90	105	1.0%		121116	122375	1260	1.0%	
S11	18118.90	18199.80	80.90	0.4%		217427	218398	971	0.4%	
S118	736.90	736.20	-0.70	0.1%		8842	8835	-8	0.1%	
S119	60.80	61.10	0.40	0.5%		729	734	4	0.7%	
S11REG	18118.90	18199.80	80.90	0.4%		217427	218398	971	0.4%	
S123	1519.70	1520.20	0.50	0.0%		18236	18242	6	0.0%	
S124	1.10	1.10	0.10	0.0%		13	14	1	7.7%	
S12A	1751	1753.80	2.80	0.2%		21012	21046	34	0.2%	
S12B	4930	4936.50	6.50	0.1%		59160	59238	78	0.1%	
S12C	7132.10	7144.70	12.60	0.2%		85585	85736	151	0.2%	
S12D	14337.10	14355.50	18.50	0.1%		172045	172266	222	0.1%	
S12ENV	8698.10	8694.30	-3.90	0.0%		104378	104331	-46	0.0%	
S12RG	19148	19191.40	43.40	0.2%		229776	230297	521	0.2%	
S13	3186.80	3185.10	-1.70	0.1%		38242	38221	-21	0.1%	
S1324P	355.90	355.80	-0.10	0.0%		4271	4270	-1	0.0%	
S1324W	71	71.20	0.30	0.3%		851	855	3	0.5%	
S13A	515.70	514.80	-0.90	0.2%		6189	6178	-11	0.2%	
S140	3942.40	3942.20	-0.20	0.0%		47309	47307	-2	0.0%	
S140FC	3942.40	3942.20	-0.20	0.0%		47309	47307	-2	0.0%	
S141	0.10	0.10	0	0.0%		1	1	0	0.0%	
S142E	5.80	5.80	0	0.0%		69	70	0	1.4%	
S142W	90.70	98.80	8.10	8.9%		1088	1185	97	8.9%	
S143	572.80	563.40	-9.40	1.6%		6873	6761	-112	1.6%	
S144	1507.70	1511.90	4.20	0.3%		18093	18143	50	0.3%	
S144RG	1507.70	1511.90	4.20	0.3%		18093	18143	50	0.3%	

Table F-1. Monthly and annual absolute percent difference for ECB simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
S145	1470	1473.50	3.50	0.2%		17640	17682	42	0.2%	
S145RG	1470	1473.50	3.50	0.2%		17640	17682	42	0.2%	
S146	1230.30	1235.50	5.20	0.4%		14764	14826	62	0.4%	
S146RG	1230.30	1235.50	5.20	0.4%		14764	14826	62	0.4%	
S148	1607.10	1601.80	-5.30	0.3%		19285	19221	-64	0.3%	
S149	983.40	983.80	0.50	0.0%		11800	11806	6	0.1%	
S150	254.90	273.10	18.20	7.1%	HERE	3058	3277	219	7.2%	HERE
S151RG	9480.50	9523.60	43.10	0.5%		113766	114284	517	0.5%	
S151WS	3425.80	3411.10	-14.80	0.4%		41110	40933	-177	0.4%	
S155	11183.90	11119.30	-64.60	0.6%		134206	133431	-775	0.6%	
S155A	7293.80	7171.10	-122.60	1.7%		87525	86054	-1472	1.7%	
S165	929.90	935.50	5.50	0.6%		11159	11225	66	0.6%	
S166	190.80	190.50	-0.30	0.2%		2289	2286	-3	0.1%	
S167	1045.30	1044.30	-1	0.1%		12544	12531	-12	0.1%	
S174	543.70	541.40	-2.30	0.4%		6525	6497	-28	0.4%	
S176	2243.50	2253.40	9.90	0.4%		26922	27040	118	0.4%	
S177	3897.90	3909.10	11.20	0.3%		46775	46909	135	0.3%	
S179	1757.10	1755	-2.10	0.1%		21085	21061	-25	0.1%	
S18C	5719.70	5726	6.30	0.1%		68637	68712	75	0.1%	
S194	215.10	220	4.90	2.3%	HERE	2581	2640	59	2.3%	HERE
S196	199.50	198.20	-1.30	0.7%		2394	2379	-15	0.6%	
S197	322.60	325.70	3.10	1.0%		3871	3909	37	1.0%	
S2	6237.10	6251.90	14.80	0.2%		74845	75023	177	0.2%	
S20	390.60	390.60	0	0.0%		4687	4687	0	0.0%	
S20F	2853.50	2850.30	-3.20	0.1%		34242	34204	-38	0.1%	
S20G	399.40	399.90	0.50	0.1%		4793	4799	6	0.1%	
S21	3938.60	3934.40	-4.30	0.1%		47264	47213	-51	0.1%	
S21A	1796.30	1801.60	5.30	0.3%		21556	21620	64	0.3%	
S22	5414.20	5438.60	24.40	0.5%		64970	65263	293	0.5%	
S235TC	984.60	985	0.50	0.0%		11815	11821	6	0.1%	
S236RO	362.80	362.80	0	0.0%		4354	4354	0	0.0%	
S236SO	415.50	415.50	0.10	0.0%		4986	4986	1	0.0%	
S236WS	333.40	333.50	0.10	0.0%		4001	4002	1	0.0%	
S25	495.10	495.60	0.40	0.1%		5942	5947	5	0.1%	
S25B	2658.80	2668.60	9.90	0.4%		31905	32024	119	0.4%	
S26	6759.10	6770.50	11.30	0.2%		81109	81246	136	0.2%	
S27	4066.20	4069.30	3.10	0.1%		48794	48831	37	0.1%	

Table F-1. Monthly and annual absolute percent difference for ECB simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
S28	2738.40	2738.70	0.20	0.0%		32861	32864	3	0.0%	
S29	6823.10	6823.50	0.40	0.0%		81877	81882	5	0.0%	
S29DNQ	8685.80	8685.90	0.10	0.0%		104230	104231	1	0.0%	
S2PMP	1822.20	1822.20	0	0.0%		21866	21867	1	0.0%	
S2TMCL	3575.20	3578.10	2.80	0.1%		42903	42937	34	0.1%	
S3	7968.40	7906.90	-61.50	0.8%		95621	94883	-738	0.8%	
S30	128.10	128.60	0.40	0.4%		1538	1543	5	0.3%	
S308	3888.30	3906.90	18.60	0.5%		46660	46883	223	0.5%	
S308BK	2837.20	2828.60	-8.70	0.3%		34047	33943	-104	0.3%	
S308OT	6725.50	6735.50	10	0.1%		80706	80826	119	0.1%	
S308RG	5610.20	5619.50	9.30	0.2%		67323	67434	112	0.2%	
S319	4899.70	5016	116.30	2.4%	HERE	58796	60192	1395	2.4%	HERE
S319WS	0.50	0.50	-0.10	0.0%		6	5	-1	16.7%	
S31REG	280.30	307.70	27.40	9.8%	HERE	3363	3692	329	9.8%	HERE
S31RG	280.30	307.70	27.40	9.8%	HERE	3363	3692	329	9.8%	HERE
S33	414.10	413.90	-0.20	0.0%		4969	4967	-2	0.0%	
S331FC	6324.80	6346.50	21.80	0.3%		75897	76159	261	0.3%	
S331PM	7918.20	7938.60	20.40	0.3%		95018	95264	245	0.3%	
S331WS	1798.70	1793.60	-5.10	0.3%		21584	21523	-61	0.3%	
S332B	4343.80	4355.60	11.80	0.3%		52125	52268	142	0.3%	
S332BN	2296	2301.80	5.80	0.3%		27552	27621	69	0.3%	
S332C	2053.90	2048.60	-5.30	0.3%		24647	24583	-64	0.3%	
S332D	3143.90	3145.50	1.60	0.1%		37727	37746	19	0.1%	
S333	5133.30	5114.10	-19.10	0.4%		61599	61370	-230	0.4%	
S333EV	3299	3288.20	-10.70	0.3%		39588	39459	-129	0.3%	
S333RG	1393.90	1380.10	-13.80	1.0%		16727	16562	-166	1.0%	
S334FC	387.90	392.40	4.50	1.2%		4655	4709	54	1.2%	
S335	2376.80	2367.70	-9.10	0.4%		28521	28412	-109	0.4%	
S335IO	3781.90	3794.60	12.70	0.3%		45382	45535	153	0.3%	
S336	448	446.10	-1.90	0.4%		5376	5353	-23	0.4%	
S337	3400.90	3385.80	-15.10	0.4%		40811	40630	-182	0.4%	
S337FC	4220.10	4232.80	12.70	0.3%		50641	50793	153	0.3%	
S338	2252.60	2250.30	-2.20	0.1%		27031	27004	-27	0.1%	
S339	1157.70	1142.90	-14.90	1.3%		13893	13714	-179	1.3%	
S34	578.10	568.90	-9.30	1.6%		6938	6826	-111	1.6%	
S340	1185	1171.10	-13.90	1.2%		14220	14053	-167	1.2%	
S343	1420.10	1417.40	-2.70	0.2%		17041	17008	-32	0.2%	

Table F-1. Monthly and annual absolute percent difference for ECB simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
S344	490.70	490	-0.70	0.1%		5888	5881	-8	0.1%	
S34RG	485.90	477.10	-8.80	1.8%		5831	5725	-106	1.8%	
S34WS	92.20	91.80	-0.50	0.4%		1107	1101	-5	0.5%	
S351	8059.30	8074.10	14.80	0.2%		96711	96889	178	0.2%	
S351PK	4	4.70	0.60	17.5%		48	56	7	16.7%	
S352	4454.30	4446.70	-7.60	0.2%		53452	53360	-92	0.2%	
S352L8	722	712.10	-10	1.4%		8664	8545	-119	1.4%	
S354	8343	8281.50	-61.50	0.7%		100116	99378	-739	0.7%	
S354PK	82	81.20	-0.80	1.0%		984	975	-9	0.9%	
S355	348.30	343.20	-5.10	1.5%		4180	4119	-61	1.5%	
S355EV	0.30	0.30	0	0.0%		4	4	0	0.0%	
S355RG	348	342.90	-5.10	1.5%		4176	4115	-61	1.5%	
S356	3063.90	3063.20	-0.70	0.0%		36767	36758	-9	0.0%	
S36	1851.60	1850.90	-0.70	0.0%		22219	22211	-8	0.0%	
S37A	5615.50	5632.50	17	0.3%		67386	67590	204	0.3%	
S37B	4508	4525.50	17.50	0.4%		54096	54306	210	0.4%	
S38	1695.60	1710.90	15.30	0.9%		20347	20531	184	0.9%	
S380L	268.90	260.40	-8.50	3.2%	HERE	3226	3124	-102	3.2%	HERE
S380R	1336.50	1332.30	-4.30	0.3%		16038	15987	-51	0.3%	
S381	2372.90	2376	3.10	0.1%		28475	28512	38	0.1%	
S381BK	13.60	13.30	-0.30	2.2%		163	160	-4	1.8%	
S38REG	1407.20	1424.20	17	1.2%		16887	17091	204	1.2%	
S38WS	288.40	286.70	-1.70	0.6%		3460	3440	-20	0.6%	
S39	449.60	451	1.40	0.3%		5395	5412	17	0.3%	
S39RG	300	302	2	0.7%		3600	3624	24	0.7%	
S39WS	149.60	149	-0.60	0.4%		1795	1788	-7	0.4%	
S3PMP	374.60	374.60	0	0.0%		4495	4495	0	0.0%	
S40	6330.90	6293	-37.90	0.6%		75971	75516	-455	0.6%	
S41	3727.40	3702.60	-24.80	0.7%		44729	44431	-298	0.7%	
S44	4398	4398.90	1	0.0%		52776	52787	11	0.0%	
S46	4686.90	4687.30	0.40	0.0%		56243	56248	5	0.0%	
S4BTLK	648.30	647.80	-0.50	0.1%		7780	7774	-6	0.1%	
S4DMD	1469.90	1471	1.10	0.1%		17639	17652	13	0.1%	
S5A1	10493.20	10485.60	-7.50	0.1%		125918	125828	-90	0.1%	
S5A2	9437.80	9439.30	1.50	0.0%		113254	113272	18	0.0%	
S5A2NO	333.30	334.20	0.90	0.3%		4000	4011	11	0.3%	
S5A2SO	9771.20	9773.60	2.40	0.0%		117254	117283	29	0.0%	

Table F-1. Monthly and annual absolute percent difference for ECB simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
S5A3	2458.80	2468	9.20	0.4%		29506	29616	110	0.4%	
S5A3NO	799	787.70	-11.30	1.4%		9588	9453	-136	1.4%	
S5A3SO	5634.30	5628.50	-5.80	0.1%		67612	67542	-70	0.1%	
S5A4	3514.20	3514.30	0.20	0.0%		42170	42172	2	0.0%	
S5A4E	5890.70	5887.10	-3.50	0.1%		70688	70646	-42	0.1%	
S5AWC1	75.50	77	1.50	2.0%		906	924	18	2.0%	
S6	11173.90	11174.10	0.20	0.0%		134087	134089	2	0.0%	
S6LCWS	38	37.90	0	0.3%		456	455	0	0.2%	
S6NBYP	1648	1648.10	0.10	0.0%		19776	19777	1	0.0%	
S7	5464.40	5458.20	-6.20	0.1%		65573	65498	-75	0.1%	
S77	20157.60	20186	28.40	0.1%		241891	242232	341	0.1%	
S77BK	340.70	340.40	-0.30	0.1%		4088	4085	-3	0.1%	
S77OUT	20498.20	20526.40	28.20	0.1%		245979	246317	338	0.1%	
S77RG	15191.70	15218.30	26.60	0.2%		182300	182619	319	0.2%	
S79	43657.20	43684.20	27	0.1%		523887	524210	324	0.1%	
S7BPMR	51.50	51.50	0	0.0%		618	618	0	0.0%	
S7GRAV	4278.70	4272.30	-6.40	0.1%		51344	51268	-77	0.1%	
S7NBYP	3687	3687.20	0.20	0.0%		44244	44246	2	0.0%	
S7PUMP	1185.70	1185.90	0.20	0.0%		14228	14231	2	0.0%	
S8	21909.20	21848	-61.30	0.3%		262911	262176	-736	0.3%	
S80	9748.80	9766.80	18	0.2%		116986	117202	216	0.2%	
S8BPMR	1.10	1.10	0	0.0%		13	13	0	0.0%	
S8GRAV	153.50	148.50	-4.90	3.3%		1841	1782	-59	3.2%	
S8NBYP	853	853	0	0.0%		10236	10236	0	0.0%	
S8PUMP	21755.80	21699.40	-56.40	0.3%		261070	260393	-676	0.3%	
S9	1218.10	1180.10	-38	3.1%	HERE	14617	14162	-456	3.1%	HERE
S9A	6118.80	6169.20	50.40	0.8%		73426	74030	604	0.8%	
S9XN	0.50	0.50	0	0.0%		5	5	0	0.0%	
S9XS	4.10	4.20	0	2.4%		49	50	1	2.0%	
SBNSP	1534.20	1538.30	4.10	0.3%		18411	18460	50	0.3%	
SBSP	1800.40	1805.90	5.40	0.3%		21605	21670	65	0.3%	
SBSPN	563.20	564.80	1.60	0.3%		6759	6778	19	0.3%	
SCCU	4.10	4.10	0.10	0.0%		49	50	1	2.0%	
SCSP	912.90	909.20	-3.70	0.4%		10955	10911	-44	0.4%	
SCSPC	297	296.80	-0.20	0.1%		3564	3562	-3	0.1%	
SDNSP	586.50	587.80	1.30	0.2%		7038	7053	16	0.2%	
SDNSPC	991.70	993.10	1.50	0.1%		11900	11918	18	0.2%	

Table F-1. Monthly and annual absolute percent difference for ECB simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
SDNWE	1578.10	1576.90	-1.20	0.1%		18937	18922	-15	0.1%	
SDSSP	217.20	216.10	-1.10	0.5%		2607	2593	-14	0.5%	
SDSSPC	337.90	337.20	-0.60	0.2%		4054	4047	-8	0.2%	
SDSWE	1037.60	1038.10	0.50	0.0%		12451	12458	6	0.1%	
SEMWS	145.60	145.50	-0.10	0.1%		1747	1746	-1	0.1%	
SIRWDO	23.20	23.20	0.10	0.0%		278	279	1	0.4%	
SITWCD	1099.40	1113.60	14.10	1.3%		13193	13363	169	1.3%	
SMDNLK	152.80	152.70	-0.10	0.1%		1834	1833	-1	0.1%	
SNCREQ	623.60	624.20	0.60	0.1%		7483	7490	7	0.1%	
SPL31N	4801.40	4804.20	2.80	0.1%		57617	57651	34	0.1%	
SPTL30	11145.30	11151.50	6.10	0.1%		133744	133817	74	0.1%	
SR706Q	898.30	898.20	-0.10	0.0%		10779	10778	-1	0.0%	
SSDST3	142.10	142.20	0	0.1%		1706	1706	0	0.0%	
SSDTLK	170.30	170.30	0	0.0%		2044	2044	0	0.0%	
ST1EEO	4210.50	4275.50	65	1.5%		50526	51306	780	1.5%	
ST1EI1	1839.40	1831.20	-8.20	0.4%		22073	21975	-98	0.4%	
ST1EWO	2740.70	2784.30	43.50	1.6%		32889	33411	522	1.6%	
ST1WI1	7527.60	7536.20	8.60	0.1%		90331	90434	103	0.1%	
ST1WQ1	7508.60	7517.50	8.90	0.1%		90103	90210	107	0.1%	
ST2BYP	3.30	3.30	0	0.0%		39	39	0	0.0%	
ST2REX	830.50	830.50	0	0.0%		9966	9966	0	0.0%	
ST3BYP	52.60	52.60	0	0.0%		631	631	0	0.0%	
ST3QIN	25633.30	25621.10	-12.20	0.0%		307600	307453	-147	0.0%	
ST3REX	3424	3423.60	-0.30	0.0%		41087	41083	-4	0.0%	
ST3S71	5236.50	5232.10	-4.40	0.1%		62838	62785	-53	0.1%	
ST3S81	19813.40	19805.60	-7.80	0.0%		237761	237667	-94	0.0%	
ST3TS7	5236.50	5232.10	-4.40	0.1%		62838	62785	-53	0.1%	
ST3TS8	19813.40	19805.60	-7.80	0.0%		237761	237667	-94	0.0%	
ST5OT1	5474.80	5474.80	0	0.0%		65697	65697	0	0.0%	
ST5REX	134.50	134.50	0	0.0%		1614	1614	0	0.0%	
ST5TCL	4385.30	4386.10	0.80	0.0%		52624	52633	9	0.0%	
ST5TMR	1089.40	1088.70	-0.80	0.1%		13073	13064	-9	0.1%	
ST6OT1	592.90	592.90	0	0.0%		7115	7115	0	0.0%	
ST6SEM	7.30	7.30	0	0.0%		87	87	0	0.0%	
ST6WCA	585.60	585.60	0	0.0%		7027	7027	0	0.0%	
ST6WS	7.30	7.30	0	0.0%		87	87	0	0.0%	
STA2EO	4296.40	4296.40	0.10	0.0%		51556	51557	1	0.0%	

Table F-1. Monthly and annual absolute percent difference for ECB simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
STA2MO	4321.70	4321.70	0.10	0.0%		51860	51861	1	0.0%	
STA2WO	2433.90	2434	0	0.0%		29207	29207	0	0.0%	
STA5IQ	5519.10	5519.10	0	0.0%		66229	66229	0	0.0%	
STA5WO	5498.30	5498.30	0	0.0%		65979	65979	0	0.0%	
STA6IQ	686.70	686.70	0	0.0%		8240	8240	0	0.0%	
STIRR	1115.30	1116	0.60	0.1%		13384	13392	8	0.1%	
STREG	5610.20	5619.50	9.30	0.2%		67323	67434	112	0.2%	
SUNWDQ	811.40	811.60	0.20	0.0%		9737	9740	3	0.0%	
TCNSQ	5782.10	5782.10	0	0.0%		69385	69385	0	0.0%	
U1TL28	496.90	496.90	0	0.0%		5963	5963	0	0.0%	
UISTLK	6000.90	6000.90	0	0.0%		72010	72010	0	0.0%	
WL1351	173.50	171.50	-1.90	1.2%		2082	2059	-23	1.1%	
WL2351	35.50	35.20	-0.20	0.8%		426	423	-3	0.7%	
WL3351	254.90	273.10	18.20	7.1%	HERE	3058	3277	219	7.2%	HERE
WLC351	459.80	475.20	15.40	3.3%	HERE	5518	5703	185	3.4%	HERE
WLC352	171.60	173.20	1.70	0.9%		2059	2079	20	1.0%	
WLC354	972.70	929.20	-43.50	4.5%	HERE	11672	11150	-523	4.5%	HERE
WLES7	2.90	3.10	0.10	6.9%		35	37	2	5.7%	
WLES8	75.20	73	-2.20	2.9%		902	876	-27	2.9%	
WPBCAT	136.20	136.40	0.20	0.1%		1635	1637	2	0.1%	
WPBSTA	9599.60	9600.30	0.70	0.0%		115195	115204	9	0.0%	
WSEAA	13674.60	13675.30	0.70	0.0%		164095	164103	8	0.0%	
WSHOLY	11.80	11.90	0.10	0.8%		142	143	1	0.7%	
WSL8S	77	75.60	-1.40	1.8%		924	908	-16	1.7%	
WSS151	3310.20	3298.30	-11.90	0.4%		39723	39580	-143	0.4%	
WSST1W	6.80	6.80	0	0.0%		82	82	0	0.0%	
WSST2E	4.20	4.20	0	0.0%		50	50	0	0.0%	
WSST2W	4	4	0	0.0%		48	48	0	0.0%	
WSST5E	6.90	6.90	0	0.0%		83	83	0	0.0%	
WSSTA	111	111.10	0.20	0.1%		1331	1334	2	0.2%	
WSSTA3	20.10	20.10	0	0.0%		241	241	0	0.0%	
WSSTA5	6.90	6.90	0	0.0%		83	83	0	0.0%	
WSSTA6	55.20	55.20	0	0.0%		663	663	0	0.0%	
WST1EE	2.30	2.50	0.20	8.7%		27	30	3	11.1%	
WST1EW	8.60	8.60	0	0.0%		104	103	0	1.0%	
WSTC12	60.70	60.60	-0.10	0.2%		729	727	-1	0.3%	
WSTLXR	1512	1512	0	0.0%		18144	18145	0	0.0%	

Table F-2. Monthly and annual absolute percent difference for 2050B4 simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
333FCN	0	0	0			0	0	0		
333FCR	0	0	0			0	0	0		
333FLC	0	0	0			0	0	0		
349BB	6627.5	6627.6	0.1	0.0%		79529	79531	1	0.0%	
349BC	6405.3	6404.8	-0.5	0.0%		76864	76858	-6	0.0%	
349BD	1982.8	1980.1	-2.8	0.1%		23794	23761	-33	0.1%	
349WB	7310.7	7313.6	2.9	0.0%		87729	87764	35	0.0%	
349WC	3993	3995.4	2.3	0.1%		47916	47945	28	0.1%	
349WD	1431.1	1432.5	1.4	0.1%		17173	17190	17	0.1%	
351RG	1163.9	1161.3	-2.7	0.2%		13967	13935	-32	0.2%	
351WS	359.4	366.7	7.3	2.0%	HERE	4312	4400	88	2.0%	HERE
352RG	0	0	0			0	0	0		
352TLK	0	0	0			0	0	0		
352WS	171.5	169.5	-2	1.2%		2058	2034	-24	1.2%	
354RG	1462.6	1456.6	-5.9	0.4%		17551	17480	-71	0.4%	
354WS	2186.8	2165.3	-21.6	1.0%		26242	25983	-259	1.0%	
356GRD	0	0	0			0	0	0		
356L29	7539.5	7538.6	-0.8	0.0%		90474	90464	-10	0.0%	
715FLK	218.8	218.8	0	0.0%		2626	2626	0	0.0%	
715ST2	48.4	48.4	0	0.0%		581	581	0	0.0%	
ACCPBR	0	0	0			0	0	0		
ACLWDD	0	0	0			0	0	0		
ACME2	0	0	0			0	0	0		
ACME3	1848.7	1849	0.3	0.0%		22185	22188	3	0.0%	
ACME4W	32.9	33	0.1	0.3%		395	396	1	0.3%	
ACME6	34.2	34.3	0.1	0.3%		410	411	1	0.2%	
ACMEBA	0.7	0.7	0	0.0%		9	8	0	11.1%	
ACMECU	1524.2	1524.5	0.3	0.0%		18291	18294	4	0.0%	
ACMERF	0	0	0			0	0	0		
ACMEWS	0	0	0			0	0	0		
ACRFAS	0	0	0			0	0	0		
ADDSLW	279.5	275.4	-4.1	1.5%		3353	3305	-49	1.4%	
AGQ	-907	-906.8	0.2	0.0%		-10884	-10882	2	0.0%	
AGQRF	1404.1	1403.8	-0.3	0.0%		16850	16846	-4	0.0%	
AGQWS	497.1	497	-0.1	0.0%		5966	5964	-2	0.0%	
AM4WS1	0	0	0			0	0	0		
AM4WS2	0	0	0			0	0	0		

Table F-2. Monthly and annual absolute percent difference for 2050B4 simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
ASRBRC	0	0	0			0	0	0		
ASRCA1	0	0	0			0	0	0		
ASRCA2	0	0	0			0	0	0		
ASRCA3	0	0	0			0	0	0		
ASRDAC	0	0	0			0	0	0		
ASRLOK	0	0	0			0	0	0		
ASRPBC	0.1	0.1	0	0.0%		2	2	0	0.0%	
ASRSA1	0.1	0.1	0	0.0%		2	2	0	0.0%	
ASRSA2	0	0	0			0	0	0		
ASRSA3	0	0	0			0	0	0		
BDOUT	2721.8	2721.8	0	0.0%		32661	32661	0	0.0%	
BFLTL8	0	0	0			0	0	0		
BKMCL8	0	0	0			0	0	0		
BPRC51	0	0	0			0	0	0		
BPRL8S	0	0	0			0	0	0		
BRI95Q	149.4	149.4	0	0.0%		1792	1793	0	0.1%	
C103D1	582.6	582.6	0	0.0%		6992	6992	0	0.0%	
C103D2	405	404.9	-0.1	0.0%		4860	4859	-1	0.0%	
C103D3	305	305	0	0.0%		3660	3660	0	0.0%	
C10ABK	3287.4	3279.9	-7.4	0.2%		39448	39359	-89	0.2%	
C10Q	8057.1	8063	6	0.1%		96685	96757	72	0.1%	
C11DP1	1323.7	1325.2	1.5	0.1%		15884	15902	18	0.1%	
C11ED1	560	560.1	0.1	0.0%		6720	6721	1	0.0%	
C11ED2	559.8	559.9	0.1	0.0%		6718	6719	1	0.0%	
C11WP1	711.7	712.1	0.4	0.1%		8541	8545	4	0.0%	
C13DRQ	34.1	34	0	0.3%		409	409	0	0.0%	
C14DQ1	65.7	65.9	0.2	0.3%		788	791	3	0.4%	
C14DQ2	97.4	97.2	-0.2	0.2%		1169	1166	-3	0.3%	
C14SNQ	0	0	0			0	0	0		
C14WNQ	91.4	91.5	0.1	0.1%		1097	1098	1	0.1%	
C14WQ1	1059.6	1059.8	0.1	0.0%		12716	12717	1	0.0%	
C14WQ2	458.8	458.5	-0.3	0.1%		5505	5502	-3	0.1%	
C14WQ3	566.6	566.5	-0.1	0.0%		6799	6798	-1	0.0%	
C17DRQ	3619.7	3620.3	0.6	0.0%		43436	43444	7	0.0%	
C18D1	225	225	0	0.0%		2700	2700	0	0.0%	
C18D2	225	225	0	0.0%		2700	2700	0	0.0%	
C18D3	69	69.1	0.1	0.1%		828	829	1	0.1%	

Table F-2. Monthly and annual absolute percent difference for 2050B4 simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
C18DN1	217.5	217.6	0	0.0%		2611	2611	0	0.0%	
C18DN2	217.1	217.1	0	0.0%		2605	2605	0	0.0%	
C18DQ1	264.7	264.7	0	0.0%		3176	3177	0	0.0%	
C18DQ2	191	191	0	0.0%		2292	2292	0	0.0%	
C18WR	2364.6	2364.6	0	0.0%		28375	28375	0	0.0%	
C304O	76.8	83.4	6.6	8.6%		922	1001	79	8.6%	HERE
C42PLQ	175.8	175.7	0	0.1%		2109	2109	-1	0.0%	
C4DQ1	14.2	14.7	0.5	3.5%		170	176	6	3.5%	HERE
C4DQ2	2288.2	2285.4	-2.8	0.1%		27458	27424	-33	0.1%	
C4LSP1	49.5	47.3	-2.2	4.4%		594	567	-26	4.5%	HERE
C4LSP2	295.8	291.5	-4.3	1.5%		3549	3498	-52	1.4%	
C4LSP3	-213.7	-218.8	-5	2.4%	HERE	-2565	-2625	-61	2.3%	HERE
C51FAS	0	0	0			0	0	0		
C51LGQ	33.9	33.5	-0.4	1.2%		407	402	-5	1.2%	
C51TAS	0	0	0			0	0	0		
C6DRQ	340.6	340.4	-0.1	0.1%		4087	4085	-1	0.0%	
C6EQ	9832	9812.5	-19.4	0.2%		117983	117750	-233	0.2%	
C7DQ1	666.4	666.2	-0.2	0.0%		7997	7995	-3	0.0%	
C7DQ2	663	662.9	-0.1	0.0%		7956	7955	-2	0.0%	
C8DRQ	424.4	424.1	-0.2	0.1%		5093	5090	-3	0.1%	
C9DENQ	105.5	105.4	0	0.1%		1265	1265	0	0.0%	
C9DESQ	212.7	212.7	0	0.0%		2552	2552	0	0.0%	
C9DRSQ	746.1	745.9	-0.2	0.0%		8953	8951	-2	0.0%	
C9DW1Q	251.2	251.2	-0.1	0.0%		3015	3014	-1	0.0%	
C9W2Q1	1087	1084.6	-2.3	0.2%		13044	13016	-28	0.2%	
C9W2Q2	1087	1084.6	-2.3	0.2%		13044	13016	-28	0.2%	
CABKRE	0	0	0			0	0	0		
CAEST	1667.2	1664	-3.3	0.2%		20007	19968	-39	0.2%	
CAIRR	5005.2	5004	-1.2	0.0%		60063	60049	-14	0.0%	
CAREG	14559.8	14578.7	18.9	0.1%		174718	174945	227	0.1%	
CARES	0	0	0			0	0	0		
CDRNQ	1249.1	1249.2	0.1	0.0%		14989	14990	1	0.0%	
CGBLEQ	920.6	960.9	40.2	4.4%	HERE	11048	11530	483	4.4%	HERE
CGTC4	610.9	573.4	-37.5	6.1%	HERE	7331	6881	-450	6.1%	HERE
CL8R1	0	0	0			0	0	0		
CL8R2	0	0	0			0	0	0		
CORBT1	1258.8	1258.8	0	0.0%		15106	15106	0	0.0%	

Table F-2. Monthly and annual absolute percent difference for 2050B4 simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
CORBT2	765.7	765.7	0	0.0%		9188	9188	0	0.0%	
CPBTLW	0	0	0			0	0	0		
CRESLO	0	0	0			0	0	0		
CS12	831	832.4	1.3	0.2%		9972	9989	16	0.2%	
CS17E	1390.6	1391.7	1.2	0.1%		16687	16701	14	0.1%	
CS17W	101.5	100.7	-0.7	0.8%		1218	1209	-9	0.7%	
CS2	249.2	251.1	1.9	0.8%		2990	3013	23	0.8%	
CS4	0	0	0			0	0	0		
CS9	365.7	366.2	0.6	0.1%		4388	4395	7	0.2%	
DBLEVQ	3795.3	3779	-16.3	0.4%		45544	45348	-196	0.4%	
DIVERS	2697.6	2697.6	0	0.0%		32371	32371	0	0.0%	
DMDSEM	1157.7	1157.4	-0.3	0.0%		13893	13889	-4	0.0%	
DPRESO	773	773	0	0.0%		9276	9276	0	0.0%	
EBDST1	0	0	0			0	0	0		
EBDTLK	507.5	507.5	0	0.0%		6090	6090	0	0.0%	
ESDST2	135	134.9	0	0.1%		1620	1619	0	0.1%	
ESDTLK	506.7	506.7	0	0.0%		6080	6080	0	0.0%	
ETPKCO	162.9	162.9	0	0.0%		1954	1954	0	0.0%	
FLIMPH	0	0	0			0	0	0		
FLIMPM	2.6	2.7	0.1	3.8%		31	32	1	3.2%	
FLIMPN	0	0	0			0	0	0		
FLIMPW	0	0	0			0	0	0		
FLWIMP	2.6	2.7	0.1	3.8%		31	32	1	3.2%	
G123	292.8	292	-0.7	0.3%		3513	3504	-9	0.3%	
G136EA	177.5	177.5	0	0.0%		2130	2130	0	0.0%	
G136SO	545.5	545.5	0	0.0%		6545	6545	0	0.0%	
G1553A	0	0	0			0	0	0		
G155PS	4127	4127	0	0.0%		49524	49524	0	0.0%	
G204	27.4	27.4	0	0.0%		329	329	0	0.0%	
G205	38	38	0	0.0%		456	456	0	0.0%	
G206	31.2	31.2	0	0.0%		375	375	0	0.0%	
G211	2211	2208.6	-2.4	0.1%		26531	26503	-29	0.1%	
G211N	2.5	2.4	0	4.0%		29	29	0	0.0%	
G211P	24.7	25.3	0.7	2.4%		296	304	8	2.7%	HERE
G261	0	0	0			0	0	0		
G262	0	0	0			0	0	0		
G263	0	0	0			0	0	0		

Table F-2. Monthly and annual absolute percent difference for 2050B4 simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
G311	0	0	0			0	0	0		
G404	3057	3063.3	6.3	0.2%		36684	36760	76	0.2%	
G420	110.9	99.3	-11.7	10.5%		1331	1191	-140	10.5%	HERE
G421	2.4	2.4	0	0.0%		28	28	0	0.0%	
G54	3595.9	3602.3	6.3	0.2%		43151	43227	76	0.2%	
G56	5938.1	5942.1	4	0.1%		71257	71305	47	0.1%	
G57	483.4	483.5	0.1	0.0%		5801	5802	1	0.0%	
G57DNQ	6231.9	6226.9	-5	0.1%		74783	74723	-60	0.1%	
G57DRQ	153.2	153.2	0	0.0%		1838	1838	0	0.0%	
G65	74	74.5	0.4	0.7%		888	894	5	0.7%	
G72	1.6	1.6	0	0.0%		19	19	0	0.0%	
G86N	1446.9	1452.4	5.5	0.4%		17363	17429	66	0.4%	
G86S	1097.9	1104.6	6.7	0.6%		13175	13256	80	0.6%	
G92	0	0	0			0	0	0		
G92TRV	270.9	270.9	0	0.0%		3251	3251	0	0.0%	
G93	106.2	148.5	42.3	39.8%		1274	1782	508	39.9%	HERE
G94AB	752.4	741.5	-10.9	1.4%		9029	8898	-131	1.5%	
G94C	691	701.3	10.3	1.5%		8292	8416	124	1.5%	
HLBEQ	33.6	33.6	0	0.0%		404	404	0	0.0%	
HLBRG1	0	0	0			0	0	0		
HLBRG2	0	0	0			0	0	0		
HLBST1	6894	6893.6	-0.4	0.0%		82729	82724	-5	0.0%	
HLBST2	3439.7	3439.6	-0.1	0.0%		41276	41275	-1	0.0%	
HLFASR	0.1	0.1	0	0.0%		2	2	0	0.0%	
HLSBEQ	8781.8	8786.5	4.7	0.1%		105381	105437	56	0.1%	
HLSBR1	627.6	627.8	0.2	0.0%		7531	7533	3	0.0%	
HLSBR2	258.4	258.5	0.1	0.0%		3100	3102	2	0.1%	
HLSOQ	389.9	389.6	-0.3	0.1%		4679	4675	-4	0.1%	
HLSPQ1	10.7	10.7	0	0.0%		129	129	0	0.0%	
HLSPQ2	10.7	10.7	0	0.0%		129	129	0	0.0%	
HLTASR	102.7	102.5	-0.2	0.2%		1232	1230	-3	0.2%	
HLYDS	96.7	96.6	0	0.1%		1160	1160	0	0.0%	
HLYL4	0	0	0			0	0	0		
HLYNW	0	0	0			0	0	0		
HLYQIN	26.6	26.8	0.2	0.8%		319	321	3	0.6%	
HW290Q	6418.5	6418.5	0	0.0%		77022	77022	0	0.0%	
HW291O	5018.3	5018.3	0	0.0%		60220	60220	0	0.0%	

Table F-2. Monthly and annual absolute percent difference for 2050B4 simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
HW292O	4111.7	4111.7	0	0.0%		49340	49341	0	0.0%	
HW293O	3059.8	3059.8	0	0.0%		36718	36718	0	0.0%	
HW294O	2803.5	2803.5	0	0.0%		33642	33642	0	0.0%	
HW295O	1015.7	1015.7	0	0.0%		12188	12188	0	0.0%	
I75L4Q	264.4	264.4	0	0.0%		3173	3173	0	0.0%	
IPGTLK	178.5	178.5	0	0.0%		2142	2142	0	0.0%	
ITLBO	2957.6	2950.4	-7.2	0.2%		35491	35405	-86	0.2%	
ITUBO	1763.5	1756.1	-7.4	0.4%		21162	21073	-88	0.4%	
JOEBQ1	361.8	362.3	0.6	0.1%		4341	4348	7	0.2%	
JOEBQ2	2412.4	2415.6	3.2	0.1%		28948	28987	38	0.1%	
JUPWS	39.4	39.4	0	0.0%		472	472	0	0.0%	
L101OT	996.3	996.2	-0.1	0.0%		11955	11954	-1	0.0%	
L28WQ	5002.8	5002.9	0.1	0.0%		60034	60035	1	0.0%	
L29WA	-3405.4	-3407.1	-1.7	0.0%		-40865	-40885	-20	0.0%	
L29WB	-4992.3	-4996.7	-4.4	0.1%		-59907	-59960	-53	0.1%	
L29WC	-3193.9	-3202.5	-8.6	0.3%		-38327	-38430	-104	0.3%	
L29WEV	7566.2	7574.5	8.3	0.1%		90794	90893	99	0.1%	
L29WFL	11591.6	11606.3	14.7	0.1%		139099	139276	176	0.1%	
L29WRG	4076.1	4082.1	6	0.1%		48913	48986	72	0.1%	
L31TAS	0	0	0			0	0	0		
L67WB1	5174.3	5175.7	1.4	0.0%		62091	62108	16	0.0%	
L67WB2	927.1	926.5	-0.6	0.1%		11125	11118	-7	0.1%	
L67WB3	1251.8	1251.7	-0.1	0.0%		15022	15021	-1	0.0%	
L67WB4	1098.1	1098.3	0.2	0.0%		13177	13180	3	0.0%	
L67WC1	5778.3	5779.3	1.1	0.0%		69339	69352	13	0.0%	
L67WC2	999.3	999.3	-0.1	0.0%		11992	11991	-1	0.0%	
L67WC3	1419.8	1420.3	0.4	0.0%		17038	17043	5	0.0%	
L67WC4	1243.2	1243.7	0.5	0.0%		14918	14924	6	0.0%	
L67WD1	4974.8	4976.4	1.6	0.0%		59697	59717	19	0.0%	
L67WD2	1168.9	1169.1	0.2	0.0%		14027	14029	2	0.0%	
L67WD3	1613.1	1613.7	0.6	0.0%		19357	19364	7	0.0%	
L67WD4	1384.4	1385	0.5	0.0%		16613	16620	6	0.0%	
L8BPSP	4.7	4.7	0	0.0%		56	56	0	0.0%	
L8C51W	1585	1590.7	5.8	0.4%		19020	19089	69	0.4%	
L8CP	4468	4476.4	8.3	0.2%		53617	53716	100	0.2%	
L8RNF	1585	1590.7	5.8	0.4%		19020	19089	69	0.4%	
L8ST1E	0	0	0			0	0	0		

Table F-2. Monthly and annual absolute percent difference for 2050B4 simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
L8TBPR	0	0	0			0	0	0		
L8TCA1	0	0	0			0	0	0		
LCWSS1	2952.3	2959.9	7.6	0.3%		35428	35519	91	0.3%	
LCWSS2	203.9	206.4	2.4	1.2%		2447	2476	29	1.2%	
LCWSS3	817.3	817.1	-0.2	0.0%		9808	9806	-2	0.0%	
LGROVQ	765.7	765.8	0.1	0.0%		9188	9190	2	0.0%	
LKMNGQ	19.4	19.4	0	0.0%		233	233	0	0.0%	
LKRGL8	3841	3846.1	5.1	0.1%		46092	46153	61	0.1%	
LKTFPL	959.2	959.2	0	0.0%		11510	11510	0	0.0%	
LKTIPG	281	280.9	-0.1	0.0%		3371	3371	-1	0.0%	
LKTNEL	310.3	310.2	-0.1	0.0%		3723	3723	-1	0.0%	
LKTNLS	28.8	28.8	0	0.0%		345	345	0	0.0%	
LKTROT	0	0	0			0	0	0		
LKTSEM	835.8	842.3	6.5	0.8%		10029	10107	78	0.8%	
LMDBQ1	594.4	594.4	0	0.0%		7133	7133	0	0.0%	
LMDBQ2	594.4	594.4	0	0.0%		7133	7133	0	0.0%	
LMDBQ3	1188.9	1188.9	0	0.0%		14266	14266	0	0.0%	
LOKASR	0	0	0			0	0	0		
LOKTPK	113.6	113.6	0	0.0%		1364	1364	0	0.0%	
LOXRVQ	20039.7	20040.9	1.2	0.0%		240476	240491	15	0.0%	
LSPC6	1306	1305.8	-0.2	0.0%		15672	15670	-2	0.0%	
LSPL33	426.8	423.6	-3.3	0.7%		5122	5083	-39	0.8%	
LSPWS1	55.8	60.1	4.3	7.7%		670	721	51	7.6%	HERE
LSPWS2	485.1	484.1	-1	0.2%		5821	5809	-12	0.2%	
LSPWS3	735.1	736.5	1.4	0.2%		8821	8838	17	0.2%	
LW2DRQ	55.2	55.2	0	0.0%		663	663	0	0.0%	
LWSEQ	1365.5	1366.1	0.6	0.0%		16386	16393	7	0.0%	
LXSLWS	0	0	0			0	0	0		
LXTRBQ	241.8	241.8	0	0.0%		2902	2902	0	0.0%	
M1Q	3791	3784.7	-6.4	0.2%		45492	45416	-76	0.2%	
MCELMG	1398.4	1398.3	-0.2	0.0%		16781	16779	-2	0.0%	
MCMCLE	1156.9	1156.6	-0.3	0.0%		13883	13880	-3	0.0%	
MDSLK	11943.1	11943.1	0	0.0%		143317	143317	0	0.0%	
MIAST3	10633	10623.1	-9.8	0.1%		127596	127478	-118	0.1%	
NELTLK	295.9	295.9	0	0.0%		3550	3550	0	0.0%	
NLSTLK	3.3	3.3	0	0.0%		39	39	0	0.0%	
NNRFAS	0	0	0			0	0	0		

Table F-2. Monthly and annual absolute percent difference for 2050B4 simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
NNRFP	882.2	882.2	0	0.0%		10587	10587	0	0.0%	
NNRRG1	931.2	929	-2.1	0.2%		11174	11148	-26	0.2%	
NNRRG2	232.8	232.3	-0.5	0.2%		2793	2787	-6	0.2%	
NNRST2	2784.9	2784.7	-0.2	0.0%		33418	33416	-2	0.0%	
NNRST3	8427	8427.7	0.7	0.0%		101124	101132	8	0.0%	
NNRSTA	11211.9	11212.4	0.5	0.0%		134543	134549	6	0.0%	
NNRTAS	0	0	0			0	0	0		
NPBDRQ	95.8	95.8	0	0.0%		1150	1150	0	0.0%	
NRCPLQ	45.7	45.9	0.1	0.4%		549	550	1	0.2%	
NRIVQ	2352.2	2352.2	-0.1	0.0%		28227	28226	-1	0.0%	
NSIMP1	716.1	716.1	-0.1	0.0%		8593	8593	-1	0.0%	
NSIMP2	4	4.1	0.1	2.5%		48	49	1	2.1%	
NSIMP3	3.2	3.4	0.2	6.2%		39	41	2	5.1%	
NSIMP4	204.1	204	0	0.0%		2449	2449	0	0.0%	
NSIMP5	167.5	167.4	-0.1	0.1%		2010	2009	-1	0.0%	
NSMPB	3.5	3.5	0.1	0.0%		41	42	1	2.4%	
NWFCLQ	1191.6	1190.7	-1	0.1%		14300	14288	-12	0.1%	
NWWFLD	185.2	185.2	0	0.0%		2222	2222	0	0.0%	
PBDRQ	1682.6	1682.5	-0.1	0.0%		20191	20190	-1	0.0%	
PIPCA1	0	0	0			0	0	0		
PIPE2A	0	0	0			0	0	0		
PIPE3A	0	0	0			0	0	0		
PLMEC4	63.9	64.3	0.4	0.6%		767	771	5	0.5%	
PLMEC7	1164.7	1163.5	-1.2	0.1%		13976	13962	-14	0.1%	
PLTC12	21.8	21.9	0	0.5%		262	262	0	0.0%	
PLTWQ1	349.9	350.1	0.2	0.1%		4199	4201	2	0.0%	
PLTWQ2	147.6	147.7	0.1	0.1%		1771	1772	1	0.1%	
POMPDQ	407.1	407.1	0	0.0%		4885	4886	0	0.0%	
PPHLWP	0	0	0			0	0	0		
PPS150	0	0	0			0	0	0		
Q1C57	1954.2	1962.7	8.5	0.4%		23450	23552	102	0.4%	
Q1C9D	168.3	168.4	0.1	0.1%		2020	2021	1	0.0%	
Q1LW1	679.1	679.9	0.8	0.1%		8149	8158	9	0.1%	
Q1LW2	1339.3	1339.8	0.5	0.0%		16072	16078	6	0.0%	
Q1LW3	554.7	554.6	0	0.0%		6656	6655	-1	0.0%	
Q1LWSO	18.2	18.2	0	0.0%		218	219	0	0.5%	
Q1WDN	387.9	388.1	0.2	0.1%		4655	4657	2	0.0%	

Table F-2. Monthly and annual absolute percent difference for 2050B4 simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
Q2C57	4017.3	4015	-2.2	0.1%		48207	48180	-27	0.1%	
Q2C9D	118.6	118.4	-0.2	0.2%		1423	1421	-2	0.1%	
Q2LW1	679.1	679.9	0.8	0.1%		8149	8158	9	0.1%	
Q2LW2	1339.4	1339.9	0.5	0.0%		16072	16079	6	0.0%	
Q2LW3	554.7	554.6	0	0.0%		6656	6655	-1	0.0%	
Q2LWSO	18.2	18.2	0	0.0%		218	219	0	0.5%	
Q3LW2	1339.2	1339.7	0.5	0.0%		16071	16077	6	0.0%	
QC13E	2901.2	2900.8	-0.4	0.0%		34814	34809	-5	0.0%	
RESL8O	0	0	0			0	0	0		
RESTL8	1168.2	1175.3	7.1	0.6%		14019	14104	85	0.6%	
REUBDR	0	0	0			0	0	0		
REUWS1	0	0	0			0	0	0		
REUWS2	0	0	0			0	0	0		
REUWS3	0	0	0			0	0	0		
RFWPBB	7560.7	7560.6	0	0.0%		90728	90727	-1	0.0%	
RGTCAE	885	896.5	11.4	1.3%		10621	10758	137	1.3%	
RGTSLE	293.9	305.9	12	4.1%	HERE	3526	3671	144	4.1%	HERE
ROBRVQ	608.6	608.7	0.1	0.0%		7303	7304	1	0.0%	
ROOKBQ	17416.3	17415.6	-0.7	0.0%		208995	208987	-8	0.0%	
ROTOL4	0	0	0			0	0	0		
ROTONW	2158.8	2158.1	-0.7	0.0%		25906	25897	-9	0.0%	
ROTOT1	1439.7	1439.6	-0.1	0.0%		17277	17275	-1	0.0%	
ROTOT2	571.1	571	0	0.0%		6853	6852	0	0.0%	
ROTOT3	445.8	445.8	0	0.0%		5350	5349	-1	0.0%	
ROTTS8	2.6	2.6	0	0.0%		32	32	0	0.0%	
ROTTWS	2221.2	2221	-0.2	0.0%		26654	26653	-2	0.0%	
RTTHLY	232.8	232.7	0	0.0%		2793	2793	0	0.0%	
RTTSEM	62.4	63	0.6	1.0%		748	755	7	0.9%	
RTTWCA	2158.8	2158.1	-0.7	0.0%		25906	25897	-9	0.0%	
RVBDRQ	954.2	954.3	0.1	0.0%		11450	11451	1	0.0%	
S10	8580.3	8621.3	41	0.5%		102963	103455	492	0.5%	
S10E	0	0	0			0	0	0		
S10EEV	0	0	0			0	0	0		
S10ENV	0	0	0			0	0	0		
S10ERG	0	0	0			0	0	0		
S10EWS	0	0	0			0	0	0		
S10REG	8580.3	8621.3	41	0.5%		102963	103455	492	0.5%	

Table F-2. Monthly and annual absolute percent difference for 2050B4 simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
S10WS	0	0	0			0	0	0		
S11	19332.4	19374.6	42.2	0.2%		231989	232496	507	0.2%	
S118	546.8	546.4	-0.4	0.1%		6561	6556	-5	0.1%	
S119	42.8	42.7	-0.1	0.2%		513	512	-1	0.2%	
S11ENV	0	0	0			0	0	0		
S11REG	19332.4	19374.6	42.2	0.2%		231989	232496	507	0.2%	
S11WS	0	0	0			0	0	0		
S123	1207.5	1206.5	-1	0.1%		14489	14478	-12	0.1%	
S124	1.3	1.3	-0.1	0.0%		16	15	-1	6.3%	
S125	0	0	0			0	0	0		
S12A	2150	2149.5	-0.5	0.0%		25800	25794	-6	0.0%	
S12B	4288	4287.1	-1	0.0%		51456	51445	-12	0.0%	
S12C	5578.2	5576.6	-1.6	0.0%		66938	66919	-19	0.0%	
S12D	6772.3	6770.1	-2.2	0.0%		81268	81241	-27	0.0%	
S12ENV	6492.9	6492.9	0	0.0%		77915	77915	0	0.0%	
S12RG	12295.6	12290.3	-5.3	0.0%		147548	147484	-64	0.0%	
S13	3858.9	3856.7	-2.1	0.1%		46307	46281	-26	0.1%	
S1324P	404.6	404.6	0	0.0%		4856	4856	0	0.0%	
S1324W	79.4	79.6	0.2	0.3%		953	956	3	0.3%	
S13A	1280.3	1277.6	-2.7	0.2%		15364	15331	-33	0.2%	
S140	3826.6	3826.1	-0.6	0.0%		45919	45913	-7	0.0%	
S140FC	3826.6	3826.1	-0.6	0.0%		45919	45913	-7	0.0%	
S141	0.1	0.1	0	0.0%		2	2	0	0.0%	
S142E	0.1	0.1	0	0.0%		1	2	0	100.0%	
S142W	279.5	278.5	-1	0.4%		3354	3342	-12	0.4%	
S143	444.9	451.4	6.5	1.5%		5339	5417	77	1.5%	
S144	1566.7	1565.4	-1.3	0.1%		18800	18784	-16	0.1%	
S144EV	0	0	0			0	0	0		
S144RG	1566.7	1565.4	-1.3	0.1%		18800	18784	-16	0.1%	
S144WS	0	0	0			0	0	0		
S145	1527.6	1526.3	-1.3	0.1%		18331	18315	-16	0.1%	
S145EV	0	0	0			0	0	0		
S145RG	1527.6	1526.3	-1.3	0.1%		18331	18315	-16	0.1%	
S145WS	0	0	0			0	0	0		
S146	1281	1282.2	1.2	0.1%		15372	15387	15	0.1%	
S146EV	0	0	0			0	0	0		
S146RG	1281	1282.2	1.2	0.1%		15372	15387	15	0.1%	

Table F-2. Monthly and annual absolute percent difference for 2050B4 simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
S146WS	0	0	0			0	0	0		
S148	315.9	317	1.1	0.3%		3791	3804	13	0.3%	
S149	906.8	906.9	0.1	0.0%		10881	10883	2	0.0%	
S150	87.9	97.1	9.1	10.5%		1055	1165	109	10.4%	HERE
S151RG	338.2	342	3.8	1.1%		4058	4104	46	1.1%	
S151WS	3386.9	3378.3	-8.7	0.3%		40643	40539	-104	0.3%	
S155	10858.9	10832.7	-26.3	0.2%		130307	129992	-315	0.2%	
S155A	7204.2	7164.3	-40	0.6%		86451	85971	-480	0.6%	
S165	854.7	854.4	-0.3	0.0%		10256	10253	-4	0.0%	
S166	151.6	151.5	0	0.1%		1819	1818	-1	0.1%	
S167	885.2	885.3	0.1	0.0%		10623	10623	1	0.0%	
S173	940.7	945.1	4.3	0.5%		11289	11341	52	0.5%	
S176	1818.5	1815.7	-2.9	0.2%		21822	21788	-34	0.2%	
S177	2046.4	2048	1.5	0.1%		24557	24576	18	0.1%	
S178	0	0	0			0	0	0		
S179	1203.9	1203.1	-0.7	0.1%		14446	14438	-9	0.1%	
S18C	4139.2	4138.8	-0.4	0.0%		49670	49666	-4	0.0%	
S194	250.1	249.4	-0.7	0.3%		3001	2993	-8	0.3%	
S196	297.6	297.7	0.1	0.0%		3571	3572	1	0.0%	
S197	170.2	164.4	-5.8	3.4%	HERE	2042	1972	-70	3.4%	HERE
S2	6083.9	6088.2	4.3	0.1%		73006	73058	52	0.1%	
S20	342.6	342.6	0	0.0%		4111	4111	0	0.0%	
S20F	2035.8	2036.5	0.8	0.0%		24429	24438	9	0.0%	
S20G	327.5	327.4	-0.1	0.0%		3930	3929	-1	0.0%	
S21	2616	2618.9	2.9	0.1%		31392	31427	34	0.1%	
S21A	1572.9	1572.6	-0.3	0.0%		18875	18871	-4	0.0%	
S22	4059.8	4049.1	-10.7	0.3%		48718	48590	-129	0.3%	
S235TC	827.1	829.2	2.1	0.3%		9925	9950	25	0.3%	
S236RO	357.5	357.3	-0.2	0.1%		4290	4288	-2	0.0%	
S236SO	479.9	480	0.1	0.0%		5759	5760	2	0.0%	
S236WS	286	285.9	-0.1	0.0%		3432	3431	-1	0.0%	
S25	461.1	461	-0.2	0.0%		5534	5532	-2	0.0%	
S25A	0	0	0			0	0	0		
S25B	2170.4	2154.2	-16.2	0.7%		26045	25851	-194	0.7%	
S26	5128.6	5125.2	-3.4	0.1%		61543	61502	-41	0.1%	
S27	4025.3	4023.3	-2	0.0%		48303	48279	-24	0.0%	
S28	2701.2	2700.7	-0.5	0.0%		32414	32409	-5	0.0%	

Table F-2. Monthly and annual absolute percent difference for 2050B4 simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
S29	6570.5	6575.6	5.1	0.1%		78846	78907	61	0.1%	
S29DNQ	8429.3	8433.7	4.3	0.1%		101152	101204	52	0.1%	
S2PMP	1131.1	1130.9	-0.2	0.0%		13574	13571	-3	0.0%	
S2TMCL	3200.9	3203.7	2.8	0.1%		38411	38444	33	0.1%	
S3	7289.7	7262.7	-27.1	0.4%		87477	87152	-325	0.4%	
S30	301.9	302.5	0.5	0.2%		3623	3630	7	0.2%	
S308	5805.6	5818.2	12.7	0.2%		69667	69819	152	0.2%	
S308BK	1630.1	1632.4	2.3	0.1%		19561	19588	27	0.1%	
S308OT	7435.6	7450.6	14.9	0.2%		89228	89407	179	0.2%	
S308RG	5566.3	5585.7	19.4	0.3%		66796	67029	233	0.3%	
S31	6	6	0	0.0%		72	72	0	0.0%	
S319	5354.6	5408.1	53.5	1.0%		64256	64897	642	1.0%	
S319WS	0.2	0.1	0	50.0%		2	2	0	0.0%	
S31REG	83.2	81.8	-1.4	1.7%		998	982	-16	1.6%	
S31RG	83.2	81.8	-1.4	1.7%		998	982	-16	1.6%	
S31TBY	0	0	0			0	0	0		
S31WS	6	6	0	0.0%		72	72	0	0.0%	
S32	0	0	0			0	0	0		
S32A	0	0	0			0	0	0		
S33	421.9	421.9	0	0.0%		5063	5063	0	0.0%	
S331A	1238.7	1234.1	-4.6	0.4%		14864	14809	-55	0.4%	
S331B	567.3	566.2	-1.2	0.2%		6808	6794	-14	0.2%	
S331C	463.1	462.7	-0.4	0.1%		5557	5552	-5	0.1%	
S331FC	0	0	0			0	0	0		
S331PM	0	0	0			0	0	0		
S331WS	0	0	0			0	0	0		
S332	0	0	0			0	0	0		
S332B1	401.9	401.7	-0.2	0.0%		4823	4820	-3	0.1%	
S332B2	688.5	688.9	0.5	0.1%		8262	8267	5	0.1%	
S332B3	406	405.9	-0.1	0.0%		4872	4871	-2	0.0%	
S332B4	259.6	259.9	0.3	0.1%		3115	3119	4	0.1%	
S332B5	494.2	494.4	0.2	0.0%		5931	5933	2	0.0%	
S332B6	912.5	913.3	0.8	0.1%		10950	10959	9	0.1%	
S332B7	488.5	488.6	0.1	0.0%		5862	5863	1	0.0%	
S332B8	194.4	197.5	3.1	1.6%		2333	2371	37	1.6%	
S332C1	711.6	712.2	0.7	0.1%		8539	8547	8	0.1%	
S332C2	779.6	788.5	8.9	1.1%		9355	9462	107	1.1%	

Table F-2. Monthly and annual absolute percent difference for 2050B4 simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
S332C3	136	136.2	0.1	0.1%		1632	1634	2	0.1%	
S332C4	50.1	50.3	0.1	0.4%		602	604	2	0.3%	
S332D1	802.7	801.2	-1.5	0.2%		9633	9615	-18	0.2%	
S332D2	647	644.6	-2.4	0.4%		7765	7736	-29	0.4%	
S332D3	410.8	409.6	-1.1	0.3%		4929	4916	-14	0.3%	
S332D4	263.2	265	1.8	0.7%		3158	3180	22	0.7%	
S332D5	438.5	438.9	0.4	0.1%		5262	5267	4	0.1%	
S332D6	124.5	124.1	-0.4	0.3%		1494	1490	-4	0.3%	
S332S1	743	742.8	-0.1	0.0%		8916	8914	-2	0.0%	
S332S2	257.2	256.4	-0.8	0.3%		3086	3077	-9	0.3%	
S332S3	193.8	191.3	-2.5	1.3%		2325	2295	-30	1.3%	
S332S4	152.4	151.6	-0.8	0.5%		1829	1819	-9	0.5%	
S333	5854.4	5847.2	-7.2	0.1%		70253	70166	-87	0.1%	
S333EV	4911.4	4908.3	-3.1	0.1%		58937	58900	-37	0.1%	
S333RG	943	938.9	-4.1	0.4%		11316	11266	-49	0.4%	
S334	0	0	0			0	0	0		
S334FC	0	0	0			0	0	0		
S335	2593.7	2589.8	-3.9	0.2%		31125	31078	-46	0.2%	
S335FC	219.2	219.7	0.5	0.2%		2631	2637	6	0.2%	
S335P	1870.8	1872.9	2.1	0.1%		22449	22475	26	0.1%	
S336	584.1	584.2	0.2	0.0%		7009	7011	2	0.0%	
S337	3345.5	3337	-8.5	0.3%		40146	40044	-102	0.3%	
S337FC	0	0	0			0	0	0		
S338	468	471.1	3.1	0.7%		5616	5654	37	0.7%	
S339	1630.5	1622.2	-8.3	0.5%		19566	19466	-99	0.5%	
S34	445.1	451.6	6.5	1.5%		5341	5419	78	1.5%	
S340	1718.4	1710.5	-7.9	0.5%		20621	20526	-94	0.5%	
S343	1205.2	1202.5	-2.7	0.2%		14462	14430	-32	0.2%	
S344	416.3	415	-1.3	0.3%		4995	4980	-15	0.3%	
S34RG	384.2	391	6.7	1.8%		4611	4691	81	1.7%	
S34WS	60.9	60.6	-0.3	0.5%		731	727	-3	0.5%	
S351	7215	7219	4	0.1%		86580	86628	49	0.1%	
S351PK	4.8	5.2	0.5	8.3%		57	63	5	10.5%	
S352	4253.3	4249.6	-3.7	0.1%		51040	50996	-44	0.1%	
S352L8	1010	1009.3	-0.6	0.1%		12120	12112	-8	0.1%	
S354	7535	7507.9	-27.1	0.4%		90420	90094	-325	0.4%	
S354PK	108.9	108.4	-0.4	0.5%		1307	1301	-5	0.5%	

Table F-2. Monthly and annual absolute percent difference for 2050B4 simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
S355	1301	1304.6	3.7	0.3%		15612	15655	44	0.3%	
S355EV	642.1	644.4	2.2	0.4%		7705	7732	27	0.4%	
S355RG	658.8	660.3	1.4	0.2%		7906	7923	17	0.2%	
S356A1	323.8	328.6	4.7	1.5%		3886	3943	57	1.5%	
S356A2	105.5	107.1	1.6	1.5%		1266	1285	19	1.5%	
S356K	7539.5	7538.6	-0.8	0.0%		90474	90464	-10	0.0%	
S357A	532.8	532.9	0.1	0.0%		6393	6395	2	0.0%	
S357B	532.8	532.9	0.1	0.0%		6393	6395	2	0.0%	
S357C	0	0	0			0	0	0		
S357D	0	0	0			0	0	0		
S36	1459	1458.7	-0.3	0.0%		17508	17505	-4	0.0%	
S37A	4991.9	4986.8	-5.1	0.1%		59902	59841	-61	0.1%	
S37B	4145.9	4139.7	-6.2	0.1%		49751	49677	-74	0.1%	
S38	1906.2	1900.9	-5.3	0.3%		22874	22811	-63	0.3%	
S380L	208	196.5	-11.5	5.5%	HERE	2496	2358	-138	5.5%	HERE
S380R	1600.4	1605.7	5.3	0.3%		19205	19268	63	0.3%	
S381	2372.3	2372.1	-0.3	0.0%		28468	28465	-3	0.0%	
S381BK	14.2	13.9	-0.3	2.1%		171	167	-4	2.3%	HERE
S381E	423.4	421.3	-2.1	0.5%		5081	5056	-26	0.5%	
S38ENV	0	0	0			0	0	0		
S38REG	1452.4	1447.8	-4.6	0.3%		17429	17374	-55	0.3%	
S38WS	453.8	453.1	-0.7	0.2%		5445	5437	-8	0.1%	
S39	656	657.2	1.2	0.2%		7872	7887	15	0.2%	
S39RG	269.8	270.3	0.6	0.2%		3237	3244	7	0.2%	
S39WS	386.2	386.9	0.7	0.2%		4635	4643	8	0.2%	
S3PMP	245.2	245.2	0	0.0%		2943	2943	0	0.0%	
S40	6154.9	6140.7	-14.2	0.2%		73858	73688	-170	0.2%	
S41	3600.5	3592.9	-7.6	0.2%		43206	43115	-91	0.2%	
S44	3976	3976.8	0.7	0.0%		47712	47721	9	0.0%	
S46	4951.2	4951.7	0.4	0.0%		59415	59420	5	0.0%	
S4BTLK	896.3	894.2	-2.1	0.2%		10755	10730	-25	0.2%	
S4DMD	1300	1299.7	-0.3	0.0%		15600	15596	-4	0.0%	
S5A1	8730.6	8727.7	-2.9	0.0%		104767	104733	-34	0.0%	
S5A2	7365.6	7368.7	3.1	0.0%		88388	88425	37	0.0%	
S5A2NO	355	349.7	-5.3	1.5%		4260	4196	-64	1.5%	
S5A2SO	7720.6	7718.4	-2.2	0.0%		92648	92621	-27	0.0%	
S5A3	2797.5	2811.2	13.8	0.5%		33570	33735	165	0.5%	

Table F-2. Monthly and annual absolute percent difference for 2050B4 simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
S5A3NO	1085.5	1083.6	-1.9	0.2%		13026	13003	-23	0.2%	
S5A3SO	5468	5485.6	17.6	0.3%		65616	65827	211	0.3%	
S5A4	4162.4	4170.2	7.8	0.2%		49949	50043	93	0.2%	
S5A4E	5747.4	5761	13.6	0.2%		68969	69132	163	0.2%	
S5A4W	0	0	0			0	0	0		
S5AWC1	142.2	139.3	-2.9	2.0%		1706	1671	-35	2.1%	HERE
S6	6894.1	6893.6	-0.4	0.0%		82729	82724	-5	0.0%	
S6LCWS	49	47.1	-1.8	3.9%		588	566	-22	3.7%	HERE
S6NBYP	510.5	510.3	-0.3	0.0%		6126	6123	-3	0.0%	
S7	3662.5	3663.4	0.9	0.0%		43950	43961	11	0.0%	
S77	19995.4	20013.5	18.1	0.1%		239945	240162	217	0.1%	
S77BK	1236.8	1233.2	-3.7	0.3%		14842	14798	-44	0.3%	
S77OUT	21232.3	21246.7	14.4	0.1%		254787	254960	173	0.1%	
S77RG	14446.6	14465.6	19	0.1%		173359	173587	227	0.1%	
S79	42938.6	42960	21.4	0.0%		515263	515520	256	0.0%	
S7BPMR	0	0	0			0	0	0		
S7GRAV	3217.2	3217.7	0.4	0.0%		38607	38612	5	0.0%	
S7NBYP	1391.3	1390.9	-0.4	0.0%		16696	16690	-5	0.0%	
S7PUMP	445.2	445.7	0.5	0.1%		5343	5348	6	0.1%	
S8	18826.3	18791	-35.3	0.2%		225916	225492	-424	0.2%	
S80	11684.4	11697.3	12.9	0.1%		140213	140368	155	0.1%	
S8BPMR	0	0	0			0	0	0		
S8GRAV	1405.8	1410.5	4.7	0.3%		16870	16926	57	0.3%	
S8NBYP	620.6	620.6	0	0.0%		7448	7447	0	0.0%	
S8PUMP	17420.5	17380.5	-40.1	0.2%		209046	208565	-481	0.2%	
S9	1199	1199.7	0.7	0.1%		14388	14397	9	0.1%	
S9A	5514.3	5500.9	-13.4	0.2%		66171	66011	-160	0.2%	
S9XN	0.4	0.3	0	25.0%		4	4	0	0.0%	
S9XS	1.7	1.7	0	0.0%		20	20	0	0.0%	
SABNWE	244.4	244.4	0	0.0%		2933	2933	0	0.0%	
SACU	0	0	0			0	0	0		
SASP1	-57	-57.2	-0.2	0.4%		-684	-686	-2	0.3%	
SASP2	16.8	16.7	-0.1	0.6%		202	201	-1	0.5%	
SBNAWE	464.9	464.6	-0.3	0.1%		5578	5575	-3	0.1%	
SBNCU	0	0	0			0	0	0		
SBNCWE	0	0	0			0	0	0		
SBNSP	665.5	665.4	0	0.0%		7986	7985	-1	0.0%	

Table F-2. Monthly and annual absolute percent difference for 2050B4 simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
SBNWE	0	0	0			0	0	0		
SCBNWE	0.2	0.2	0	0.0%		3	3	0	0.0%	
SCCPCN	0	0	0			0	0	0		
SCCPCS	0	0	0			0	0	0		
SCCU1	0	0	0			0	0	0		
SCCU2	0	0	0			0	0	0		
SCSP1	969.3	971.6	2.3	0.2%		11631	11660	28	0.2%	
SCSP2	911.5	917	5.4	0.6%		10938	11004	65	0.6%	
SCUCHH	0	0	0			0	0	0		
SCWE	0	0	0			0	0	0		
SCWEPC	0	0	0			0	0	0		
SDFSP	389.8	388.4	-1.4	0.4%		4678	4661	-17	0.4%	
SDFSPC	300.9	300.6	-0.3	0.1%		3611	3607	-4	0.1%	
SDFWE1	349.3	349.2	-0.1	0.0%		4192	4190	-2	0.0%	
SDFWE2	1.5	1.5	0	0.0%		18	19	0	5.6%	
SDFWE3	0	0	0			0	0	0		
SDNCU	81.3	81.3	0	0.0%		975	976	1	0.1%	
SDNSP	1290.6	1290.2	-0.3	0.0%		15487	15483	-4	0.0%	
SDNWE	1289.6	1286.8	-2.7	0.2%		15475	15442	-33	0.2%	
SDSSP	-58.8	-59.7	-0.9	1.5%		-705	-717	-11	1.7%	
SDSSPC	368.4	368.4	0	0.0%		4421	4421	0	0.0%	
SDSWE	993.2	991.4	-1.8	0.2%		11918	11896	-22	0.2%	
SEACWS	207	207	0	0.0%		2484	2484	0	0.0%	
SEMWS	62.4	63	0.6	1.0%		748	755	7	0.9%	
SHHCUC	0	0	0			0	0	0		
SHHSPC	35.9	35.8	-0.2	0.3%		431	429	-2	0.5%	
SIRWDO	79.3	79.3	0	0.0%		951	951	0	0.0%	
SITWCD	1159.2	1166.2	7.1	0.6%		13910	13995	85	0.6%	
SLRSLO	0	0	0			0	0	0		
SMDNLK	112.1	105.9	-6.3	5.5%		1346	1270	-75	5.6%	HERE
SNCREQ	523.1	521.6	-1.4	0.3%		6277	6260	-17	0.3%	
SP85S1	510.3	510.4	0.1	0.0%		6124	6125	1	0.0%	
SP85S2	132.6	132.6	0	0.0%		1591	1591	0	0.0%	
SPCSP	-21.1	-21.3	-0.2	0.9%		-253	-256	-3	1.2%	
SPCWE	0	0	0			0	0	0		
SPL31N	5923.5	5936.8	13.3	0.2%		71082	71242	160	0.2%	
SPTL30	14534.7	14539.2	4.5	0.0%		174416	174470	54	0.0%	

Table F-2. Monthly and annual absolute percent difference for 2050B4 simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
SR706Q	1028.3	1028.3	0	0.0%		12339	12339	0	0.0%	
SSDST3	163.4	163.6	0.3	0.1%		1960	1963	3	0.2%	
SSDTLK	171.1	170.8	-0.3	0.2%		2054	2050	-3	0.2%	
SSMSP1	-411.3	-413.2	-1.9	0.5%		-4935	-4958	-23	0.5%	
SSMSP2	545.5	543.8	-1.7	0.3%		6546	6526	-20	0.3%	
SSMSP3	1235.4	1234.8	-0.6	0.0%		14825	14817	-8	0.1%	
ST1EEO	3426.6	3458.6	31.9	0.9%		41119	41503	383	0.9%	
ST1EI1	0	0	0			0	0	0		
ST1EWO	2191.9	2213.7	21.7	1.0%		26303	26564	261	1.0%	
ST1WI1	6472.4	6473.2	0.8	0.0%		77669	77678	10	0.0%	
ST1WQ1	6470.1	6471.1	1	0.0%		77641	77653	12	0.0%	
ST2BYP	261.1	261.1	0	0.0%		3134	3133	0	0.0%	
ST2REX	0.4	0.4	0	0.0%		4	4	0	0.0%	
ST3BYP	0	0	0			0	0	0		
ST3NEA	0	0	0			0	0	0		
ST3OT1	0	0	0			0	0	0		
ST3OT2	0	0	0			0	0	0		
ST3OT3	0	0	0			0	0	0		
ST3QIN	21476.5	21459.3	-17.2	0.1%		257718	257512	-206	0.1%	
ST3REX	327.2	326.3	-0.9	0.3%		3927	3916	-11	0.3%	
ST3S71	3458.6	3459.4	0.8	0.0%		41503	41512	10	0.0%	
ST3S81	17473.8	17456.1	-17.7	0.1%		209686	209473	-212	0.1%	
ST3TL4	0	0	0			0	0	0		
ST3TNE	0	0	0			0	0	0		
ST3TNW	0	0	0			0	0	0		
ST3TS7	3458.6	3459.4	0.8	0.0%		41503	41512	10	0.0%	
ST3TS8	17473.8	17456.1	-17.7	0.1%		209686	209473	-212	0.1%	
ST5OT1	2440.6	2440.6	0	0.0%		29288	29288	0	0.0%	
ST5OT2	3391.5	3391.5	0	0.0%		40698	40698	0	0.0%	
ST5REX	0	0	0			0	0	0		
ST5TCL	1506.3	1506.1	-0.2	0.0%		18076	18073	-3	0.0%	
ST5TMR	934.3	934.5	0.2	0.0%		11211	11214	3	0.0%	
ST6OT1	777.9	754.5	-23.5	3.0%	HERE	9335	9053	-282	3.0%	HERE
ST6REX	0	0	0			0	0	0		
ST6SEM	49.8	42.9	-6.9	13.9%		597	515	-82	13.7%	HERE
ST6TL4	0	0	0			0	0	0		
ST6WCA	728.2	711.6	-16.6	2.3%	HERE	8738	8539	-200	2.3%	HERE

Table F-2. Monthly and annual absolute percent difference for 2050B4 simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
ST6WS	49.8	42.9	-6.9	13.9%		597	515	-82	13.7%	HERE
STA2BO	8890.5	8889.7	-0.8	0.0%		106686	106676	-10	0.0%	
STA2EO	3400.6	3400.4	-0.2	0.0%		40807	40805	-3	0.0%	
STA2MO	3448.1	3447.9	-0.2	0.0%		41377	41375	-3	0.0%	
STA5IQ	5656.2	5656.2	0	0.0%		67875	67875	0	0.0%	
STA5WO	5720.6	5720.6	0	0.0%		68648	68648	0	0.0%	
STA6IQ	835.8	812.4	-23.4	2.8%	HERE	10029	9748	-281	2.8%	HERE
STAWEE	37.8	37.6	-0.2	0.5%		453	451	-2	0.4%	
STAWEW	0	0	0			0	0	0		
STEST	759.4	750.7	-8.7	1.1%		9113	9009	-104	1.1%	
STIRR	1114.4	1114.1	-0.2	0.0%		13372	13370	-3	0.0%	
STLRES	0	0	0			0	0	0		
STREG	5561.9	5585.7	23.8	0.4%		66743	67029	286	0.4%	
SUGDMD	173.2	173.2	0	0.0%		2078	2078	0	0.0%	
SUGREX	1.2	1.2	0	0.0%		14	14	0	0.0%	
SUGRF	198	198	0	0.0%		2376	2376	0	0.0%	
SUNWDQ	774.9	775	0.1	0.0%		9299	9300	2	0.0%	
TCNSQ	5782.1	5782.1	0	0.0%		69385	69385	0	0.0%	
TCRTLK	0	0	0			0	0	0		
TREUSE	0	0	0			0	0	0		
U1TL28	496.9	496.9	0	0.0%		5963	5963	0	0.0%	
UISTLK	4413.4	4413.4	0	0.0%		52961	52961	0	0.0%	
WL1351	198.7	198.7	0	0.0%		2384	2384	0	0.0%	
WL2351	49	47.1	-1.8	3.9%		588	566	-22	3.7%	HERE
WL3351	87.9	97.1	9.1	10.5%		1055	1165	109	10.4%	HERE
WLC351	330.8	337.7	6.9	2.1%	HERE	3970	4052	83	2.1%	HERE
WLC352	160	157.8	-2.2	1.4%		1919	1893	-26	1.4%	
WLC354	1200.9	1176.3	-24.6	2.0%	HERE	14411	14115	-296	2.1%	HERE
WLES6	0	0	0			0	0	0		
WLES7	5.3	5.3	0.1	0.0%		63	64	1	1.6%	
WLES8	128.8	136.8	8	6.2%		1546	1642	96	6.2%	HERE
WPBCAT	0	0	0			0	0	0		
WPBRG1	0	0	0			0	0	0		
WPBRG2	0	0	0			0	0	0		
WPBST1	7560.7	7560.6	0	0.0%		90728	90727	-1	0.0%	
WPBST2	2431.9	2431.9	0	0.0%		29183	29183	0	0.0%	
WSEAA	12649.2	12647.8	-1.4	0.0%		151790	151774	-16	0.0%	

Table F-2. Monthly and annual absolute percent difference for 2050B4 simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
WSHOLY	26.6	26.8	0.2	0.8%		319	321	3	0.6%	
WSL8S	75.5	74.3	-1.3	1.6%		907	891	-15	1.8%	
WSS151	3338.7	3329.5	-9.2	0.3%		40064	39954	-110	0.3%	
WSST1W	6.2	6.2	0	0.0%		74	74	0	0.0%	
WSST2B	13	13	0	0.0%		156	156	0	0.0%	
WSST2E	3.8	3.9	0	2.6%		46	46	0	0.0%	
WSST2M	0	0	0			0	0	0		
WSST2W	8902.2	8901.3	-0.8	0.0%		106826	106816	-10	0.0%	
WSST5E	5.5	5.5	0	0.0%		67	67	0	0.0%	
WSSTA	201.1	177.9	-23.2	11.5%	HERE	2414	2135	-278	11.6%	HERE
WSSTA3	20	20	0	0.0%		240	240	0	0.0%	
WSSTA5	5.5	5.5	0	0.0%		67	67	0	0.0%	
WSSTA6	142.1	118.6	-23.4	16.5%		1705	1424	-281	16.5%	HERE
WST1EE	2.1	2.2	0.1	4.8%		25	27	2	8.0%	
WST1EW	3	3.1	0.1	3.3%		36	37	1	2.8%	
WSTC12	79.5	79.5	0	0.0%		954	954	0	0.0%	
WSTLXR	1453.9	1454	0	0.0%		17447	17447	0	0.0%	

Table F-3. Monthly and annual absolute percent difference for 2010CP simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
27NSA3	3	3	0	0.0%		36	36	0	0.0%	
333FCN	0	0	0			0	0	0		
333FCR	0	0	0			0	0	0		
333FLC	0	0	0			0	0	0		
349BB	6312.3	6319.8	7.5	0.1%		75747	75837	90	0.1%	
349BC	6036.1	6038.3	2.2	0.0%		72433	72459	26	0.0%	
349BD	3735.6	3734.5	-1	0.0%		44827	44814	-12	0.0%	
349WB	6948.9	6940.8	-8.1	0.1%		83387	83290	-97	0.1%	
349WC	4964.3	4962.5	-1.8	0.0%		59572	59550	-22	0.0%	
349WD	3155.6	3160.8	5.2	0.2%		37867	37930	62	0.2%	
351RG	0	0	0			0	0	0		
351WS	710.8	721	10.1	1.4%		8530	8651	121	1.4%	
352RG	0	0	0			0	0	0		
352TLK	0	0	0			0	0	0		
352WS	141.3	140.2	-1.1	0.8%		1695	1682	-13	0.8%	
354RG	0	0	0			0	0	0		
354WS	1693.3	1663.5	-29.7	1.8%		20319	19962	-357	1.8%	
356GRD	0	0	0			0	0	0		
356L29	8291.8	8289	-2.7	0.0%		99501	99469	-33	0.0%	
715FLK	207.2	207.2	0	0.0%		2487	2486	0	0.0%	
715ST2	48.4	48.4	0	0.0%		581	581	0	0.0%	
ACCPBR	0	0	0			0	0	0		
ACLWDD	0	0	0			0	0	0		
ACME2	0	0	0			0	0	0		
ACME3	1794	1790.3	-3.7	0.2%		21528	21484	-44	0.2%	
ACME4W	31.5	31.4	-0.1	0.3%		378	377	-1	0.3%	
ACME6	32.7	32.6	-0.1	0.3%		392	391	-1	0.3%	
ACMEBA	1.1	1.2	0.1	9.1%		13	14	2	7.7%	
ACMECU	1448.2	1446.7	-1.5	0.1%		17378	17360	-18	0.1%	
ACMERF	0	0	0			0	0	0		
ACMEWS	0	0	0			0	0	0		
ACRFAS	0	0	0			0	0	0		
ADDSLW	187.7	180.1	-7.6	4.0%	HERE	2252	2161	-91	4.0%	HERE
AGQ	-767.2	-767.5	-0.3	0.0%		-9206	-9210	-4	0.0%	
AGQRF	1342.1	1342.4	0.3	0.0%		16105	16108	4	0.0%	
AGQWS	574.9	574.9	0	0.0%		6899	6899	0	0.0%	
AM4WS1	0.1	0.1	0	0.0%		2	2	0	0.0%	

Table F-3. Monthly and annual absolute percent difference for 2010CP simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
AM4WS2	0	0	0			0	0	0		
ASRBRC	0	0	0			0	0	0		
ASRCA1	0	0	0			0	0	0		
ASRCA2	0	0	0			0	0	0		
ASRCA3	0	0	0			0	0	0		
ASRDAC	0	0	0			0	0	0		
ASRLOK	0	0	0			0	0	0		
ASRPBC	0	0	0			0	0	0		
ASRSA1	0	0	0			0	0	0		
ASRSA2	0	0	0			0	0	0		
ASRSA3	0	0	0			0	0	0		
BDOUT	2721.7	2721.7	0	0.0%		32660	32660	0	0.0%	
BFLTL8	0	0	0			0	0	0		
BKMCL8	0	0	0			0	0	0		
BPRC51	0	0	0			0	0	0		
BPRL8S	109.6	109.7	0.1	0.1%		1315	1316	1	0.1%	
BRI95Q	362.9	362.7	-0.2	0.1%		4354	4352	-2	0.0%	
C103D1	650.6	649.8	-0.8	0.1%		7807	7797	-10	0.1%	
C103D2	436.8	436.4	-0.4	0.1%		5241	5237	-4	0.1%	
C103D3	332.7	332.3	-0.4	0.1%		3992	3987	-5	0.1%	
C10ABK	3267.4	3261.1	-6.3	0.2%		39209	39133	-76	0.2%	
C10Q	6637.8	6628.4	-9.5	0.1%		79654	79540	-114	0.1%	
C11DP1	1250.5	1250.4	-0.1	0.0%		15006	15005	-1	0.0%	
C11ED1	501.2	501.3	0.1	0.0%		6014	6015	1	0.0%	
C11ED2	501	501.1	0.1	0.0%		6012	6013	1	0.0%	
C11RIN	3088	3088.4	0.4	0.0%		37056	37060	5	0.0%	
C11RO	2124.7	2125.2	0.6	0.0%		25496	25503	7	0.0%	
C11WP1	759.1	759	-0.1	0.0%		9109	9108	-1	0.0%	
C13DRQ	75.6	75.6	0	0.0%		907	907	0	0.0%	
C14DQ1	107.9	107.9	0	0.0%		1295	1294	0	0.1%	
C14DQ2	159	159	0	0.0%		1908	1908	0	0.0%	
C14SNQ	0	0	0			0	0	0		
C14WNQ	90.9	90.9	-0.1	0.0%		1091	1090	-1	0.1%	
C14WQ1	1263.7	1262.1	-1.6	0.1%		15164	15145	-20	0.1%	
C14WQ2	489.3	489	-0.2	0.1%		5871	5869	-3	0.0%	
C14WQ3	674.6	674.9	0.3	0.0%		8095	8098	3	0.0%	
C17DRQ	3851.8	3851.7	-0.2	0.0%		46222	46220	-2	0.0%	

Table F-3. Monthly and annual absolute percent difference for 2010CP simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
C18D1	312	312.1	0.1	0.0%		3744	3745	1	0.0%	
C18D2	312	312.1	0.1	0.0%		3744	3745	1	0.0%	
C18D3	113	113	0.1	0.0%		1355	1356	1	0.1%	
C18DN1	215.7	215.7	0	0.0%		2589	2589	0	0.0%	
C18DN2	214.1	214.1	0	0.0%		2569	2569	-1	0.0%	
C18DQ1	312.4	312.5	0.1	0.0%		3749	3751	1	0.1%	
C18DQ2	223.7	223.6	-0.1	0.0%		2685	2683	-1	0.1%	
C18WR	2144	2144.1	0	0.0%		25728	25729	0	0.0%	
C2RWS	0	0	0			0	0	0		
C304O	-112.8	-112.7	0.1	0.1%		-1353	-1352	1	0.1%	
C42PLQ	230.6	230.4	-0.2	0.1%		2767	2765	-2	0.1%	
C4DQ1	10.7	10.8	0.1	0.9%		128	129	1	0.8%	
C4DQ2	2652.1	2650.9	-1.2	0.0%		31826	31811	-15	0.0%	
C4LSP1	53.8	47.4	-6.3	11.9%		645	569	-76	11.8%	HERE
C4LSP2	320.4	313	-7.4	2.3%	HERE	3845	3756	-89	2.3%	HERE
C4LSP3	-205.9	-214.5	-8.6	4.2%	HERE	-2471	-2575	-104	4.2%	HERE
C51BKP	0	0	0			0	0	0		
C51BPR	0	0	0			0	0	0		
C51FAS	0	0	0			0	0	0		
C51LGQ	46.7	44.7	-2	4.3%		560	536	-24	4.3%	HERE
C51TAS	0	0	0			0	0	0		
C6DRQ	432.2	432.2	0	0.0%		5187	5186	-1	0.0%	
C6EQ	11085	11084.8	-0.3	0.0%		133020	133017	-3	0.0%	
C6RWS	0	0	0			0	0	0		
C7DQ1	701.9	701.8	0	0.0%		8423	8422	-1	0.0%	
C7DQ2	698.9	698.9	0	0.0%		8386	8387	0	0.0%	
C8DRQ	440.2	440.3	0	0.0%		5283	5283	0	0.0%	
C9DENQ	100.2	100.3	0	0.1%		1203	1203	0	0.0%	
C9DESQ	209.2	209.3	0.1	0.0%		2510	2511	1	0.0%	
C9DRSQ	799.4	799.7	0.3	0.0%		9593	9596	3	0.0%	
C9DW1Q	139.2	138.6	-0.6	0.4%		1670	1664	-7	0.4%	
C9RC11	373	372.5	-0.6	0.1%		4477	4470	-7	0.2%	
C9RTC9	274	273	-1.1	0.4%		3288	3275	-13	0.4%	
C9RWS	0	0	0			0	0	0		
C9TC9R	0	0	0			0	0	0		
C9W2Q1	1146.6	1146.4	-0.2	0.0%		13759	13756	-2	0.0%	
C9W2Q2	1146.6	1146.4	-0.2	0.0%		13759	13756	-2	0.0%	

Table F-3. Monthly and annual absolute percent difference for 2010CP simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
CABKRE	0	0	0			0	0	0		
CAEST	1055.9	1060.8	4.9	0.5%		12671	12730	59	0.5%	
CAIRR	5462.7	5462.3	-0.4	0.0%		65553	65548	-5	0.0%	
CAREG	9210	9233.7	23.7	0.3%		110520	110804	284	0.3%	
CARES	0	0	0			0	0	0		
CDRNQ	1180.5	1180.6	0	0.0%		14166	14167	1	0.0%	
CGBLEQ	1076.4	1066.9	-9.5	0.9%		12917	12802	-115	0.9%	
CGTC4	550.7	559.2	8.5	1.5%		6609	6711	102	1.5%	
CL8R1	0	0	0			0	0	0		
CL8R2	0	0	0			0	0	0		
CORBT1	1252.7	1252.7	-0.1	0.0%		15033	15032	-1	0.0%	
CORBT2	762	762	0	0.0%		9144	9144	0	0.0%	
CPBTLW	0	0	0			0	0	0		
CRESLO	0	0	0			0	0	0		
CS12	869.6	870.6	1	0.1%		10435	10447	12	0.1%	
CS17E	1209.1	1206.5	-2.6	0.2%		14509	14478	-32	0.2%	
CS17W	250.1	252.1	2	0.8%		3001	3026	24	0.8%	
CS2	278.6	280.6	2.1	0.7%		3343	3368	25	0.7%	
CS4	0	0	0			0	0	0		
CS9	382.6	383.1	0.5	0.1%		4591	4597	5	0.1%	
DBLEVQ	3884.6	3867.7	-16.9	0.4%		46616	46412	-203	0.4%	
DIVERS	437.6	439.2	1.6	0.4%		5252	5271	19	0.4%	
DMDSEM	1182	1182	0	0.0%		14184	14184	0	0.0%	
DPRESO	772.7	772.7	0	0.0%		9272	9272	0	0.0%	
EARIN1	3235.3	3241.8	6.5	0.2%		38823	38902	78	0.2%	
EARIN2	6471.7	6449.7	-22	0.3%		77660	77396	-264	0.3%	
EARIN3	1816.1	1809.1	-7	0.4%		21793	21709	-84	0.4%	
EARMA1	2600.5	2598.7	-1.8	0.1%		31206	31184	-22	0.1%	
EARMA2	0	0	0			0	0	0		
EARNH1	3474.9	3473.1	-1.8	0.1%		41698	41677	-21	0.1%	
EARNH2	6.3	6.8	0.5	7.9%		76	82	6	7.9%	
EARSNO	12876.8	12845.4	-31.3	0.2%		154521	154145	-376	0.2%	
EBDST1	0	0	0			0	0	0		
EBDTLK	485.3	485.3	0	0.0%		5824	5824	0	0.0%	
ESDST2	131.1	131.1	0	0.0%		1573	1573	0	0.0%	
ESDTLK	482.3	482.3	0	0.0%		5788	5788	0	0.0%	
ETPKCO	174.7	174.7	0	0.0%		2097	2096	0	0.0%	

Table F-3. Monthly and annual absolute percent difference for 2010CP simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
EVBLSS	98	93.1	-4.9	5.0%		1176	1118	-59	4.9%	HERE
FLIMPH	0	0	0			0	0	0		
FLIMPM	0	0	0			0	0	0		
FLIMPN	0	0	0			0	0	0		
FLIMPW	0	0	0			0	0	0		
FLWIMP	0	0	0			0	0	0		
G123	248.8	279.5	30.7	12.3%	HERE	2986	3354	368	12.3%	HERE
G136EA	180.9	180.8	-0.1	0.1%		2171	2170	-1	0.0%	
G136SO	542.1	542.1	0.1	0.0%		6505	6506	1	0.0%	
G1553A	0	0	0			0	0	0		
G155PS	4127	4127	0	0.0%		49524	49524	0	0.0%	
G204	29.2	29.2	0	0.0%		350	350	0	0.0%	
G205	40.6	40.6	0	0.0%		487	487	0	0.0%	
G206	33.5	33.5	0	0.0%		402	402	0	0.0%	
G211	1206.8	1209.5	2.7	0.2%		14482	14514	32	0.2%	
G211N	2.4	2.4	0	0.0%		29	29	0	0.0%	
G211P	37.9	38.2	0.3	0.8%		455	459	3	0.9%	
G261	0	0	0			0	0	0		
G262	0	0	0			0	0	0		
G263	0	0	0			0	0	0		
G311	0	0	0			0	0	0		
G404	6731.3	6723.8	-7.5	0.1%		80776	80686	-89	0.1%	
G420	149.2	125.4	-23.8	16.0%		1790	1505	-286	15.9%	HERE
G421	2.5	1.2	-1.3	52.0%		30	14	-16	53.3%	
G54	3313.1	3286.7	-26.5	0.8%		39758	39440	-318	0.8%	
G56	5084.2	5074.9	-9.3	0.2%		61010	60899	-111	0.2%	
G57	597.1	596.9	-0.1	0.0%		7165	7163	-2	0.0%	
G57DNQ	7154.9	7155.1	0.3	0.0%		85858	85861	3	0.0%	
G57DRQ	176.7	176.7	0	0.0%		2121	2121	0	0.0%	
G65	45.7	45.4	-0.4	0.7%		549	545	-4	0.7%	
G72	0.1	0.1	0	0.0%		1	1	0	0.0%	
G86N	520	520.3	0.3	0.1%		6240	6244	4	0.1%	
G86S	575.2	575.5	0.3	0.1%		6902	6906	4	0.1%	
G92	0	0	0			0	0	0		
G92TRV	392.7	393	0.4	0.1%		4712	4716	4	0.1%	
G93	252.3	242.3	-10	4.0%	HERE	3028	2908	-120	4.0%	HERE
G94AB	547.7	562.2	14.5	2.6%	HERE	6572	6747	175	2.7%	HERE

Table F-3. Monthly and annual absolute percent difference for 2010CP simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
G94C	413.2	385.9	-27.3	6.6%	HERE	4958	4631	-327	6.6%	HERE
HLBEQ	44.6	44.5	0	0.2%		535	534	0	0.2%	
HLBRG1	0	0	0			0	0	0		
HLBRG2	0	0	0			0	0	0		
HLBST1	5893.1	5901.4	8.3	0.1%		70718	70817	99	0.1%	
HLBST2	0	0	0			0	0	0		
HLFASR	0	0	0			0	0	0		
HLRSIN	1146	1145.1	-0.8	0.1%		13752	13742	-10	0.1%	
HLSBEQ	8709.7	8697.4	-12.3	0.1%		104516	104369	-147	0.1%	
HLSBR1	605.8	605	-0.8	0.1%		7270	7260	-10	0.1%	
HLSBR2	199.2	198.6	-0.6	0.3%		2390	2383	-7	0.3%	
HLSOQ	457.2	458.6	1.4	0.3%		5486	5503	17	0.3%	
HLSPQ1	10.4	10.4	0	0.0%		125	125	0	0.0%	
HLSPQ2	10.4	10.4	0	0.0%		125	125	0	0.0%	
HLTASR	71.8	71.8	0	0.0%		861	861	0	0.0%	
HLYDS	86.3	85.8	-0.4	0.6%		1035	1030	-5	0.5%	
HLYL4	0	0	0			0	0	0		
HLYNW	16.9	17.5	0.5	3.6%		203	210	6	3.4%	HERE
HLYQIN	0	0	0			0	0	0		
HW290Q	6418.6	6418.5	0	0.0%		77023	77022	-1	0.0%	
HW291O	5018.4	5018.4	0	0.0%		60220	60220	0	0.0%	
HW292O	4111.8	4111.7	0	0.0%		49341	49341	0	0.0%	
HW293O	3059.8	3059.8	0	0.0%		36718	36718	0	0.0%	
HW294O	2803.5	2803.5	0	0.0%		33642	33642	0	0.0%	
HW295O	1015.6	1015.7	0	0.0%		12188	12188	0	0.0%	
I75L4Q	267.2	267.2	0	0.0%		3206	3206	0	0.0%	
IPGTLK	167.2	167.2	0	0.0%		2006	2006	0	0.0%	
ITLBO	2955.5	2954.8	-0.8	0.0%		35467	35457	-9	0.0%	
ITUBO	1761.7	1761.2	-0.5	0.0%		21140	21134	-6	0.0%	
JOEBQ1	228.6	228.6	0	0.0%		2743	2743	0	0.0%	
JOEBQ2	1618.1	1617.9	-0.3	0.0%		19418	19414	-4	0.0%	
JUPWS	39.9	39.9	0	0.0%		479	479	0	0.0%	
L101OT	959.2	968.3	9.1	0.9%		11510	11620	109	1.0%	
L28WQ	4963.6	4963.8	0.2	0.0%		59563	59565	2	0.0%	
L29WA	-1576.3	-1572.5	3.8	0.2%		-18916	-18870	46	0.2%	
L29WB	-2099.8	-2098.5	1.3	0.1%		-25197	-25182	16	0.1%	
L29WC	-161.9	-159.8	2.2	1.3%		-1943	-1917	26	1.3%	

Table F-3. Monthly and annual absolute percent difference for 2010CP simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
L29WEV	0	0	0			0	0	0		
L29WFL	3838.1	3830.8	-7.3	0.2%		46057	45969	-88	0.2%	
L29WRG	4408.3	4403.8	-4.5	0.1%		52899	52846	-54	0.1%	
L31TAS	0	0	0			0	0	0		
L37EMG	0.7	0.8	0	14.3%		9	9	0	0.0%	
L37TLB	869.3	870.1	0.8	0.1%		10431	10441	10	0.1%	
L67WB1	3994.2	3995.1	0.9	0.0%		47931	47941	11	0.0%	
L67WB2	906.3	904.7	-1.5	0.2%		10875	10857	-18	0.2%	
L67WB3	1117.9	1116.3	-1.6	0.1%		13415	13396	-19	0.1%	
L67WB4	947.8	946.3	-1.4	0.2%		11373	11356	-17	0.1%	
L67WC1	4420.5	4426.6	6.1	0.1%		53046	53119	73	0.1%	
L67WC2	793.2	791.4	-1.8	0.2%		9518	9497	-22	0.2%	
L67WC3	1066.4	1064.1	-2.2	0.2%		12797	12770	-27	0.2%	
L67WC4	954.5	952.8	-1.7	0.2%		11454	11433	-21	0.2%	
L67WD1	3624.6	3629.2	4.5	0.1%		43496	43550	54	0.1%	
L67WD2	806.3	804.4	-2	0.2%		9676	9652	-24	0.2%	
L67WD3	1097.2	1094.5	-2.7	0.2%		13167	13134	-33	0.3%	
L67WD4	1000.1	998.2	-1.9	0.2%		12001	11978	-23	0.2%	
L8BPOT	0	0	0			0	0	0		
L8BPWS	109.6	109.7	0.1	0.1%		1315	1316	1	0.1%	
L8C51W	1531.9	1536.5	4.6	0.3%		18383	18438	55	0.3%	
L8CP	5062.9	5067.9	5	0.1%		60755	60815	60	0.1%	
L8RNF	1531.9	1536.5	4.6	0.3%		18383	18438	55	0.3%	
L8ST1E	0	0	0			0	0	0		
L8TBPR	0	0	0			0	0	0		
L8TCA1	0	0	0			0	0	0		
LCWSS1	2537.2	2554.4	17.3	0.7%		30446	30653	207	0.7%	
LCWSS2	55.6	55.8	0.3	0.4%		667	670	3	0.4%	
LCWSS3	311	310.8	-0.2	0.1%		3732	3730	-2	0.1%	
LGROVQ	698	694.4	-3.5	0.5%		8375	8333	-42	0.5%	
LKEAAR	12116.2	12094.4	-21.8	0.2%		145395	145133	-262	0.2%	
LKMNGQ	38.5	38.5	0.1	0.0%		462	463	1	0.2%	
LKRGL8	4350.3	4354.7	4.4	0.1%		52204	52257	53	0.1%	
LKRSM1	6180.6	6181.5	0.9	0.0%		74167	74178	11	0.0%	
LKRSN1	5935.6	5912.9	-22.8	0.4%		71228	70955	-273	0.4%	
LKTFPL	959.2	959.2	0	0.0%		11510	11510	0	0.0%	
LKTIPG	272.4	272.4	0	0.0%		3268	3268	0	0.0%	

Table F-3. Monthly and annual absolute percent difference for 2010CP simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
LKTNEL	318.7	318.7	0	0.0%		3825	3824	0	0.0%	
LKTNLS	29.9	29.9	0	0.0%		359	359	0	0.0%	
LKTROT	791.9	791.8	-0.1	0.0%		9503	9502	-1	0.0%	
LKTSEM	711.4	709.7	-1.7	0.2%		8537	8516	-21	0.2%	
LMDBQ1	583.9	583.7	-0.2	0.0%		7007	7005	-2	0.0%	
LMDBQ2	583.9	583.7	-0.2	0.0%		7007	7005	-2	0.0%	
LMDBQ3	1167.8	1167.5	-0.3	0.0%		14014	14010	-4	0.0%	
LOKASR	0	0	0			0	0	0		
LOKTPK	0	0	0			0	0	0		
LOXRVQ	20178.6	20178.4	-0.2	0.0%		242144	242141	-2	0.0%	
LSPC6	1252.3	1253	0.7	0.1%		15027	15036	9	0.1%	
LSPL33	1082.7	1082.8	0.1	0.0%		12993	12994	1	0.0%	
LSPWS1	64.2	66.6	2.4	3.7%		770	799	29	3.8%	HERE
LSPWS2	462.4	463.5	1.2	0.2%		5548	5562	14	0.3%	
LSPWS3	360.3	359.2	-1.1	0.3%		4324	4310	-14	0.3%	
LW2DRQ	49.3	49.2	-0.1	0.2%		592	591	-1	0.2%	
LWSEQ	1529.5	1527.1	-2.4	0.2%		18354	18325	-29	0.2%	
LXSLWS	2829.5	2829.2	-0.4	0.0%		33955	33950	-4	0.0%	
LXTRBQ	238.1	238.1	0	0.0%		2857	2857	0	0.0%	
M1Q	3907.4	3905.6	-1.8	0.0%		46889	46867	-22	0.0%	
MCELMG	1205.4	1205.7	0.3	0.0%		14464	14468	4	0.0%	
MCMCLE	960.8	961.3	0.5	0.1%		11529	11535	6	0.1%	
MDSLK	8900.9	8900.9	0	0.0%		106811	106811	0	0.0%	
MIAST3	7106.4	7103	-3.4	0.0%		85277	85236	-41	0.0%	
NELTLK	295.9	295.9	0	0.0%		3550	3550	0	0.0%	
NLSTLK	3.3	3.3	0	0.0%		39	39	0	0.0%	
NNRFAS	0	0	0			0	0	0		
NNRFP	855	853.9	-1.1	0.1%		10260	10247	-13	0.1%	
NNRRG1	0	0	0			0	0	0		
NNRRG2	0	0	0			0	0	0		
NNRST2	2124.6	2124.7	0.1	0.0%		25495	25496	1	0.0%	
NNRST3	3800.6	3804.4	3.9	0.1%		45607	45653	47	0.1%	
NNRSTA	5925.2	5929.2	4	0.1%		71102	71150	48	0.1%	
NNRTAS	0	0	0			0	0	0		
NPBDRQ	171.8	171.7	-0.1	0.1%		2062	2061	-1	0.0%	
NRCPLQ	50.2	50.1	0	0.2%		602	601	0	0.2%	
NRIVQ	2517.3	2515.3	-2	0.1%		30208	30184	-24	0.1%	

Table F-3. Monthly and annual absolute percent difference for 2010CP simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
NSIMP1	692.9	692.7	-0.2	0.0%		8315	8313	-2	0.0%	
NSIMP3	0.1	0.1	0	0.0%		2	2	0	0.0%	
NSIMP4	152.3	152.2	-0.1	0.1%		1827	1826	-1	0.1%	
NSIMP5	203.2	203.1	-0.1	0.0%		2438	2437	-1	0.0%	
NSMPB	1	0.9	0	10.0%		12	11	0	8.3%	
NWFCLQ	1355.5	1354.7	-0.8	0.1%		16266	16256	-10	0.1%	
NWWFLD	161.4	161.3	0	0.1%		1936	1936	0	0.0%	
PBDRQ	1757	1757.1	0.1	0.0%		21084	21085	1	0.0%	
PIPCA1	0	0	0			0	0	0		
PIPE2A	0	0	0			0	0	0		
PIPE3A	0	0	0			0	0	0		
PLMEC4	68.2	67.7	-0.5	0.7%		818	812	-6	0.7%	
PLMEC7	1143.6	1142.6	-1	0.1%		13723	13711	-12	0.1%	
PLTC12	10.9	11	0.1	0.9%		131	132	1	0.8%	
PLTWQ1	326.3	326.2	-0.1	0.0%		3916	3914	-1	0.1%	
PLTWQ2	145.8	145.6	-0.2	0.1%		1749	1747	-2	0.1%	
POMPDQ	452.1	451.9	-0.1	0.0%		5425	5423	-2	0.0%	
PPHLWP	0	0	0			0	0	0		
PPS150	0	0	0			0	0	0		
Q1C57	1823.2	1812.5	-10.7	0.6%		21878	21750	-128	0.6%	
Q1C9D	159.9	159.8	-0.1	0.1%		1919	1917	-2	0.1%	
Q1LW1	637.3	635.2	-2.1	0.3%		7648	7622	-26	0.3%	
Q1LW2	1302.4	1300.2	-2.2	0.2%		15629	15603	-26	0.2%	
Q1LW3	434.8	434.8	0	0.0%		5218	5218	0	0.0%	
Q1LWSO	19.8	19.8	0	0.0%		238	237	0	0.4%	
Q1WDN	377.6	377	-0.6	0.2%		4531	4524	-7	0.2%	
Q2C57	3872	3856.6	-15.4	0.4%		46465	46279	-185	0.4%	
Q2C9D	125.2	125.4	0.2	0.2%		1503	1504	2	0.1%	
Q2LW1	637.3	635.2	-2.1	0.3%		7648	7622	-26	0.3%	
Q2LW2	1302.5	1300.3	-2.2	0.2%		15629	15603	-26	0.2%	
Q2LW3	434.8	434.8	0	0.0%		5218	5218	0	0.0%	
Q2LWSO	19.8	19.8	0	0.0%		238	237	0	0.4%	
Q3LW2	1302.3	1300.1	-2.2	0.2%		15628	15601	-26	0.2%	
QC13E	3081.9	3080.3	-1.6	0.1%		36982	36963	-19	0.1%	
RESL8O	0	0	0			0	0	0		
RESTL8	1224.1	1224.1	0	0.0%		14689	14689	0	0.0%	
REUBDR	0	0	0			0	0	0		

Table F-3. Monthly and annual absolute percent difference for 2010CP simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
REUWS1	0	0	0			0	0	0		
REUWS2	0	0	0			0	0	0		
REUWS3	0	0	0			0	0	0		
RFWPBB	6313.3	6320.7	7.4	0.1%		75759	75848	89	0.1%	
RGTCAE	813.7	815.5	1.8	0.2%		9765	9787	22	0.2%	
RGTSLE	101.1	101.5	0.4	0.4%		1213	1218	5	0.4%	
ROBRVQ	625.4	625	-0.4	0.1%		7505	7500	-5	0.1%	
ROOKBQ	18990.7	18973.6	-17.1	0.1%		227888	227684	-205	0.1%	
ROTOL4	2182.5	2181.2	-1.3	0.1%		26190	26175	-15	0.1%	
ROTONW	371.4	372.5	1.1	0.3%		4457	4470	13	0.3%	
ROTOT1	1051.8	1052.1	0.2	0.0%		12622	12625	3	0.0%	
ROTOT2	1054.5	1054.3	-0.3	0.0%		12654	12651	-3	0.0%	
ROTOT3	797.5	797.4	-0.1	0.0%		9570	9568	-2	0.0%	
ROTTS8	0	0	0			0	0	0		
ROTTWS	2747.7	2747.3	-0.3	0.0%		32972	32968	-4	0.0%	
RSTEAA	6081.7	6078.6	-3.1	0.1%		72980	72943	-37	0.1%	
RTTHLY	156.2	156.3	0.2	0.1%		1874	1876	2	0.1%	
RTTSEM	193.8	193.6	-0.2	0.1%		2326	2324	-2	0.1%	
RTTWCA	371.4	372.5	1.1	0.3%		4457	4470	13	0.3%	
RVBDRQ	1042	1042	0	0.0%		12504	12504	0	0.0%	
S10	8319.9	8319.5	-0.4	0.0%		99839	99834	-5	0.0%	
S10E	0	0	0			0	0	0		
S10EEV	0	0	0			0	0	0		
S10ENV	0	0	0			0	0	0		
S10ERG	0	0	0			0	0	0		
S10EWS	0	0	0			0	0	0		
S10REG	8319.9	8319.5	-0.4	0.0%		99839	99834	-5	0.0%	
S10WS	0	0	0			0	0	0		
S11	19068.9	19034.7	-34.2	0.2%		228827	228417	-410	0.2%	
S118	682.5	682.4	0	0.0%		8190	8189	0	0.0%	
S119	60.1	60.1	0	0.0%		722	722	0	0.0%	
S11ENV	0	0	0			0	0	0		
S11REG	19068.9	19034.7	-34.2	0.2%		228827	228417	-410	0.2%	
S11WS	0	0	0			0	0	0		
S123	1454.7	1454.5	-0.2	0.0%		17456	17454	-2	0.0%	
S124	1.1	1.4	0.2	27.3%		14	16	2	14.3%	
S125	0	0	0			0	0	0		

Table F-3. Monthly and annual absolute percent difference for 2010CP simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
S12A	1902.3	1897.3	-5	0.3%		22828	22767	-61	0.3%	
S12B	3535.3	3532.6	-2.7	0.1%		42424	42391	-33	0.1%	
S12C	4536.2	4536.9	0.7	0.0%		54434	54443	8	0.0%	
S12D	5279.2	5282.9	3.7	0.1%		63351	63395	44	0.1%	
S12ENV	35739.2	35703.4	-35.8	0.1%		428870	428440	-430	0.1%	
S12RG	4690.7	4645.2	-45.5	1.0%		56288	55742	-546	1.0%	
S13	2583.7	2584.9	1.1	0.0%		31005	31018	13	0.0%	
S1324P	377.1	376.4	-0.7	0.2%		4525	4516	-9	0.2%	
S1324W	65.8	65.6	-0.2	0.3%		789	787	-3	0.3%	
S13A	225.6	226.5	0.9	0.4%		2707	2718	10	0.4%	
S140	6067.4	6065.7	-1.7	0.0%		72809	72788	-21	0.0%	
S140FC	3878.4	3877.9	-0.4	0.0%		46540	46535	-5	0.0%	
S141	0.1	0.1	0	0.0%		1	1	0	0.0%	
S142E	0	0	0			0	0	0		
S142W	232.1	261.6	29.4	12.7%	HERE	2785	3139	353	12.7%	HERE
S143	366.7	374.5	7.7	2.1%	HERE	4401	4494	93	2.1%	HERE
S144	1471.4	1463.6	-7.9	0.5%		17657	17563	-94	0.5%	
S144EV	0	0	0			0	0	0		
S144RG	1471.4	1463.6	-7.9	0.5%		17657	17563	-94	0.5%	
S144WS	0	0	0			0	0	0		
S145	1429.3	1425.9	-3.4	0.2%		17152	17111	-41	0.2%	
S145EV	0	0	0			0	0	0		
S145RG	1429.3	1425.9	-3.4	0.2%		17152	17111	-41	0.2%	
S145WS	0	0	0			0	0	0		
S146	1199.3	1197.5	-1.8	0.2%		14391	14370	-22	0.1%	
S146EV	0	0	0			0	0	0		
S146RG	1199.3	1197.5	-1.8	0.2%		14391	14370	-22	0.1%	
S146WS	0	0	0			0	0	0		
S148	323.8	323.4	-0.4	0.1%		3885	3881	-4	0.1%	
S149	990.5	990.5	0	0.0%		11886	11885	0	0.0%	
S150	385.6	393.9	8.2	2.2%	HERE	4628	4727	99	2.1%	HERE
S151RG	90.4	90.5	0.1	0.1%		1085	1086	1	0.1%	
S151WS	1732.4	1724.6	-7.8	0.5%		20789	20695	-94	0.5%	
S155	10674.9	10736.5	61.6	0.6%		128098	128838	739	0.6%	
S155A	7229.9	7362	132.1	1.8%		86759	88344	1585	1.8%	
S165	900.6	900.5	-0.2	0.0%		10808	10806	-2	0.0%	
S166	188	188.4	0.3	0.2%		2257	2260	4	0.1%	

Table F-3. Monthly and annual absolute percent difference for 2010CP simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
S167	993.6	993.3	-0.3	0.0%		11923	11919	-4	0.0%	
S173	860.6	860.6	0	0.0%		10327	10327	0	0.0%	
S176	1129.2	1132.5	3.3	0.3%		13550	13590	40	0.3%	
S177	1209.6	1211.3	1.7	0.1%		14515	14536	21	0.1%	
S178	0	0	0			0	0	0		
S179	1714.7	1714.3	-0.4	0.0%		20576	20571	-5	0.0%	
S194	203.8	204.7	0.9	0.4%		2445	2456	11	0.4%	
S196	236.5	237.2	0.6	0.3%		2838	2846	8	0.3%	
S2	7599.5	7589.4	-10.1	0.1%		91194	91073	-121	0.1%	
S20	2127	2125.8	-1.1	0.1%		25524	25510	-14	0.1%	
S20F	3065.9	3065.9	0.1	0.0%		36790	36791	1	0.0%	
S20G	389.8	389.8	-0.1	0.0%		4678	4677	-1	0.0%	
S21	2755.3	2755.4	0.1	0.0%		33063	33064	1	0.0%	
S21A	1729.8	1729.6	-0.2	0.0%		20757	20756	-2	0.0%	
S22	5020.8	5034.3	13.4	0.3%		60250	60411	161	0.3%	
S235TC	864.5	862.2	-2.3	0.3%		10374	10346	-28	0.3%	
S236RO	350.5	351.1	0.6	0.2%		4206	4214	7	0.2%	
S236SO	446.9	446.1	-0.8	0.2%		5362	5353	-10	0.2%	
S236WS	330.8	330.8	0	0.0%		3969	3969	0	0.0%	
S25	477.7	477.9	0.2	0.0%		5732	5735	3	0.1%	
S25A	0	0	0			0	0	0		
S25B	2903.3	2903.2	-0.2	0.0%		34840	34838	-2	0.0%	
S26	5649	5648.7	-0.3	0.0%		67788	67784	-4	0.0%	
S27	4431.3	4430.3	-1.1	0.0%		53176	53163	-13	0.0%	
S28	2790.9	2790.9	0	0.0%		33490	33491	0	0.0%	
S29	12518.4	12518	-0.4	0.0%		150221	150216	-5	0.0%	
S29DNQ	14286	14285.6	-0.3	0.0%		171431	171427	-4	0.0%	
S2PMP	780.2	779.1	-1.1	0.1%		9362	9349	-13	0.1%	
S2TMCL	3317.3	3316	-1.3	0.0%		39807	39792	-15	0.0%	
S3	8775	8743.9	-31	0.4%		105300	104927	-372	0.4%	
S30	6485.3	6487.3	1.9	0.0%		77824	77847	23	0.0%	
S308	2722.3	2737.2	14.9	0.5%		32668	32846	179	0.5%	
S308BK	2211.9	2208	-3.9	0.2%		26543	26495	-47	0.2%	
S308OT	4934.2	4945.1	11	0.2%		59210	59342	131	0.2%	
S308RG	3440.3	3453.6	13.3	0.4%		41284	41444	160	0.4%	
S31	1.6	1.5	-0.1	6.3%		20	18	-2	10.0%	
S319	5429.5	5304.7	-124.8	2.3%	HERE	65154	63657	-1498	2.3%	HERE

Table F-3. Monthly and annual absolute percent difference for 2010CP simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
S319WS	0.4	0.5	0	25.0%		5	6	0	20.0%	
S31REG	33.5	33.3	-0.2	0.6%		403	400	-3	0.7%	
S31RG	0	0	0			0	0	0		
S31TBY	0	0	0			0	0	0		
S31WS	1.6	1.5	-0.1	6.3%		20	18	-2	10.0%	
S32	0	0	0			0	0	0		
S32A	0	0	0			0	0	0		
S32ENV	4.8	4.9	0.1	2.1%		58	59	1	1.7%	
S33	439.5	439.6	0.1	0.0%		5274	5275	1	0.0%	
S331A	934.6	935	0.4	0.0%		11215	11220	5	0.0%	
S331B	292.6	292.6	0	0.0%		3512	3512	0	0.0%	
S331C	230	229.9	-0.2	0.0%		2761	2759	-2	0.1%	
S331FC	0	0	0			0	0	0		
S331PM	0	0	0			0	0	0		
S331WS	0	0	0			0	0	0		
S332	0	0	0			0	0	0		
S332B1	399.2	399.9	0.7	0.2%		4790	4798	8	0.2%	
S332B2	684	684	-0.1	0.0%		8208	8208	-1	0.0%	
S332B3	401	401	0	0.0%		4812	4812	0	0.0%	
S332B4	254.6	255	0.4	0.2%		3055	3060	5	0.2%	
S332B5	535.4	535.6	0.2	0.0%		6425	6428	2	0.0%	
S332B6	985.9	986.8	1	0.1%		11830	11842	12	0.1%	
S332B7	498.8	500.4	1.6	0.3%		5986	6005	19	0.3%	
S332B8	196	196.4	0.4	0.2%		2352	2356	5	0.2%	
S332C1	778.4	778.3	-0.1	0.0%		9341	9340	-1	0.0%	
S332C2	795.5	792	-3.6	0.4%		9546	9504	-43	0.4%	
S332C3	134.2	135.1	0.9	0.7%		1610	1621	11	0.7%	
S332C4	47.7	46.8	-0.8	1.9%		572	562	-10	1.7%	
S332D1	829.7	828.4	-1.3	0.2%		9957	9941	-16	0.2%	
S332D2	766.4	768.7	2.2	0.3%		9197	9224	27	0.3%	
S332D3	471.8	470.7	-1.1	0.2%		5662	5649	-13	0.2%	
S332D4	286.3	284.6	-1.7	0.6%		3435	3415	-20	0.6%	
S332D5	585.5	585.1	-0.4	0.1%		7026	7021	-4	0.1%	
S332D6	170.9	171.4	0.5	0.3%		2050	2056	6	0.3%	
S332E	6103.7	6096.3	-7.4	0.1%		73245	73156	-89	0.1%	
S332S1	781.8	780.8	-1	0.1%		9382	9370	-12	0.1%	
S332S2	320.5	320.8	0.3	0.1%		3846	3849	4	0.1%	

Table F-3. Monthly and annual absolute percent difference for 2010CP simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
S332S3	231.9	234.2	2.3	1.0%		2783	2810	28	1.0%	
S332S4	177.3	176.5	-0.7	0.5%		2128	2119	-9	0.4%	
S333	21018.9	20989.4	-29.5	0.1%		252227	251873	-354	0.1%	
S333EV	19891.5	19868.5	-23.1	0.1%		238699	238422	-277	0.1%	
S333RG	820	811.3	-8.7	1.1%		9840	9736	-104	1.1%	
S334	307.1	309.1	2.1	0.7%		3685	3709	25	0.7%	
S334FC	0	0	0			0	0	0		
S335	964.1	965.8	1.7	0.2%		11569	11589	20	0.2%	
S335FC	428.1	429.1	1	0.2%		5137	5149	12	0.2%	
S335P	2413.7	2410.2	-3.5	0.1%		28965	28922	-43	0.1%	
S336	242.1	243	0.9	0.4%		2905	2916	11	0.4%	
S337	1618.7	1612.1	-6.6	0.4%		19424	19345	-79	0.4%	
S337FC	0	0	0			0	0	0		
S338	491	491.1	0.1	0.0%		5893	5894	1	0.0%	
S339	1253.7	1240.1	-13.6	1.1%		15044	14881	-163	1.1%	
S34	366.9	374.6	7.7	2.1%	HERE	4402	4495	93	2.1%	HERE
S340	1366.8	1353.1	-13.8	1.0%		16402	16237	-165	1.0%	
S343	671.7	669	-2.7	0.4%		8060	8028	-32	0.4%	
S344	232.5	231.6	-0.9	0.4%		2790	2779	-11	0.4%	
S34RG	252.8	261.1	8.3	3.3%	HERE	3034	3134	100	3.3%	HERE
S34WS	114	113.5	-0.6	0.4%		1369	1362	-7	0.5%	
S351	8379.7	8368.5	-11.2	0.1%		100556	100422	-134	0.1%	
S351PK	0	0	0			0	0	0		
S352	4002.7	4000.4	-2.3	0.1%		48032	48004	-28	0.1%	
S352L8	953.7	952.1	-1.6	0.2%		11444	11425	-19	0.2%	
S354	9010.6	8980.3	-30.3	0.3%		108127	107763	-364	0.3%	
S354PK	0	0	0			0	0	0		
S355	1209.2	1207.8	-1.4	0.1%		14510	14493	-17	0.1%	
S355EV	1209.2	1207.8	-1.4	0.1%		14510	14493	-17	0.1%	
S355RG	0	0	0			0	0	0		
S356A1	556.5	556.3	-0.2	0.0%		6678	6675	-3	0.0%	
S356A2	170.7	177.1	6.4	3.7%	HERE	2048	2125	77	3.8%	HERE
S356K	8291.8	8289	-2.7	0.0%		99501	99469	-33	0.0%	
S357A	568	568.3	0.3	0.1%		6815	6819	4	0.1%	
S357B	568	568.3	0.3	0.1%		6815	6819	4	0.1%	
S357C	0	0	0			0	0	0		
S357D	0	0	0			0	0	0		

Table F-3. Monthly and annual absolute percent difference for 2010CP simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
S36	1605.1	1603.7	-1.4	0.1%		19262	19244	-17	0.1%	
S37A	5766.3	5766.7	0.5	0.0%		69195	69201	6	0.0%	
S37B	4773.2	4774.1	0.9	0.0%		57278	57289	11	0.0%	
S38	1874	1876.7	2.7	0.1%		22488	22521	32	0.1%	
S380L	239.2	235.9	-3.4	1.4%		2871	2830	-40	1.4%	
S380R	1187.2	1190.3	3.1	0.3%		14246	14283	37	0.3%	
S381	9.4	9.2	-0.1	2.1%		112	111	-2	0.9%	
S381BK	0.7	0.7	0	0.0%		8	8	0	0.0%	
S381E	147.2	148	0.8	0.5%		1766	1776	10	0.6%	
S38ENV	0	0	0			0	0	0		
S38REG	1577	1579.5	2.5	0.2%		18925	18954	29	0.2%	
S38WS	297	297.2	0.2	0.1%		3564	3567	3	0.1%	
S39	459.4	458.9	-0.5	0.1%		5512	5507	-5	0.1%	
S39RG	280.9	281.1	0.1	0.1%		3371	3373	2	0.1%	
S39WS	178.4	177.8	-0.6	0.3%		2141	2134	-7	0.3%	
S3PMP	235.7	236.3	0.7	0.3%		2828	2836	8	0.3%	
S40	6053.8	6088.3	34.5	0.6%		72646	73060	414	0.6%	
S41	3403.3	3426.5	23.1	0.7%		40840	41118	278	0.7%	
S44	4495.4	4495.2	-0.3	0.0%		53945	53942	-3	0.0%	
S46	4526.1	4525.7	-0.4	0.0%		54313	54308	-5	0.0%	
S4BTLK	833.6	835.9	2.3	0.3%		10003	10031	28	0.3%	
S4DMD	1436.9	1436.8	-0.1	0.0%		17242	17241	-1	0.0%	
S5A1	7397.5	7402.1	4.5	0.1%		88770	88825	55	0.1%	
S5A2	6176.4	6191.6	15.2	0.2%		74117	74299	182	0.2%	
S5A2NO	267.5	258.4	-9	3.4%	HERE	3210	3101	-108	3.4%	HERE
S5A2SO	6443.9	6450	6.2	0.1%		77326	77400	74	0.1%	
S5A3	3375.9	3385.8	9.9	0.3%		40511	40629	119	0.3%	
S5A3NO	1033.4	1030.4	-3	0.3%		12401	12365	-36	0.3%	
S5A3SO	5941.3	5952.7	11.4	0.2%		71295	71432	137	0.2%	
S5A4	4597	4596.3	-0.7	0.0%		55164	55155	-9	0.0%	
S5A4E	6129	6132.8	3.8	0.1%		73548	73594	46	0.1%	
S5A4W	0	0	0			0	0	0		
S5AWC1	109.5	111	1.5	1.4%		1314	1332	18	1.4%	
S6	5893.2	5901.5	8.3	0.1%		70718	70817	99	0.1%	
S6LCWS	54.1	56.4	2.3	4.3%		650	677	27	4.2%	HERE
S6NBYP	308.2	307.4	-0.8	0.3%		3699	3689	-10	0.3%	
S7	6873.5	6828.2	-45.3	0.7%		82482	81938	-544	0.7%	

Table F-3. Monthly and annual absolute percent difference for 2010CP simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
S77	15195.2	15221.8	26.6	0.2%		182342	182662	320	0.2%	
S77BK	533.5	535	1.5	0.3%		6402	6420	18	0.3%	
S77OUT	15728.7	15756.9	28.2	0.2%		188744	189082	338	0.2%	
S77RG	9082.3	9106	23.7	0.3%		108988	109272	284	0.3%	
S79	36025.9	36050.8	24.9	0.1%		432311	432610	299	0.1%	
S7BPMR	0	0	0			0	0	0		
S7GRAV	6477.2	6431.7	-45.5	0.7%		77726	77181	-546	0.7%	
S7NBYP	703.2	691.3	-11.9	1.7%		8438	8295	-143	1.7%	
S7PUMP	396.3	396.4	0.2	0.0%		4755	4757	2	0.0%	
S8	18958.1	18932.2	-25.9	0.1%		227497	227187	-310	0.1%	
S80	7351	7363.9	12.9	0.2%		88212	88366	154	0.2%	
S8BPMR	200.7	200.9	0.2	0.1%		2408	2410	2	0.1%	
S8GRAV	287.8	289.8	2	0.7%		3453	3477	24	0.7%	
S8NBYP	486.2	487.3	1	0.2%		5835	5847	12	0.2%	
S8PUMP	18670.3	18642.4	-27.9	0.1%		224044	223709	-335	0.1%	
S9	21.9	23	1.1	5.0%		263	276	13	4.9%	HERE
S9A	2735.9	2735.3	-0.7	0.0%		32831	32823	-8	0.0%	
S9XN	0	0	0			0	0	0		
S9XS	0	0	0			0	0	0		
SABNWE	316.8	316.8	0	0.0%		3802	3801	0	0.0%	
SACU	0	0	0			0	0	0		
SASP1	-122.3	-122.1	0.2	0.2%		-1467	-1465	2	0.1%	
SASP2	17	17.1	0.1	0.6%		204	206	1	1.0%	
SBNAWE	456.4	458.1	1.7	0.4%		5477	5497	21	0.4%	
SBNCU	0	0	0			0	0	0		
SBNCWE	0	0	0			0	0	0		
SBNSP	692	691.6	-0.4	0.1%		8304	8299	-5	0.1%	
SBNWE	0	0	0			0	0	0		
SCBNWE	0.1	0	0	100.0%		1	1	0	0.0%	
SCCPCN	0	0	0			0	0	0		
SCCPCS	0	0	0			0	0	0		
SCCU1	0	0	0			0	0	0		
SCCU2	0	0	0			0	0	0		
SCSP1	1024.3	1024.5	0.1	0.0%		12292	12294	2	0.0%	
SCSP2	961.2	960.2	-1	0.1%		11534	11522	-12	0.1%	
SCUCHH	0	0	0			0	0	0		
SCWE	0	0	0			0	0	0		

Table F-3. Monthly and annual absolute percent difference for 2010CP simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
SCWEPC	0	0	0			0	0	0		
SDFSP	446.1	445.3	-0.9	0.2%		5353	5343	-10	0.2%	
SDFSPC	328.3	327.7	-0.5	0.2%		3939	3933	-6	0.2%	
SDFWE1	406.3	406.1	-0.2	0.0%		4876	4874	-2	0.0%	
SDFWE2	1.9	1.9	0	0.0%		23	23	0	0.0%	
SDFWE3	0	0	0			0	0	0		
SDNCU	97.2	96.9	-0.3	0.3%		1166	1162	-4	0.3%	
SDNSP	1508.6	1508.5	-0.1	0.0%		18103	18102	-1	0.0%	
SDNWE	1474.3	1473	-1.3	0.1%		17692	17676	-16	0.1%	
SDSSP	-59	-58.8	0.2	0.3%		-708	-705	3	0.4%	
SDSSPC	408.6	408.6	0	0.0%		4903	4903	0	0.0%	
SDSWE	1137	1135.5	-1.6	0.1%		13645	13626	-19	0.1%	
SEACWS	45	45.1	0	0.2%		541	541	0	0.0%	
SEMWS	193.8	193.6	-0.2	0.1%		2326	2324	-2	0.1%	
SHHCUC	0	0	0			0	0	0		
SHHSPC	39.6	39.6	0	0.0%		475	476	0	0.2%	
SIRWDO	22.4	22.2	-0.2	0.9%		268	266	-2	0.7%	
SIT1RO	0	0	0			0	0	0		
SITWCD	1215.1	1215	-0.1	0.0%		14581	14580	-1	0.0%	
SLRSLO	0	0	0			0	0	0		
SMDNLK	231.2	231.1	-0.2	0.0%		2775	2773	-2	0.1%	
SNCREQ	807.3	806.8	-0.5	0.1%		9688	9682	-6	0.1%	
SP85S1	524	524.3	0.3	0.1%		6288	6291	3	0.0%	
SP85S2	142.7	142.8	0.1	0.1%		1713	1714	1	0.1%	
SPCSP	-21.2	-21.4	-0.2	0.9%		-255	-257	-2	0.8%	
SPCWE	0	0	0			0	0	0		
SPL31N	5755.9	5761.6	5.6	0.1%		69071	69139	67	0.1%	
SPTL30	14531.8	14534	2.2	0.0%		174381	174408	27	0.0%	
SR706Q	998.6	998.7	0.1	0.0%		11983	11984	1	0.0%	
SSDST3	152.6	152.3	-0.3	0.2%		1831	1827	-4	0.2%	
SSDTLK	167.2	167.6	0.3	0.2%		2007	2011	4	0.2%	
SSMSP1	-452.5	-451.1	1.4	0.3%		-5430	-5413	16	0.3%	
SSMSP2	590.3	590.5	0.2	0.0%		7084	7086	2	0.0%	
SSMSP3	1395.8	1395.1	-0.7	0.1%		16750	16741	-8	0.1%	
ST1EEO	3446.8	3371.1	-75.7	2.2%	HERE	41361	40453	-909	2.2%	HERE
ST1EI1	0	0	0			0	0	0		
ST1EWO	2211.6	2163.5	-48.2	2.2%	HERE	26540	25962	-578	2.2%	HERE

Table F-3. Monthly and annual absolute percent difference for 2010CP simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
ST1WI1	5269.3	5264	-5.3	0.1%		63231	63168	-63	0.1%	
ST1WQ1	5262.5	5256.6	-5.9	0.1%		63151	63080	-71	0.1%	
ST2BN1	1923.6	1922.8	-0.9	0.0%		23083	23073	-10	0.0%	
ST2BN2	2167	2174.9	8	0.4%		26004	26099	95	0.4%	
ST2BYP	0.4	0.4	0	0.0%		5	5	0	0.0%	
ST2REX	0	0	0			0	0	0		
ST3BYP	200.7	200.9	0.2	0.1%		2408	2410	2	0.1%	
ST3NEA	0	0	0			0	0	0		
ST3OT1	0	0	0			0	0	0		
ST3OT2	0	0	0			0	0	0		
ST3OT3	0	0	0			0	0	0		
ST3QIN	10944.8	10945.3	0.5	0.0%		131337	131344	6	0.0%	
ST3REX	1011.9	1039.9	28	2.8%	HERE	12142	12478	336	2.8%	HERE
ST3S71	6810.2	6776.9	-33.3	0.5%		81723	81323	-400	0.5%	
ST3S81	20854.3	20847.6	-6.7	0.0%		250251	250171	-80	0.0%	
ST3THL	77.2	77.1	-0.1	0.1%		926	925	-1	0.1%	
ST3TL4	6.6	6.5	-0.1	1.5%		79	78	-1	1.3%	
ST3TNE	0	0	0			0	0	0		
ST3TNW	3248.7	3242.9	-5.8	0.2%		38984	38915	-70	0.2%	
ST3TS7	6659.1	6614.8	-44.3	0.7%		79909	79377	-532	0.7%	
ST3TS8	17750	17760.2	10.2	0.1%		213000	213123	123	0.1%	
ST5OT1	2721	2720.9	0	0.0%		32652	32651	0	0.0%	
ST5OT2	3863.4	3863.3	0	0.0%		46360	46360	0	0.0%	
ST5REX	0	0	0			0	0	0		
ST5TCL	2496.6	2496.5	0	0.0%		29959	29958	0	0.0%	
ST5TMR	224.4	224.4	0	0.0%		2693	2693	0	0.0%	
ST6OT1	768.7	768.7	0	0.0%		9224	9224	0	0.0%	
ST6REX	0	0	0			0	0	0		
ST6SEM	37.4	37.4	0	0.0%		449	449	0	0.0%	
ST6TL4	0	0	0			0	0	0		
ST6WCA	731.2	731.2	0	0.0%		8775	8775	0	0.0%	
ST6WS	37.4	37.4	0	0.0%		449	449	0	0.0%	
STA2BO	6308.6	6316.3	7.7	0.1%		75703	75795	92	0.1%	
STA2EO	2900.3	2904.4	4.1	0.1%		34803	34853	50	0.1%	
STA2MO	2948.6	2952.7	4.1	0.1%		35383	35432	49	0.1%	
STA5IQ	6448.1	6448.1	-0.1	0.0%		77378	77377	-1	0.0%	
STA5WO	6494.8	6494.7	-0.1	0.0%		77937	77936	-1	0.0%	

Table F-3. Monthly and annual absolute percent difference for 2010CP simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
STA6IQ	838.2	838	-0.2	0.0%		10059	10057	-2	0.0%	
STAWEE	47.1	47.2	0.1	0.2%		565	566	1	0.2%	
STAWEW	0	0	0			0	0	0		
STEST	712	710.4	-1.6	0.2%		8544	8525	-19	0.2%	
STIRR	781.9	781.1	-0.8	0.1%		9382	9373	-9	0.1%	
STLRES	0	0	0			0	0	0		
STREG	3440.3	3453.6	13.3	0.4%		41284	41444	160	0.4%	
SUGDMD	86.4	86.4	0	0.0%		1037	1037	0	0.0%	
SUGREX	1.2	1.2	0	0.0%		15	15	0	0.0%	
SUGRF	226.8	226.8	0	0.0%		2722	2722	0	0.0%	
SUNWDQ	790.2	790	-0.2	0.0%		9483	9480	-3	0.0%	
TCNSQ	5782.1	5782.1	0	0.0%		69385	69385	0	0.0%	
TCRTLK	0	0	0			0	0	0		
TEST1N	7621.5	7609	-12.5	0.2%		91458	91308	-150	0.2%	
TREUSE	0	0	0			0	0	0		
U1TL28	496.9	496.9	0	0.0%		5963	5963	0	0.0%	
UISTLK	5207.1	5207.1	0	0.0%		62486	62486	0	0.0%	
WCS4S	17204.2	17168.5	-35.7	0.2%		206450	206021	-428	0.2%	
WL1351	206.1	204.7	-1.5	0.7%		2474	2456	-18	0.7%	
WL2351	51.6	54.8	3.2	6.2%		620	658	38	6.1%	HERE
WL3351	385.6	393.9	8.2	2.2%	HERE	4628	4727	99	2.1%	HERE
WLC351	645.5	655.2	9.8	1.5%		7745	7863	117	1.5%	
WLC352	130.6	129.3	-1.3	1.0%		1567	1552	-15	1.0%	
WLC354	950.6	922.6	-28	2.9%	HERE	11407	11071	-336	2.9%	HERE
WLES6	0	0	0			0	0	0		
WLES7	8.3	8.7	0.5	4.8%		99	105	6	6.1%	
WLES8	104.4	111.2	6.8	6.5%		1252	1334	82	6.5%	HERE
WPBCAT	74.3	74.3	0	0.0%		891	892	0	0.1%	
WPBRG1	0	0	0			0	0	0		
WPBRG2	0	0	0			0	0	0		
WPBST1	6313.3	6320.7	7.4	0.1%		75759	75848	89	0.1%	
WPBST2	1.7	1.7	0	0.0%		20	20	0	0.0%	
WSC11W	28.2	28.4	0.2	0.7%		338	340	2	0.6%	
WSC1LW	758.4	757.6	-0.8	0.1%		9101	9091	-10	0.1%	
WSEAA	5777.7	5778	0.3	0.0%		69332	69336	3	0.0%	
WSHOLY	0	0	0			0	0	0		
WSL8S	79.8	78.3	-1.4	1.9%		957	940	-17	1.8%	

Table F-3. Monthly and annual absolute percent difference for 2010CP simulations (UNIX® versus Linux® operating systems) with screening criteria as described in Results section

Structure Name	UNIX® Monthly (cfs/mo.)	Linux® Monthly (cfs/mo.)	Monthly Difference (cfs/mo.)	Absolute Percent Difference	Screening Criterion Exceeded	UNIX® Yearly (cfs/yr.)	Linux® Yearly (cfs/yr.)	Annual Difference (cfs/yr.)	Absolute Percent Difference	Screening Criterion Exceeded
WSS151	1726.5	1718.5	-8	0.5%		20718	20621	-96	0.5%	
WSST1W	6.3	6.3	0	0.0%		76	76	0	0.0%	
WSST2B	55	55.1	0.2	0.2%		660	662	2	0.3%	
WSST2E	5.2	5.2	0	0.0%		62	62	0	0.0%	
WSST2M	0	0	0			0	0	0		
WSST2W	6271.8	6279.2	7.4	0.1%		75262	75351	89	0.1%	
WSST5E	5.5	5.5	0	0.0%		67	67	0	0.0%	
WSSTA	235	235.2	0.2	0.1%		2820	2822	2	0.1%	
WSSTA3	37.8	37.8	0	0.0%		454	454	0	0.0%	
WSSTA5	5.5	5.5	0	0.0%		67	67	0	0.0%	
WSSTA6	115.7	115.5	-0.2	0.2%		1388	1386	-2	0.1%	
WST1EE	1.3	1.3	0.1	0.0%		16	16	1	0.0%	
WST1EW	2.9	3	0.1	3.4%		34	36	1	5.9%	
WSTC12	72.3	72.1	-0.2	0.3%		868	866	-2	0.2%	
WSTLXR	1492.8	1492.8	0	0.0%		17914	17913	0	0.0%	

APPENDIX G - STATISTICAL MEASURES OF ERROR (STAGE)

Table G-1. Stage cell error statistics for ECB simulations (UNIX® versus Linux® operating systems)

Cell Station Data	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
1-7	0.999	0.018	0.004	0.999	13149
1-8T	1.000	0.016	0.004	1.000	13149
1-9	1.000	0.016	0.004	1.000	13149
2A-17	0.999	0.017	0.002	0.999	13149
2A-300	0.999	0.020	0.001	0.999	13149
WCA2E4	0.999	0.021	0.003	0.999	13149
WCA2F1	0.999	0.016	0.002	0.999	13149
WCA2F4	0.999	0.021	0.003	0.999	13149
WCA2U1	0.999	0.020	0.002	0.999	13149
2B-Y	1.000	0.031	0.007	1.000	13149
3-99	1.000	0.031	0.007	1.000	13149
3A-10	0.998	0.030	-0.003	0.998	13149
3A-11	0.997	0.039	-0.004	0.997	13149
3A-12	1.000	0.012	-0.001	1.000	13149
3A-2	1.000	0.008	-0.000	1.000	13149
3A-28	1.000	0.009	0.001	1.000	13149
3A-3	1.000	0.008	0.001	1.000	13149
3A-4	1.000	0.008	0.001	1.000	13149
3A-9	1.000	0.008	-0.000	1.000	13149
3A-NE	1.000	0.008	-0.000	1.000	13149
3A-NW	0.996	0.043	-0.005	0.996	13149
3A-S	1.000	0.007	0.000	1.000	13149
3A-SW	1.000	0.007	0.001	1.000	13149
G618	0.999	0.020	-0.002	0.999	13149
L28-2	1.000	0.004	0.000	1.000	13149
L29	0.999	0.019	-0.002	0.999	13149
3B-2	0.999	0.014	0.000	0.999	13149
3B-29	1.000	0.021	-0.000	1.000	13149
3B-3	0.999	0.022	0.000	0.999	13149
3B-SE	1.000	0.018	-0.000	1.000	13149
SHARK	1.000	0.013	-0.001	1.000	13149
EP12R	0.999	0.008	0.000	0.999	13149
EP9R	1.000	0.005	0.000	1.000	13149

Table G-1. Stage cell error statistics for ECB simulations (UNIX® versus Linux® operating systems)

Cell Station Data	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
EPSW	1.000	0.006	0.000	1.000	13149
G1502	1.000	0.011	0.000	1.000	13149
G3272	1.000	0.012	-0.000	1.000	13149
G3273	1.000	0.011	0.000	1.000	13149
G3437	0.999	0.048	0.003	0.999	13149
G3576	1.000	0.019	-0.000	1.000	13149
G3578	1.000	0.015	-0.000	1.000	13149
G620	1.000	0.007	0.000	1.000	13149
L67ES	1.000	0.006	0.000	1.000	13149
L67EXE	1.000	0.009	-0.000	1.000	13149
L67EXW	1.000	0.007	0.000	1.000	13149
NESRS1	1.000	0.011	-0.001	1.000	13149
NESRS2	1.000	0.015	-0.001	1.000	13149
NESRS3	1.000	0.019	-0.000	1.000	13149
NESRS4	1.000	0.007	0.000	1.000	13149
NESRS5	1.000	0.007	-0.000	1.000	13149
NP-201	1.000	0.011	0.001	1.000	13149
NP-202	1.000	0.008	0.000	1.000	13149
NP-203	1.000	0.006	0.000	1.000	13149
NP-205	1.000	0.004	0.000	1.000	13149
NP-206	1.000	0.007	0.001	1.000	13149
NP-207	1.000	0.002	0.000	1.000	13149
NP-33	1.000	0.006	0.000	1.000	13149
NP-34	1.000	0.005	0.000	1.000	13149
NP-35	1.000	0.006	-0.000	1.000	13149
NP-36	1.000	0.005	0.000	1.000	13149
NP-38	1.000	0.004	0.000	1.000	13149
NP-44	1.000	0.004	-0.000	1.000	13149
NP-46	1.000	0.001	-0.000	1.000	13149
NP-62	1.000	0.005	-0.000	1.000	13149
NP-67	1.000	0.004	0.000	1.000	13149
NP-72	1.000	0.003	-0.000	1.000	13149
NP-RG1	1.000	0.009	0.000	1.000	13149

Table G-1. Stage cell error statistics for ECB simulations (UNIX® versus Linux® operating systems)

Cell Station Data	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
NP-RG2	1.000	0.016	0.001	1.000	13149
NP-TSB	1.000	0.011	-0.000	1.000	13149
RUTZKE	0.998	0.054	0.003	0.998	13149
BCNP10	1.000	0.002	0.000	1.000	13149
BCNP12	1.000	0.000	0.000	1.000	13149
BCNP13	1.000	0.000	-0.000	1.000	13149
BCNPA2	1.000	0.000	-0.000	1.000	13149
BCNPA5	1.000	0.002	0.000	1.000	13149
BCNPA8	1.000	0.000	-0.000	1.000	13149
BEARI	1.000	0.000	0.000	1.000	13149
C296	1.000	0.000	0.000	1.000	13149
C54	1.000	0.002	-0.000	1.000	13149
L28.GA	1.000	0.001	-0.000	1.000	13149
LOOP1	1.000	0.005	0.000	1.000	13149
LOOP2	1.000	0.002	0.000	1.000	13149
G3273	1.000	0.011	0.000	1.000	13149
G3437	0.999	0.048	0.003	0.999	13149
G3576	1.000	0.019	-0.000	1.000	13149
G3578	1.000	0.015	-0.000	1.000	13149
G620	1.000	0.007	0.000	1.000	13149
L67ES	1.000	0.006	0.000	1.000	13149
L67EXE	1.000	0.009	-0.000	1.000	13149
L67EXW	1.000	0.007	0.000	1.000	13149
NESRS1	1.000	0.011	-0.001	1.000	13149
NESRS2	1.000	0.015	-0.001	1.000	13149
NESRS3	1.000	0.019	-0.000	1.000	13149
NESRS4	1.000	0.007	0.000	1.000	13149
NESRS5	1.000	0.007	-0.000	1.000	13149
NP-201	1.000	0.011	0.001	1.000	13149
NP-202	1.000	0.008	0.000	1.000	13149
NP-203	1.000	0.006	0.000	1.000	13149
NP-205	1.000	0.004	0.000	1.000	13149
NP-206	1.000	0.007	0.001	1.000	13149

Table G-1. Stage cell error statistics for ECB simulations (UNIX® versus Linux® operating systems)

Cell Station Data	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
NP-207	1.000	0.002	0.000	1.000	13149
NP-33	1.000	0.006	0.000	1.000	13149
NP-34	1.000	0.005	0.000	1.000	13149
NP-35	1.000	0.006	-0.000	1.000	13149
NP-36	1.000	0.005	0.000	1.000	13149
NP-38	1.000	0.004	0.000	1.000	13149
NP-44	1.000	0.004	-0.000	1.000	13149
NP-46	1.000	0.001	-0.000	1.000	13149
NP-62	1.000	0.005	-0.000	1.000	13149
NP-67	1.000	0.004	0.000	1.000	13149
NP-72	1.000	0.003	-0.000	1.000	13149
NP-RG1	1.000	0.009	0.000	1.000	13149
NP-RG2	1.000	0.016	0.001	1.000	13149
NP-TSB	1.000	0.011	-0.000	1.000	13149
RUTZKE	0.998	0.054	0.003	0.998	13149
BCNP	1.000	0.005	-0.000	1.000	13149
BCNP12	1.000	0.000	0.000	1.000	13149
BCNP13	1.000	0.000	-0.000	1.000	13149
BCNPA2	1.000	0.000	-0.000	1.000	13149
BCNPA5	1.000	0.002	0.000	1.000	13149
BCNPA8	1.000	0.000	-0.000	1.000	13149
BEARI	1.000	0.000	0.000	1.000	13149
C296	1.000	0.000	0.000	1.000	13149
C54	1.000	0.002	-0.000	1.000	13149
L28.GA	1.000	0.001	-0.000	1.000	13149
LOOP1	1.000	0.005	0.000	1.000	13149
LOOP2	1.000	0.002	0.000	1.000	13149
G1473	1.000	0.005	-0.000	1.000	13149
G1636	0.960	0.134	-0.000	0.960	13149
G1637	0.997	0.022	-0.001	0.997	13149
G2031	1.000	0.008	0.001	1.000	13149
G2032	1.000	0.005	0.001	1.000	13149
G2033	1.000	0.009	0.001	1.000	13149

Table G-1. Stage cell error statistics for ECB simulations (UNIX® versus Linux® operating systems)

Cell Station Data	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
G2034	0.999	0.022	-0.000	0.998	13149
G2035	1.000	0.007	-0.000	1.000	13149
G2147	1.000	0.001	0.000	1.000	13149
G2275	1.000	0.008	0.000	1.000	13149
G2376	0.967	0.076	-0.001	0.967	13149
G2443	0.999	0.020	-0.000	0.999	13149
G2444	1.000	0.007	0.000	1.000	13149
G561	1.000	0.005	-0.000	1.000	13149
G616	1.000	0.002	0.000	1.000	13149
G617	1.000	0.006	-0.000	1.000	13149
G820A	1.000	0.008	0.000	1.000	13149
G970	0.960	0.134	-0.000	0.960	13149
S329	1.000	0.003	0.000	1.000	13149
EVER1	1.000	0.004	0.001	1.000	13149
EVER2B	1.000	0.009	0.001	1.000	13149
EVER3	0.999	0.012	0.000	0.999	13149
EVER4	1.000	0.009	0.000	1.000	13149
F179	1.000	0.006	0.001	1.000	13149
F319	0.999	0.023	0.003	0.998	13149
F358	1.000	0.006	0.000	1.000	13149
F45	1.000	0.004	0.000	1.000	13149
FROGP	0.998	0.035	-0.000	0.998	13149
G1166	1.000	0.004	0.000	1.000	13149
G1183	1.000	0.006	0.000	1.000	13149
G1251	1.000	0.006	0.000	1.000	13149
G1362	0.999	0.018	0.000	0.999	13149
G1363	1.000	0.009	-0.000	1.000	13149
G1486	1.000	0.012	0.001	1.000	13149
G1487	0.998	0.026	0.000	0.998	13149
G1488	1.000	0.013	0.000	1.000	13149
G3264A	0.999	0.017	0.001	0.999	13149
G3327	1.000	0.008	0.000	1.000	13149
G3328	1.000	0.008	0.000	1.000	13149

Table G-1. Stage cell error statistics for ECB simulations (UNIX® versus Linux® operating systems)

Cell Station Data	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
G3329	1.000	0.006	0.000	1.000	13149
G3353	1.000	0.004	0.000	1.000	13149
G3354	0.999	0.014	0.000	0.999	13149
G3439	0.999	0.023	0.000	0.999	13149
G553	1.000	0.008	0.000	1.000	13149
G580A	1.000	0.007	0.000	1.000	13149
G596	0.996	0.044	-0.002	0.996	13149
G613	0.992	0.051	0.000	0.991	13149
G614	1.000	0.010	0.000	1.000	13149
G757A	0.999	0.014	-0.000	0.999	13149
G789	0.999	0.021	-0.000	0.999	13149
G852	1.000	0.007	-0.000	1.000	13149
G855	1.000	0.011	0.001	1.000	13149
G858	1.000	0.012	0.001	1.000	13149
G860	1.000	0.007	-0.000	1.000	13149
G864	1.000	0.010	0.000	1.000	13149
G973	0.999	0.015	0.001	0.999	13149
G975	1.000	0.015	0.000	1.000	13149
G976	0.999	0.023	-0.000	0.999	13149
S18	1.000	0.007	-0.000	1.000	13149
S182	0.995	0.032	0.000	0.995	13149
S196A	1.000	0.011	0.000	1.000	13149
PB831	1.000	0.001	-0.000	1.000	13149

Table G-2. Stage cell error statistics for 2050B4 simulations (UNIX® versus Linux® operating systems)

Cell Station Data	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
1-7	0.999	0.022	0.004	0.999	13149
1-8T	0.999	0.023	0.005	0.999	13149
1-9	0.999	0.021	0.005	0.999	13149
2A-17	0.999	0.018	0.000	0.999	13149
2A-300	0.999	0.022	0.000	0.999	13149
WCA2E4	0.999	0.018	0.001	0.999	13149
WCA2F1	0.999	0.015	0.001	0.999	13149
WCA2F4	1.000	0.016	0.001	1.000	13149
WCA2U1	1.000	0.017	0.000	1.000	13149
2B-Y	1.000	0.021	-0.001	1.000	13149
3-99	1.000	0.021	-0.001	1.000	13149
3A-10	0.999	0.020	-0.002	0.999	13149
3A-11	1.000	0.009	-0.001	1.000	13149
3A-12	1.000	0.009	-0.001	1.000	13149
3A-2	1.000	0.005	-0.001	1.000	13149
3A-28	1.000	0.009	0.000	1.000	13149
3A-3	1.000	0.008	-0.000	1.000	13149
3A-4	1.000	0.008	0.000	1.000	13149
3A-9	1.000	0.005	-0.001	1.000	13149
3A-NE	1.000	0.005	-0.001	1.000	13149
3A-NW	1.000	0.009	-0.001	1.000	13149
3A-S	1.000	0.005	-0.001	1.000	13149
3A-SW	1.000	0.005	-0.000	1.000	13149
G618	1.000	0.010	-0.001	1.000	13149
L28-2	1.000	0.003	-0.000	1.000	13149
L29	1.000	0.009	-0.001	1.000	13149
3B-2	1.000	0.008	-0.000	1.000	13149
3B-29	1.000	0.019	-0.001	1.000	13149
3B-3	1.000	0.019	0.002	1.000	13149
3B-SE	1.000	0.014	-0.001	1.000	13149
SHARK	1.000	0.010	-0.001	1.000	13149
EP12R	0.999	0.006	0.000	0.999	13149
EP9R	1.000	0.003	-0.000	1.000	13149

Table G-2. Stage cell error statistics for 2050B4 simulations (UNIX® versus Linux® operating systems)

Cell Station Data	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
EPSW	1.000	0.004	0.000	1.000	13149
G1502	1.000	0.006	-0.000	1.000	13149
G3272	1.000	0.005	-0.000	1.000	13149
G3273	1.000	0.006	-0.000	1.000	13149
G3437	0.999	0.040	-0.000	0.999	13149
G3576	1.000	0.017	0.000	1.000	13149
G3578	1.000	0.010	0.000	1.000	13149
G620	1.000	0.006	-0.000	1.000	13149
L67ES	1.000	0.005	-0.000	1.000	13149
L67EXE	1.000	0.005	-0.000	1.000	13149
L67EXW	1.000	0.005	-0.000	1.000	13149
NESRS1	1.000	0.005	-0.000	1.000	13149
NESRS2	1.000	0.007	-0.000	1.000	13149
NESRS3	1.000	0.017	0.000	1.000	13149
NESRS4	1.000	0.005	-0.000	1.000	13149
NESRS5	1.000	0.005	-0.000	1.000	13149
NP-201	1.000	0.008	0.000	1.000	13149
NP-202	1.000	0.005	-0.000	1.000	13149
NP-203	1.000	0.009	-0.001	1.000	13149
NP-205	1.000	0.004	-0.000	1.000	13149
NP-206	1.000	0.005	-0.000	1.000	13149
NP-207	1.000	0.002	-0.000	1.000	13149
NP-33	1.000	0.005	-0.000	1.000	13149
NP-34	1.000	0.004	-0.000	1.000	13149
NP-35	1.000	0.004	-0.000	1.000	13149
NP-36	1.000	0.004	-0.000	1.000	13149
NP-38	1.000	0.003	-0.000	1.000	13149
NP-44	1.000	0.003	0.000	1.000	13149
NP-46	1.000	0.002	-0.000	1.000	13149
NP-62	1.000	0.004	-0.000	1.000	13149
NP-67	1.000	0.004	-0.000	1.000	13149
NP-72	1.000	0.003	-0.000	1.000	13149
NP-RG1	1.000	0.005	-0.000	1.000	13149

Table G-2. Stage cell error statistics for 2050B4 simulations (UNIX® versus Linux® operating systems)

Cell Station Data	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
NP-RG2	1.000	0.008	0.000	1.000	13149
NP-TSB	1.000	0.007	-0.000	1.000	13149
RUTZKE	0.999	0.045	-0.000	0.999	13149
BCNP10	1.000	0.002	0.000	1.000	13149
BCNP12	1.000	0.000	-0.000	1.000	13149
BCNP13	1.000	0.000	-0.000	1.000	13149
BCNPA2	1.000	0.000	0.000	1.000	13149
BCNPA5	1.000	0.001	-0.000	1.000	13149
BCNPA8	1.000	0.000	-0.000	1.000	13149
BEARI	1.000	0.001	-0.000	1.000	13149
C296	1.000	0.000	0.000	1.000	13149
C54	1.000	0.001	-0.000	1.000	13149
L28.GA	1.000	0.000	0.000	1.000	13149
LOOP1	1.000	0.004	-0.000	1.000	13149
LOOP2	1.000	0.002	0.000	1.000	13149
G3273	1.000	0.006	-0.000	1.000	13149
G3437	0.999	0.040	-0.000	0.999	13149
G3576	1.000	0.017	0.000	1.000	13149
G3578	1.000	0.010	0.000	1.000	13149
G620	1.000	0.006	-0.000	1.000	13149
L67ES	1.000	0.005	-0.000	1.000	13149
L67EXE	1.000	0.005	-0.000	1.000	13149
L67EXW	1.000	0.005	-0.000	1.000	13149
NESRS1	1.000	0.005	-0.000	1.000	13149
NESRS2	1.000	0.007	-0.000	1.000	13149
NESRS3	1.000	0.017	0.000	1.000	13149
NESRS4	1.000	0.005	-0.000	1.000	13149
NESRS5	1.000	0.005	-0.000	1.000	13149
NP-201	1.000	0.008	0.000	1.000	13149
NP-202	1.000	0.005	-0.000	1.000	13149
NP-203	1.000	0.009	-0.001	1.000	13149
NP-205	1.000	0.004	-0.000	1.000	13149
NP-206	1.000	0.005	-0.000	1.000	13149

Table G-2. Stage cell error statistics for 2050B4 simulations (UNIX® versus Linux® operating systems)

Cell Station Data	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
NP-207	1.000	0.002	-0.000	1.000	13149
NP-33	1.000	0.005	-0.000	1.000	13149
NP-34	1.000	0.004	-0.000	1.000	13149
NP-35	1.000	0.004	-0.000	1.000	13149
NP-36	1.000	0.004	-0.000	1.000	13149
NP-38	1.000	0.003	-0.000	1.000	13149
NP-44	1.000	0.003	0.000	1.000	13149
NP-46	1.000	0.002	-0.000	1.000	13149
NP-62	1.000	0.004	-0.000	1.000	13149
NP-67	1.000	0.004	-0.000	1.000	13149
NP-72	1.000	0.003	-0.000	1.000	13149
NP-RG1	1.000	0.005	-0.000	1.000	13149
NP-RG2	1.000	0.008	0.000	1.000	13149
NP-TSB	1.000	0.007	-0.000	1.000	13149
RUTZKE	0.999	0.045	-0.000	0.999	13149
BCNP	1.000	0.003	0.000	1.000	13149
BCNP12	1.000	0.000	-0.000	1.000	13149
BCNP13	1.000	0.000	-0.000	1.000	13149
BCNPA2	1.000	0.000	0.000	1.000	13149
BCNPA5	1.000	0.001	-0.000	1.000	13149
BCNPA8	1.000	0.000	-0.000	1.000	13149
BEARI	1.000	0.001	-0.000	1.000	13149
C296	1.000	0.000	0.000	1.000	13149
C54	1.000	0.001	-0.000	1.000	13149
L28.GA	1.000	0.000	0.000	1.000	13149
LOOP1	1.000	0.004	-0.000	1.000	13149
LOOP2	1.000	0.002	0.000	1.000	13149
G1473	1.000	0.005	0.000	1.000	13149
G1636	0.967	0.106	-0.002	0.967	13149
G1637	0.998	0.021	0.001	0.998	13149
G2031	1.000	0.009	0.001	1.000	13149
G2032	1.000	0.004	-0.000	1.000	13149
G2033	1.000	0.010	0.000	1.000	13149

Table G-2. Stage cell error statistics for 2050B4 simulations (UNIX® versus Linux® operating systems)

Cell Station Data	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
G2034	0.998	0.027	0.001	0.998	13149
G2035	1.000	0.006	0.000	1.000	13149
G2147	1.000	0.002	-0.000	1.000	13149
G2275	1.000	0.008	-0.001	1.000	13149
G2376	0.983	0.063	0.005	0.983	13149
G2443	0.999	0.017	0.001	0.999	13149
G2444	1.000	0.006	0.000	1.000	13149
G561	1.000	0.003	0.000	1.000	13149
G616	1.000	0.003	0.000	1.000	13149
G617	1.000	0.007	0.000	1.000	13149
G820A	1.000	0.008	-0.001	1.000	13149
G970	0.967	0.106	-0.002	0.967	13149
S329	1.000	0.003	0.000	1.000	13149
EVER1	1.000	0.002	0.000	1.000	13149
EVER2B	1.000	0.004	0.000	1.000	13149
EVER3	1.000	0.007	0.000	1.000	13149
EVER4	1.000	0.007	-0.000	1.000	13149
F179	1.000	0.005	-0.000	1.000	13149
F319	0.999	0.021	-0.003	0.999	13149
F358	1.000	0.005	0.000	1.000	13149
F45	1.000	0.004	-0.000	1.000	13149
FROGP	0.997	0.045	-0.000	0.997	13149
G1166	1.000	0.003	-0.000	1.000	13149
G1183	1.000	0.010	0.000	1.000	13149
G1251	1.000	0.005	-0.000	1.000	13149
G1362	1.000	0.007	0.000	1.000	13149
G1363	1.000	0.009	-0.000	1.000	13149
G1486	1.000	0.012	0.000	1.000	13149
G1487	0.999	0.016	0.001	0.999	13149
G1488	1.000	0.013	-0.001	1.000	13149
G3264A	1.000	0.010	-0.000	1.000	13149
G3327	1.000	0.007	-0.000	1.000	13149
G3328	1.000	0.007	-0.000	1.000	13149

Table G-2. Stage cell error statistics for 2050B4 simulations (UNIX® versus Linux® operating systems)

Cell Station Data	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
G3329	1.000	0.006	-0.001	1.000	13149
G3353	1.000	0.003	-0.000	1.000	13149
G3354	1.000	0.010	0.000	1.000	13149
G3439	0.999	0.019	-0.000	0.999	13149
G553	1.000	0.005	-0.000	1.000	13149
G580A	1.000	0.005	-0.001	1.000	13149
G596	1.000	0.010	0.000	1.000	13149
G613	0.994	0.052	0.000	0.994	13149
G614	1.000	0.006	0.000	1.000	13149
G757A	0.999	0.014	-0.000	0.999	13149
G789	0.999	0.018	-0.000	0.999	13149
G852	1.000	0.003	-0.000	1.000	13149
G855	1.000	0.007	0.000	1.000	13149
G858	1.000	0.006	0.000	1.000	13149
G860	1.000	0.004	-0.000	1.000	13149
G864	1.000	0.010	0.000	1.000	13149
G973	1.000	0.008	-0.000	1.000	13149
G975	1.000	0.014	-0.001	1.000	13149
G976	0.999	0.018	-0.001	0.999	13149
S18	1.000	0.005	0.000	1.000	13149
S182	0.998	0.017	-0.001	0.998	13149
S196A	1.000	0.008	0.000	1.000	13149
PB831	1.000	0.001	-0.000	1.000	13149

Table G-3. Stage cell error statistics for 2010CP simulations (UNIX® versus Linux® operating systems)

Cell Station Data	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
1-7	0.976	0.112	-0.024	0.975	13149
1-8T	0.975	0.119	-0.024	0.973	13149
1-9	0.976	0.115	-0.024	0.975	13149
2A-17	0.998	0.038	-0.000	0.998	13149
2A-300	0.998	0.033	-0.000	0.998	13149
WCA2E4	0.996	0.051	-0.000	0.996	13149
WCA2F1	0.995	0.042	-0.003	0.995	13149
WCA2F4	0.997	0.043	-0.000	0.997	13149
WCA2U1	0.998	0.043	0.000	0.998	13149
2B-Y	0.999	0.070	-0.008	0.999	13149
3-99	0.999	0.070	-0.008	0.999	13149
3A-10	0.996	0.052	-0.001	0.996	13149
3A-11	0.997	0.043	-0.001	0.997	13149
3A-12	1.000	0.016	-0.000	1.000	13149
3A-2	1.000	0.013	-0.001	1.000	13149
3A-28	1.000	0.010	-0.001	1.000	13149
3A-3	1.000	0.018	-0.000	1.000	13149
3A-4	1.000	0.014	-0.001	1.000	13149
3A-9	1.000	0.012	-0.000	1.000	13149
3A-NE	1.000	0.012	-0.001	1.000	13149
3A-NW	0.996	0.037	-0.001	0.996	13149
3A-S	1.000	0.009	-0.000	1.000	13149
3A-SW	1.000	0.007	-0.000	1.000	13149
G618	0.999	0.020	0.000	0.999	13149
L28-2	1.000	0.005	-0.000	1.000	13149
L29	1.000	0.019	0.000	0.999	13149
3B-2	0.998	0.031	0.003	0.998	13149
3B-29	1.000	0.027	-0.001	1.000	13149
3B-3	0.999	0.047	0.000	0.999	13149
3B-SE	1.000	0.022	-0.001	1.000	13149
SHARK	1.000	0.018	0.000	1.000	13149
EP12R	1.000	0.001	-0.000	1.000	13149
EP9R	1.000	0.003	-0.000	1.000	13149

Table G-3. Stage cell error statistics for 2010CP simulations (UNIX® versus Linux® operating systems)

Cell Station Data	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
EPSW	1.000	0.003	-0.000	1.000	13149
G1502	1.000	0.012	-0.002	1.000	13149
G3272	1.000	0.013	-0.001	1.000	13149
G3273	1.000	0.012	-0.002	1.000	13149
G3437	0.999	0.038	-0.001	0.999	13149
G3576	1.000	0.017	-0.000	1.000	13149
G3578	1.000	0.017	-0.001	1.000	13149
G620	1.000	0.012	-0.001	1.000	13149
L67ES	1.000	0.010	-0.001	1.000	13149
L67EXE	1.000	0.011	-0.001	1.000	13149
L67EXW	1.000	0.011	-0.001	1.000	13149
NESRS1	1.000	0.012	-0.001	1.000	13149
NESRS2	1.000	0.015	-0.000	1.000	13149
NESRS3	1.000	0.017	-0.000	1.000	13149
NESRS4	1.000	0.010	-0.001	1.000	13149
NESRS5	1.000	0.010	-0.001	1.000	13149
NP-201	1.000	0.015	-0.001	1.000	13149
NP-202	1.000	0.012	-0.001	1.000	13149
NP-203	1.000	0.010	-0.001	1.000	13149
NP-205	1.000	0.006	-0.001	1.000	13149
NP-206	1.000	0.008	-0.001	1.000	13149
NP-207	1.000	0.003	-0.000	1.000	13149
NP-33	1.000	0.010	-0.001	1.000	13149
NP-34	1.000	0.009	-0.000	1.000	13149
NP-35	1.000	0.007	-0.001	1.000	13149
NP-36	1.000	0.010	-0.001	1.000	13149
NP-38	1.000	0.006	-0.000	1.000	13149
NP-44	1.000	0.005	-0.000	1.000	13149
NP-46	1.000	0.002	0.000	1.000	13149
NP-62	1.000	0.008	-0.000	1.000	13149
NP-67	1.000	0.005	0.000	1.000	13149
NP-72	1.000	0.004	-0.000	1.000	13149
NP-RG1	1.000	0.010	-0.001	1.000	13149

Table G-3. Stage cell error statistics for 2010CP simulations (UNIX® versus Linux® operating systems)

Cell Station Data	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
NP-RG2	1.000	0.011	-0.001	1.000	13149
NP-TSB	1.000	0.012	0.000	1.000	13149
RUTZKE	0.998	0.055	-0.001	0.998	13149
BCNP10	1.000	0.001	-0.000	1.000	13149
BCNP12	1.000	0.000	-0.000	1.000	13149
BCNP13	1.000	0.000	-0.000	1.000	13149
BCNPA2	1.000	0.000	-0.000	1.000	13149
BCNPA5	1.000	0.002	-0.000	1.000	13149
BCNPA8	1.000	0.000	-0.000	1.000	13149
BEARI	1.000	0.000	-0.000	1.000	13149
C296	1.000	0.000	0.000	1.000	13149
C54	1.000	0.002	-0.000	1.000	13149
L28.GA	1.000	0.000	0.000	1.000	13149
LOOP1	1.000	0.004	-0.000	1.000	13149
LOOP2	1.000	0.002	-0.000	1.000	13149
G3273	1.000	0.012	-0.002	1.000	13149
G3437	0.999	0.038	-0.001	0.999	13149
G3576	1.000	0.017	-0.000	1.000	13149
G3578	1.000	0.017	-0.001	1.000	13149
G620	1.000	0.012	-0.001	1.000	13149
L67ES	1.000	0.010	-0.001	1.000	13149
L67EXE	1.000	0.011	-0.001	1.000	13149
L67EXW	1.000	0.011	-0.001	1.000	13149
NESRS1	1.000	0.012	-0.001	1.000	13149
NESRS2	1.000	0.015	-0.000	1.000	13149
NESRS3	1.000	0.017	-0.000	1.000	13149
NESRS4	1.000	0.010	-0.001	1.000	13149
NESRS5	1.000	0.010	-0.001	1.000	13149
NP-201	1.000	0.015	-0.001	1.000	13149
NP-202	1.000	0.012	-0.001	1.000	13149
NP-203	1.000	0.010	-0.001	1.000	13149
NP-205	1.000	0.006	-0.001	1.000	13149
NP-206	1.000	0.008	-0.001	1.000	13149

Table G-3. Stage cell error statistics for 2010CP simulations (UNIX® versus Linux® operating systems)

Cell Station Data	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
NP-207	1.000	0.003	-0.000	1.000	13149
NP-33	1.000	0.010	-0.001	1.000	13149
NP-34	1.000	0.009	-0.000	1.000	13149
NP-35	1.000	0.007	-0.001	1.000	13149
NP-36	1.000	0.010	-0.001	1.000	13149
NP-38	1.000	0.006	-0.000	1.000	13149
NP-44	1.000	0.005	-0.000	1.000	13149
NP-46	1.000	0.002	0.000	1.000	13149
NP-62	1.000	0.008	-0.000	1.000	13149
NP-67	1.000	0.005	0.000	1.000	13149
NP-72	1.000	0.004	-0.000	1.000	13149
NP-RG1	1.000	0.010	-0.001	1.000	13149
NP-RG2	1.000	0.011	-0.001	1.000	13149
NP-TSB	1.000	0.012	0.000	1.000	13149
RUTZKE	0.998	0.055	-0.001	0.998	13149
BCNP	1.000	0.006	-0.000	1.000	13149
BCNP12	1.000	0.000	-0.000	1.000	13149
BCNP13	1.000	0.000	-0.000	1.000	13149
BCNPA2	1.000	0.000	-0.000	1.000	13149
BCNPA5	1.000	0.002	-0.000	1.000	13149
BCNPA8	1.000	0.000	-0.000	1.000	13149
BEARI	1.000	0.000	-0.000	1.000	13149
C296	1.000	0.000	0.000	1.000	13149
C54	1.000	0.002	-0.000	1.000	13149
L28.GA	1.000	0.000	0.000	1.000	13149
LOOP1	1.000	0.004	-0.000	1.000	13149
LOOP2	1.000	0.002	-0.000	1.000	13149
G1473	1.000	0.004	-0.000	1.000	13149
G1636	0.971	0.113	0.001	0.971	13149
G1637	1.000	0.016	0.001	1.000	13149
G2031	1.000	0.010	-0.001	1.000	13149
G2032	1.000	0.007	-0.001	1.000	13149
G2033	1.000	0.012	-0.001	1.000	13149

Table G-3. Stage cell error statistics for 2010CP simulations (UNIX® versus Linux® operating systems)

Cell Station Data	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
G2034	0.999	0.018	-0.000	0.999	13149
G2035	1.000	0.005	-0.000	1.000	13149
G2147	1.000	0.002	-0.000	1.000	13149
G2275	1.000	0.004	-0.000	1.000	13149
G2376	0.999	0.018	0.001	0.999	13149
G2443	0.999	0.018	-0.001	0.999	13149
G2444	1.000	0.007	-0.001	1.000	13149
G561	1.000	0.006	-0.000	1.000	13149
G616	1.000	0.004	-0.000	1.000	13149
G617	1.000	0.005	-0.000	1.000	13149
G820A	1.000	0.004	-0.000	1.000	13149
G970	0.971	0.113	0.001	0.971	13149
S329	1.000	0.004	-0.000	1.000	13149
EVER1	1.000	0.009	-0.001	1.000	13149
EVER2B	1.000	0.008	-0.001	1.000	13149
EVER3	1.000	0.011	0.000	1.000	13149
EVER4	0.999	0.021	0.001	0.999	13149
F179	1.000	0.004	0.000	1.000	13149
F319	1.000	0.011	0.001	1.000	13149
F358	1.000	0.007	-0.000	1.000	13149
F45	1.000	0.004	0.000	1.000	13149
FROGP	0.999	0.027	0.000	0.999	13149
G1166	1.000	0.004	0.000	1.000	13149
G1183	1.000	0.007	-0.000	1.000	13149
G1251	1.000	0.009	0.000	1.000	13149
G1362	1.000	0.008	0.000	1.000	13149
G1363	1.000	0.010	-0.000	1.000	13149
G1486	1.000	0.013	0.000	1.000	13149
G1487	0.999	0.022	-0.001	0.999	13149
G1488	1.000	0.016	-0.001	1.000	13149
G3264A	1.000	0.014	-0.000	1.000	13149
G3327	1.000	0.009	-0.000	1.000	13149
G3328	1.000	0.009	-0.000	1.000	13149

Table G-3. Stage cell error statistics for 2010CP simulations (UNIX® versus Linux® operating systems)

Cell Station Data	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
G3329	1.000	0.006	0.000	1.000	13149
G3353	1.000	0.005	0.000	1.000	13149
G3354	1.000	0.005	0.000	1.000	13149
G3439	0.998	0.026	-0.000	0.998	13149
G553	1.000	0.006	0.000	1.000	13149
G580A	1.000	0.005	0.000	1.000	13149
G596	1.000	0.011	-0.000	1.000	13149
G613	0.995	0.043	0.001	0.995	13149
G614	1.000	0.009	0.000	1.000	13149
G757A	0.999	0.015	-0.001	0.999	13149
G789	0.999	0.018	0.000	0.999	13149
G852	1.000	0.003	0.000	1.000	13149
G855	1.000	0.009	-0.000	1.000	13149
G858	1.000	0.008	0.000	1.000	13149
G860	1.000	0.004	0.000	1.000	13149
G864	1.000	0.012	0.000	1.000	13149
G973	0.999	0.010	-0.000	0.999	13149
G975	1.000	0.017	-0.001	1.000	13149
G976	0.999	0.017	-0.001	0.999	13149
S18	1.000	0.005	0.000	1.000	13149
S182	0.998	0.018	0.000	0.998	13149
S196A	1.000	0.010	-0.000	1.000	13149
PB831	1.000	0.002	-0.000	1.000	13149

Table G-4. Stage canal (downstream) error statistics for ECB simulations (UNIX® versus Linux® operating systems)

Station	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
ACMEA	0.972	0.039	-0.002	0.972	13149
ACMEB	0.066	0.025	-0.000	-0.479	13149
BRI95	0.997	0.022	0.000	0.997	13149
C100A	0.998	0.024	-0.000	0.998	13149
C100C	0.999	0.023	0.000	0.999	13149
C100	0.998	0.028	0.001	0.998	13149
C102N	0.993	0.023	0.000	0.993	13149
C102	0.997	0.026	0.000	0.997	13149
C103D	0.954	0.029	-0.000	0.954	13149
C103N	0.999	0.023	0.000	0.999	13149
C103S	0.997	0.031	0.000	0.997	13149
C10	0.992	0.026	-0.000	0.992	13149
C110	0.999	0.024	0.001	0.999	13149
C111E	0.994	0.028	0.001	0.994	13149
C111	0.992	0.041	-0.000	0.992	13149
C11D1	0.985	0.031	-0.000	0.985	13149
C11DR	0.950	0.023	-0.000	0.950	13149
C11ED	0.973	0.023	-0.000	0.973	13149
C11	0.987	0.032	0.000	0.987	13149
C11W	0.979	0.043	-0.002	0.979	13149
C123	0.980	0.140	-0.002	0.980	13149
C12	0.989	0.027	0.000	0.989	13149
C1324	0.946	0.024	-0.000	0.945	13149
C13DR	1.000	0.013	0.001	1.000	13149
C13E	0.987	0.024	0.000	0.987	13149
C13	0.978	0.031	0.001	0.978	13149
C14DR	0.997	0.022	0.000	0.997	13149
C14E	0.929	0.042	0.001	0.928	13149
C14	0.961	0.049	-0.001	0.961	13149
C14WD	0.991	0.026	0.000	0.991	13149
C14WN	0.999	0.018	0.000	0.999	13149
C17DR	0.946	0.023	0.000	0.946	13149
C17	0.953	0.024	0.000	0.953	13149

Table G-4. Stage canal (downstream) error statistics for ECB simulations (UNIX® versus Linux® operating systems)

Station	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
C18D2	0.996	0.033	-0.000	0.996	13149
C18DN	0.988	0.023	0.000	0.988	13149
C18DR	0.974	0.026	-0.000	0.974	13149
C18	0.998	0.022	0.000	0.998	13149
C18W	1.000	0.018	-0.000	1.000	13149
C1N	0.990	0.046	0.000	0.990	13149
C304	0.993	0.078	-0.001	0.993	13149
C44	1.000	0.000	-0.000	1.000	13149
C4DR	0.961	0.025	0.000	0.960	13149
C4	0.995	0.030	-0.000	0.995	13149
C4W	0.975	0.116	0.001	0.975	13149
C51	0.991	0.026	-0.001	0.991	13149
C51W	0.941	0.269	0.046	0.940	13149
C57	0.989	0.024	0.000	0.989	13149
C60	0.999	0.024	-0.000	0.999	13149
C6DR	0.989	0.023	-0.000	0.989	13149
C6E	0.989	0.025	-0.000	0.989	13149
C6	0.980	0.026	0.000	0.980	13149
C7DR	0.495	0.026	0.000	0.406	13149
C7	0.970	0.025	-0.000	0.969	13149
C8DR	0.930	0.026	-0.001	0.929	13149
C8	0.968	0.025	-0.000	0.968	13149
C9DEN	0.999	0.017	-0.000	0.999	13149
C9DES	0.980	0.031	-0.000	0.980	13149
C9DRS	0.968	0.025	-0.000	0.967	13149
C9DR	0.993	0.024	-0.001	0.993	13149
C9DW1	0.985	0.023	-0.000	0.985	13149
C9DW2	0.982	0.025	-0.000	0.982	13149
C9	0.982	0.030	-0.001	0.982	13149
CA1	0.999	0.032	0.004	0.999	13149
CA2A	0.998	0.033	0.003	0.998	13149
CA3	0.998	0.050	0.002	0.998	13149
CDRN	0.888	0.023	-0.000	0.885	13149

Table G-4. Stage canal (downstream) error statistics for ECB simulations (UNIX® versus Linux® operating systems)

Station	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
CGBLE	0.981	0.025	-0.001	0.980	13149
CMFT	0.973	0.035	-0.000	0.973	13149
CNO	0.997	0.023	0.000	0.997	13149
CORBT	0.998	0.023	-0.000	0.998	13149
CULV1	0.999	0.022	-0.001	0.999	13149
CULV2	0.999	0.022	0.000	0.999	13149
CULV3	0.999	0.022	0.000	0.999	13149
DBLEV	0.978	0.042	-0.002	0.978	13149
DCLV2	0.997	0.038	-0.003	0.996	13149
DCLV3	0.998	0.026	-0.001	0.998	13149
DDTCH	0.999	0.023	-0.000	0.999	13149
DPRES	0.994	0.023	-0.000	0.994	13149
ETPKC	1.000	0.011	0.000	1.000	13149
G57DN	0.994	0.025	0.000	0.994	13149
G57DR	0.972	0.024	-0.000	0.972	13149
G93UP	0.990	0.039	0.004	0.989	13149
HLBE	0.998	0.024	-0.000	0.998	13149
HLBSE	0.996	0.023	0.000	0.996	13149
HLSB	0.999	0.026	0.000	0.999	13149
HLSP	0.998	0.023	-0.000	0.998	13149
HMLKS	0.999	0.024	0.001	0.999	13149
HW290	0.996	0.024	-0.000	0.996	13149
HW291	0.999	0.023	0.000	0.999	13149
HW292	0.997	0.023	0.000	0.997	13149
HW293	0.997	0.023	0.000	0.997	13149
HW294	0.957	0.023	-0.000	0.957	13149
HW295	0.997	0.022	0.000	0.997	13149
I75L4	0.991	0.028	-0.000	0.991	13149
JOEBC	0.992	0.021	0.000	0.992	13149
L10	1.000	0.001	-0.000	1.000	13149
L20	1.000	0.001	-0.000	1.000	13149
L23E	0.981	0.125	-0.003	0.981	13149
L25	1.000	0.001	0.000	1.000	13149

Table G-4. Stage canal (downstream) error statistics for ECB simulations (UNIX® versus Linux® operating systems)

Station	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
L28A	0.999	0.021	0.000	0.999	13149
L28B	0.999	0.023	0.001	0.999	13149
L28T	0.999	0.023	0.001	0.999	13149
L28W	0.999	0.022	-0.000	0.999	13149
L29	0.996	0.038	-0.002	0.996	13149
L30	0.998	0.035	0.001	0.998	13149
L31NC	0.987	0.059	-0.000	0.987	13149
L31N	0.899	0.163	-0.001	0.896	13149
L31S	0.990	0.040	-0.000	0.990	13149
L31W	0.985	0.134	-0.000	0.985	13149
L33	0.903	0.162	-0.003	0.900	13149
L37	0.903	0.111	-0.002	0.900	13149
L38E	0.995	0.073	0.007	0.995	13149
L38	0.994	0.066	0.000	0.994	13149
L4	0.998	0.020	0.000	0.998	13149
L5	1.000	0.001	-0.000	1.000	13149
L67E	0.999	0.026	0.000	0.999	13149
L8	0.999	0.035	0.005	0.999	13149
LGROV	0.981	0.073	0.006	0.981	13149
LKMNG	1.000	0.007	0.000	1.000	13149
LMDBC	0.985	0.021	0.000	0.985	13149
LOK	1.000	0.019	0.002	1.000	13149
LOXRV	0.995	0.021	0.000	0.995	13149
LW2DR	1.000	0.019	-0.000	1.000	13149
LWD1	0.984	0.021	-0.000	0.984	13149
LWD2	0.972	0.023	-0.000	0.972	13149
LWD3	0.995	0.023	-0.000	0.995	13149
LWDSE	0.998	0.027	-0.000	0.998	13149
LWDSO	0.974	0.019	-0.000	0.974	13149
LXTRB	0.991	0.028	0.000	0.991	13149
M1	0.975	0.024	0.000	0.974	13149
MCNLE	0.898	0.024	-0.000	0.895	13149
MCNL	0.998	0.026	0.002	0.998	13149

Table G-4. Stage canal (downstream) error statistics for ECB simulations (UNIX® versus Linux® operating systems)

Station	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
MILIT	0.990	0.025	-0.000	0.990	13149
MOCLB	1.000	0.015	0.000	1.000	13149
MOCUB	0.975	0.090	-0.003	0.975	13149
MODLD	0.998	0.023	0.001	0.998	13149
NNRC	0.996	0.026	-0.000	0.996	13149
NNRFG	0.702	0.025	-0.000	0.676	13149
NPBDR	1.000	0.020	0.000	1.000	13149
NRIV	0.987	0.021	-0.000	0.987	13149
NSMP1	0.910	0.035	0.000	0.905	13149
NSMP2	0.779	0.068	0.001	0.765	13149
NWFCL	0.987	0.024	0.000	0.987	13149
PBDR	0.996	0.021	-0.000	0.996	13149
PLNTW	0.985	0.026	0.000	0.985	13149
POMPD	0.971	0.027	0.001	0.970	13149
POMP	0.972	0.026	0.000	0.972	13149
ROBRV	0.970	0.020	-0.000	0.970	13149
ROOKB	0.992	0.022	-0.000	0.992	13149
ROTEN	0.968	0.728	-0.002	0.968	13149
RVBDR	0.957	0.023	0.000	0.956	13149
S12AD	0.999	0.023	0.000	0.999	13149
S12BD	0.999	0.029	0.001	0.999	13149
S12CD	0.999	0.036	0.001	0.999	13149
S12DD	0.999	0.043	0.001	0.999	13149
S148U	0.984	0.081	0.002	0.984	13149
S175D	0.999	0.025	-0.001	0.999	13149
S178U	0.991	0.053	0.000	0.991	13149
S179	0.998	0.025	0.001	0.998	13149
S197	0.996	0.031	0.001	0.996	13149
S21	0.990	0.025	0.000	0.990	13149
S29DN	0.993	0.025	0.000	0.993	13149
S355U	0.998	0.030	-0.000	0.998	13149
S9UP	0.601	0.062	-0.001	0.554	13149
SIRWD	0.999	0.024	0.000	0.999	13149

Table G-4. Stage canal (downstream) error statistics for ECB simulations (UNIX® versus Linux® operating systems)

Station	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
SNCRE	0.997	0.037	0.002	0.997	13149
SR706	0.994	0.024	0.000	0.994	13149
STA3C	0.997	0.052	-0.000	0.997	13149
SUNWD	0.063	0.024	-0.000	-0.503	13149
TAMIA	1.000	0.018	0.000	1.000	13149
US27N	0.977	0.029	-0.000	0.977	13149
US27S	0.992	0.032	-0.000	0.992	13149
WELDN	0.999	0.024	0.001	0.999	13149
WPCB	1.000	0.030	0.011	0.999	13149

Table G-5. Stage canal (downstream) error statistics for 2050B4 simulations (UNIX® versus Linux® operating systems)

Station	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
ACMEA	0.986	0.028	0.001	0.986	13149
ACMEB	0.051	0.025	0.000	-0.589	13149
BRI95	1.000	0.015	-0.000	1.000	13149
C100A	0.998	0.022	-0.000	0.998	13149
C100C	1.000	0.020	-0.000	1.000	13149
C100	0.999	0.020	0.000	0.999	13149
C102N	0.994	0.023	0.000	0.994	13149
C102	0.998	0.023	0.000	0.998	13149
C103D	0.978	0.029	-0.000	0.978	13149
C103N	0.999	0.022	0.000	0.999	13149
C103S	0.998	0.029	0.000	0.998	13149
C10	0.990	0.026	0.000	0.990	13149
C110	0.999	0.021	-0.000	0.999	13149
C111E	0.997	0.027	0.000	0.997	13149
C111	0.994	0.039	-0.000	0.994	13149 3
C11D1	0.989	0.026	0.000	0.989	13149
C11DR	0.937	0.024	-0.000	0.937	13149
C11ED	0.985	0.022	-0.000	0.985	13149
C11	0.985	0.035	-0.000	0.985	13149
C11W	0.966	0.048	0.002	0.965	13149
C123	0.988	0.130	-0.002	0.988	13149
C12	0.992	0.025	0.000	0.992	13149
C1324	0.043	0.024	0.000	-0.592	13149
C13DR	1.000	0.011	0.000	1.000	13149
C13E	0.988	0.023	-0.000	0.988	13149
C13	0.993	0.022	0.000	0.993	13149
C14DR	1.000	0.015	-0.000	1.000	13149
C14E	0.949	0.047	-0.002	0.948	13149
C14	0.981	0.047	0.001	0.981	13149
C14WD	0.997	0.027	0.001	0.997	13149
C14WN	1.000	0.018	0.000	1.000	13149
C17DR	0.947	0.024	-0.000	0.946	13149
C17	0.955	0.023	-0.000	0.955	13149

Table G-5. Stage canal (downstream) error statistics for 2050B4 simulations (UNIX® versus Linux® operating systems)

Station	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
C18D2	0.999	0.032	-0.000	0.999	13149
C18DN	0.993	0.023	-0.000	0.993	13149
C18DR	0.981	0.025	0.000	0.981	13149
C18	0.999	0.022	-0.000	0.999	13149
C18W	0.999	0.019	0.000	0.999	13149
C1N	0.996	0.028	0.001	0.996	13149
C304	0.999	0.037	0.000	0.999	13149
C44	1.000	0.000	0.000	1.000	13149
C4DR	0.970	0.028	-0.000	0.970	13149
C4	0.996	0.034	-0.000	0.996	13149
C4W	0.977	0.108	-0.005	0.977	13149
C51	0.989	0.029	0.001	0.989	13149
C51W	0.934	0.283	0.012	0.933	13149
C57	0.989	0.024	0.000	0.989	13149
C60	0.999	0.024	-0.001	0.999	13149
C6DR	0.994	0.022	-0.000	0.994	13149
C6E	0.989	0.025	-0.000	0.989	13149
C6	0.969	0.035	-0.000	0.969	13149
C7DR	0.428	0.026	0.000	0.312	13149
C7	0.974	0.024	0.000	0.974	13149
C8DR	0.937	0.025	0.000	0.936	13149
C8	0.973	0.023	0.001	0.973	13149
C9DEN	0.999	0.018	-0.001	0.999	13149
C9DES	0.982	0.034	-0.001	0.982	13149
C9DRS	0.880	0.030	-0.001	0.878	13149
C9DR	0.994	0.023	-0.000	0.994	13149
C9DW1	0.984	0.023	-0.000	0.984	13149
C9DW2	0.978	0.027	0.001	0.977	13149
C9	0.963	0.041	-0.002	0.963	13149
CA1	0.998	0.040	0.006	0.998	13149
CA2A	0.999	0.031	0.001	0.999	13149
CA3	0.998	0.052	0.001	0.998	13149
CDRN	0.869	0.024	0.000	0.865	13149

Table G-5. Stage canal (downstream) error statistics for 2050B4 simulations (UNIX® versus Linux® operating systems)

Station	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
CGBLE	0.975	0.028	0.002	0.974	13149
CMFT	0.963	0.039	-0.000	0.962	13149
CNO	0.998	0.023	-0.000	0.998	13149
CORBT	0.998	0.022	-0.000	0.998	13149
CULV1	0.998	0.038	-0.001	0.998	13149
CULV2	0.998	0.037	0.000	0.998	13149
CULV3	0.999	0.022	0.000	0.999	13149
DBLEV	0.973	0.043	-0.003	0.972	13149
DCLV2	0.999	0.025	-0.001	0.999	13149
DCLV3	0.998	0.027	-0.001	0.998	13149
DDTCH	0.999	0.023	-0.000	0.999	13149
DPRES	0.994	0.023	0.000	0.994	13149
ETPKC	1.000	0.012	-0.000	1.000	13149
G57DN	0.994	0.025	0.000	0.994	13149
G57DR	0.996	0.023	0.000	0.996	13149
G93UP	0.992	0.037	-0.003	0.992	13149
HLBE	0.999	0.021	0.001	0.999	13149
HLBSE	0.996	0.023	0.000	0.996	13149
HLSB	0.998	0.032	-0.001	0.998	13149
HLSP	0.998	0.022	0.000	0.998	13149
HMLKS	0.999	0.022	0.000	0.999	13149
HW290	0.996	0.024	-0.000	0.996	13149
HW291	0.999	0.023	-0.000	0.999	13149
HW292	0.997	0.023	-0.000	0.997	13149
HW293	0.997	0.023	-0.000	0.997	13149
HW294	0.957	0.023	0.000	0.957	13149
HW295	0.997	0.021	-0.000	0.997	13149
I75L4	0.991	0.028	-0.000	0.991	13149
JOEBC	0.991	0.021	-0.000	0.991	13149
L10	1.000	0.001	-0.000	1.000	13149
L20	1.000	0.001	-0.000	1.000	13149
L23E	0.965	0.207	-0.002	0.965	13149
L25	1.000	0.001	-0.000	1.000	13149

Table G-5. Stage canal (downstream) error statistics for 2050B4 simulations (UNIX® versus Linux® operating systems)

Station	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
L28A	0.999	0.021	0.000	0.999	13149
L28B	0.999	0.022	0.000	0.999	13149
L28T	0.999	0.022	0.000	0.999	13149
L28W	0.999	0.022	0.000	0.999	13149
L29	0.999	0.029	-0.001	0.999	13149
L30	0.998	0.037	-0.001	0.998	13149
L31NC	0.988	0.060	0.001	0.988	13149
L31N	0.990	0.037	0.000	0.990	13149
L31S	0.990	0.044	-0.001	0.990	13149
L31W	1.000	0.027	-0.001	1.000	13149
L33	0.968	0.121	0.005	0.968	13149
L37	0.948	0.101	0.007	0.947	13149
L38E	0.998	0.044	-0.001	0.998	13149
L38	0.995	0.067	-0.000	0.995	13149
L4	0.998	0.020	0.000	0.998	13149
L5	1.000	0.000	-0.000	1.000	13149
L8	1.000	0.032	0.002	1.000	13149
LGROV	0.983	0.068	-0.003	0.983	13149
LKMNG	1.000	0.005	0.000	1.000	13149
LMDBC	0.985	0.021	-0.000	0.985	13149
LOK	1.000	0.016	0.003	1.000	13149
LOXRV	0.996	0.021	-0.000	0.996	13149
LW2DR	1.000	0.019	0.000	1.000	13149
LWD1	0.983	0.021	0.001	0.983	13149
LWD2	0.971	0.021	0.001	0.971	13149
LWD3	0.999	0.021	0.000	0.999	13149
LWDSE	0.996	0.041	0.002	0.996	13149
LWDSO	0.994	0.021	0.001	0.994	13149
LXTRB	0.993	0.025	-0.001	0.993	13149
M1	0.691	0.245	-0.002	0.650	13149
MCNLE	0.955	0.023	0.000	0.955	13149
MCNL	0.999	0.026	0.001	0.999	13149
MILIT	0.993	0.030	0.001	0.993	13149

Table G-5. Stage canal (downstream) error statistics for 2050B4 simulations (UNIX® versus Linux® operating systems)

Station	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
MOCLB	1.000	0.015	-0.000	1.000	13149
MOCUB	0.979	0.064	0.001	0.979	13149
MODLD	0.999	0.023	0.000	0.999	13149
NNRC	0.995	0.028	0.000	0.995	13149
NNRFG	0.768	0.025	0.000	0.754	13149
NPBDR	1.000	0.020	0.000	1.000	13149
NRIV	0.985	0.022	-0.000	0.985	13149
NSMP1	0.852	0.051	0.000	0.848	13149
NSMP2	0.733	0.075	0.000	0.714	13149
NWFCL	0.988	0.024	0.000	0.988	13149
PBDR	0.996	0.021	-0.000	0.996	13149
PLNTW	0.977	0.032	-0.000	0.977	13149
POMPD	0.983	0.026	-0.001	0.983	13149
POMP	0.991	0.025	-0.000	0.991	13149
RESC	0.996	0.024	0.000	0.996	13149
ROBRV	0.969	0.020	-0.000	0.969	13149
ROOKB	0.992	0.022	0.000	0.992	13149
ROTEN	0.998	0.078	-0.000	0.998	13149
RVBDR	0.960	0.024	-0.000	0.960	13149
S12AD	0.999	0.025	0.000	0.999	13149
S12BD	0.998	0.030	0.000	0.998	13149
S12CD	0.998	0.036	-0.000	0.998	13149
S12DD	0.998	0.041	0.000	0.998	13149
S148U	0.997	0.031	0.001	0.997	13149
S175D	0.999	0.023	-0.000	0.999	13149
S178U	0.993	0.054	0.000	0.993	13149
S179	0.999	0.025	0.000	0.999	13149
S197	0.997	0.029	-0.000	0.997	13149
S21	0.990	0.025	-0.000	0.990	13149
S29DN	0.992	0.026	-0.000	0.992	13149
S333U	0.998	0.037	0.000	0.998	13149
S349C	0.999	0.037	0.001	0.999	13149
S349D	0.999	0.034	0.000	0.999	13149

Table G-5. Stage canal (downstream) error statistics for 2050B4 simulations (UNIX® versus Linux® operating systems)

Station	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
S355U	0.999	0.025	-0.001	0.999	13149
S9UP	0.703	0.066	0.000	0.677	13149
SIRWD	0.999	0.022	0.000	0.999	13149
SNCRE	0.998	0.029	-0.000	0.998	13149
SR706	0.986	0.024	0.000	0.986	13149
STA3C	0.999	0.029	-0.001	0.999	13149
SUNWD	0.393	0.024	-0.000	0.251	13149
TAMIA	1.000	0.018	-0.000	1.000	13149
US27N	0.975	0.030	0.000	0.975	13149
US27S	0.996	0.030	0.001	0.996	13149
WELDN	0.998	0.029	-0.002	0.998	13149
WPCB	1.000	0.008	0.001	1.000	13149

Table G-6. Stage canal (downstream) error statistics for 2010CP simulations (UNIX® versus Linux® operating systems)

Station	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
ACMEA	0.967	0.042	0.000	0.967	13149
ACMEB	0.055	0.025	-0.000	-0.544	13149
BRI95	0.998	0.021	-0.000	0.998	13149
C100A	0.998	0.022	0.000	0.998	13149
C100C	0.999	0.020	0.000	0.999	13149
C100	0.999	0.021	0.000	0.999	13149
C102N	0.993	0.024	0.000	0.993	13149
C102	0.997	0.025	0.001	0.997	13149
C103D	0.962	0.033	0.001	0.961	13149
C103N	0.999	0.023	-0.000	0.999	13149
C103S	0.997	0.033	-0.001	0.997	13149
C10	0.992	0.024	0.000	0.992	13149
C111E	0.992	0.046	0.002	0.992	13149
C111	0.993	0.040	0.000	0.993	13149
C11D1	0.993	0.024	-0.000	0.993	13149
C11DR	0.959	0.025	-0.000	0.959	13149
C11ED	0.989	0.022	0.000	0.989	13149
C11	0.993	0.023	0.000	0.993	13149
C11W	0.989	0.024	-0.000	0.989	13149
C123	0.992	0.111	0.001	0.992	13149
C12	0.990	0.028	-0.001	0.990	13149
C1324	0.683	0.026	0.000	0.655	13149
C13DR	1.000	0.013	-0.001	1.000	13149
C13E	0.988	0.023	-0.000	0.988	13149
C13	0.988	0.026	-0.001	0.988	13149
C14DR	0.999	0.017	-0.000	0.999	13149
C14E	0.974	0.028	-0.000	0.974	13149
C14	0.971	0.046	-0.001	0.970	13149
C14WD	0.994	0.028	-0.000	0.993	13149
C14WN	0.999	0.021	-0.001	0.999	13149
C17DR	0.949	0.024	0.000	0.948	13149
C17	0.952	0.024	-0.000	0.952	13149
C18D2	0.998	0.032	-0.001	0.998	13149

Table G-6. Stage canal (downstream) error statistics for 2010CP simulations (UNIX® versus Linux® operating systems)

Station	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
C18DN	0.988	0.023	-0.000	0.988	13149
C18DR	0.962	0.025	-0.000	0.961	13149
C18	0.998	0.023	-0.001	0.998	13149
C18W	0.999	0.018	0.000	0.999	13149
C1N	0.995	0.031	0.000	0.995	13149
C304	0.998	0.056	0.002	0.998	13149
C44	1.000	0.000	0.000	1.000	13149
C4DR	0.963	0.025	0.000	0.963	13149
C4	0.996	0.032	0.001	0.996	13149
C4W	0.977	0.113	-0.002	0.977	13149
C500E	0.999	0.025	-0.000	0.999	13149
C51	0.990	0.026	0.000	0.990	13149
C51W	0.620	0.733	-0.082	0.552	13149
C57	0.988	0.024	-0.001	0.988	13149
C60	0.999	0.027	-0.001	0.999	13149
C6DR	0.993	0.023	-0.000	0.993	13149
C6E	0.989	0.026	0.000	0.989	13149
C6	0.966	0.035	0.000	0.966	13149
C7DR	0.167	0.025	0.000	-0.178	13149
C7	0.970	0.024	0.000	0.970	13149
C8DR	0.916	0.026	0.000	0.914	13149
C8	0.970	0.023	-0.000	0.970	13149
C9DEN	0.999	0.018	-0.000	0.999	13149
C9DES	0.983	0.037	-0.000	0.983	13149
C9DRS	0.895	0.024	0.000	0.892	13149
C9DR	0.994	0.023	0.000	0.994	13149
C9DW1	0.993	0.022	-0.000	0.993	13149
C9DW2	0.977	0.029	0.001	0.977	13149
C9	0.985	0.027	0.000	0.985	13149
CA1	0.974	0.146	-0.026	0.972	13149
CA2A	0.994	0.065	-0.002	0.994	13149
CA3	0.998	0.064	0.004	0.998	13149
CDRN	0.683	0.024	-0.000	0.653	13149

Table G-6. Stage canal (downstream) error statistics for 2010CP simulations (UNIX® versus Linux® operating systems)

Station	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
CGBLE	0.982	0.024	-0.000	0.982	13149
CMFT	0.954	0.041	-0.001	0.954	13149
CNO	0.997	0.023	-0.000	0.997	13149
CORBT	0.998	0.023	0.000	0.998	13149
CULV1	0.999	0.021	-0.001	0.999	13149
CULV2	0.999	0.022	-0.001	0.999	13149
CULV3	0.999	0.022	-0.001	0.999	13149
DBLEV	0.975	0.047	-0.003	0.975	13149
DCLV2	0.992	0.057	-0.004	0.992	13149
DCLV3	0.999	0.025	-0.001	0.999	13149
DDTCH	0.999	0.023	-0.000	0.999	13149
DPRES	0.994	0.023	0.000	0.994	13149
EARCN	0.997	0.208	-0.006	0.997	13149
EARCS	0.994	0.297	-0.002	0.994	13149
ETPKC	1.000	0.013	-0.000	1.000	13149
G57DN	0.994	0.024	-0.000	0.994	13149
G57DR	0.991	0.024	0.000	0.991	13149
G93UP	0.995	0.027	0.001	0.995	13149
HLBE	0.993	0.055	-0.005	0.992	13149
HLBSE	0.995	0.024	-0.000	0.995	13149
HLSB	0.997	0.040	-0.001	0.997	13149
HLSP	0.992	0.045	-0.003	0.991	13149
HMLKS	0.999	0.023	-0.000	0.999	13149
HW290	0.996	0.024	-0.000	0.996	13149
HW291	0.999	0.023	0.000	0.999	13149
HW292	0.997	0.023	-0.000	0.997	13149
HW293	0.997	0.024	0.000	0.997	13149
HW294	0.957	0.023	-0.000	0.956	13149
HW295	0.997	0.022	-0.000	0.997	13149
I75L4	0.990	0.028	-0.000	0.990	13149
JOEBC	0.990	0.020	-0.000	0.990	13149
L10	1.000	0.001	0.000	1.000	13149
L20	1.000	0.003	-0.000	1.000	13149

Table G-6. Stage canal (downstream) error statistics for 2010CP simulations (UNIX® versus Linux® operating systems)

Station	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
L23E	0.987	0.142	-0.000	0.987	13149
L25	1.000	0.001	-0.000	1.000	13149
L28A	0.999	0.020	0.000	0.999	13149
L28B	0.999	0.032	-0.003	0.999	13149
L28T	0.999	0.023	-0.000	0.999	13149
L28W	0.999	0.022	-0.000	0.999	13149
L29	0.999	0.035	0.000	0.999	13149
L30	0.999	0.033	-0.001	0.999	13149
L31NC	0.989	0.061	-0.001	0.989	13149
L31N	0.995	0.028	0.000	0.995	13149
L31S	0.989	0.048	-0.001	0.989	13149
L31W	0.999	0.033	-0.000	0.999	13149
L33	0.987	0.038	0.001	0.987	13149
L37	0.987	0.057	0.001	0.987	13149
L38E	0.996	0.072	-0.001	0.996	13149
L38	0.994	0.075	-0.000	0.994	13149
L4	0.994	0.038	-0.000	0.994	13149
L5	1.000	0.001	0.000	1.000	13149
L8	0.999	0.034	0.000	0.999	13149
LGROV	0.953	0.114	-0.007	0.952	13149
LKMNG	1.000	0.007	-0.000	1.000	13149
LMDBC	0.984	0.022	-0.000	0.984	13149
LOK	1.000	0.013	-0.001	1.000	13149
LOXRV	0.996	0.021	-0.000	0.996	13149
LW2DR	1.000	0.021	-0.001	1.000	13149
LWD1	0.905	0.050	-0.004	0.887	13149
LWD2	0.802	0.047	-0.003	0.735	13149
LWD3	0.999	0.021	-0.001	0.999	13149
LWDSE	0.990	0.057	-0.004	0.990	13149
LWDSO	0.990	0.034	-0.003	0.989	13149
LXTRB	0.988	0.026	0.000	0.988	13149
M1	0.630	0.200	-0.002	0.565	13149
MCNLE	0.885	0.024	0.000	0.882	13149

Table G-6. Stage canal (downstream) error statistics for 2010CP simulations (UNIX® versus Linux® operating systems)

Station	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
MCNL	0.996	0.042	-0.002	0.996	13149
MILIT	0.989	0.026	0.000	0.989	13149
MOCLB	1.000	0.016	-0.000	1.000	13149
MOCUB	0.975	0.068	0.002	0.975	13149
MODLD	0.998	0.023	-0.000	0.998	13149
NNRC	0.994	0.031	0.000	0.994	13149
NNRFG	0.737	0.025	-0.001	0.713	13149
NPBDR	1.000	0.020	-0.000	1.000	13149
NRIV	0.984	0.022	-0.000	0.984	13149
NSMP1	0.600	0.074	-0.000	0.562	13149
NSMP2	0.623	0.072	-0.000	0.600	13149
NWFCL	0.987	0.024	0.000	0.987	13149
PBDR	0.995	0.021	0.000	0.995	13149
PLNTW	0.981	0.029	0.000	0.981	13149
POMPD	0.980	0.025	0.000	0.980	13149
POMP	0.981	0.028	-0.001	0.981	13149
RESC	0.996	0.025	-0.001	0.996	13149
ROBRV	0.966	0.021	0.000	0.966	13149
ROOKB	0.992	0.023	-0.000	0.992	13149
ROTEN	0.993	0.643	-0.001	0.993	13149
RVBDR	0.955	0.024	0.000	0.955	13149
S12AD	0.999	0.037	-0.001	0.999	13149
S12BD	0.998	0.039	-0.001	0.998	13149
S12CD	0.998	0.045	0.000	0.998	13149
S12DD	0.997	0.051	0.000	0.997	13149
S148U	0.996	0.036	0.000	0.996	13149
S175D	0.998	0.028	0.001	0.998	13149
S178U	0.995	0.046	0.001	0.995	13149
S179	0.999	0.025	-0.000	0.999	13149
S21	0.990	0.024	0.000	0.990	13149
S29DN	0.993	0.026	0.000	0.993	13149
S333U	0.998	0.040	-0.001	0.998	13149
S349C	0.998	0.045	0.003	0.998	13149

Table G-6. Stage canal (downstream) error statistics for 2010CP simulations (UNIX® versus Linux® operating systems)

Station	R^2	RMSE(ft)	Bias (ft)	Efficiency	Count
S349D	0.998	0.037	-0.000	0.998	13149
S355U	0.999	0.030	0.000	0.999	13149
S9UP	0.986	0.026	0.000	0.986	13149
SIRWD	0.998	0.029	-0.001	0.998	13149
SNCRE	0.998	0.031	0.000	0.998	13149
SR706	0.991	0.024	-0.000	0.991	13149
STA3C	0.943	0.264	-0.001	0.942	13149
SUNWD	0.122	0.024	0.000	-0.321	13149
TAMIA	1.000	0.017	0.000	1.000	13149
US27N	0.879	0.024	0.000	0.875	13149
US27S	0.998	0.029	0.001	0.998	13149
WELDN	0.992	0.052	-0.005	0.992	13149
WPCB	0.999	0.020	-0.003	0.999	13149