Corkscrew Watershed Initiative

Deliverable 2.2: Final Data Discovery Technical Memorandum

Prepared for

South Florida Water Management District

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Prepared by

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Abbreviations and Acronyms

AHED	Arc Hydro Enhanced Database
BCB	Big Cypress Basin
CCCWIP	Collier County Comprehensive Watershed Improvement Plan
cfs	cubic feet per second
CHNEP	Coastal & Heartland National Estuary Partnership
CREW	Corkscrew Regional Ecosystem Watershed
CSS	Corkscrew Swamp Sanctuary
CWI	Corkscrew Watershed Initiative
DEM	digital elevation model
EPA	U.S. Environmental Protection Agency
ESA	Endangered Species Act of 1973
FDEP	Florida Department of Environmental Protection
FEGN	Florida Ecological Greenways Network
FLUCCS	Florida Land Use, Cover, and Form Classification System
FNAI	Florida Natural Areas Inventory
ft	foot/feet
FWC	Fish and Wildlife Conservation Commission
GGWIP	Golden Gate Watershed Improvement Program
H&H	hydrology and hydraulics
ha	hectare
ImmSIP	Immokalee Stormwater Improvement Program
IPaC	Information for Planning and Consultation
Lidar	light detection and ranging
MMPA	Marine Mammal Protection Act
NAVD 88	North American Vertical Datum of 1988
NGVD 29	National Geodetic Vertical Datum of 1929
NMFS	National Marine Fisheries Service

NRCS	Natural Resources Conservation Service
NWI	National Wetlands Inventory
SFWMD	South Florida Water Management District
SLCFMP	Southern Lee County Flood Mitigation Plan
SLCWP	South Lee County Watershed Plan
SLNCWI	South Lee – North Collier Watershed Initiative
SSURGO	Soil Survey Geography Database
SWFRPC	Southwest Florida Regional Planning Council
TWG	Technical Working Group
USDA	U.S. Department of Agriculture
USFWS	U.S. Fish and Wildlife Service
USGS	U.S. Geological Survey
WQP	Water Quality Portal
WQX	Water Quality Exchange

1.0 Background/Introduction

1.1 Project Purpose

J-Tech, the joint entity of Jacobs Engineering and Tetra Tech, Inc., was selected for the completion and delivery of the Corkscrew Watershed Initiative (CWI) Project, also referred to herein as the CWI Project. The Notice to Proceed was established for this project on March 1, 2024. The objective of the CWI Project is to develop a comprehensive strategy to achieve ecological restoration of the Corkscrew Watershed by improving wetland hydroperiods and natural flows, while reducing flood risk in nearby flood-prone areas without adversely impacting the water supply and water management needs of the Corkscrew Watershed. The objective will be accomplished through a public planning process that engages and involves key partners, stakeholders, and the public. The project will identify viable short-term and long-term strategies to achieve the CWI Project goals. The proposed restoration alternatives will be cost-effective, feasible, and resilient. The CWI Project will consider population growth, land development, and climate change including sea level rise and future rainfall. This project aligns with the mission of the South Florida Water Management District's (SFWMD) Big Cypress Basin (BCB) 2023–2028 Strategic Plan and will contribute to the resiliency of the Big Cypress Watershed.

1.2 Project Background and Scope of Work

The CWI Project boundary encompasses southern Hendry County, northern Collier County, and southern Lee County as shown in Figure 1-1. The project area is comprised of rivers (Imperial and Estero), creeks (Halfway and Spring), and wetland sloughs/swamps (Flint Pen Strand and Upper Corkscrew Swamp) within the Estero Bay Basin Watershed in southern Lee County and the Cocohatchee Canal/River Basin and Golden Gate/Naples Bay Watershed in northern Collier County. The initial project planning area was broadened beyond what may be considered an effective area to ensure thorough consideration of vulnerable communities and ecosystems. The initial project planning area will be refined, as necessary, to support developing and evaluating projects within targeted areas.

Previous studies and monitoring have documented reduced hydroperiods and increased water level recession rates in Audubon's Corkscrew Swamp Sanctuary (CSS; owned and managed by National Audubon Society), a critically important ecosystem, within the past 60 years. This 3-year planning CWI Project (2024–2027) is funded by the BCB and builds upon previous efforts to determine potential causes of the shortened hydroperiod documented at the CSS. Restoration alternatives will be developed and evaluated to address the purpose and needs of the project. The Technical Working Group (TWG) will serve as the project planning team and is comprised of SFWMD staff, representatives of local governments in the region, and others with responsibility for the management of the Corkscrew Watershed. TWG participants are those with expertise in the Corkscrew Watershed and the ability to fund and implement projects in the CWI Project area. Collectively, representatives of the City of Bonita Springs, Collier County, CSS, Corkscrew Regional Ecosystem Watershed (CREW) Land and Water Trust, Lee County, SFWMD staff, and the Village of Estero make up the TWG. The TWG will provide guidance to the SFWMD Project Manager responsible for administering the contract and acting as the liaison between the TWG, the CWI Project Consultant (J-Tech), and the SFWMD Project Development Team.

The CWI Project work plan was finalized on July 1, 2024, and includes a detailed history of work on the project that has been completed to date by the SFWMD and TWG member organizations.

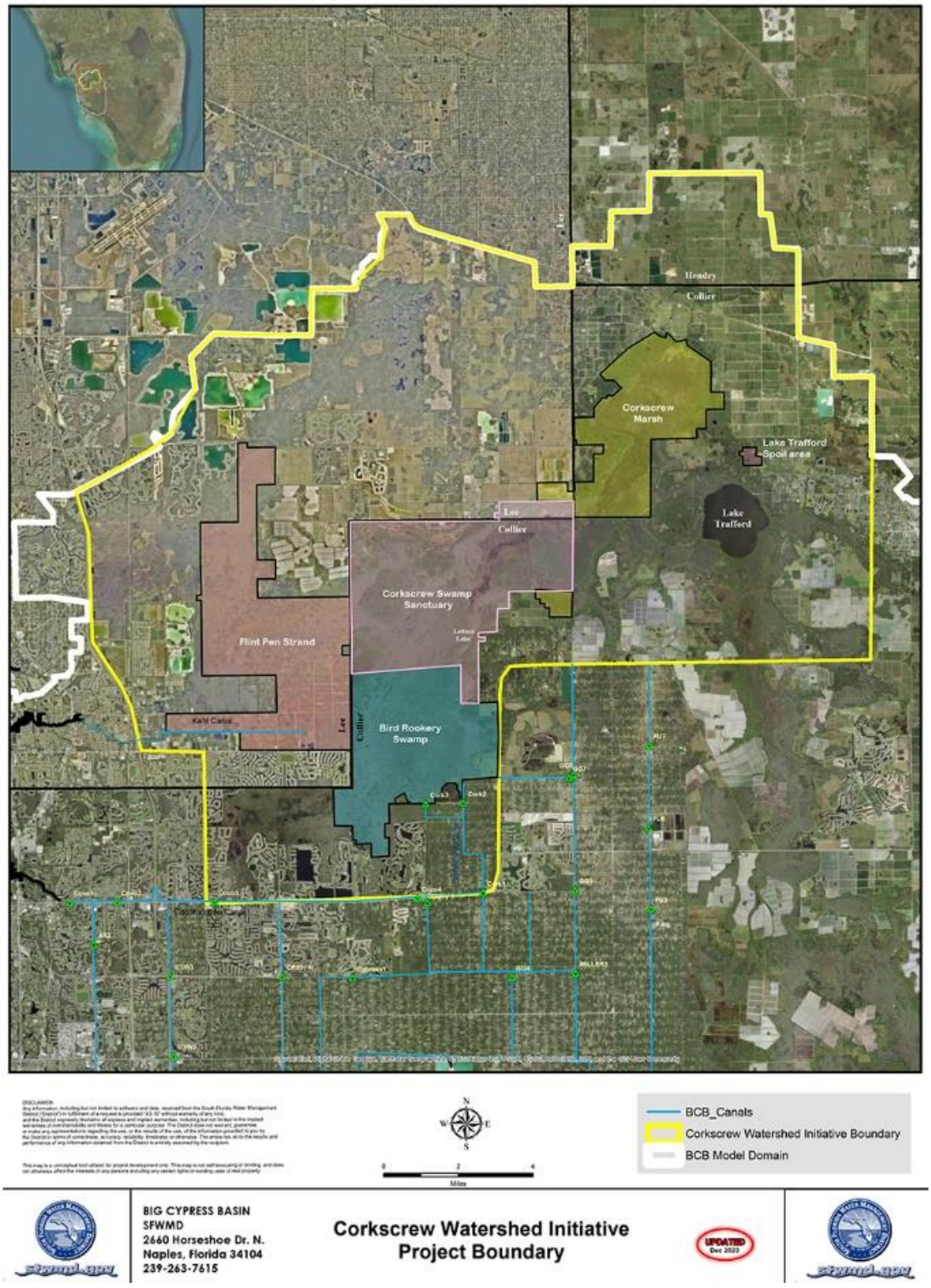


Figure 1-1. Corkscrew Watershed Initiative Project Area

The work plan also identifies the various tasks and deliverables that will be completed as part of the CWI Project. In summary, the CWI Project tasks include the following:

- Task 1 – Project Coordination
- Task 2 – Information Collection and Review and Site Reconnaissance
- Task 3 – Develop Performance Measures and Metrics
- Task 4 – Refine Project Area
- Task 5 – BCB Model Refinement and Existing Conditions Simulation
- Task 6 – Develop Initial List of Potential Ecologic and Hydrologic Restoration Projects
- Task 7 – Future Baseline and Alternative Conditions Models Development/Evaluation
- Task 8 – Develop Final Project Matrix Including Project Goals, Cost and Regulatory Requirements
- Task 9 – CWI Public Planning Project Report, Conceptual Plan(s), and Funding Summary Memo

1.3 Document Structure

This Data Discovery Technical Memorandum meets the deliverable requirements of Task 2 (Information Collection and Review and Site Reconnaissance), and includes a comprehensive review of existing data, studies, literature, and permits related to the ecological and hydrological conditions of the CWI Project area. Each section includes a discussion of the information sources reviewed, a summary of key information relevant to the CWI Project objectives, and any gaps in the data identified that may inhibit project development and success. This document includes the following technical sections related to the CWI Project area:

- Section 2.0 – Literature Review: Summary of published reports, studies, technical papers, and other documents relating to the history, ecology, hydrology, and watershed projects.
- Section 3.0 – Land Use: Summary of current and future land use.
- Section 4.0 – Topography: Analysis of digital elevation model data describing the topography.
- Section 5.0 – Wetlands: Detailed summary of wetland community types and locations.
- Section 6.0 – Drainage Features: Inventory and location of key drainage features (structures, culverts, canals, flow-ways, etc.) controlling the movement of surface water.
- Section 7.0 – Hydrologic Data: Inventory and summary of key hydrologic data including rainfall, evapotranspiration, surface water flows, surface water levels, and groundwater levels.
- Section 8.0 – Soils and Geology: Summary of soil types, drainage classifications, and subsurface lithology.
- Section 9.0 – Protected Species: Summary of the documented or likely presence of protected flora and fauna.
- Section 10.0 – Protected/Critical Habitats: Summary of the extent and type of protected or critical habitats.

- Section 11.0 – Project-Specific Field Investigations: Summary of field reconnaissance investigations conducted to confirm the ecological and hydrological features.
- Section 12.0 – References: Comprehensive list of documents and data sources used in preparation of this Deliverable 2.2 Data Discovery Technical Memorandum.

2.0 Literature Review

2.1 Information Sources

J-Tech and SFWMD performed a literature review of published reports, studies, technical papers, and other documents relating to the history, ecology, and hydrology of the CWI Project area. In addition, the literature review included published reports concerning various environmental restoration and water management projects that have been proposed, are currently implemented, and/or are in the process of being implemented within the CWI Project area. The sources for the literature reviewed include the following governmental agencies and organizations:

- Audubon Florida
- Coastal & Heartland National Estuary Partnership (CHNEP)
- Collier County
- Florida Silver Jackets
- Lee County
- SFWMD
- Southwest Florida Regional Planning Council (SWFRPC)
- University of Florida Institute of Food and Agricultural Sciences (UF/IFAS)

2.2 Summary

The following is a summary listing of the reports and other documents that J-Tech and SFWMD reviewed from the sources listed above, which are relevant to the project. Table 2-1 provides a summary of key findings derived from the documents that are most relevant to the projects listed below.

- Audubon Florida
    - Investigation of Observed Drier Conditions in Long-Term Data at Lettuce Lake Final Report by National Audubon Society's Corkscrew Swamp Sanctuary, dated February 2021 (Clem 2021) 2021-02-24_ModellingReport_Final_Submitted.pdf
    - Corkscrew Swamp Watershed Hydrologic Modeling Project Report by Water Science Associates, dated February 2021 (Copp 2021). This report is attached to Clem 2021 2021-02-24_ModellingReport_Final_Submitted.pdf
    - Task 2 – Existing Conditions Model Calibration and Comparison to Ecological Indicators Report by Water Science Associates, dated September 2020 (Copp 2020) 2020.09.17.Task2_Technical Report.pdf
    - Corkscrew Swamp Watershed Hydrologic Modeling Project Technical Memorandum by Water Science Associates, dated June 2, 2020 (Copp TM 2020) 2020.06.02.ModelDevelopmentMemorandum.pdf
    - Hydrologic Changes over 60 Years (1959-2019) in an Old-Growth Bald Cypress Swamp on a Rapidly Developing Landscape, Wetland Science & Practice Journal Article, by

Shawn Clem and Michael Duever, dated October 2019 (Clem 2019) oct_2019_wsp_csshydro.pdf

Table 2-1. Summary of Key Findings Relevant to the CWI Project from the Literature Review

Doc. Citation	Document Description and Purpose	Key Findings Relevant to CWI Project	Recommends Add'l Investigations and/or Future Projects Relevant to CWI Project?
Audubon Florida			
Clem 2021 and Copp 2021	Reports for hydrology and hydraulics (H&H) modeling study that examined relative contribution of three potential drivers of shortened hydroperiods in CSS (i.e., groundwater withdrawals, increased coverage of high-evapotranspiration (ET) woody vegetation and downstream drainage infrastructure).	• Downstream drainage infrastructure contributed to shortened hydroperiods far more than the other two potential drivers. • Recommends drainage infrastructure modifications, including operational modifications to improve CSS hydroperiods. • H&H model boundary overlaps CWI H&H model boundary.	Yes
Clem 2019	Journal article that describes the changes in hydrology at CSS from 1959 to 2019, with discussion of the possible causes.	• Analyses of 60-year water level monitoring data shows no major changes in CSS hydrologic regime for first 40 years followed by a dramatic lowering of dry season water table over past 20 years. • On average, from 1960s to 2010s, CSS's hydroperiod decreased 29% (2.6 mo.) in marshes, 18% (1.9 mo.) in old-growth bald cypress, and 17% (2.0 mo.) in ponds. • Average dry season recession rates in the 2000s and 2010s were 47% and 32% higher, respectively, than the average dry season recession rate of the other decades.	Yes (recommendations were addressed in Clem 2021)
Coastal & Heartland National Estuary Partnership (CHNEP)			
CHNEP 2021	Report for South Lee County Watershed Initiative (SLCWI) H&H modeling study. Includes creation of SLCWI Planning Tool (H&H model) used to generate recommended projects to improve hydrology and water quality in South Lee County Watershed natural areas while reducing flood risk in developed areas.	• SLCWI Planning Tool can aid project planning for future hydrologic planning studies (e.g., CWI). • Recommended projects may be considered for adoption/replication under future programs/initiatives (e.g., CWI). • H&H model boundary overlaps CWI H&H model boundary.	Yes
Collier County			

Doc. Citation	Document Description and Purpose	Key Findings Relevant to CWI Project	Recommends Add'l Investigations and/or Future Projects Relevant to CWI Project?
CCCWIP Documents	Various reports, presentations, and permit documents for major water management and environmental restoration plan to be implemented by Collier County.	• CCCWIP involves diverting excess water from Golden Gate Canal via two pump stations at max. rate of 100 cubic feet per second (cfs) to wetlands west of the Comprehensive Everglades Restoration Plan Picayune Strand project boundary. • H&H model boundary overlaps CWI H&H model boundary.	Yes
Collier County 2018a and LAGO 2018	County's Immokalee Stormwater Improvement Program (ImmSIP) planning report includes recommended projects to reduce flood risk in developed areas of the Immokalee community. LAGO's H&H modeling report provides basis for ImmSIP.	• CWI plan formulation should consider compatibility with ImmSIP and effects of ImmSIP on existing and future conditions. • Need County to provide status of ImmSIP implementation. • H&H model boundary overlaps CWI H&H model boundary.	Yes
GGWIP Pres 2014	Presentation from Golden Gate Watershed Improvement Program (GGWIP) Kick-off Workshop.	• Includes valuable info about history and future of water management in CWI study area. • Recommended projects and associated watersheds within CWI H&H model boundary.	Yes
Atkins 2011	Final report for the Collier County Watershed Management Plan (CCWMP), includes recommended structural and non-structural projects for improved water management in County to meet following performance measures: • Discharge to Estuary Benefit • Water Quality Benefit • Wetland Hydrology/Habitat Benefit • Groundwater Benefit	• CCWMP accepted by Collier County Board of County Commissioners for implementation on 12/13/2011. • Plan includes 10 recommended structural projects as well as non-structural projects. • CCCWIP and GGWIP include projects that may supersede some projects/elements of CCWMP. • Recommended projects and associated watersheds within CWI H&H model boundary.	Yes
Florida Silver Jackets			

Doc. Citation	Document Description and Purpose	Key Findings Relevant to CWI Project	Recommends Add'l Investigations and/or Future Projects Relevant to CWI Project?
Silver Jackets 2023	Immokalee Regional Water Plan Report by Florida Silver Jackets inter-agency team.	• Includes recommended projects to allow more water from Lake Trafford basin to flow south through Kamp Keais Strand to improve hydroperiods in Florida Panther Wildlife Refuge (FPNWR). • CWI plan formulation should consider compatibility with goals of plan. • Recommended projects and associated watersheds within CWI H&H model boundary.	Yes
Lee County			
LKP Studies 2022-24	Reports/technical memos that build upon the Southern Lee Flood Mitigation Plan (SLCFMP) to recommend restoration projects for the Larry Kiker Preserve (LKP) and adjacent Hidden Cypress Preserve (HCP).	• CWI plan formulation should consider compatibility w/ goals of LKP/HCP projects. • Recommended projects and associated watersheds within CWI H&H model boundary.	Yes
SLCFMP Docs 2020	SLCFMP report with recommended projects and supporting H&H modeling report.	• CWI plan formulation should consider compatibility with SLCFMP projects. • Recommended projects and associated watersheds within CWI H&H model boundary.	Yes
SLCWP 2011	South Lee County Watershed Plan (SLCWP) Report with recommended projects.	• Need Lee County to provide status of implementing SLCWP. Appears 6 of the 11 recommended projects are complete. • CWI plan formulation should consider compatibility with SLCWP projects. • Recommended projects and associated watersheds within CWI H&H model boundary.	Yes
SFWMD			
BCB 2023-28	SFWMD's latest strategic plan for water management in BCB.	• CWI plan formulation should consider compatibility with goals of this plan. • Recommended projects and associated watersheds within CWI H&H model boundary.	Yes

Doc. Citation	Document Description and Purpose	Key Findings Relevant to CWI Project	Recommends Add'l Investigations and/or Future Projects Relevant to CWI Project?
SFWMD 2022	SFWMD's fifth update to the original Lower West Coast Water Supply Plan published in 1994.	• Provides info about current and future water demands for the CWI study area. • Chapter 7 includes info about water resource development projects relevant to CWI.	No
SFWMD 2021a	SFWMD project definition report for SLNCWI which includes some proposed projects for SLNCWI.	• Need SFWMD to provide status of SLNCWI. • Recommended projects and associated watersheds within CWI H&H model boundary.	Yes
SFWMD 2021b	SFWMD document that includes meeting notes and some proposed projects for SLNCWI.	• Need SFWMD to provide status of implementing SLNCWI. • Recommended projects and associated watersheds within CWI H&H model boundary.	Yes
SFWMD 2021c	SFWMD's CREW land management plan for 2020 to 2031.	• CWI plan formulation should consider compatibility with goals of this plan. • CREW is within CWI H&H model boundary.	Yes
SFWMD 2020	SFWMD structures atlas that contains a description and operational info for each SFWMD structure within BCB.	• Info in this document will be used to confirm the operating rules of the SFWMD BCB structures in the CWI H&H models.	No
SFWMD 2018	SFWMD's management plan for Lake Trafford.	• Includes info about the existing conditions and ecology of Lake Trafford. • Includes Action Plans to improve the health of Lake Trafford. • CWI plan formulation should consider compatibility with the goals of this plan. • Lake Trafford is within CWI H&H model boundary.	Yes
SFWMD 2015	SFWMD's Southwest Florida Comprehensive Watershed Plan.	• Does not request U.S. Army Corps of Engineers authorization for implementation of plan. • Includes structural and non-structural management measures that may apply to CWI. • Includes recommended projects grouped into 22 functional groups (FGs). At least six FGs are relevant to CWI (i.e., FGs 3, 5, 7, 15, 34, and 70).	Yes

Doc. Citation	Document Description and Purpose	Key Findings Relevant to CWI Project	Recommends Add'l Investigations and/or Future Projects Relevant to CWI Project?
SFWMD 1998	SFWMD's water management plan for BCB published in 1998.	*Placeholder (will complete after this document is obtained)*	*TBD*
Parsons and Taylor Engineering 2017	Flood Protection Level of Service Provided by Existing District Infrastructure for Current (2015) Sea Level Conditions and Three Future (2065) Sea Level Scenarios for Golden Gate Watershed- Final Report	• Flood Protection Level of Service for Big Cypress Basin: Current and Future Service in Golden Gate, Cocohatchee, Henderson-Belle Meade, and Faka Union Watersheds • Recommended assessing metrics for flood reduction	Yes
Southwest Florida Regional Planning Council (SWFRPC)			
Beever 2017	Planning report with recommended projects to improve hydrology and water quality in natural areas while reducing flood risk in developed areas of Bonita Springs.	• Need SWFRPC and City of Bonita Springs to provide status of implementing this plan. • Recommended projects and associated watersheds within CWI H&H model boundary.	Yes

- Coastal & Heartland National Estuary Partnership (CHNEP)
    - South Lee County Watershed Initiative Hydrological Model Project Final Report by CHNEP and LAGO, dated December 2021 (CHNEP 2021) South Lee County Watershed Initiative 12_30_21 FINAL Report for web.pdf
- Collier County
    - Collier County Comprehensive Watershed Improvement Plan (CCCWIP) Documents:
        - Permit Documents for CCCWIP submitted to SFWMD (Permit Application No. 200829-4157) Collier County Comprehensive Watershed Improvement Plan | Collier County, FL (colliercountyfl.gov)
        - Permit Documents for CCCWIP submitted to U.S. Army Corps of Engineers (USACE) (Permit Application No. SAJ-2020-01626) Collier County Comprehensive Watershed Improvement Plan | Collier County, FL (colliercountyfl.gov)
        - CCCWIP H&H Modeling Report by Taylor Engineering, dated January 28, 2020 (Taylor 2020). This report is Attachment 5 of permit documents submitted to USACE under application SAJ-2020-01626. 5_HydrologicalHydraulicMo.pdf
        - CCCWIP Presentation by Taylor Engineering, dated May 21, 2019 (CCCWIP 2019) Presentation 5212019 Taylo.pdf
        - CCCWIP Kick-off and Knowledge Transfer Workshop Agenda and Meeting Minutes, dated August 24, 2018 (Collier County 2018b) 82418_Agemdoa_kickoff_work.pdf

- CCCWIP Report by Atkins, dated September 23, 2016 (Atkins 2016) Atkins Collier County Wate.pdf

- Immokalee Stormwater Improvement Program (ImmSIP) Report by Collier County Stormwater Management Section, dated November 2018 (Collier County 2018a) Immokalee_stormwater_Improvement_Program_Final.pdf
- Immokalee Stormwater Master Plan Technical Memorandum by LAGO, dated February 7, 2018 (LAGO 2018). This is the H&H modeling report for the modeling results shown in Collier County 2018a. Task 3 Alternative Analysis (2-3-18 EJR Final Final).pdf
- Stormwater Management in Golden Gate Estates Presentation by Collier County Stormwater Section, dated July 8, 2016 (Collier County Pres, 2016) 2016 Presentation by Collier County about Stormwater Mgmt in Golden Gate Estates. pdf
- Golden Gate Watershed Improvement Program (GGWIP) Inter-Agency Kick-off Workshop Agenda and Presentation, dated September 25, 2014 (GGWIP 2014) Agenda.pdf and 92514 InterAgency Workshop.pdf
- Northern Golden Gate Estates Flowway Restoration Project Final Report by Atkins, dated May 9, 2013 (Atkins 2013) This project builds upon BRA, 2008 study. Stormwater Planning Collier County, FL (colliercounty.gov)
- Collier County Watershed Management Plan Final Report by Atkins, dated November 2011 (Atkins 2011). This watershed management plan was accepted by the Collier County Board of County Commissioners for implementation on December 13, 2011. Collier County 2011 Watershed Mgmt Plan
- Horsepen Strand Conservation Area Feasibility Study Phase 1 Final Report by Biological Research Associates (BRA) and Kimley-Horn & Associates, dated July 2008 (BRA, 2008) J-Tech has not yet obtained this report.
- Belle Meade Area Stormwater Management Master Plan by Parsons, dated 2006 (Parsons 2006) J-Tech has not yet obtained this report.
- Collier County Utilities Documentation
  - Collier County Water-Sewer District; Current and Future Water Service Areas. Collier County Water-Sewer District; Current and Future Water Service Areas.pdf
  - Collier County Water-Sewer District; Current and Future Wastewater Service Areas. Collier County Water-Sewer District; Current and Future Wastewater Service Areas.pdf
  - Collier County 10-Year Water Supply Facilities Work Plan Update (February 2019). Collier County 10Year Water Supply Facilies.pdf
  - Collier County Water-Sewer District, 2014 Water, Wastewater, Irrigation, Quality Water and Bulk Potable Water Master Plan/CIP Plan Summary Report. AECOM_2014 CCWSD MasterCIP Plan.pdf
  - Collier County Public Utilities: Resources | Collier County, FL

  - Immokalee Utilities Documentation
    - Immokalee Water and Sewer District Stategic Report and Development, A New Chapter September 2022. 5a1_iwsd__strategic_report.pdf
- Immokalee Water and Sewer District: Immokalee Water & Sewer District | Home
- Florida Silver Jackets
  - The Immokalee Regional Water Plan Report by Florida Silver Jackers, dated March 2023 (Silver Jackets 2023) p16021coll2_11907.pdf
- Lee County
  - Larry Kiker Preserve (LKP) Studies (follow-up studies to Southern Lee County Flood Mitigation Plan [SLCFMP]):
    - Larry Kiker Preserve Stormwater Summary Memorandum by Kimley-Horn, dated May 10, 2024 (Clark 2024) KH Summary Document Final.pdf
    - Larry Kiker Preserve H&H Summary Report by Kimley-Horn, dated March 2024 (Kimley-Horn 2024) LKP Report NoApdx.pdf
    - Larry Kiker Preserve Natural Resource Assessment Technical Memorandum by Kimley-Horn, dated June 28, 2022 (Kimley-Horn 2022) LKP Natural Resource Assessment.pdf
  - Lee County Utilities Documentation
    - Lee County Reuse Service Area: SFWMDWaterReuseLeeCountyApril2020.pdf
    - Lee County Water Service Area: WaterServiceArea11x17.pdf
    - Lee County Water Franchise Areas: WaterFranchise11x17.pdf
    - Lee County Wastewater Service Area: WastewaterServiceArea11x17.pdf
    - Lee County Wastewater Franchise Areas: WastewaterFranchise11x17.pdf
    - Lee County, Countywide Wastewater Management Plan, 2023. Countywide Wastewater Management Report.pdf
    - Lee County Utilities: Lee County Utilities
  - Bonita Springs Utilities
    - Bonita Springs Service Area Map: Bonita Springs Boundary-Map20171011.pdf
    - Bonita Springs Utilities: Home - Bonita Springs Utilities
  - SLCFMP documents:
    - Southern Lee County Flood Mitigation Plan (SLCFMP) by Lee County, dated August 31, 2020 (Lee County 2020) 2020 AUG Southern Lee County Flood Mitigation Plan.pdf
    - Southern Lee County ICPR4 Model Report by Streamline Technologies, dated August 31, 2020 (Streamline Technologies 2020) SLC ICPR4 Model.pdf

- South Lee County Watershed Plan (SLCWP) Update Final Recommendations Report by SFWMD and Lee County, dated January 20, 2011 (SLCWP 2011) 2011-Jan SLCWP Updated Final Recommendations 1-20-11.pdf

- Rookery Bay National Estuarine Research Reserve (RBNERR)
  - Restoring the Rookery Bay Estuary Project Final Report by RBNERR, dated June 30, 2015 (RBNERR, 2015) FinalReport-lowres.pdf (rookerybay.org)
  - A Compilation of Proposed Watershed Improvement Projects within the Rookery Bay Watershed in Collier County, Florida by RBNERR, dated October 2014 (RBNERR, 2014) https://rookerybay.org/wp-content/uploads/5-RookeryBayWatershedProjects.pdf
  - Henderson Creek Watershed Engineering Research Project documents:
  - Task 4.2.3 – Final Technical Memorandum Model Simulation of Belle Meade Agricultural Area Conversion by Interflow Engineering, dated June 2, 2015 (Interflow, 2015) 4-Task_4_2_3_Belle_Meade_Final_Technical_Memo.pdf
  - Task 2.5 – Interim Technical Memorandum Henderson Creek Weir and Gate Operation Scenario Simulation by Interflow Engineering, dated October 29, 2014 (Interflow, Oct 2014) 2-Task_2.5_Henderson_Creek_Weir_and_Gate_operation.pdf
  - Task 2.7 – Interim Hydrodynamic Modeling Report by Interflow Engineering, dated June 27, 2014 (Interflow, June 2014) 1-Task_2.7_HydrodynamicModelingReport.pdf
  - Task 2.6 – Fakahatchee Bay Hydrologic Existing Conditions Simulation Report by Taylor Engineering, dated May 2, 2014 (Taylor, 2014) 3-Task_2.6_Fakahatchee_Bay.pdf

- SFWMD
  - Big Cypress Basin (BCB) 2023-2028 Strategic Plan by SFWMD BCB (BCB 2023-28) 2023-2028 BCB StrategicPlan FINAL HR.pdf
  - 2022 Lower West Coast Water Supply Plan Update by SFWMD, dated December 2022 (SFWMD 2022) 2022_LWC_Plan_Chapters_and_Appendices.pdf
  - Picayune Watershed Water Quality Project – Site Analysis Study Report by Stantec, dated August 3, 2022 (Stantec 2022) 2022-AUG FINAL Picayune Watershed WQ Siting Analysis_Stantec.pdf
  - South Lee – North Collier Watershed Initiative (SLNCWI) Project Definition Report by SFWMD, dated July 16, 2021 (SFWMD 2021a) 101304_PDR_SLNCWI_071621_signed.pdf
  - South Lee – North Collier Watershed Initiative (SLNCWI) Technical Assistance Chronology Document by SFWMD, dated June 2021 (SFWMD 2021b) Chronolgy.pdf
  - Picayune Watershed Water Quality Feasibility Study Report by Stantec, dated March 2, 2021 (Stantec 2021) 2021-MAR_Final Picayune Watershed WQ Feasibility Report_Stantec.pdf

- CREW Management Area Ten-Year General Management Plan 2021-2031 by SFWMD Land Stewardship Section, dated October 2021 (SFWMD 2021c) CREW_10_Year_plan_20211006_Final.pdf
- Water Control Operations Atlas: Big Cypress Basin System, Part 2: Structure Descriptions by SFWMD, dated May 23, 2020 (SFWMD 2020) Atlas_Part2_BCB-structures APR20 v1.1 Current Working Version
- Lake Trafford Water Management Plan by SFWMD, dated October 2018 (SFWMD 2018) lake_trafford_mgmt_plan.pdf
- Southwest Florida Comprehensive Watershed Plan by SFWMD, dated 2015 (SFWMD 2015) p16021coll7_2515.pdf
- SWIM Plan for Naples Bay by SFWMD, dated 2007 (SFWMD 2007) naples bay swim plan final january 2007 final.pdf
- Big Cypress Basin Water Management Plan by SFWMD, dated 1998 (SFWMD 1998) J-Tech has not yet obtained this report.
- Literature Review on the Effects of Groundwater Drawdowns on Isolated Wetlands, Technical Publication 96-01 by SFWMD, dated November 1995 (SFWMD 1995a) Fl12090425.pdf
- Technical Support for Development of Wetland Drawdown Criteria for Florida's Lower West Coast Draft, Draft Technical Publication by SFWMD, dated January 27, 1995 (SFWMD 1995b) 1995 01-27 Technical Support Documentaton of Wetland Drawdown Criteria for Florida's Lower West Coast Draft
- Golden Gate Water Management Plan by Johnson Engineering for SFWMD-BCB, dated 1980 (Johnson 1980) J-Tech has not yet obtained this report.
- Flood Protection Level of Service Provided by Existing District Infrastructure for Current (2015) Sea Level Conditions and Three Future (2065) Sea Level Scenarios for Golden Gate Watershed- Final Report (Parsons and Taylor 2017) 2018_FPLOS_Phase_I_Big_Cypress_Basin_Final_Reports_and_Appendices.pdf

- Southwest Florida Regional Planning Council (SWFRPC)
  - City of Bonita Springs Flood Reduction and Watershed Restoration Plan Report by SWFRPC, dated 2017 (Beever 2017) Bonita Springs Flood RHRPlan.pdf
- University of Florida Institute of Food and Agricultural Sciences (UF/IFAS)
  - Watershed Delineation (for Lake Trafford) in a Flat Landscape with Competing Topographic and Hydraulic Controls and its Implications for TMDL and Basin Management Action Plan Development Master Thesis Report by Karl Wallace, UF/IFAS graduate student, dated 2017 (Wallace 2017) 2017 IFAS Lake Trafford Watershed Delineation Report.pdf
- U.S. Army Corps of Engineers

  - The Recover Team's Recommendations for Revisions to the Interim goals and Interim Targets for the Comprehensive Everglades Restoration Plan: 2020 (RECOVER 2020) The RECOVER Team's Recommendations for Revisions to the Interim Goals and Interim Targets for the Comprehensive Everglades Restoration Plan: 2020 (oclc.org)

- Florida Department of Environmental Protection (FDEP)
  - Florida Forever Program: Florida Forever | Florida Department of Environmental Protection
  - Florida Forever Plan, Corkscrew Regional Ecosystem Watershed, 2024. FLDEP_DSL_OES_FF_2024_CorkscrewRegionalEcosystemWatershed.pdf

2.3 Data Gaps

As part of the literature review, J-Tech found that in 2021, the SFWMD began a planning project in partnership with Lee County, Collier County, and the City of Bonita Springs, known as the South Lee – North Collier Watershed Initiative (SLNCWI). It appears that this project may have been put on hold. At the start of the project in summer 2021, SFWMD held meetings with project stakeholders, and several proposed watershed improvements were identified that could be implemented/constructed under SLNCWI. J-Tech will need to work with SFWMD to confirm the status of this project and obtain a complete record of all published reports/findings from this project.

Section 1.2 of the CCCWIP Report (Atkins 2016) lists the Big Cypress Basin Water Management Plan, published by SFWMD in 1998 (SFWMD 1998), as an important historical document concerning the management of water in BCB for environmental purposes. J-Tech has not yet obtained this document to review as part of the CWI Project.

3.0 Land Use

3.1 Land Use Data Sources

SFWMD land cover and land use 2017–2019 data set was used for the land use summarization within the CWI Project area. The data were updated from the 2014–2016 coverage by photointerpretation using 2017–2019 aerial photography and classified using the SFWMD-modified Florida Land Use, Cover, and Forms Classification System (FLUCCS) classification system (SFWMD 2024a). Information regarding easements and preserves were obtained from the Florida Natural Areas Inventory (FNAI), a comprehensive database administered by the Institute of Science and Public Affairs at Florida State University. FNAI serves as a primary source for information on Florida's conservation lands and includes work for the Florida Department of Environmental Protection (FDEP), Florida Fish and Wildlife Conservation (FWC) Commission, and other local, state, and federal agencies (FNAI 2024).

3.2 Land Use Data Summary

The FLUCCS codes are a standardized system used for identifying and categorizing different land use and land cover types within the state of Florida. Originally developed by the Florida Department of Transportation, these codes provide a detailed classification framework that ranges from general categories such as urban development, agriculture, and wetlands to more specific forms such as residential density and specific wetland community types (FDOT 1999). In 2014, SFWMD amended the FLUCCS codes using aerial photographs focusing on redefining land use categories and improving data collection methodologies (SFWMD 2024a). FLUCCS codes are essential for land use planning, environmental impact assessments, and resource management, allowing for consistent and precise data collection across Florida's diverse ecosystems. Agencies like FDEP and SFWMD use FLUCCS codes to efficiently analyze and manage the state's natural resources, aiding in the development policies and regulations that promote sustainable land use and environmental protection.

A total of 85 FLUCCS codes were identified within the CWI Project area (see Figure 3-1 and Table 3-1). The FLUCCS codes were summarized into 15 land use categories. The two largest land use categories within the CWI Project area include wetlands (45 percent; 81,053 acres) and agricultural (28 percent; 50,854 acres). The remaining 27 percent include a combination of urban development, industrial, and natural upland habitat communities.

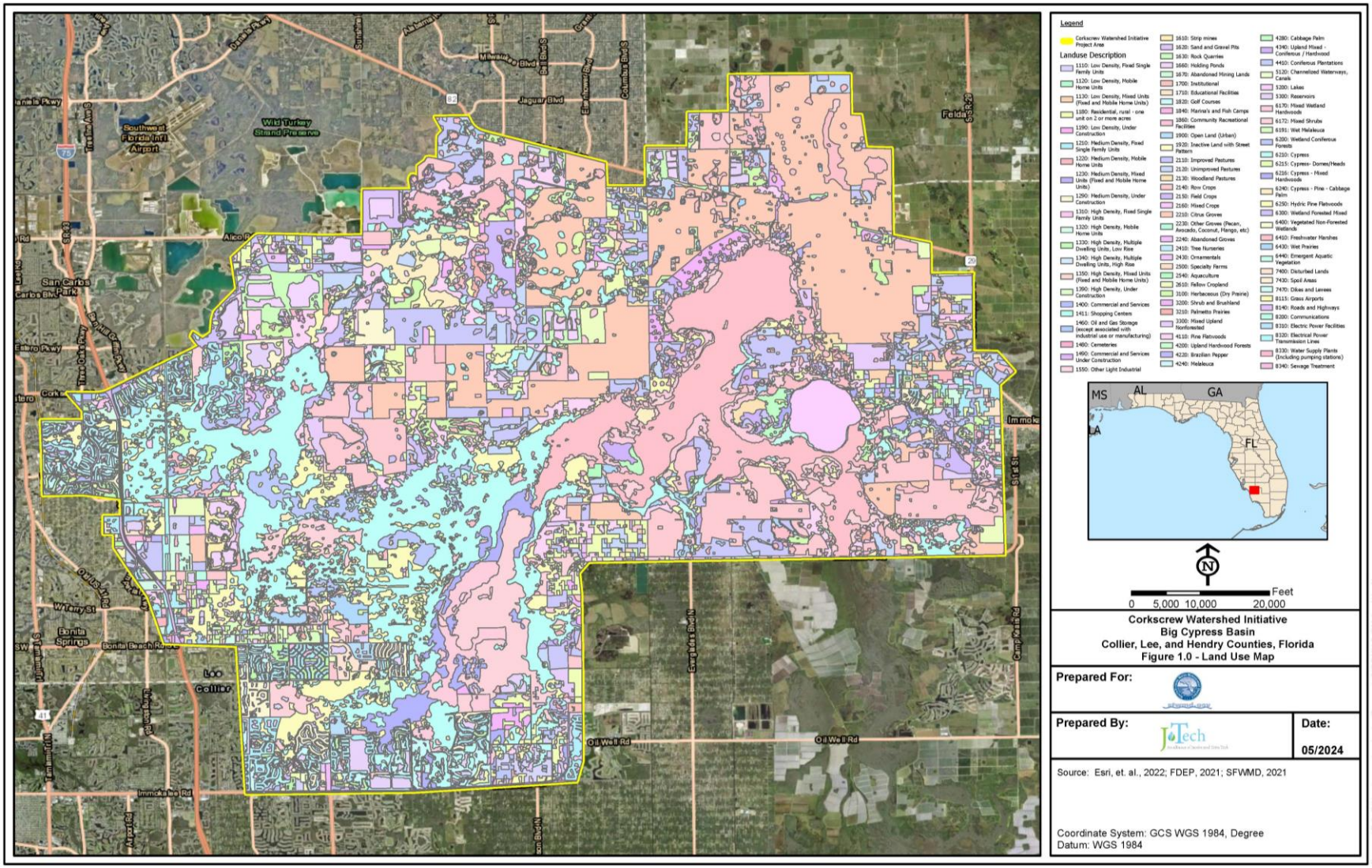


Figure 3-1. Existing Land Use within the CWI Project Area

Table 3-1. Summary of Existing Land Use within the CWI Project Area

Land Use Category	FLUCCS Code	Area (acres)	% of Total CWI Area
Residential Low Density	1110, 1120, 1130, 1180, 1190	5,380	3
Residential Medium Density	1210, 1220, 1230, 1290	6,635	4
Residential High Density	1310, 1320, 1330, 1340, 1350, 1390	2,018	1
Commercial, Industrial, and Services	1400, 1411, 1460, 1480, 1490, 1550	429	< 0
Mining	1610, 1620, 1630, 1660, 1670	4,329	2
Institutional	1700, 1710	381	< 0
Recreational	1820, 1840, 1860	3,009	2
Open Land	1900, 1920, 7400, 7430	1,129	1
Agriculture	2110, 2120, 2130, 2140, 2150, 2160, 2210, 2230, 2240, 2410, 2430, 2500, 2540, 2610	50,854	28
Dry Prairie/Shrub	3100, 3200, 3210, 3300	6,646	4
Upland Forests/Flatwoods	4110, 4200, 4280, 4340, 4410	9,251	5
Ruderal	4220, 4240	490	< 0
Wetlands	6170, 6172, 6191, 6200, 6210, 6215, 6216, 6240, 6250, 6300, 6400, 6410, 6430, 6440	81,053	45
Water	5120, 5200, 5300, 7470	6,057	3
Transportation, Communications, Utilities	8115, 8140, 8200, 8310, 8320, 8330, 8340	1,196	1
TOTAL		**178,857**	100

Most of the CWI wetlands (FLUCCS 6000s) are in an area known as the CREW, which is a 60,000-acre watershed located between Lee and Collier counties and provides natural flood protection, water filtration, and critical aquifer recharge (SFWMD 2024b). CREW lands include the Corkscrew Marsh (7,829 acres), Bird Rookery Swamp (8,900 acres), Flint Pen Strand (12,280 acres), and Audubon's CSS (13,118 acres), all of which are located within the CWI Project area and make up 24 percent of the area (see Figure 1-1). The CREW lands are also within the Florida Forever Boundary, which is a designated area established under the Florida Forever Program, a state land acquisition initiative aimed at conserving and protecting natural and cultural resources.

Agricultural land (FLUCCS 2000s) is the second dominant land use within the CWI Project area. These lands are mostly located within the west and northwest portion of the CWI Project area. Agricultural crops providing the highest yield in the southwest Florida include citrus fruits, particularly oranges and grapefruit, and vegetable crops like tomatoes, bell peppers, and cucumbers. Also included in the agricultural land use category are improved, unimproved, and woodland pastures that support the cattle industry.

Land use categories considered urban and built up (FLUCCS 1000s) make up approximately 13 percent (23,310 acres) of the CWI Project area. These areas consist of several subdivisions, including golf communities and rural Golden Gate Estates, plus commercial, industrial, and institutional services. Most

subdivisions are located within the southern and western portion of the CWI Project area with a few developing subdivisions encroaching the center of Corkscrew Road. An unincorporated community, Immokalee, is located in the eastern portion of the CWI Project area. Mining (approximately 2 percent) is also present within the CWI Project area, mostly along the western edge and northeast corner.

Ruderal lands refer to areas that have been disturbed by human or natural events, and the original vegetation has been removed or disrupted. The lands are typically characterized by the presence of invasive plant species, which colonize quickly and thrive in disturbed environments. The two main species in the CWI Project area include the Brazilian pepper (*Schinus terebinthifolius*) and melaleuca (*Melaleuca quinquenervia*), consisting of approximately 490 acres.

Within the CWI Project area, there are designated conservation lands that are protected to preserve their ecological, scenic, and environmental values. These are safeguarded through conservation easements or similar agreements, ensuring the land remains undeveloped and is maintained in its natural state. Eighteen conservation easements (Table 3-2) and 14 preserves (Table 3-3) were identified within the CWI Project area. Of the eighteen conservations easements, ten are held by the SFWMD and show in Figure 3.2. The remaining easements and preserves are shown in Figure 3-3. These lands make up approximately 53 percent (83,497 acres) of the CWI Project area (FNAI 2024 and FDEP 2023).

Table 3-2. Conservation Easements within the CWI Project Area

Easement Name	Easement Holder	Approximate Acres
Quarry Community Development District Conservation Easement	SFWMD	861
Morrison Conservation Easement	SFWMD	1,139
Vita Pima Conservation Easement	SFWMD	36
Parklands Conservation Easement	SFWMD	341
Westclox Road Conservation Easement	FWC	13
Trafford Highlands Estates Conservation Easement	FWC	11
RC Properties IX Conservation Easement	SFWMD	331
Pebblebrooke Lakes Conservation Easement	SFWMD	166
Sanders Pines Conservation Easement	FWC	2
Lake Trafford Impoundment	SFWMD	644
Imperial Flowway	SFWMD	13
Corkscrew Regional Ecosystem Watershed	SFWMD	28,782
SFWMD Environmental Resource Permit (ERP) Conservation Easements	SFWMD	16,214
FDEP ERP Conservation Easements	FDEP	2,835
Harper Brothers	FDEP	60
Collier Village Wetland Mitigation	Collier County	9
Conservation Collier	Collier County	6
Livingston Road Mitigation	Collier County	43

Table 3-3. Preserves within the CWI Project Area

Preserve Name	Habitat Description	Owner	Approximate Acres
Imperial Marsh Preserve	Cypress, mesic and wet flatwoods, and disturbed areas.	Lee County	933
Pine Lake Preserve	Hydric hammock, wet/hydric and mesic flatwoods, some cypress.	Lee County	175
Hidden Cypress Preserve	Wet flatwoods and cypress; Florida panther has been recorded on the property.	Lee County	429
Larry Kiker Preserve	Provides significant benefits for water resources and critical habitat for a variety of endangered and threatened wildlife species, including the Florida panther.	Lee County	4,000
Flint Pen Strand Preserve	Cypress strand and mesic flatwoods. Adjacent to CREW/SFWMD lands.	Lee County	1,016
Gator Hole Preserve	Pine flatwoods, freshwater wetlands, and cypress domes. Part of site contains pasture and Melaleuca monoculture.	Lee County	175
Airport Mitigation Park- Imperial Marsh	Mixture of upland and wetland communities that feed into CREW lands; northern part contains the largest marsh in Lee County (over 1,000 acres) and mature cypress domes that show no signs of logging activity; central and southern sections include cypress domes and forests, pine flatwoods, wet prairies, smaller marshes, and restored farm fields. SFWMD holds a conservation easement on the site.	Lee County	4,154
Wild Turkey Strand Preserve	Pine flatwoods, cypress strand swamps, cypress dome swamps, freshwater marshes, and wet prairies.	Lee County	< 1
Caracara Prairie Preserve	Adjacent to CREW lands; freshwater marshes, oak hammocks, and open prairies.	Collier County	380
Red Maple Swamp Preserve	Wetlands.	Collier County	203
Alligator Flag Preserve	Seasonally flooded cypress-pine-cabbage palm, cypress wetlands, and pine flatwoods.	Collier County	19
Pepper Ranch Preserve	Pine flatwoods, upland and wetland hardwood forests, oak-cabbage palm forest, cypress, freshwater marsh, and wet prairie. Portions of the property are woodland pasture. These diverse habitats support rare animals such as caracara, wood storks and other wading birds, bald eagle, Florida black bear, and Big Cypress fox squirrel. The preserve is within priority Florida panther habitat as identified by state and federal agencies, and telemetry studies indicate significant use of the property by panthers.	Collier County	2,460
Redroot Preserve (Limpkin Marsh Preserve)	Freshwater marshes and mesic pine flatwoods.	Collier County	9
Corkscrew Regional Mitigation Bank	Freshwater marshes and forested wetlands	SFWMD	347
Corkscrew Swamp Sanctuary	Combination of seasonally and permanently flooded wetlands including Bald Cypress forests, wet prairies, pine flatwoods, and freshwater marshes	Audubon Society	13,165
Panther Island Mitigation Bank	Freshwater forested and herbaceous wetlands	Audubon Society	3261

Preserve Name	Habitat Description	Owner	Approximate Acres
Panther Island Mitigation Bank Expansion	Freshwater forested and herbaceous wetlands	Audubon Society	1264

The Florida Ecological Greenways Network (FEGN) was created by the University of Florida and is a state-wide conservation initiative designed to identify and preserve critical wildlife corridors and natural habitats across Florida. Its primary goal is to protect biodiversity, support the movement of wildlife, and maintain ecosystem functions by connecting public and private conservation lands. The network prioritizes lands based on their ecological value, including areas essential for species like the Florida panther (*Puma (=Felis) concolor coryi)* and Florida black bear (*Ursus americanus floridanus*) (University of Florida 2024). Priorities 1, 2, 3 are the most important for protecting an ecologically functional connected conservation lands, called the Florida Wildlife Corridor as part of The Florida Wildlife Corridor Act, signed into law following unanimous bipartisan support by the Florida legislature on June 29, 2021, Florida Statue 259.1055. See Figure 3-4 for the FEGN corridors within the CWI Project area.

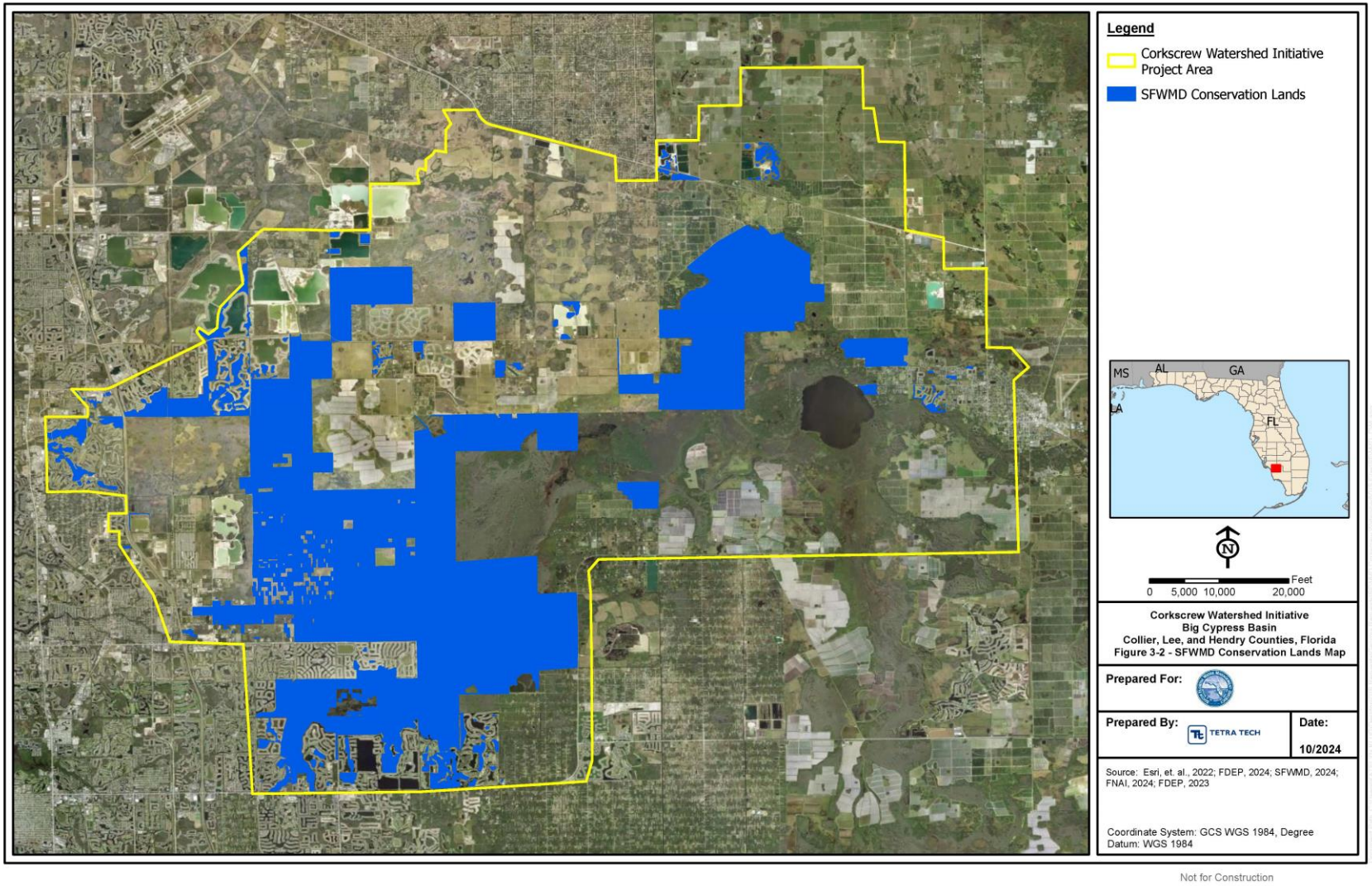


Figure 3-2. SFWMD Conservation Easements within the CWI Project Area

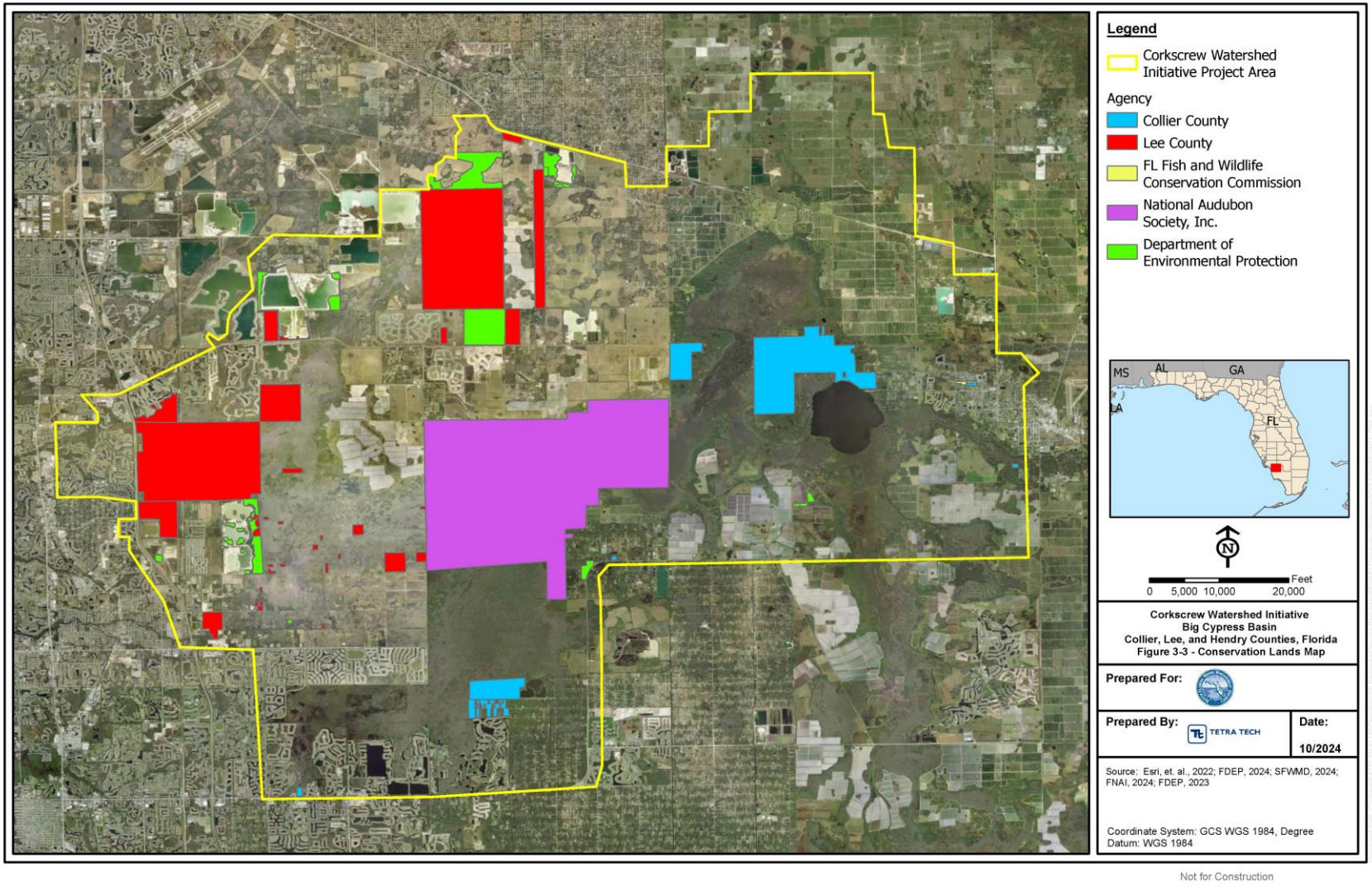


Figure 3-3. Private, County, and State Conservation Easements and Preserves within the CWI Project Area

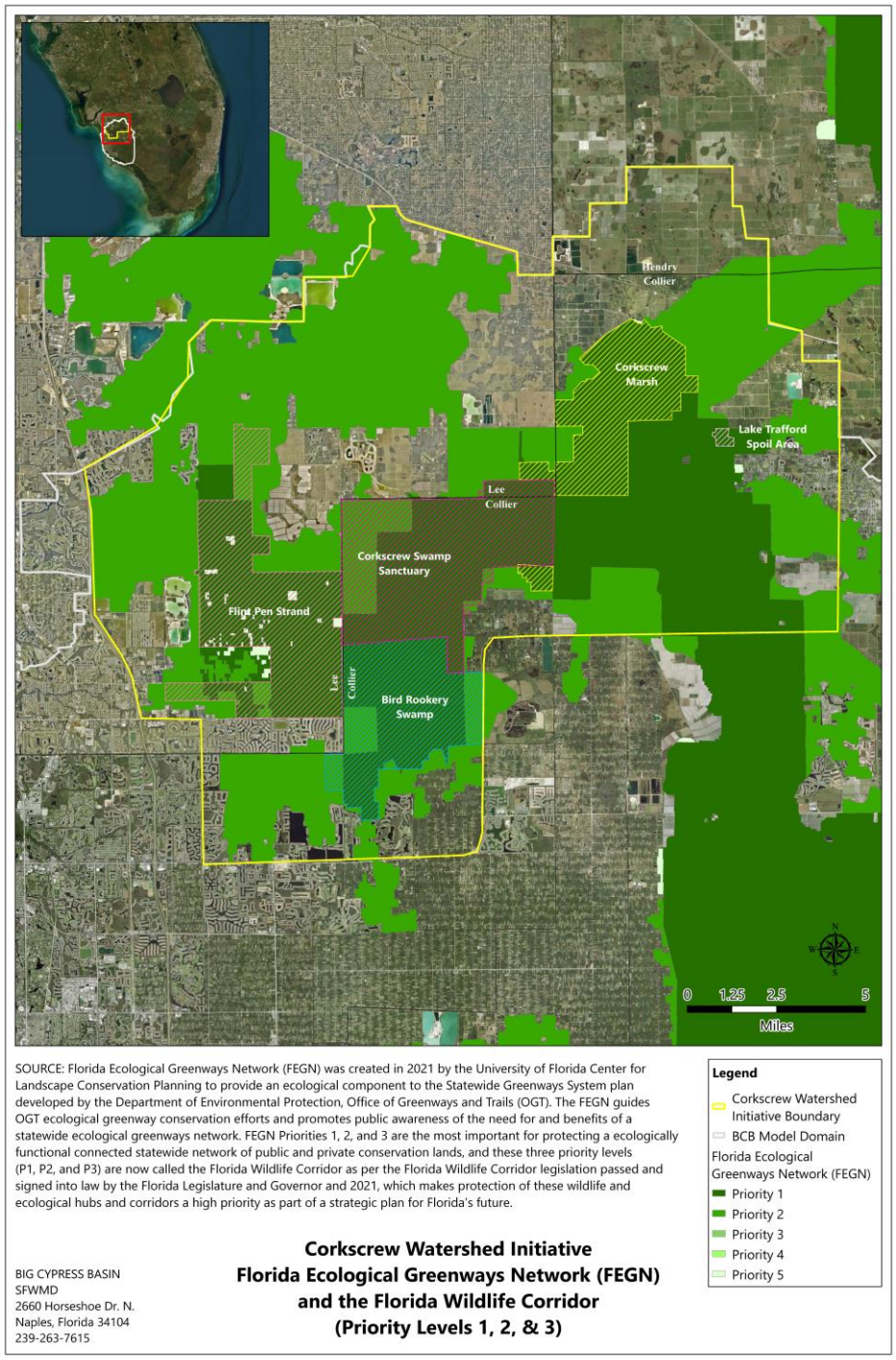


Figure 3-4. Florida Ecological Greenway Network Corridors within the CWI Project Area

3.3 Land Use Data Gaps

Current FLUCCs data are becoming outdated, requiring adjustments to account for recent changes. The region has experienced significant population growth, urban development, and shifts in agricultural practices. This has altered the landscape, with former agricultural areas being converted to residential

and commercial use, and new farming techniques being adopted. Updated FLUCCS data would be necessary for accurate planning, resource management, and sustainable development.

Inconsistences in preserve acres reported by different sources were identified during data collection. Changes in land use, boundary adjustments, or land acquisitions can cause variations in acreage data over time. The inconsistencies are in need for standardized reporting and data verification to ensure accurate and reliable information on preserve acreages for effective conservation and management.

4.0 Topography

4.1 Topographic Data Sources

Various data sources were compiled and processed to develop a digital elevation model (DEM) for the CWI Project area and the BCB refined model. The main source used to develop the project DEM is the Southwest Florida Digital Elevation Model 2018-2019. This dataset was processed by SFWMD at a 1.6-foot resolution from the 2018 U.S. Geological Survey (USGS) light detection and ranging (Lidar) developed by Digital Aerial Solutions, LLC (Digital Aerial Solutions 2018). Survey transects were collected by AIM Engineering in 2022 (AIM 2022) at various locations in the CREW wetland areas. This data was used to check the accuracy of the Lidar at the survey locations. The wetland areas within the project area were delineated and the Lidar topography was adjusted within this boundary to reduce the difference between the Lidar and the survey, as described below. The resulting adjusted DEM will be used as input in the BCB refined model. Figure 4-1 shows the wetland area delineation and the survey locations. The figure shows that when mapped using similar scales, the survey point elevations are substantially lower than the Lidar in most locations, particularly in the central portions of the southern transects.

Other Lidar-based DEM sources were reviewed and processed in the development of the adjusted DEM. These additional sources are the 5-foot FDEM 2007 Lidar for Lee County and Collier County (Lee/Charlotte 2007 FDEM 5-ft | South Florida Water Management District Open Data [arcgis.com]) and the 2018 USGS Lidar processed by Lee County (LiDAR Data [leegov.com]) at a 1-meter resolution.

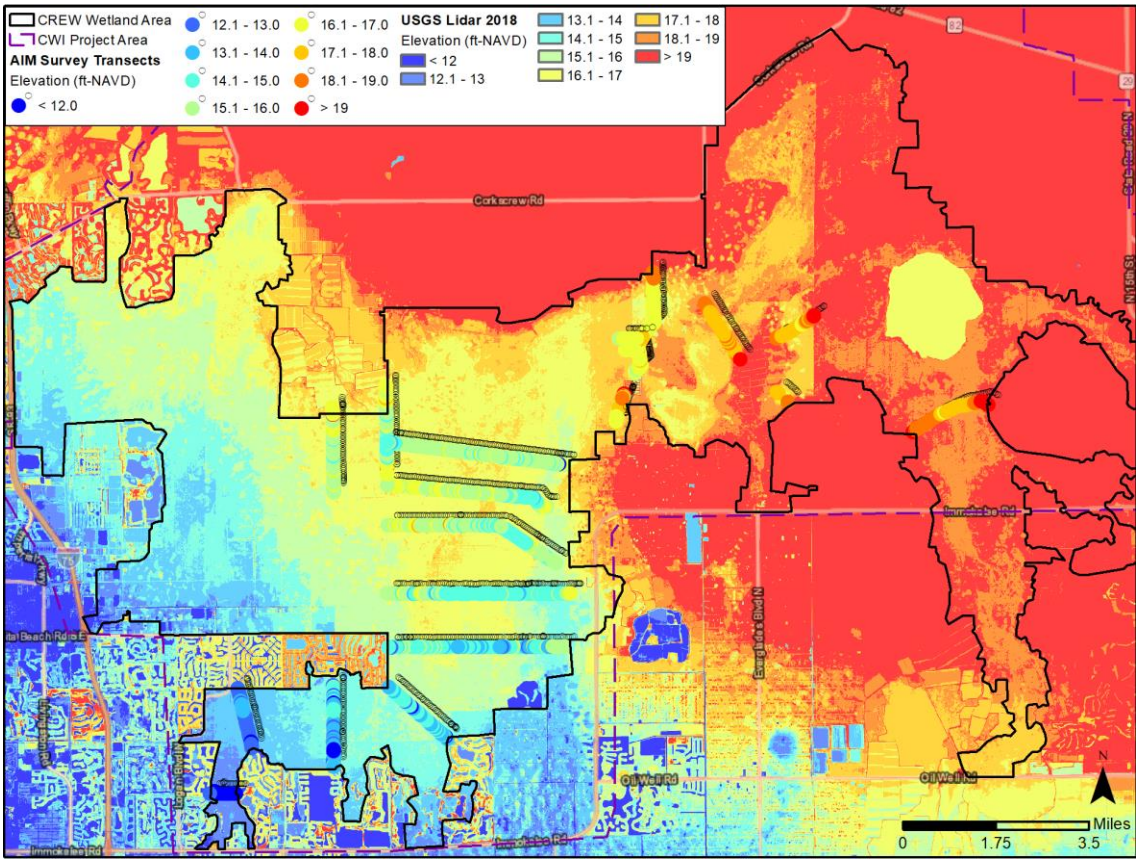


Figure 4-1. Corkscrew Delineated Wetland Areas, 2018 USGS Lidar and Survey Transects

4.2 Topographic Data Summary

A comparison between the 2018 Lidar and the survey transect was conducted revealing large discrepancies in elevation. In most locations surveyed, the Lidar elevations are higher than the survey elevations, up to 4.6 feet, with an average error of 0.9 foot. This is due to the inability of the Lidar to penetrate through dense vegetation and water ponding. The review and comparison of the other Lidar sources with the survey showed that in some areas, the error is reduced. This could be due to a combination of the wet/dry conditions at which the Lidar datasets are flown and the processing techniques are implemented to correct for dense vegetation. Thus, a process to combine the Lidar data sources to calculate the minimum elevation where these datasets intersect was implemented. This processed reduced the average error (i.e., combined minimum Lidar minus survey elevations) to 0.6 foot.

Another issue with processed Lidar datasets is that is some areas artificial changes in elevation occur along straight lines without any real physical meaning. This likely due to data tiles that are flown at different times are pieced together during the development of the Lidar raster grids. Two areas in the Corkscrew Watershed were identified having this issue and were smoothed by applying a correction factor representative of the average change in elevation along the straight lines. Applying this smoothing correction reduced the average error in the survey points to 0.3 foot.

The final step in the DEM adjustment process was to create an association with the wetland vegetation communities in the SFWMD land use map (source described in Section 3) and the error in the survey locations. This association is based on the average difference for the vegetation types with the highest frequencies in the survey transect points. The vegetation types, survey point count for each, and the average difference between the Lidar after the processing previous step and the survey elevations are shown in Table 4-1.

Table 4-1. Vegetation-Lidar Error Association and Adjustment

FLUCCS Code	Description	Point Count	Average Difference (ft)
6170	Mixed Wetland Hardwoods	55	0.9
6172	Mixed Shrubs	131	0.6
6210	Cypress	196	0.5
6215	Cypress- Domes/Heads	11	1.0
6216	Cypress - Mixed Hardwoods	69	0.7
6250	Wet Pinelands Hydric Pine	42	0.5

Figure 4-2 shows the southern transect points error reduction with the three steps described above.

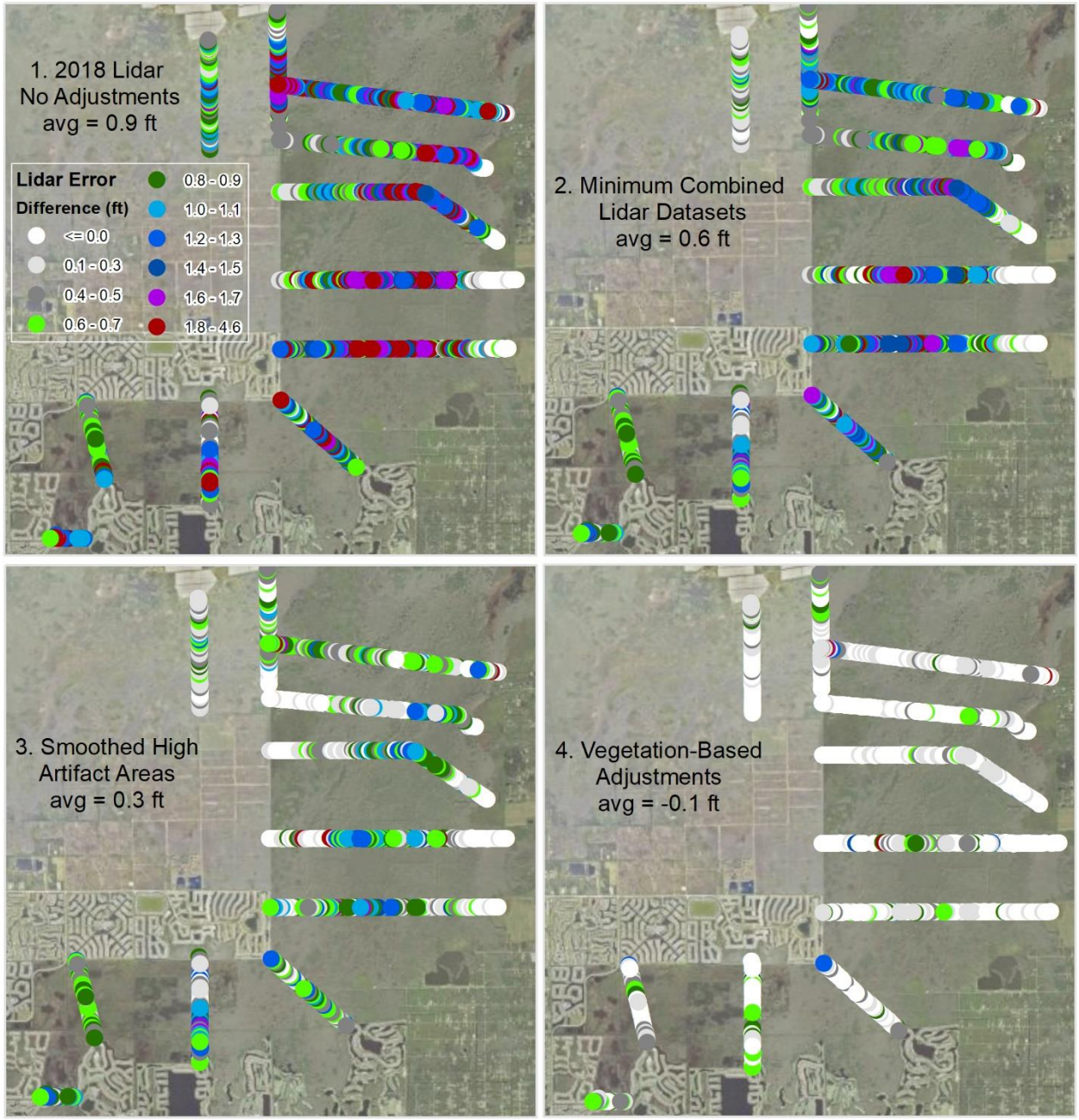


Figure 4-2. Reduction in Elevation Error During DEM Adjustment Processing Steps

4.3 Topographic Data Gaps

The survey transects used to apply an adjustment to the Lidar are available only at discrete locations and for a relatively small area in relation to the size of the Corkscrew/Flint Pen wetland areas adjusted. Thus, the vegetation-Lidar error association used to adjust the Lidar are based on a limited ground truth dataset.

5.0 Wetlands

5.1 Wetlands Data Sources

Wetland coverage data within the CWI Project area was obtained from the National Wetlands Inventory (NWI). The NWI is a data set developed by the U.S. Fish and Wildlife Service (USFWS) utilizing high-altitude aerials imagery to depict potential wetland and open water habitats. The NWI data was also compared to the SFWMD land cover and land use 2017-2019 data set. The FLUCCS uses codes in the 5000s and 6000s to classify open water and wetland areas, respectively.

5.2 Wetlands Data Summary

The NWI classifies wetlands by using the Cowardin classification system (Cowardin et al. 1979). The Cowardin system organizes wetlands through landscape position, vegetation cover, and hydrologic regime. This system recognizes five major wetland types including marine, estuarine, lacustrine, palustrine, and riverine. The system uses a set of letters and numbers to describe wetland habitats. The codes used correspond to classification nomenclature that describes the wetland habitat. The codes include features such as hydrology, water depths and duration, vegetative cover, dominant substrate, and landscape position (see Figure 5-1 and Figure 5-2). For instance, one of the NWI-mapped units within the CWI Project area is PEM1C, which corresponds to Palustrine (P), Emergent (EM), Persistent (1), Seasonally Flooded (C). See Tables 5-1 and 5-2 for NWI wetlands and FLUCCs wetlands, respectively, and Figure 5-3 for NWI wetlands within the CWI Project area.

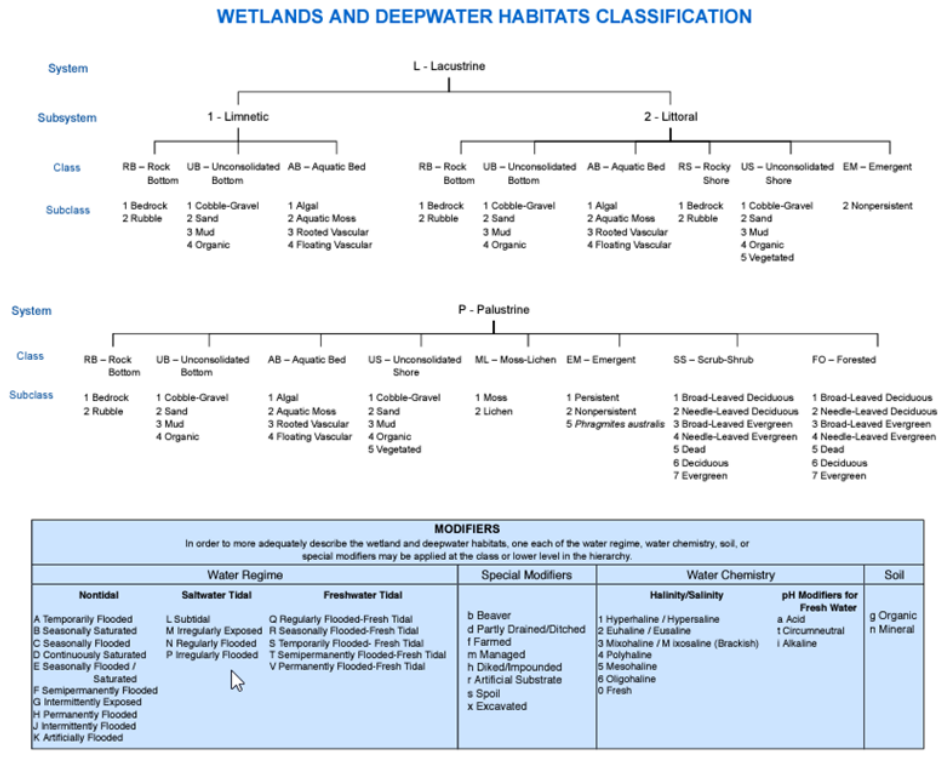
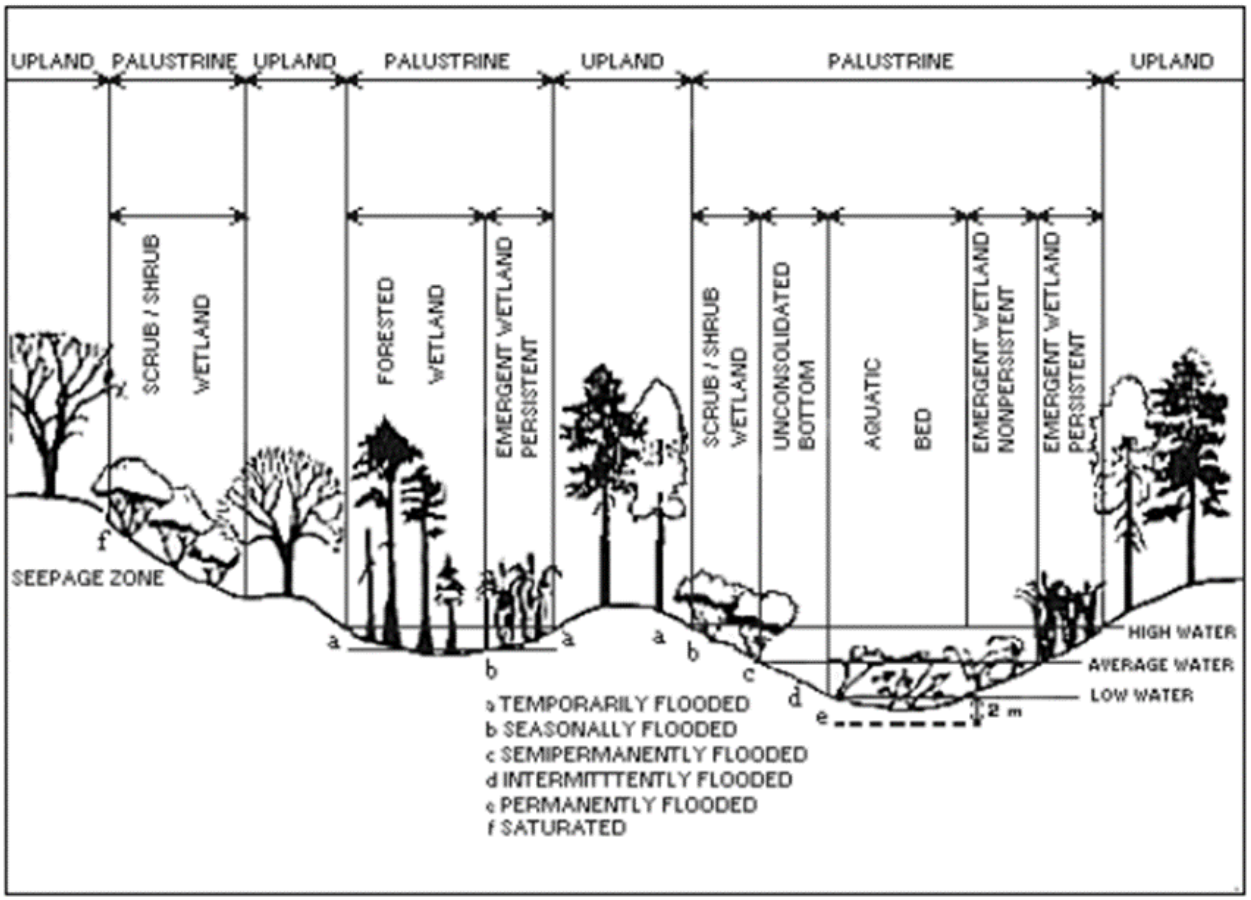


Figure 5-1. Cowardin System Breakdown for Lacustrine and Palustrine Habitats within the CWI Project Area

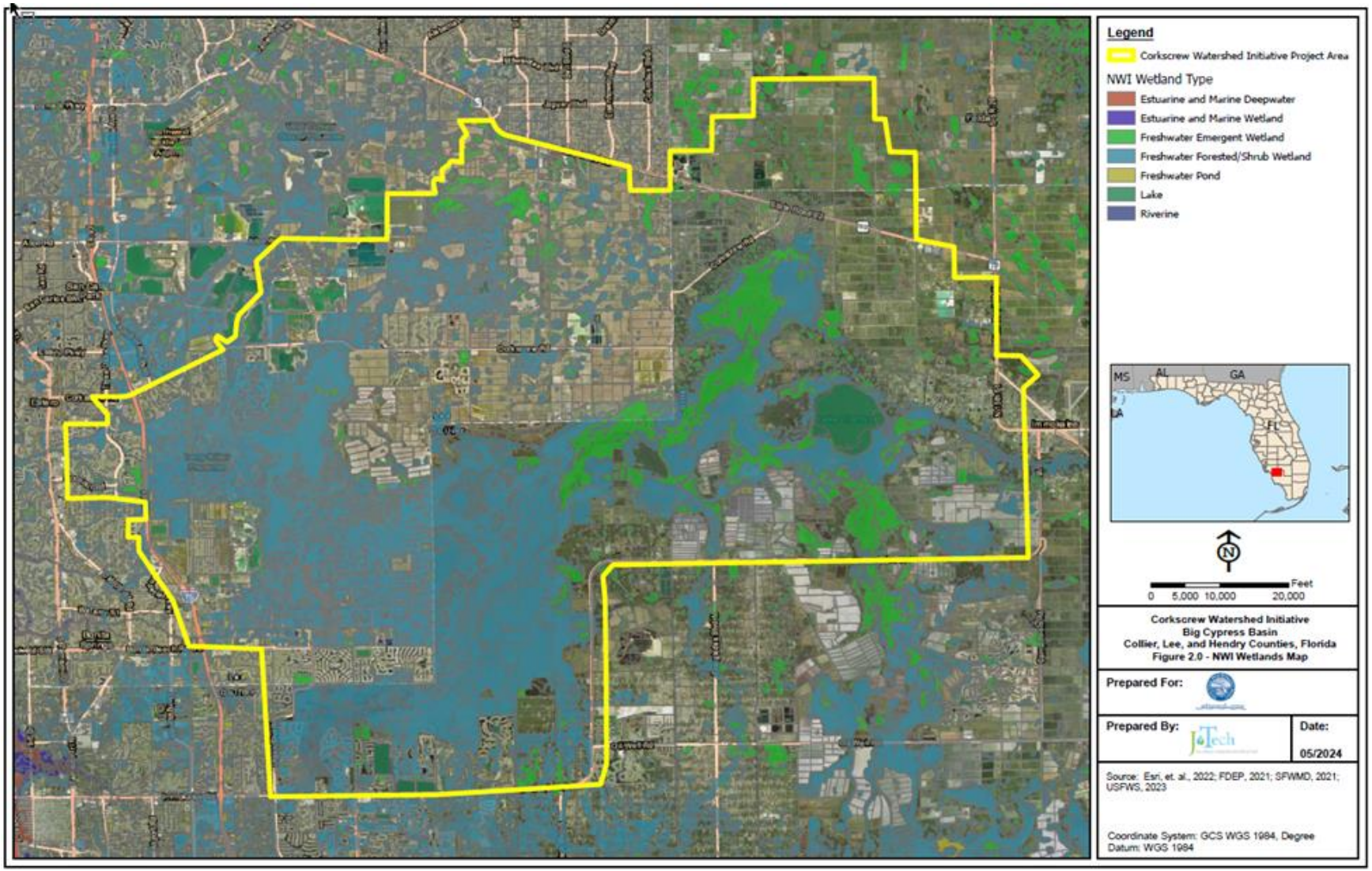


Source: Cowardin et al. 1979

Figure 5-2. Distinguishing Features and Examples of Habitats in Palustrine System.

Natural floodplains provide flood risk reduction benefits by slowing runoff and storing floodwater. They serve as natural extensions of rivers, accommodating excess water during periods of heavy rainfall. When rivers overflow their banks, floodplains absorb and spread-out water, reducing the risk of flooding downstream. This natural buffering effect prevent flash floods and helps maintain a stable water flow throughout the watershed. Floodplains also provide other benefits of considerable economic, social, and environmental value. Some of these benefits include fish and wildlife protection, surface water quality maintenance, groundwater recharge, biological productivity and higher quality recreational opportunities like fishing, bird watching, and boating.

The Federal Emergency Management Agency (FEMA) categorizes flood hazards zones to help assess flood risk for properties and guide planning, building standards, and insurance requirements. A 100-year floodplain are areas with one percent annual change of flooding and a 500 year floodplain are areas with minimal flood hazards. See Figure 5-4 for 2024 FEMA flood hazard zones within the CWI Project area.


Legend
Corkscrew Watershed Initiative Project Area
NWI Wetland Type
Estuarine and Marine Deepwater
Estuarine and Marine Wetland
Freshwater Emergent Wetland
Freshwater Forested/Shrub Wetland
Freshwater Pond
Lake
Riverine
MS
AL
GA
FL
N
0 5,000 10,000 20,000 Feet
Corkscrew Watershed Initiative
Big Cypress Basin
Collier, Lee, and Hendry Counties, Florida
Figure 2.0 - NWI Wetlands Map
Prepared For:
Prepared By:
Date:
05/2024
Source: Esri, et. al., 2022; FDEP, 2021; SFWMD, 2021; USFWS, 2023
Coordinate System: GCS WGS 1984, Degree
Datum: WGS 1984

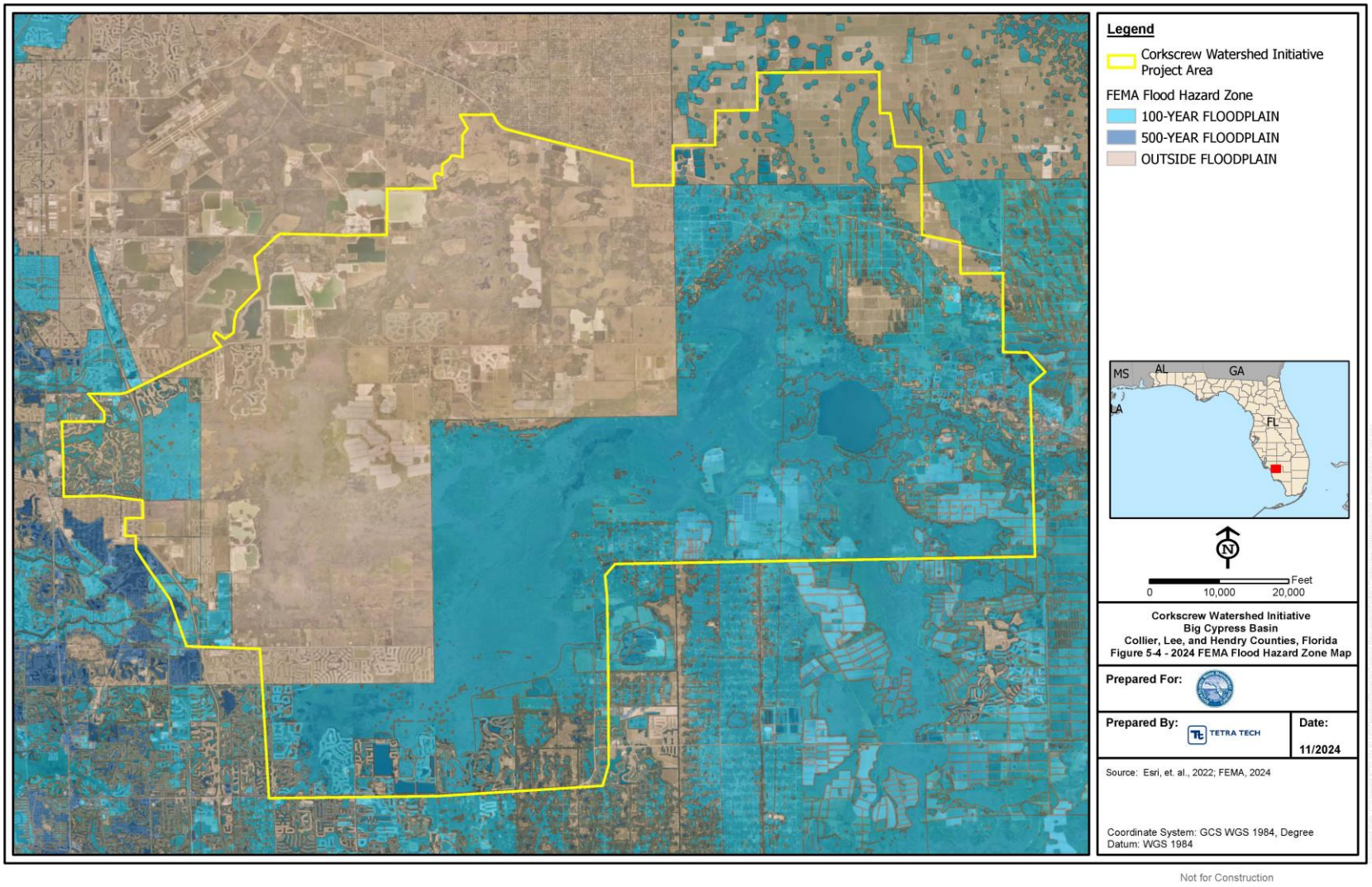


Figure 5-4. 2024 FEMA Flood Hazard Zones within the CWI Project Area

Table 5-1. Summary of NWI Wetlands within the CWI Project Area

NWI Code	Description	Area (acres)	% of Total NWI Wetlands in CWI Area
PEM	Palustrine (Freshwater) Emergent	18,266	19
PFO	Palustrine (Freshwater) Forested	54,146	58
PSS	Palustrine (Freshwater) Scrub/Shrub	14,998	16
PUB	Palustrine (Freshwater) Unconsolidated Bottom (ponds)	1,662	2
L1UB/L1AB/L2UB/L2US	Lacustrine Limnetic Unconsolidated Bottom	3,251	3
R2AB/R2UB/R4SB/R5UB	Riverine	1,596	2
TOTAL		**93,919**	**100**

Table 5-2. Summary of FLUCCS Wetlands within the CWI Project Area

FLUCCS Code	Description	Area (acres)	% of Total FLUCCS Wetlands in CWI Area
6170	Mixed Wetland Hardwoods	4,233	5
6172	Mixed Wetland Shrubs	11,787	15
6191	Wet Melaleuca	885	1
6200	Wetland Coniferous Forest	2,369	3
6210	Cypress	23,417	29
6215	Cypress Domes/Heads	1,890	2
6216	Cypress – Mixed Hardwoods	2,791	3
6240	Cypress – Pine – Cabbage Palm	1,918	2
6250	Hydric Pine Flatwood	9,179	11
6300	Wetland Forest Mixed	2,537	3
6400	Vegetated Non-Forested Wetland	23	< 0
6410	Freshwater Marsh	18,175	22
6430	Wet Prairie	1,630	2
6440	Emergent Aquatic Vegetation	183	< 0
TOTAL		**81,053**	**100**

As stated in Section 3 of this Data Discovery Technical Memorandum, the majority of the CWI wetlands are in the area known as the CREW. The CREW is a 60,000-acre watershed located between Lee and Collier counties that provides natural flood protection, water filtration, and critical aquifer recharge (SFWMD 2024b). CREW lands include the Corkscrew Marsh (7,829 acres), Bird Rookery Swamp (8,900 acres), Flint Pen Strand (12,280 acres), and Audubon's Corkscrew Swamp Sanctuary (13,118 acres), all of which are located within the CWI Project area. These lands make up 24 percent of the CWI Project area.

5.3 Wetlands Data Gaps

Wetland data from both the NWI and land cover and land use data sets is based on aerial interpretation. Neither data set provides jurisdictional boundaries that would be needed for regulatory purposes.

Additionally, data can become quickly outdated due to surface water management alterations, urban development, and shifts in agricultural practices that alter the landscape. Site-specific and field-verified data would be necessary for implementation of any proposed projects.

6.0 Drainage Features

6.1 Drainage Feature Data Sources

The following data sources were used to compile information on the various drainage features in the Corkscrew Watershed:

- The main data source for primary and secondary canals is the SFWMD Arc Hydro Enhanced Database (AHED) Canal and Streams database, and the main data source for primary structures is the AHED Structures database, downloaded from the SFWMD Hydrography GIS site (South Florida Water Management District Open Data [arcgis.com]).
- Detailed geometric and operations data for the BCB primary structures are found in Water Control Operations Atlas (SFWMD 2020). In addition, flow rating reports developed by SFWMD for all the BCB structures were obtained.
- Collier County provided a geodatabase with information for secondary and tertiary canals and structures. This information is also available in the Collier County Stormwater Management Facilities data viewer site (Collier County Stormwater Management Facilities [arcgis.com]).
- Lee County provided survey data for Kehl Canal and Imperial River and data for the Kehl Canal structure (recorded water levels, flow calculations and gate openings starting on 2019). Lee County also provided stormwater drainage shapefiles that contain the DOT structures, flow ways and pipes along some of the major roads.
- Audubon provided information on culvert crossings along roads and trails within the CREW areas and well monitoring data.
- Information on road crossings along Immokalee Slough was obtained from data used in support of the Immokalee Regional Water Plan study.

Additionally, site visits were conducted by the project team to complete and verify hydraulic connections and structure information, and ERP documentation was reviewed to resolve some of the data gaps in key areas with a focus on connections that can contribute to the over-drainage of the CREW wetland areas. The permit documents reviewed are listed in Table 6-1.

Table 6-1. ERP Documents Reviewed for Drainage Features

Permit Number	Project Name
11-0136042-01, -02	Cocohatchee Canal Improvements
11-02234-P	Heritage Bay
36-109420-P	Bonita Grande RPD
11-02031-P	Esplanade (F.K.A. Mirasol)
11-106362-P	Immokalee Road Rural Village
11-03949-P	Rural Lands West
11-02146-P	Lantana (F.K.A. Vita Tuscana)
11-00736-S	Saddlebrook Lakes
11-03272-P	Immokalee Road

36-00807-S	Liberty Youth Ranch
36-05889-P-02	Morton Avenue

6.2 Drainage Feature Data Summary

Figure 6-1 shows the AHED canals and structures within the project area. On the west side on the Flint Pen portion of the CREW wetland area, the Kehl Canal structure (fixed weir with gated culverts) controls the flow from the Corkscrew Swamp flow way, which then discharges to the Imperial River and into the Gulf of Mexico. The Kehl Canal fixed weir has a crest elevation of 8.7 feet NAVD.

The COCO3 structure (two-bay gated structure with fixed weir) controls the flow from the western discharge of the Bird Rookery Swamp flow way. Flow from COCO3 flows west in the western Cocohatchee Canal toward the COCO2 structure, then to the COCO1 structure and into the Gulf of Mexico. Optimal wet season for COCO3 control elevations range between 10.24 feet and 8.74 feet NAVD, and for the dry season range between 10.74 feet and 9.74 feet NAVD.

The Cork2 and Cork3 structures control the flow from the eastern discharge of Bird Rookery Swamp flow way. Flow from Cork3 flows south toward COCO4, where it can go east toward Cork1 or south through the CUR1 structure. Flow from Cork2 flow south toward the Cork1 structure where it will flow south connecting to the Golden Gate 3 basin. The optimal wet control elevations for Cork2 range between 10.2 feet and 8.7 feet NAVD, and for the dry season range between 11.2 feet and 10.2 feet NAVD. The optimal wet control elevations for Cork3 range between 12.71 feet and 10.71 feet NAVD, and for the dry season range between 13.71 feet and 11.71 feet NAVD.

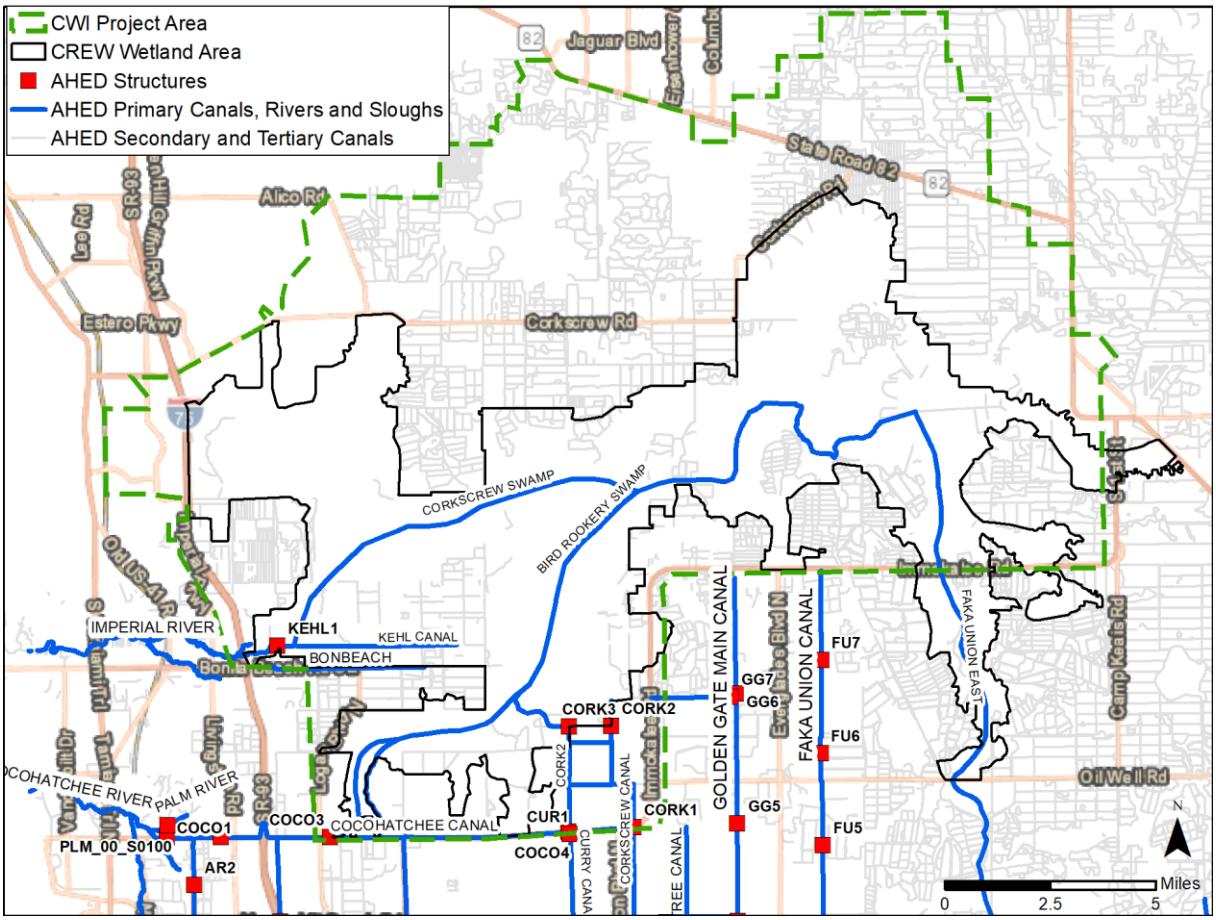


Figure 6-1. SFWMD AHED Database Drainage Features

Discharges from the Corkscrew wetland system to the primary canal structures described above occurs via direct overland flow into the canals, uncontrolled culverts, fixed weirs, and levee breaches. To develop effective restoration strategies, it is important to identify these drainage connections and include them in the refined model. Figure 6-2 shows locations of drainage connections identified that may be contributing to the over-drainage of Corkscrew wetlands.

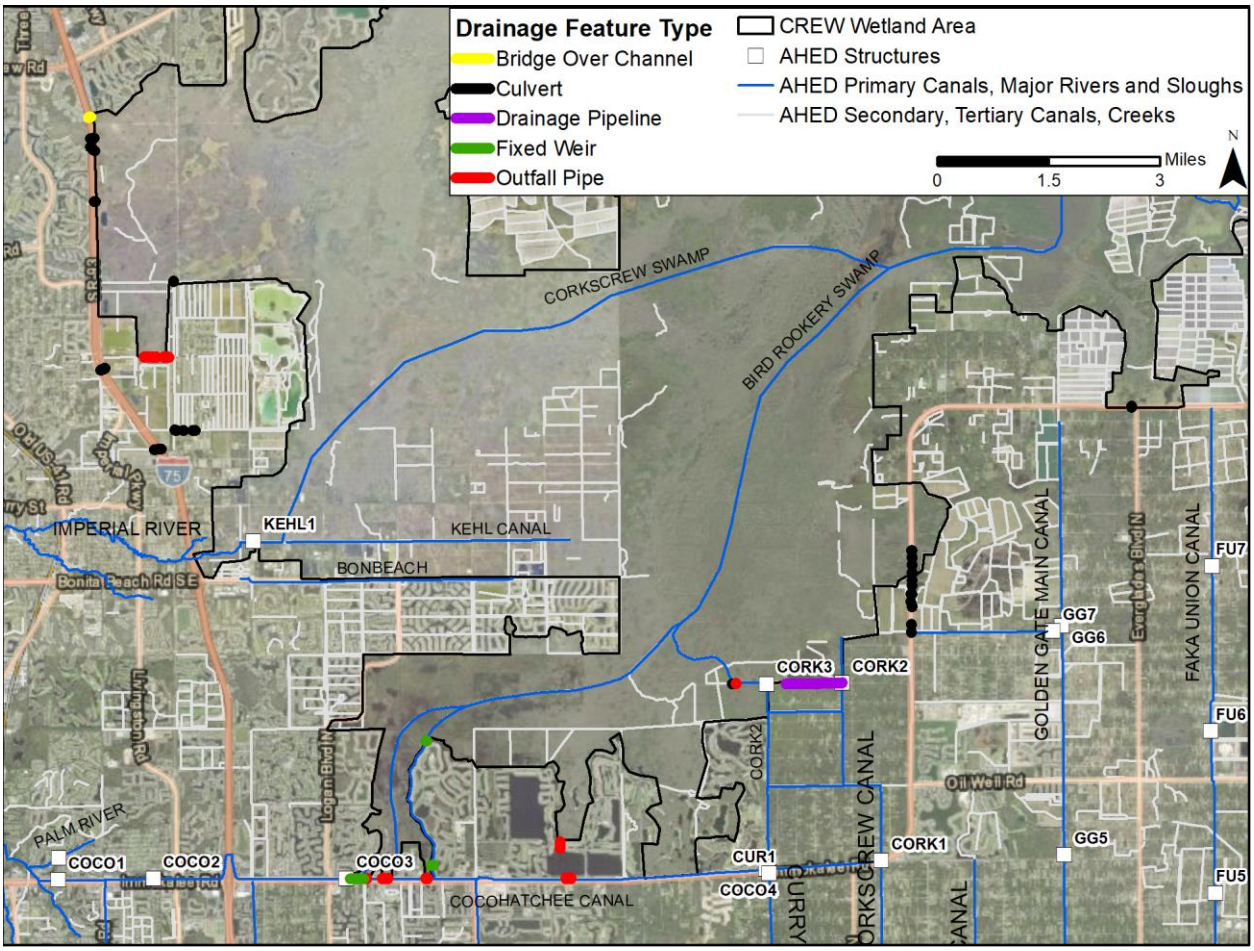


Figure 6-2. Existing Structures that Drain CREW

6.3 Drainage Feature Data Gaps

Drainage data gaps are invert elevations and sizes for several structures in some of the available data sources, unknown connections, and canal survey data. Historic operations or operation protocols are unknown or limited for some of the controllable structures. Monitoring data for some of the primary structures are missing, which limits the ability to estimate historic flows.

7.0 Hydrologic Data

This section provides an inventory and summary of key hydrologic data, surface water flows, surface water levels, and groundwater levels across the CWI Project area.

7.1 Hydrologic Data Sources

This task relied on different data sources, listed in Table 7-1, along with the types and sources of the available hydrologic data.

Table 7-1. Hydrologic Data Sources

Data	Source
Surface Water Flows	DBHYDRO, Water Quality Portal (WQP)
Surface Water Levels	DBHYDRO, WQP, USGS National Water Information System (NWIS), CCS
Groundwater Levels	DBHYDRO, WQP, USGS NWIS, Lee County

Multiple electronic databases were searched for hydrologic data within the CWI Project area including the following:

- The SFWMD primary environmental database, DBHYDRO[1], which stores hydrologic, meteorologic, hydrogeologic and water quality data for the District.
- The Water Quality Portal (WQP[2]), a cooperative service sponsored by the USGS and the EPA and maintained by the National Water Quality Monitoring Council. The WQP integrates publicly available water quality data from the USGS National Water Information System (NWIS) and the EPA Water Quality Exchange (WQX) Data Warehouse (formerly STORET).
- The USGS NWIS[3] database, to obtain historic daily water level and flow data.
- The Lee County Natural Resources provides access to data from a network of monitoring well stations.

The National Audubon Society, which owns and manages the Corkscrew Swamp Sanctuary (CSS), also supplied water level data within the sanctuary.

7.2 Hydrologic Data Summary

This section provides an overview of the available data for each type of hydrologic data type. Summary tables show basic statistics that indicate the period of record and data abundance over that period (or percent completeness) for each station, along with figures that display the locations of the stations. For data-abundant stations, Appendix A provides a comprehensive station summary with detailed statistics, timeseries graphs, and box and whisker graphs. Timeseries graphs help to detect trends over time and identify any seasonality, outliers, data gaps, or sudden changes in the hydrologic data. Box and whisker graphs are also useful to compare the data spread and range over time, to identify outliers, and to show the data distribution. These graphs were created by year, decade, and month.

[1] https://www.sfwmd.gov/science-data/dbhydro
[2] https://www.waterqualitydata.us/
[3] https://waterdata.usgs.gov/nwis

7.2.1 Surface Water Flows

Based on the available data, there were a total of 10 unique surface water flow stations within the CWI Project area (Figure 7-1 and Table 7-2) ranging from June 1940 to May 2024. The eight DBHYDRO stations tended to be more complete (61 to 100 percent) with limited data from the two WQP database stations (less than 2 percent). However, one station, COCO4_W (Cocohatchee canal weir overflow) from DBHYRO, reported only zero cubic feet per second (cfs) over the 4-year period of record.

One of the primary stations that is important to the study is COCO3_S, which measures flow at the Structure 3 spillway on the Cocohatchee Canal at Palm River Road. This station has a complete record from 2000 to 2024 and shows the variability of surface water flows in the Project area. Figure 7-2 presents a detailed time series and annual box plots for this station, which indicate an average flow of 17.8 cfs and a range from -106 to 507 cfs. September 2017 recorded the peak flow at 507 cfs, indicating the seasonality of flows, which primarily occur from July to November (Appendix A).

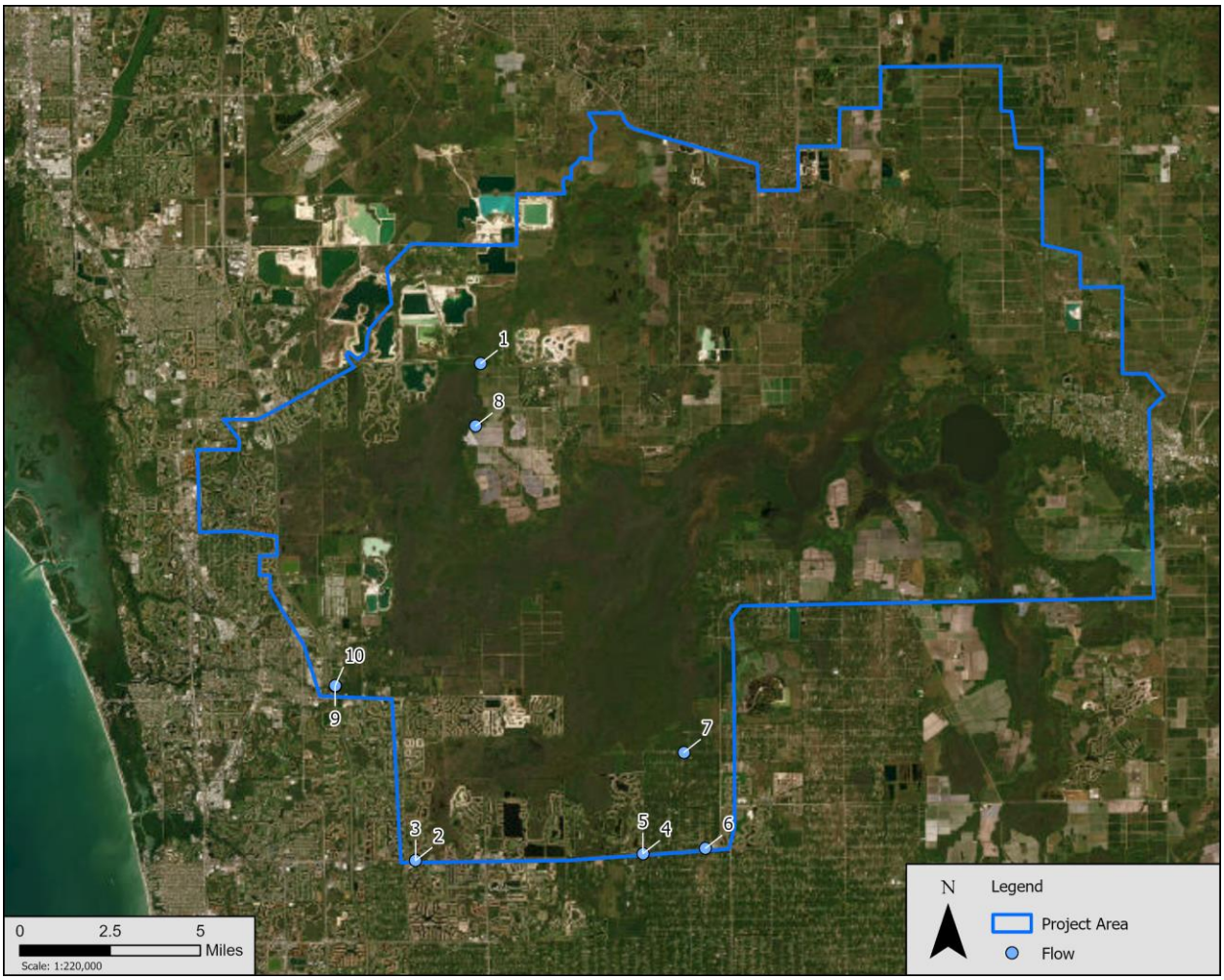


Figure 7-1. Corkscrew Watershed Initiative Study Area – Surface Water Flow Stations

The map ID numbers in the above figure correspond to the stations. Refer to Table 7-2 for the station names and data source.

Table 7-2. Surface Water Flow Inventory – Canal/Stream Stations

ID	Station	Lat	Long	Period of Record		% Complete	Avg (cfs)	Min (cfs)	Max (cfs)	StDev	Count	Source
1	21FLEECO_WQX-IMPRGR90	26.4513	-81.6911	Jul-09	Nov-17	1	10.1	0.00	55.0	12.8	41	WQP
2	COCO3_S	26.2731	-81.7172	Jan-00	May-24	100	17.8	-106	507	45.9	8,880	DBHYDRO
3	COCO3_W	26.2731	-81.7172	Jan-00	May-24	100	0.30	-17.8	68.2	2.33	8,880	DBHYDRO
4	COCO4_S	26.2756	-81.6261	Jul-17	May-24	99	5.89	-36.1	173	25.5	2,479	DBHYDRO
5	COCO4_W	26.2756	-81.6261	Jul-17	May-24	100	0.00	0.00	0.00	0.00	2,503	DBHYDRO
6	CORK1_C	26.2775	-81.6011	Jan-22	May-24	97	17.8	0.00	416	58.9	821	DBHYDRO
7	CORK2_C	26.3119	-81.6097	Oct-22	May-24	100	3.41	0.00	50.8	7.18	577	DBHYDRO
8	ESTERO S	26.4289	-81.6931	Feb-87	May-24	99	10.2	0.00	511	23.1	13,467	DBHYDRO
9	IMPERIAL	26.3356	-81.7494	Jun-40	May-24	61	100	0.00	2,890	183	18,841	DBHYDRO
10	USGS-02291500	26.3358	-81.7494	Jun-87	Aug-90	2	94.3	3.70	487	138	27	WQP

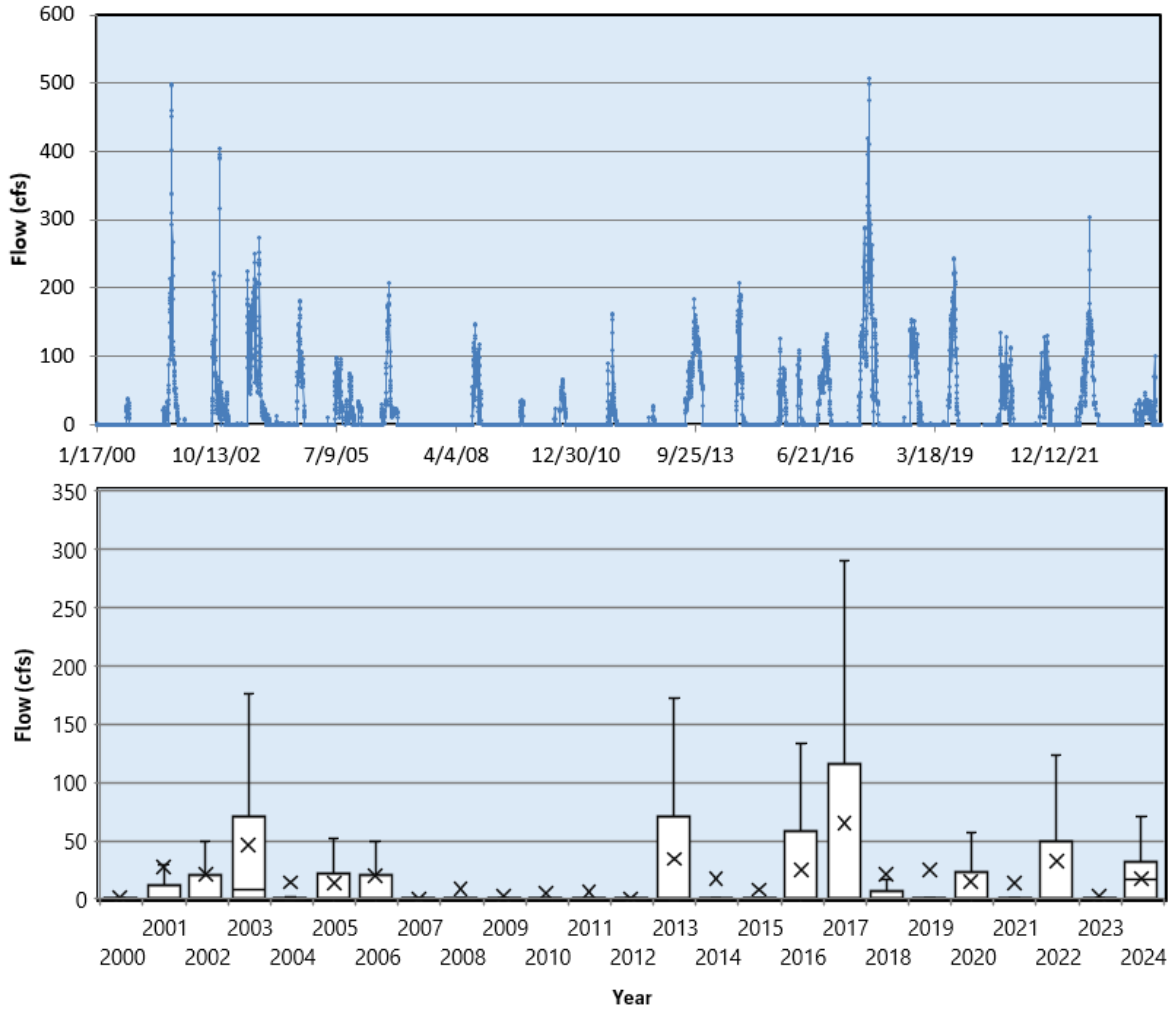


Figure 7-2. Surface Water Flow Detail Timeseries and Annual Box Plot for Station COCO3_S (January 2000 – May 2024, Spillway on the Cocohatchee Canal – Structure 3 at Palm River Road)

7.2.2 Surface Water Levels

This section presents an overview of the available data on surface water levels in the CWI Project area, categorized by station type such as canal drainage systems, lakes, and wetland areas. The data collection period, frequency, units, and completeness vary by station and data source.

Canal Stations

As shown in Figure 7-3 and Table 7-3, there were a total of 14 distinct surface water level canal stations within the CWI Project area, with data records ranging from December 1979 to May 2024. The majority of the canal stations (11 stations) were from the DBHYDRO database, which had high data completeness (exceeding 96 percent). The remaining three stations were from the WQP database, which had low data completeness (less than 3 percent).

There are three primary canal stations that are important for understanding the surface water levels in the Project area. These stations are CORK3, COCO3, and KEHL, which are located on the Corkscrew,

Cocohatchee, and Kehl canals, respectively. The data for these stations were obtained from DBHYDRO and spanned from 2000 to 2024, except for CORK3, which had data from 2004 to 2024.

The surface water level data for these stations showed seasonal and interannual variations, as well as differences between headwater and tailwater levels at the control structures. Figure 7-4 through Figure 7-6 present detailed timeseries and annual box plots for these stations. CORK3 had an average water level of 12.0 feet NAVD 88, with a range from 9.2 to 15.4 feet. The water levels at this station were typically lower from April to June and higher from September to November. COCO3 had both headwater and tailwater level data, which had similar ranges (5.4 to 12.2 feet for headwater and 5.5 to 12.2 feet for tailwater) and averages (8.8 feet for headwater and 8.2 feet for tailwater). The water levels at this station also followed a seasonal pattern observed at CORK3. KEHL also had headwater and tailwater level data, which had different ranges (3.1 to 14.4 feet for headwater and 2.9 to 13.9 feet for tailwater) and averages (7.5 feet for headwater and 5.2 feet for tailwater). The water levels at this station showed more variation, with headwater levels being lower in April and May and higher in August to October, and tailwater levels being low and stable from December to June with higher average levels in September.

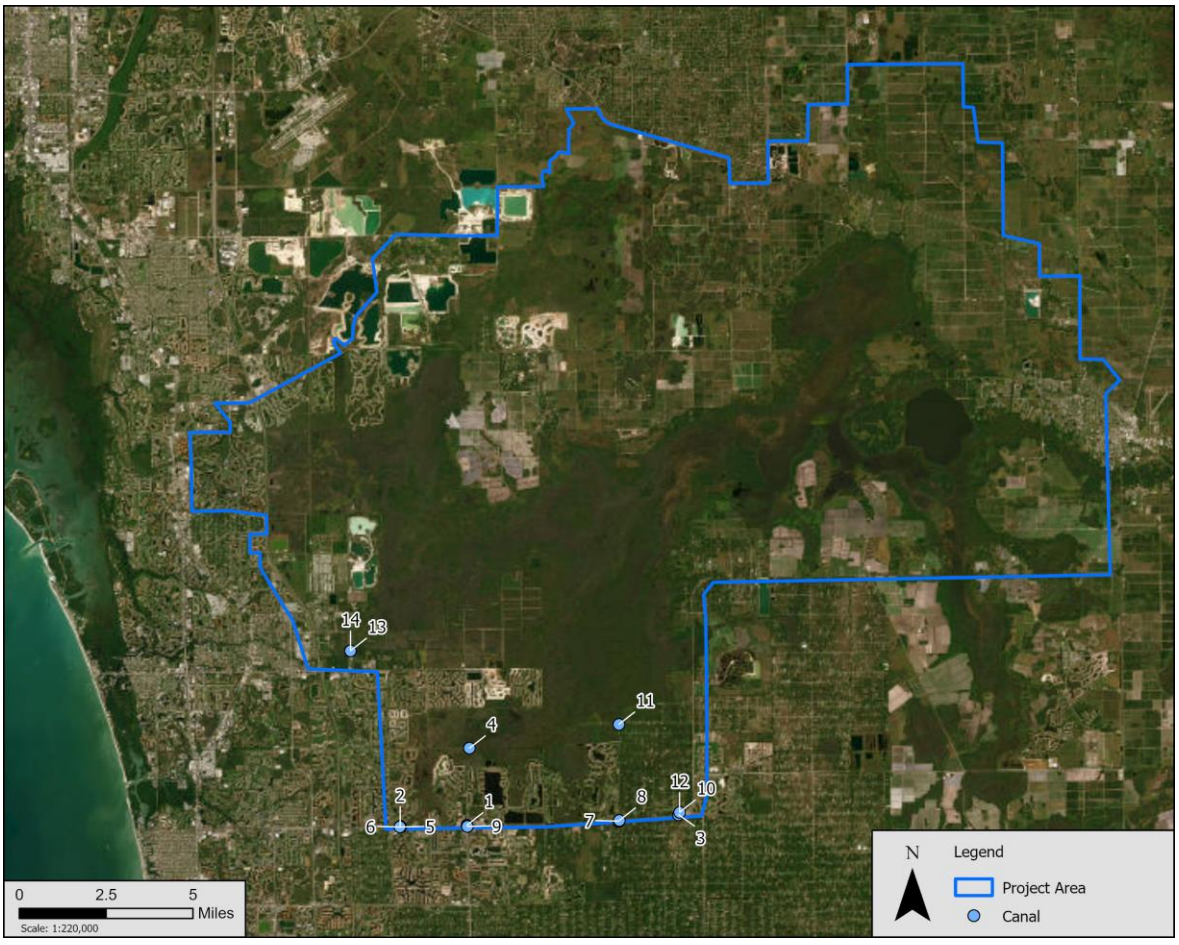


Figure 7-3. Corkscrew Watershed Initiative Study Area – Surface Water Level Canal Stations

The map ID numbers in the above figure correspond to the stations. Refer to Table 7-3 for the station names and data source.

Table 7-3. Surface Water Level Inventory – Canal Stations

ID	Station	Lat	Long	Units[1/]	Period of Record		% Complete	Avg	Min	Max	StDev	Count	Source
1	21FLCOLL_WQX-BC26	26.2738	-81.6893	ft MSL	Oct-09	Sep-16	3	10.7	8.44	13.1	1.01	69	WQP
2	21FLCOLL_WQX-COCO3	26.2733	-81.7171	ft MSL	Dec-15	Sep-16	3	9.61	0.40	11.4	3.49	9	WQP
3	21FLCOLL_WQX-CORK@846	26.2777	-81.6012	ft MSL	Jun-97	Sep-16	1	9.91	7.89	12.6	1.00	88	WQP
4	951EXT	26.3025	-81.6883	ft	Jun-96	Jan-17	96	11.3	9.48	14.4	1.64	7,212	DBHYDRO
5	COCO3_H	26.2731	-81.7169	ft	Jan-00	May-24	99	8.82	5.39	12.2	1.26	8,828	DBHYDRO
6	COCO3_T	26.2731	-81.7172	ft	Jan-00	May-24	100	8.16	5.51	12.2	0.99	8,876	DBHYDRO
7	COCO4_H	26.2753	-81.6261	ft	Dec-16	May-24	100	9.53	7.62	12.9	1.22	2,700	DBHYDRO
8	COCO4_T	26.2756	-81.6258	ft	Dec-16	May-24	100	9.52	6.95	12.8	1.49	2,700	DBHYDRO
9	COCOH.95_H	26.2733	-81.6892	ft	Dec-79	Oct-12	96	9.30	5.83	13.8	1.35	11,505	DBHYDRO
10	CORK1_H	26.2786	-81.6008	ft	Jul-23	May-24	100	10.6	8.18	11.6	1.04	291	DBHYDRO
11	CORK3	26.3114	-81.6261	ft	Jul-04	May-24	100	12.0	9.20	15.4	1.47	7,205	DBHYDRO
12	GOLD.846	26.2786	-81.6008	ft	Jan-22	Jul-23	100	9.71	6.76	11.8	1.49	571	DBHYDRO
13	KEHL_H	26.3389	-81.7378	ft	Jan-03	May-24	99	7.49	3.14	14.4	2.20	7,713	DBHYDRO
14	KEHL_T	26.3389	-81.7378	ft	Jan-03	May-24	98	5.15	2.89	13.9	2.18	7,629	DBHYDRO

1/ ft = ft NAVD 88; MSL = mean sea level

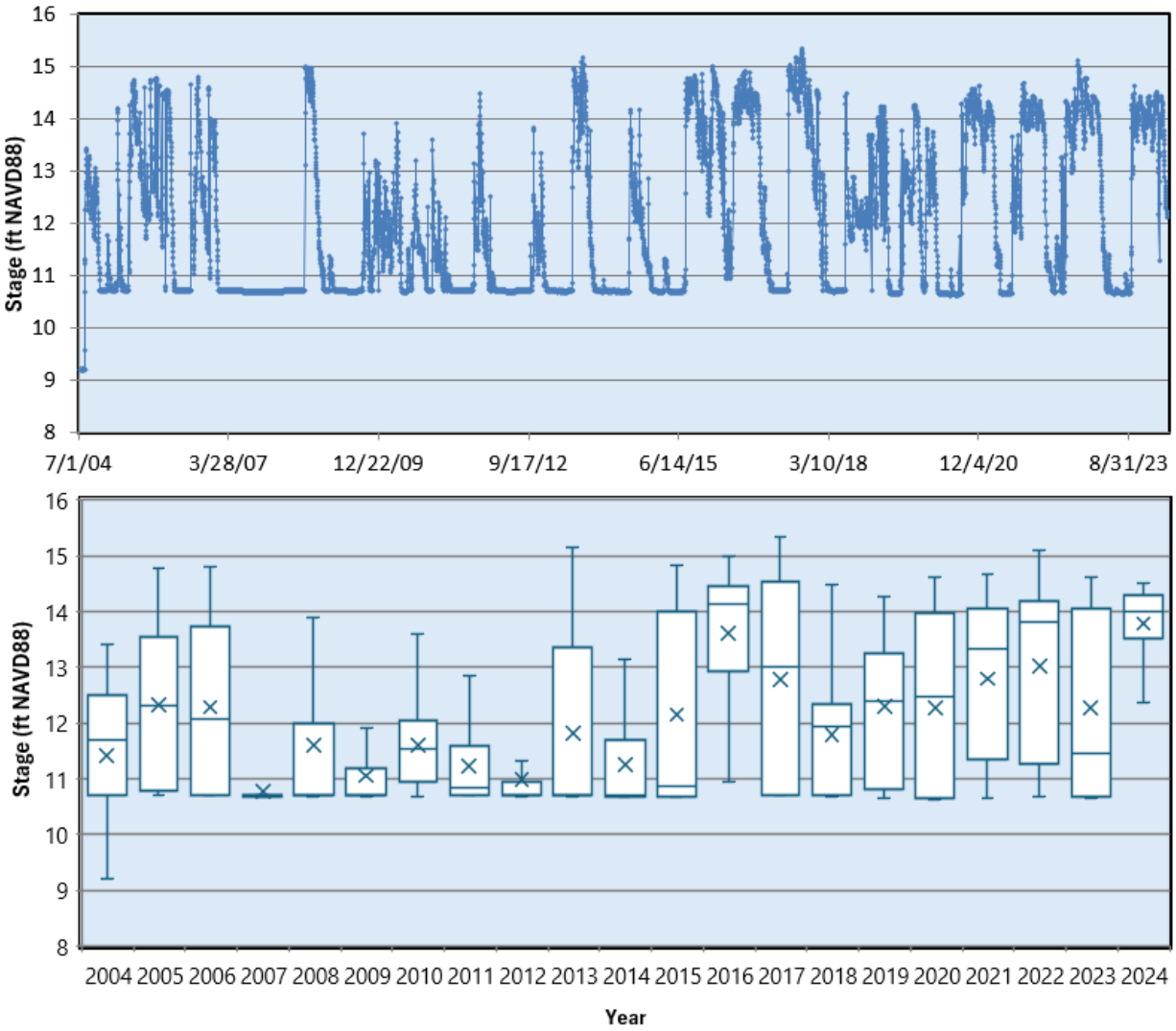


Figure 7-4. Surface Water Level Detail Timeseries and Annual Box Plot for Station CORK3 (July 2004 – May 2024, Corkscrew Canal, Weir 3)

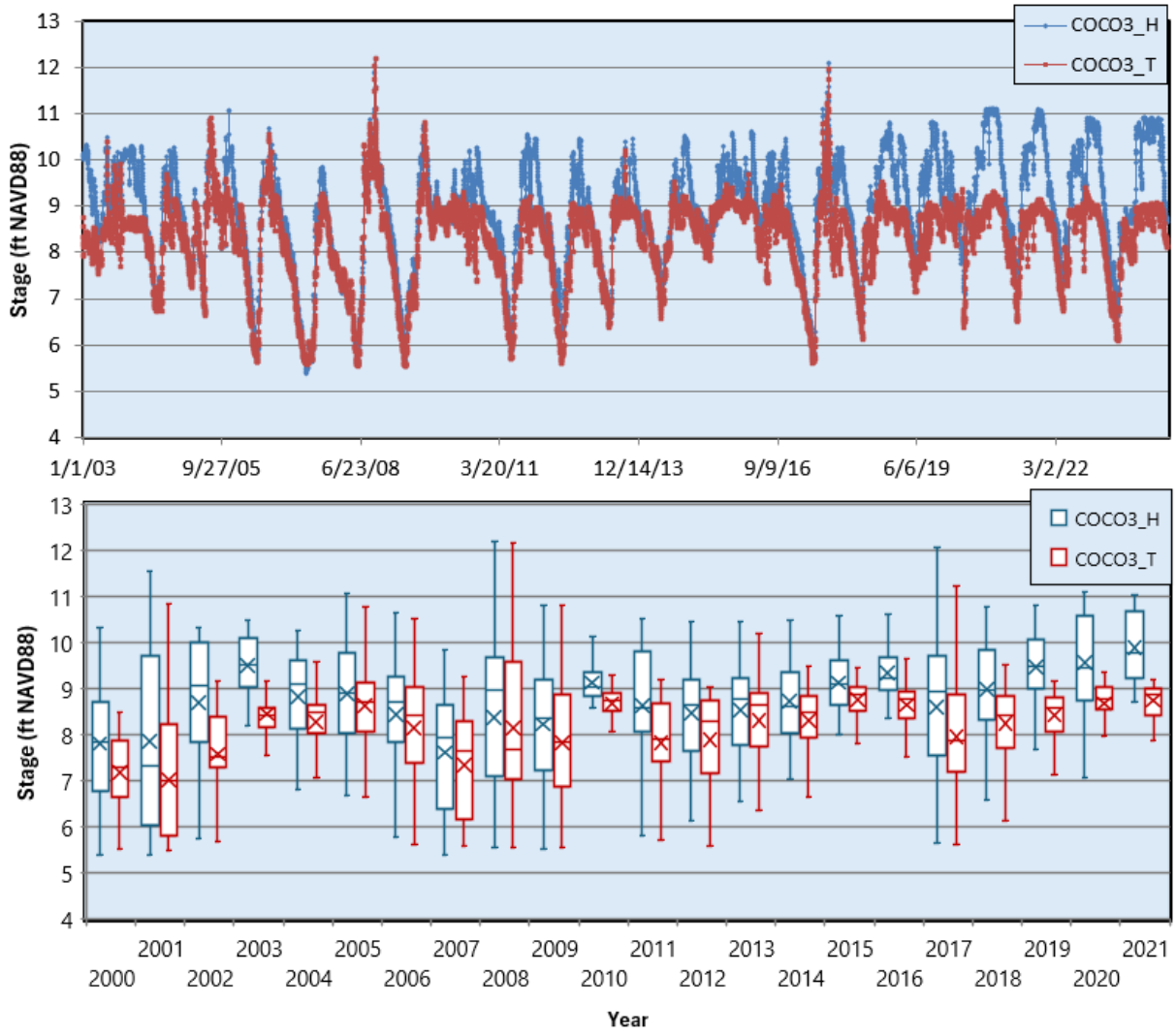


Figure 7-5. Surface Water Level Detail Timeseries and Annual Box Plot for Station COCO3 (January 2000 – May 2024, Cocohatchee Canal Headwater/Tailwater – Structure 3 at Palm River Road)

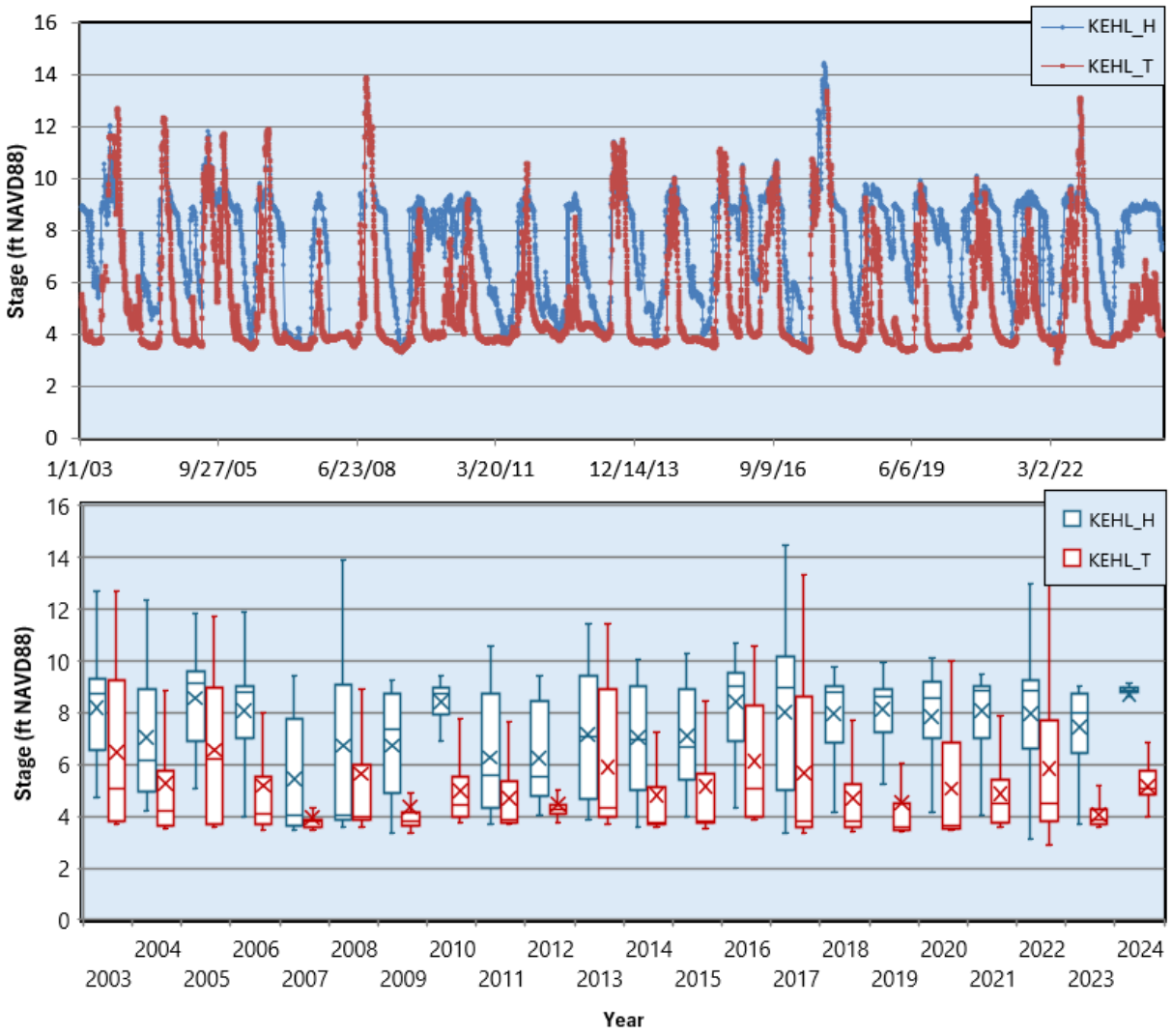


Figure 7-6. Surface Water Level Detail Timeseries and Annual Box Plot for Station KEHL (January 2003 – May 2024, Gate Structure Headwater/Tailwater on Kehl Canal)

Lake Stations

Based on the available data, there were 11 distinct surface water level lake monitoring stations in the CWI Project area at Lake Trafford (Figure 7-7 and Table 7-4). The most comprehensive dataset for lake stations extended from April 1941 to July 2024 at the USGS NWIS station (USGS-02291200, Lake Trafford near Immokalee), with over 96 percent completeness. The other 10 lake stations, from the WQP database, predominantly included water level measurements taken during surface water monitoring activities, but these records were less complete (less than 3 percent).

Detailed timeseries and annual box plots for the USGS-02291200 Lake Trafford station are provided in Figure 7-8. Water levels for this station averaged 19.6 feet NGVD 29, with a range of 7.4 feet (15.4 to 22.8 feet NGVD 29) over the 83-year period of record. Decadal averages for this station ranged from 19.3 feet (1970s) to 20.2 feet (1990s) for a change of 0.9 foot (Appendix A).

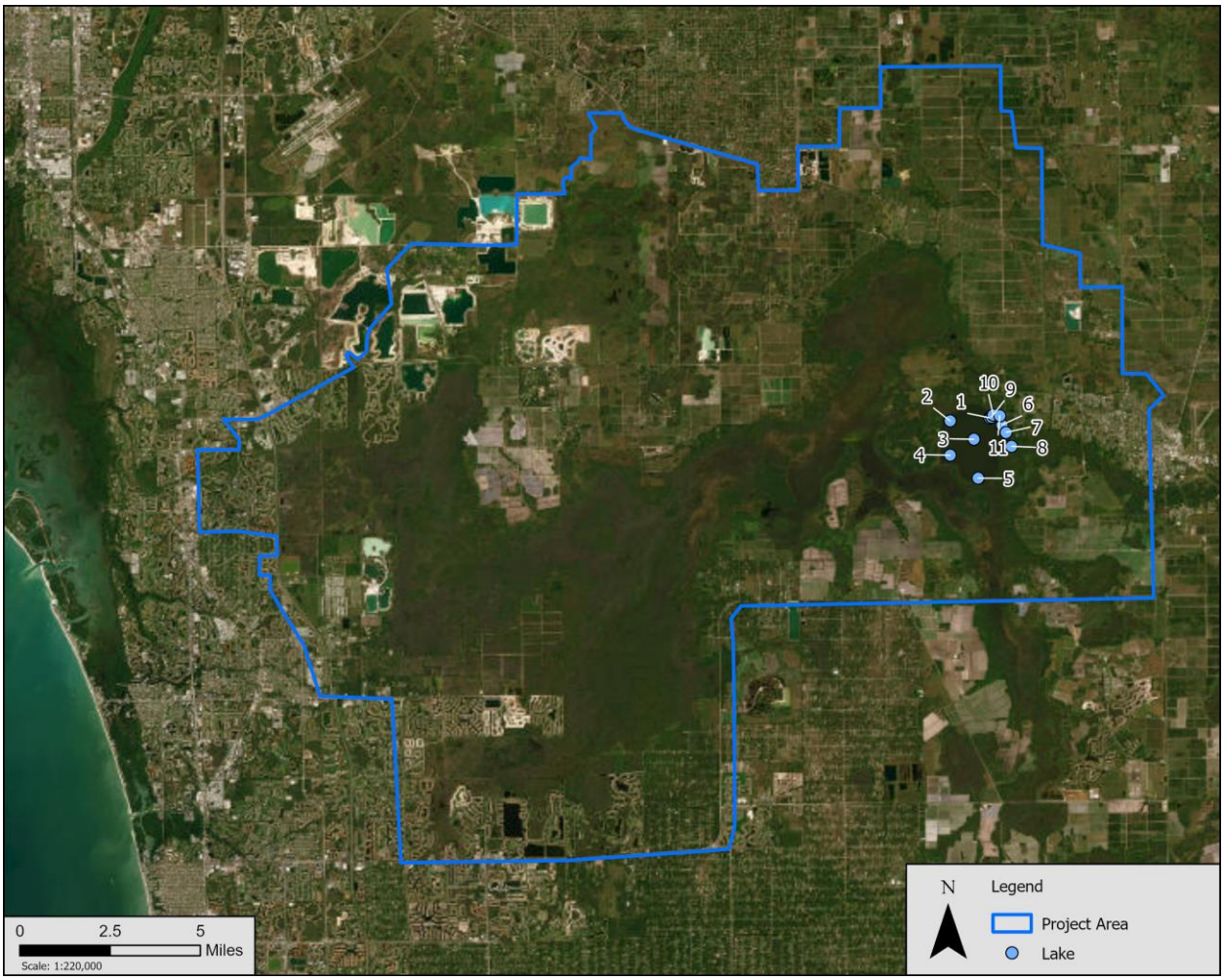


Figure 7-7. Corkscrew Watershed Initiative Study Area – Surface Water Level Lake Stations

The map ID numbers in the above figure correspond to the stations. Refer to Table 7-4 for the station names and data source.

Table 7-4. Surface Water Level Inventory – Lake Stations

ID	Station	Lat	Long	Units[1/]	Period of Record		% Complete	Avg	Min	Max	StDev	Count	Source
1	21FLCOLL_WQX-LKTRAF1	26.4318	-81.4872	ft MSL	Dec-01	Sep-16	4	18.5	3.48	21.2	4.20	192	WQP
2	21FLCOLL_WQX-LKTRAF2	26.4307	-81.5031	ft MSL	Dec-01	Oct-12	3	17.0	3.48	21.2	5.64	105	WQP
3	21FLCOLL_WQX-LKTRAF3	26.4241	-81.4936	ft MSL	Dec-01	Sep-15	3	18.0	3.48	21.2	4.47	172	WQP
4	21FLCOLL_WQX-LKTRAF4	26.4184	-81.5030	ft MSL	Dec-01	Sep-16	3	17.9	3.48	21.2	5.00	147	WQP
5	21FLCOLL_WQX-LKTRAF5	26.4102	-81.4919	ft MSL	Dec-01	Sep-15	2	17.4	3.48	21.2	5.34	122	WQP
6	21FLCOLL_WQX-LKTRAF6	26.4293	-81.4823	ft MSL	Dec-01	Oct-12	2	16.3	4.00	21.2	6.14	63	WQP
7	21FLCOLL_WQX-LKTRAF7	26.4266	-81.4806	ft MSL	Dec-01	Oct-12	2	16.8	4.00	21.2	5.90	71	WQP
8	21FLCOLL_WQX-LKTRAF8	26.4216	-81.4784	ft MSL	Dec-01	Sep-16	2	17.8	4.00	21.2	4.85	115	WQP
9	21FLCOLL_WQX-LKTRAFF	26.4321	-81.4865	ft MSL	Oct-89	Aug-91	7	1.57	0.00	3.90	1.67	44	WQP
10	21FLGW_WQX-3496	26.4328	-81.4858	ft	Dec-00	Aug-04	6	5.67	0.00	19.2	3.70	75	WQP
11	USGS-02291200	26.4326	-81.4832	ft NGVD 29	Apr-41	Jul-24	98	19.6	15.4	22.8	0.99	29,840	USGS NWIS

1/ ft = feet; MSL = mean sea level

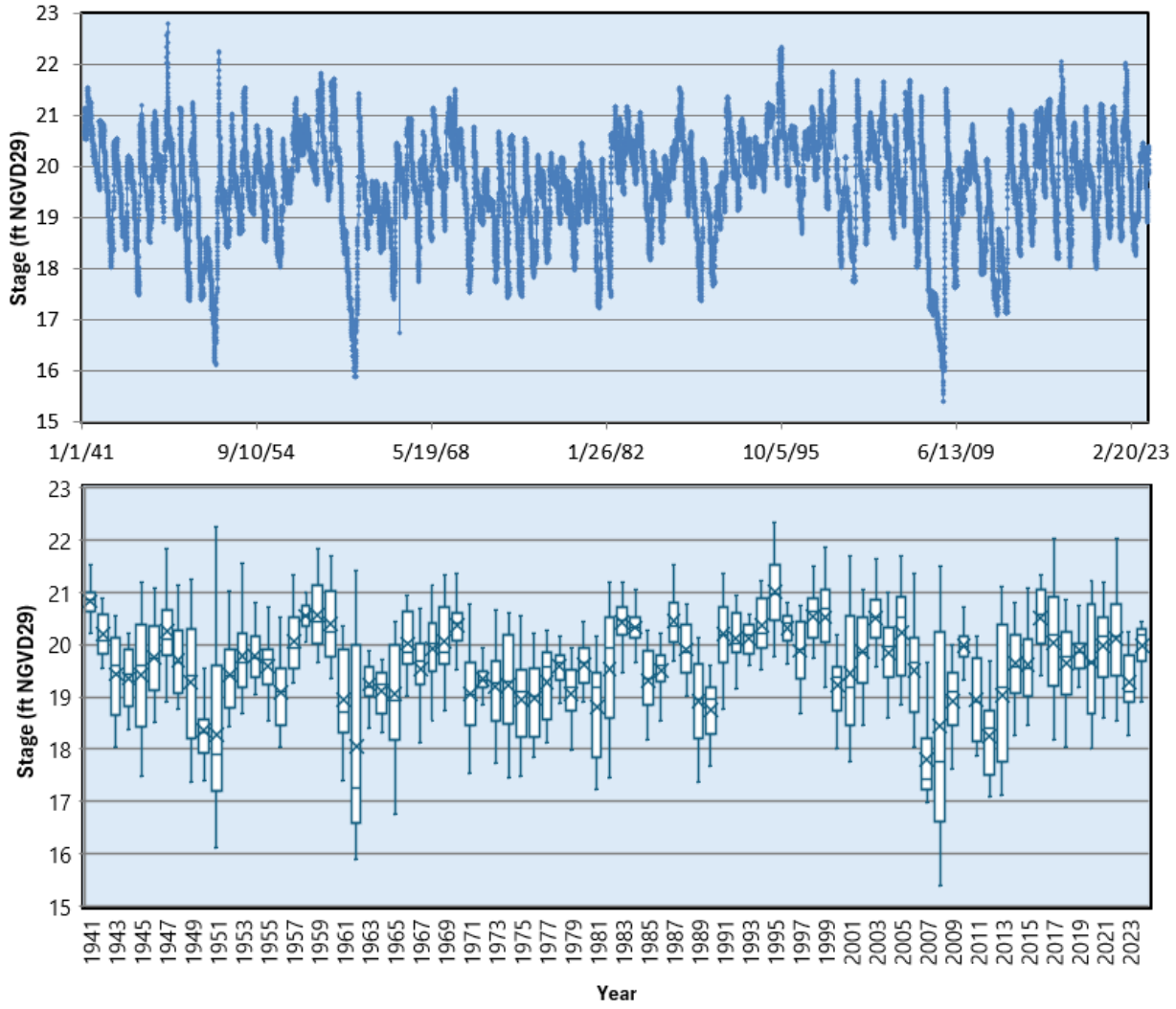


Figure 7-8. Surface Water Level Detail Timeseries and Annual Box Plot for Station USGS 02291200 - Lake Trafford (1941 - 2024)

Wetland Stations

As illustrated in Figure 7-9 and Table 7-5, there were a total of 27 distinct surface water level wetland stations within the CWI Project area including the Corkscrew Swamp Sanctuary, Flint Pen Strand, Gator Slough, Crew Bird Rookery Swamp, and isolated wetlands. These stations report water level data ranging from November 1959 to May 2024. At the Corkscrew Swamp Sanctuary, specifically the CORKSCREW_B_GAUGE station, the longest period of data extends from November 1959 to February 2021, provided by the National Audubon Society, with a high level of data completeness (exceeding 97 percent). The majority of the wetland stations (20 stations) were from the DBHYDRO database, which had high data completeness (exceeding 87 percent), with varying record periods. The remaining three stations were from the WQP database, which had considerably lower data completeness (less than 8 percent).

There are three primary wetland water level stations that were identified as important for the Project Area including CRKWPS and CORKSCREW_B_GAUGE at the Corkscrew Swamp Sanctuary, and

BRDROOK_SW at the CREW Marsh Bird Rookery. These stations provided long-term and high-quality water level data from the National Audubon Society and DBHYDRO. Figure 7-10 through Figure 7-12 present detailed timeseries and annual box plots for these stations.

On average, CRKWPS water levels were 17.0 feet NAVD 88, with a range between 13.0 and 19.5 feet NAVD 88 (6.5 feet) observed from 2015 to 2024. In comparison, BRDROOK_SW had a similar water level range of 5.2 feet (10.7 to 15.9 feet NAVD 88) but had a lower average level of 13.8 feet NAVD 88 during the period from 2016 to 2024. Water levels at these monitoring stations were generally observed to be lower between April and June, and higher from August through October.

At the long-term (61 years) Corkscrew Swamp Sanctuary station (CORKSCREW_B_GAUGE), the average water level was 17.4 feet NGVD 29, with a range of 4.5 feet (15.2 to 19.7 feet NGVD 29) from 1959 to 2021. The annual box plots indicate an increase in variability post-2000, as seen in the wider interquartile ranges (which indicates the variance of the central 50 percent of the data). Additionally, a downward trend is observed in decadal averages at this station, ranging from 17.1 feet (2000s and 2010s) to 18.3 feet (1950s) for a change of 1.3 feet (Appendix A).

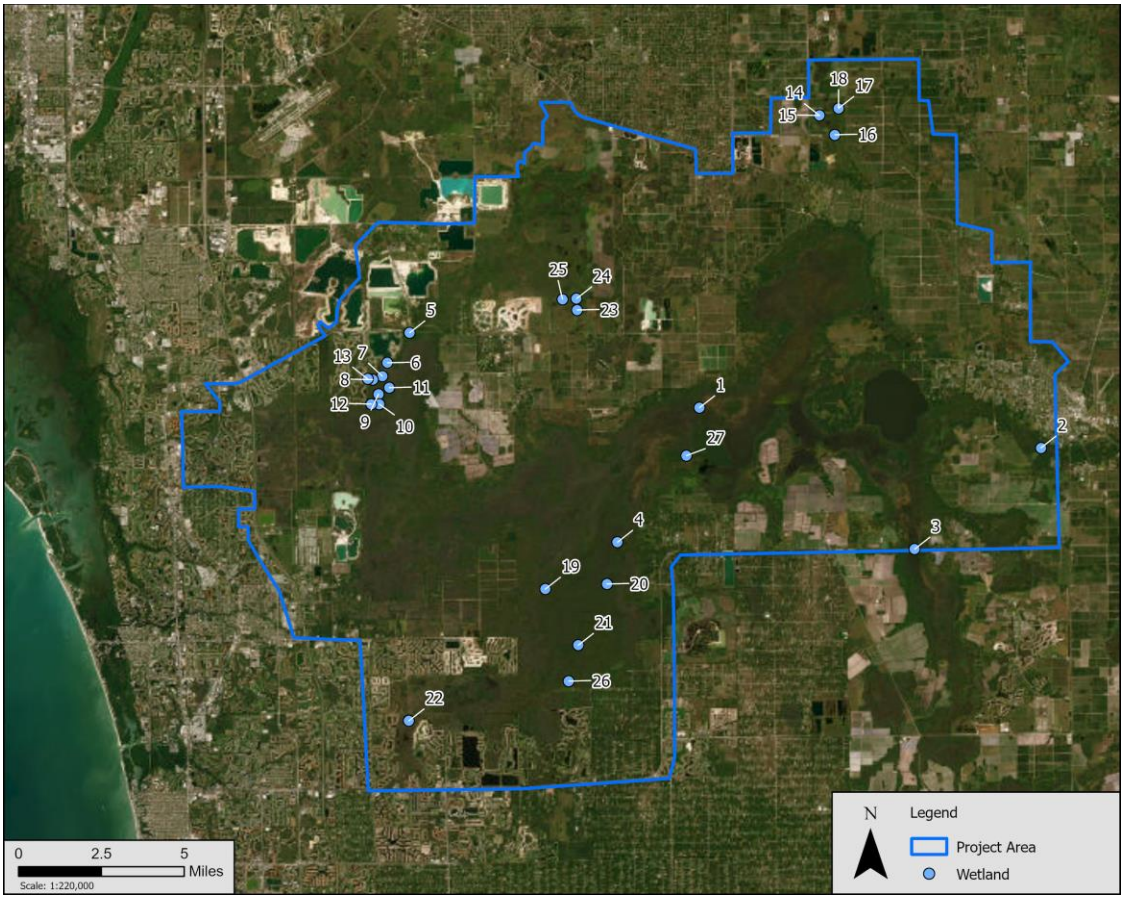


Figure 7-9. Corkscrew Watershed Initiative Study Area – Surface Water Level Wetland Stations

The map ID numbers in the above figure correspond to the stations. Refer to Table 7-5 for the station names and data source.

Table 7-5. Surface Water Level Inventory – Wetland Stations

ID	Station	Lat	Long	UNITS[1/]	Period of Record		% Complete	Avg	Min	Max	StDev	Count	Source
1	21FLCOLL_WQX-CORKN	26.4219	-81.5785	ft MSL	Apr-98	Dec-14	0	18.2	17.4	19.2	0.45	24	WQP
2	21FLCOLL_WQX-IMKSLGH	26.4062	-81.4295	ft MSL	Aug-16	Sep-16	8	20.0	19.8	20.1	0.23	2	WQP
3	21FLCOLL_WQX-KEAISN	26.3667	-81.4846	ft MSL	Oct-90	Sep-16	1	14.5	0.00	20.9	8.75	75	WQP
4	CORKSCREW_B_GAUGE	26.3694	-81.6143	ft NGVD 29	Nov-59	Feb-21	97	17.4	15.2	19.7	0.97	21,625	CSS
5	FP2	26.4511	-81.7050	ft NAVD 88	Apr-97	Dec-12	99	15.2	9.06	18.2	2.03	5,671	DBHYDRO
6	FP3	26.4394	-81.7147	ft NAVD 88	Apr-97	Oct-12	100	15.5	10.5	18.2	1.46	5,634	DBHYDRO
7	FP4	26.4342	-81.7169	ft NAVD 88	Apr-97	Sep-05	98	15.0	10.2	17.2	1.39	3,007	DBHYDRO
8	FP5	26.4328	-81.7211	ft NAVD 88	Apr-97	Oct-12	99	15.0	10.5	17.0	1.28	5,580	DBHYDRO
9	FP6	26.4272	-81.7186	ft NAVD 88	Apr-97	Mar-14	100	15.0	10.7	16.8	1.13	6,180	DBHYDRO
10	FP7	26.4233	-81.7183	ft NAVD 88	Apr-97	Oct-12	100	14.8	10.3	16.7	1.23	5,643	DBHYDRO
11	FP8	26.4297	-81.7139	ft NAVD 88	Apr-97	Dec-12	100	14.8	9.79	17.1	1.40	5,708	DBHYDRO
12	FP9	26.4233	-81.7217	ft NAVD 88	Jan-99	Oct-12	100	14.8	10.2	16.9	1.39	5,014	DBHYDRO
13	FP10	26.4331	-81.7233	ft NAVD 88	Jan-99	Oct-12	100	15.1	10.5	17.2	1.29	5,009	DBHYDRO
14	GATORS.2_H	26.5358	-81.5261	ft NAVD 88	Jan-89	Jan-91	91	25.8	20.4	28.2	1.82	671	DBHYDRO
15	GATORS.2_T	26.5358	-81.5261	ft NAVD 88	Jan-89	Jan-91	99	30.0	28.1	31.3	0.59	736	DBHYDRO
16	GATORS.O_H	26.5283	-81.5194	ft NAVD 88	Jan-89	Jan-91	99	29.9	27.7	31.1	0.64	743	DBHYDRO
17	GATORS.P_H	26.5386	-81.5178	ft NAVD 88	Dec-88	Jan-91	89	26.8	22.0	28.4	0.92	685	DBHYDRO
18	GATORS.P_T	26.5386	-81.5178	ft NAVD 88	Dec-88	Jan-91	87	30.0	27.8	31.1	0.56	668	DBHYDRO
19	SOCREW3	26.3511	-81.6458	ft NAVD 88	May-22	May-24	95	14.9	11.8	16.7	1.14	682	DBHYDRO
20	SOCREW4	26.3531	-81.6189	ft NAVD 88	Aug-22	May-24	94	15.4	12.1	17.2	1.23	594	DBHYDRO
21	SOCREW5	26.3292	-81.6314	ft NAVD 88	May-22	May-24	91	14.8	12.4	16.2	0.92	661	DBHYDRO
22	SOCREW6	26.2997	-81.7053	ft NAVD 88	Mar-22	May-24	89	11.0	8.18	13.8	1.48	690	DBHYDRO
23	ST1_H	26.4600	-81.6319	ft NAVD 88	Dec-99	Dec-12	97	27.1	26.7	28.2	0.26	4,619	DBHYDRO
24	ST2_H	26.4644	-81.6322	ft NAVD 88	Dec-99	May-24	97	27.0	26.4	28.3	0.40	8,642	DBHYDRO
25	ST3_H	26.4642	-81.6383	ft NAVD 88	Dec-99	Oct-12	97	26.7	26.3	28.1	0.40	4,554	DBHYDRO
26	BRDROOK_SW	26.3152	-81.6355	ft NAVD 88	Oct-16	Jul-24	100	13.8	10.7	15.9	1.50	2,839	DBHYDRO
27	CRKSWPS	26.4032	-81.5842	ft NAVD 88	Feb-15	Jul-24	100	17.0	13.0	19.5	1.32	3,455	DBHYDRO

1/ MSL = mean sea level

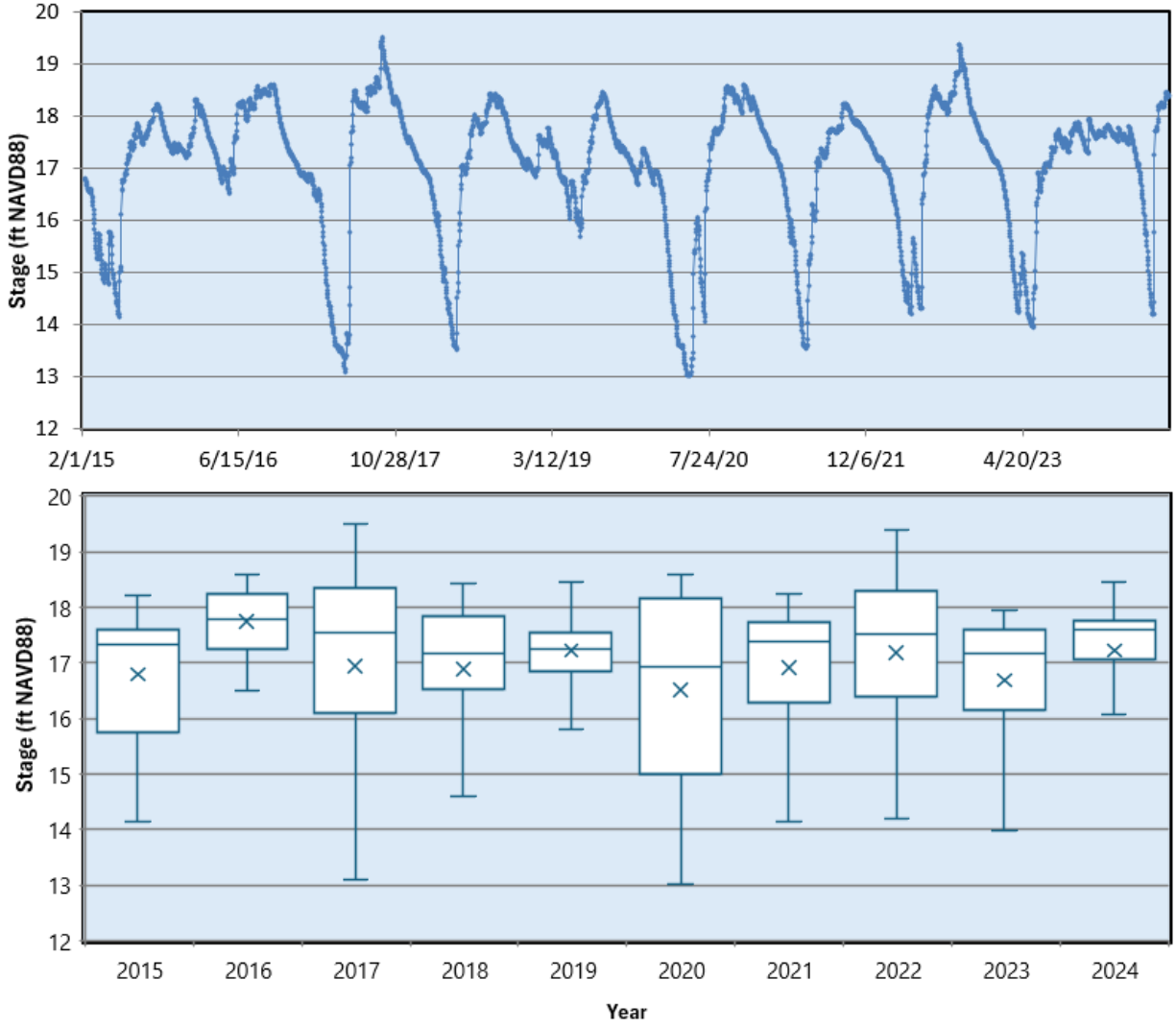


Figure 7-10. Surface Water Level Detail Timeseries and Annual Box Plot for Station CRKSWPS (2015 - 2024): Corkscrew Swamp Sanctuary

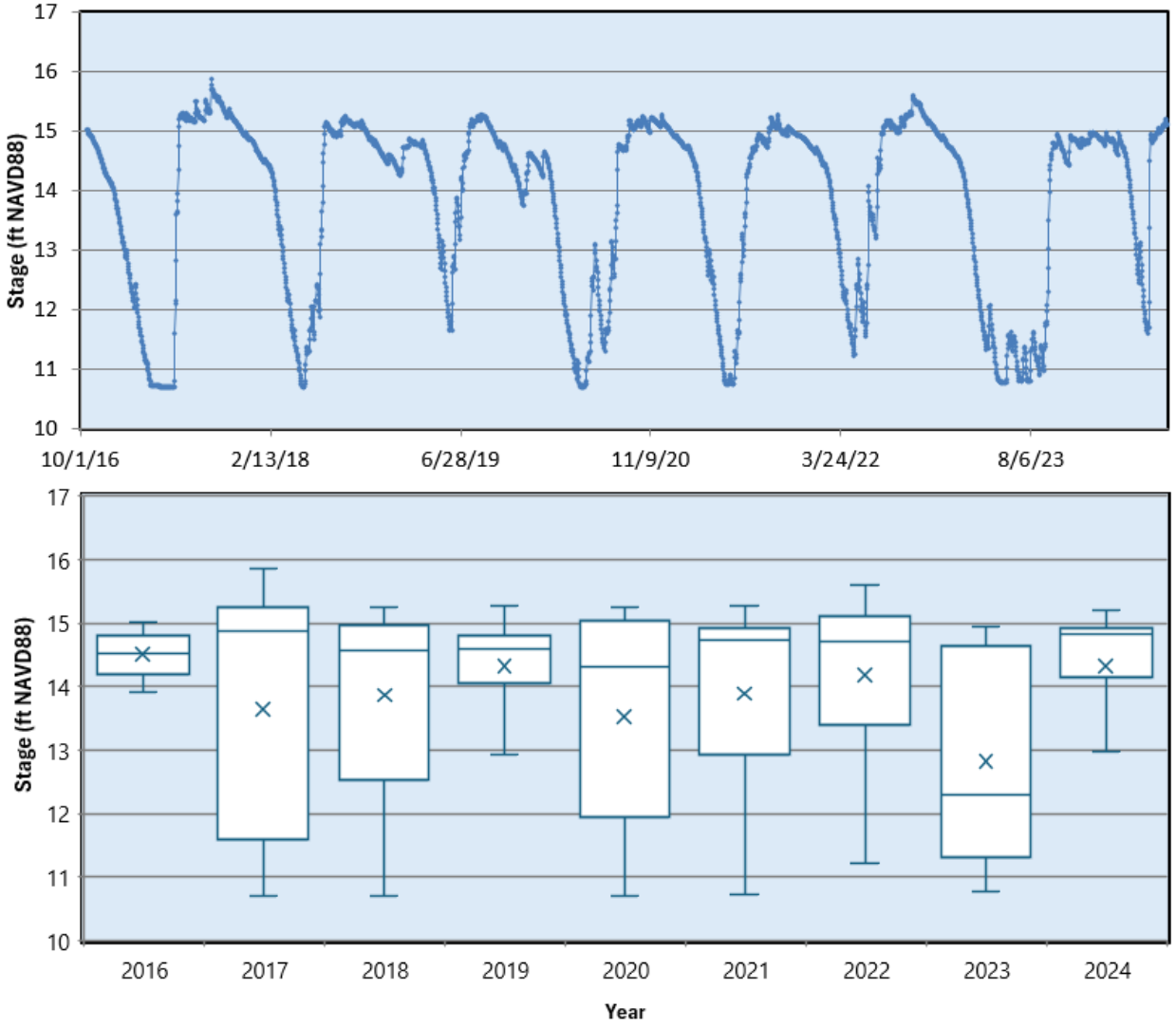


Figure 7-11. Surface Water Level Detail Timeseries and Annual Box Plot for Station BRDROOK_SW (2016 - 2024): Crew Marsh Bird Rookery

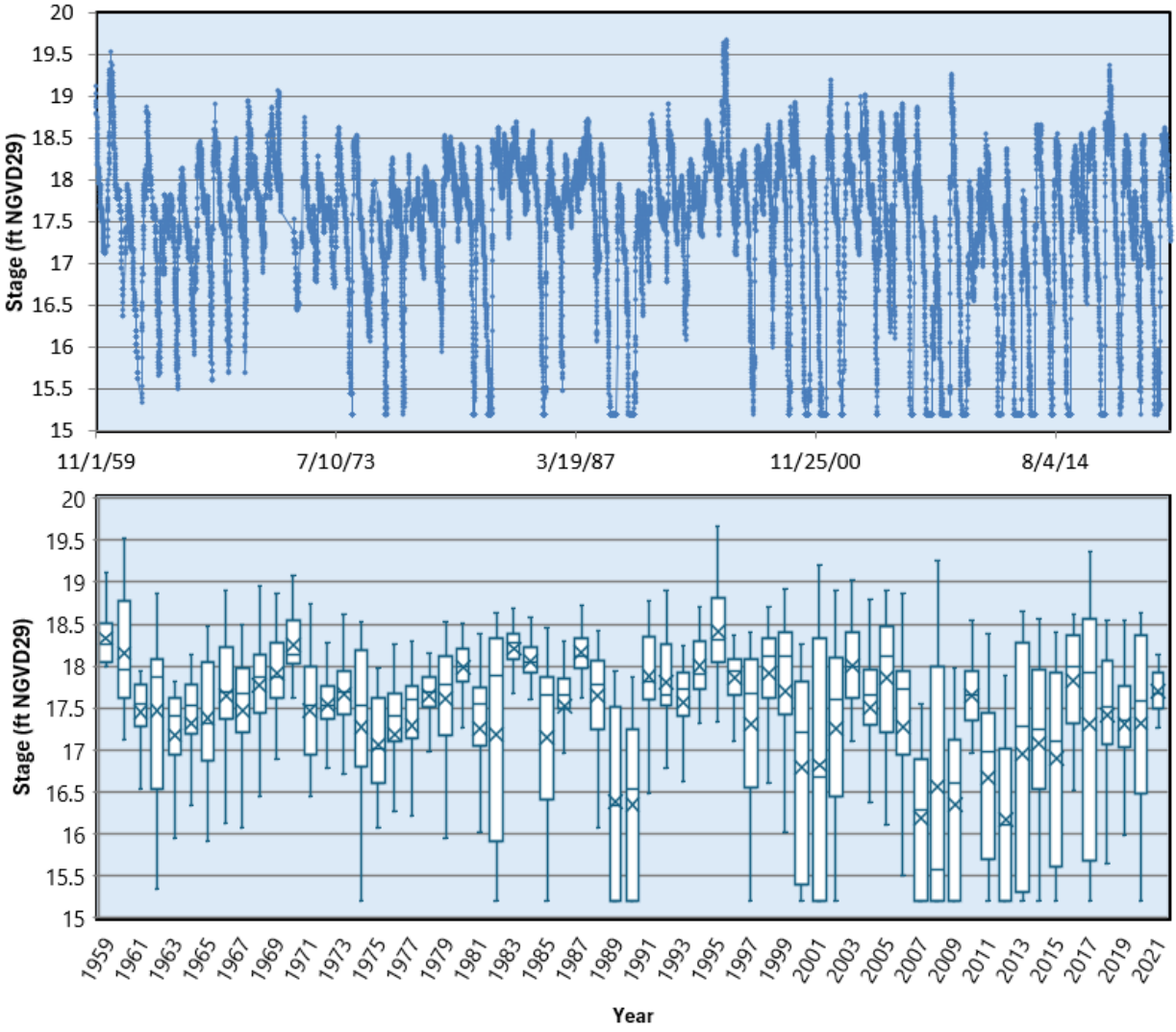


Figure 7-12. Surface Water Level Detail Timeseries and Annual Box Plot for Station CORKSCREW_B_GAUGE (1959 - 2021): Corkscrew Swamp Sanctuary

7.2.3 Groundwater Levels

This section presents an overview of the available data on groundwater levels in the CWI Project area, categorized by data source and data type such as USGS NWIS daily maximum levels, DBHYDRO daily average levels, WQP field readings, and Lee County daily average levels. The data collection period, frequency, units, completeness, well depth, surface elevation, and aquifer system vary by station and data source.

USGS NWIS - Daily Maximum Levels

As illustrated in Figure 7-13 and Table 7-6, there were a total of 20 distinct groundwater level stations within the CWI Project area surrounding the Corkscrew Marsh, Corkscrew Swamp Sanctuary, Flint Pen Strand, and Crew Bird Rookery Swamp. The wells at these sites vary in depth from 15 to 520 feet, sampling both Surficial and Intermediate aquifer systems. These stations recorded daily maximum water

levels sourced from the USGS NWIS, with data covering a period from October 1973 to July 2024. All stations had a high data completeness (exceeding 84 percent), with varying record periods.

Within the Project Area in proximity of the Corkscrew wetland, five groundwater wells were selected; USGS-262703081340201 (ID 16 - Intermediate) to the north, USGS-262228081361901 (ID 10 - Surficial) centrally located, and three southern wells USGS-261802081354801 (ID 1 - Intermediate), USGS-261957081432201 (ID 2 - Intermediate), and USGS-261957081432202 (ID 3 - Surficial). These sites provide comprehensive long-term groundwater level data ranging from 27 to 50 years, except for USGS-262228081361901 (ID 10), which only has 3 years. Although this station has a shorter period of data collection, it was included for its recent groundwater level measurements within the Corkscrew Swamp Sanctuary. Detailed timeseries and annual box plots for these specified stations are provided in Figure 7-14 through Figure 7-18.

On average, USGS-262703081340201 (ID 16) groundwater levels were 14.2 feet NGVD 29 (or 10.2 feet below land surface), with a range between -7.9 and 24.6 feet NAVD 88 (32.55 feet) observed from 1973 to 2023. The southern Intermediate aquifer wells, USGS-261802081354801 (ID 1) and USGS-261957081432201 (ID 2), had similar groundwater level ranges of 13.6 feet (2.5 to 16.1 feet NGVD 29) and 18.2 feet (-4.2 to 14.0 feet NGVD 29), respectively; however, USGS-261957081432201 (ID 2) had a lower average groundwater level (5.8 feet NGVD 29 or 8.8 feet below land surface, 1977-2024) compared with USGS-261802081354801 (ID 1) (10.2 feet NGVD 29 or 5.4 feet below land surface, 1996-2024).

For the Surficial aquifer wells, the long-term (47 years) southern well, USGS-261957081432202 (ID 3), average groundwater level was 10.5 feet NGVD 29 (or 4.3 feet below land surface), with a range of 10.1 feet (6.2 to 16.3 feet NGVD 29) from 1977 to 2024. In comparison, the central well (USGS-262228081361901 (ID 10)) ranged from 13.1 to 18.5 feet NGVD 29 (5.4 feet) and averaged 16.1 feet NGVD29 (or 2.3 feet below land surface) from 2021 to 2024.

DBHYDRO - Daily Average Levels

There were a total of 21 distinct groundwater level stations within the CWI Project area including Corkscrew Swamp at Sanctuary Headquarters, Gator Slough Citrus Study, Wildcat Farms Isolated Wetlands, and Hogan Island Farms Isolated Wetlands (Figure 7-19 and Table 7-7). These stations recorded daily average water levels sourced from DBHYDRO, with data covering a period from January 1985 to May 2024. The wells at these sites vary in depth from 17 to 255 feet, sampling both Surficial and Intermediate aquifer systems; however, this was not defined in the database. While all stations had high data completeness (exceeding 86 percent), eight stations include only 2 years of data.

WQP – Field Readings

There are 44 unique groundwater level monitoring stations, as illustrated in Figure 7-20 and detailed in Table 7-8, surrounding the Corkscrew Marsh, Corkscrew Swamp Sanctuary, Flint Pen Strand, and Crew Bird Rookery Swamp. These stations have field water level measurements or “grab” samples reported from September 1975 through March 2010, sourced from the WQP. The depth of these wells ranges from 13 to 750 feet, from both Surficial and Intermediate aquifer systems. It is important to acknowledge that the varying frequencies of field samples result in considerably lower data completeness (less than 4 percent) compared to the other groundwater level datasets.

Lee County Wells

Lee County's Natural Resources maintains a network of monitoring wells throughout the County. There are 119 wells with telemetry and 86 that require manual measurements. Thirty-one of these wells are located within the CWI Project Area boundary and are shown in Figure 7-21. Lee County produces average wet and dry season water table maps, and the 2023 wet and dry season maps are shown in Figure 7-22 and Figure 7-23, respectively. The groundwater maps indicate that peak levels were measured north of the CSS and averaged 26 feet in the wet season and 24 feet in the dry season with declining levels observed toward the coast and Caloosahatchee River. Well details are summarized in Table 7-9. These stations recorded daily average water levels, with data covering a period from January 1990 to October 2024. The wells at these sites vary in depth from 6 to 33 feet, sampling the Surficial aquifer system. Data completeness varied based on the telemetry status of the station.

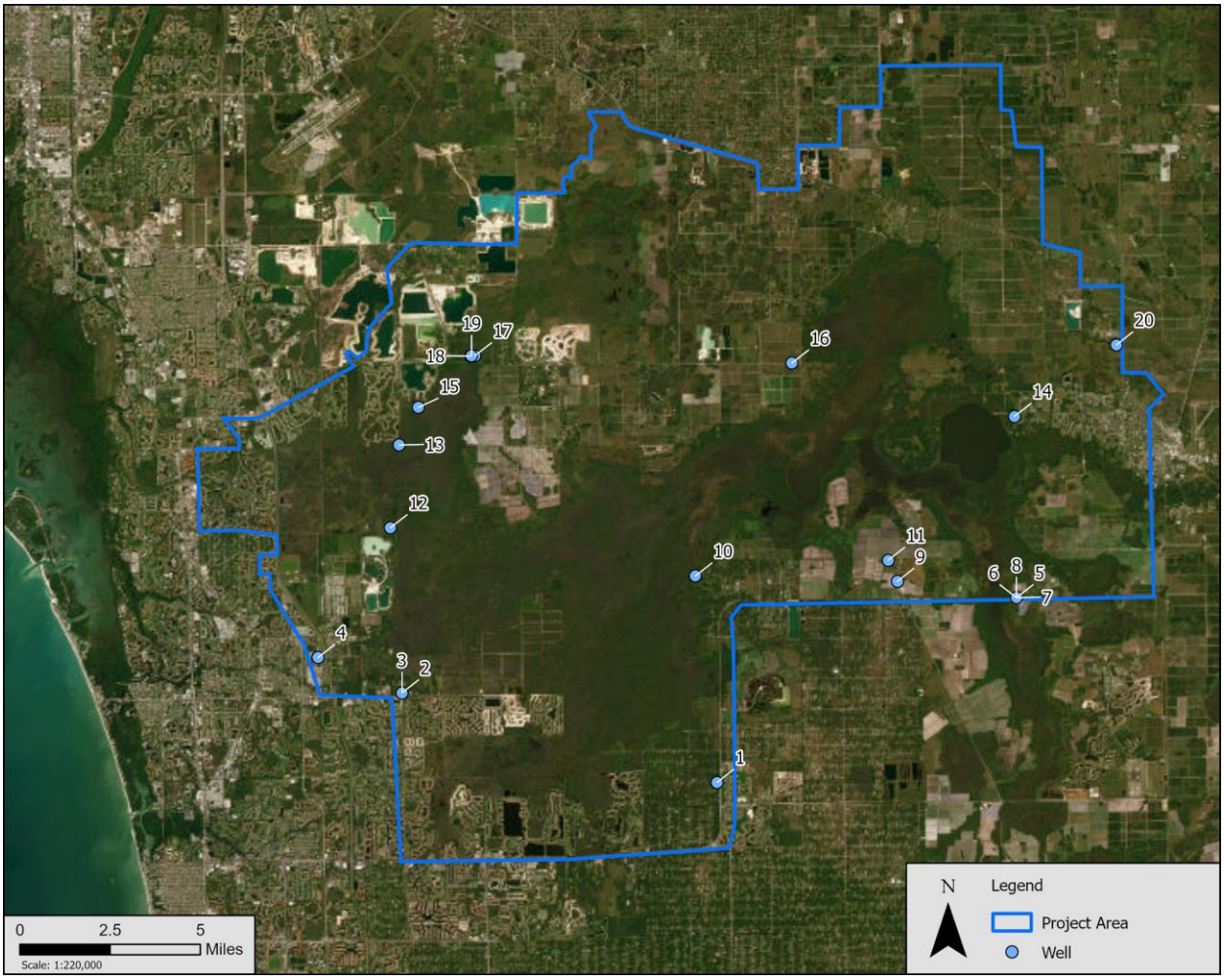


Figure 7-13. Corkscrew Watershed Initiative Study Area – Groundwater Level Well Stations (USGS NWIS)

The map ID numbers in the above figure correspond to the stations. Refer to Table 7-6 for the station names and data source.

Table 7-6. Groundwater Levels Inventory – Well Stations

ID	Station	Lat	Long	Period of Record		% Complete	Well Depth (ft)	Land Surface	Avg	Min	Max	StDev	Count	Aquifer[1/]
									(feet NGVD 29, Daily Maximum)					
1	USGS-261802081354801	26.3008	-81.5964	Dec-96	Apr-24	96	242	15.6	10.2	2.51	16.1	2.50	9,604	Int
2	USGS-261957081432201	26.3329	-81.7226	Oct-77	Jul-24	97	137	14.6	5.81	-4.18	14.0	3.58	16,604	Int
3	USGS-261957081432202	26.3329	-81.7226	Oct-77	Jul-24	97	15	14.7	10.4	6.16	16.3	1.90	16,588	Surf
4	USGS-262042081455001	26.3456	-81.7562	Oct-73	Sep-96	99	69	14.3	4.37	-6.58	11.9	3.78	8,287	Surf
5	USGS-262158081283401	26.3670	-81.4765	Oct-96	Apr-24	94	60	21.3	19.4	14.5	21.7	1.34	9,478	Surf
6	USGS-262158081283402	26.3670	-81.4765	Aug-03	Mar-24	94	520	21.0	33.9	30.9	35.9	1.06	7,041	Int
7	USGS-262158081283403	26.3670	-81.4765	Sep-02	Jul-24	96	160	21.6	15.3	5.82	22.0	3.61	7,632	Int
8	USGS-262158081283404	26.3670	-81.4765	Dec-86	Mar-24	93	390	21.1	14.3	-0.77	22.2	4.71	12,641	Int
9	USGS-262212081312501	26.3729	-81.5242	Jun-03	Apr-24	98	82	23.9	13.4	-5.12	21.9	5.60	7,481	Int
10	USGS-262228081361901	26.3748	-81.6051	Apr-21	Apr-24	84	64	18.4	16.1	13.1	18.5	1.42	930	Surf
11	USGS-262248081314101	26.3804	-81.5279	Sep-03	Apr-24	98	70	22.7	13.5	-5.51	21.9	5.45	7,372	Int
12	USGS-262331082383202	26.3921	-81.7272	May-15	Jan-24	98	135	16.2	1.95	-7.84	10.7	4.15	3,099	Int
13	USGS-262513081432601	26.4217	-81.7237	Sep-02	Jan-24	98	32	18.2	16.9	13.2	19.2	1.27	7,644	Surf
14	USGS-262554081283801	26.4320	-81.4773	Aug-02	Jun-24	98	310	23.6	18.9	10.3	25.9	3.48	7,781	Int
15	USGS-262605081425901	26.4352	-81.7161	Jul-03	Jan-24	97	60	15.8	16.2	12.4	18.9	1.30	7,273	Int
16	USGS-262703081340201	26.4511	-81.5664	Oct-73	Dec-23	96	243	24.4	14.2	-7.86	24.6	6.69	17,660	Int
17	USGS-262711081413701	26.4537	-81.6934	Jul-21	Dec-23	100	134	18.6	15.0	10.2	18.8	2.10	895	Surf
18	USGS-262713081414401	26.4535	-81.6951	Mar-92	Dec-23	93	292	19.5	-13.3	-57.8	15.2	16.4	10,742	Int
19	USGS-262713081414701	26.4537	-81.6948	Oct-77	Sep-92	96	50	20.8	15.2	7.33	22.7	3.16	5,268	Surf
20	USGS-262724081260701	26.4576	-81.4365	Oct-73	Jul-24	87	110	33.8	30.6	22.0	35.9	3.16	16,039	Int

Source: USGS NWIS
1/ Surf – Surficial; Int – Intermediate

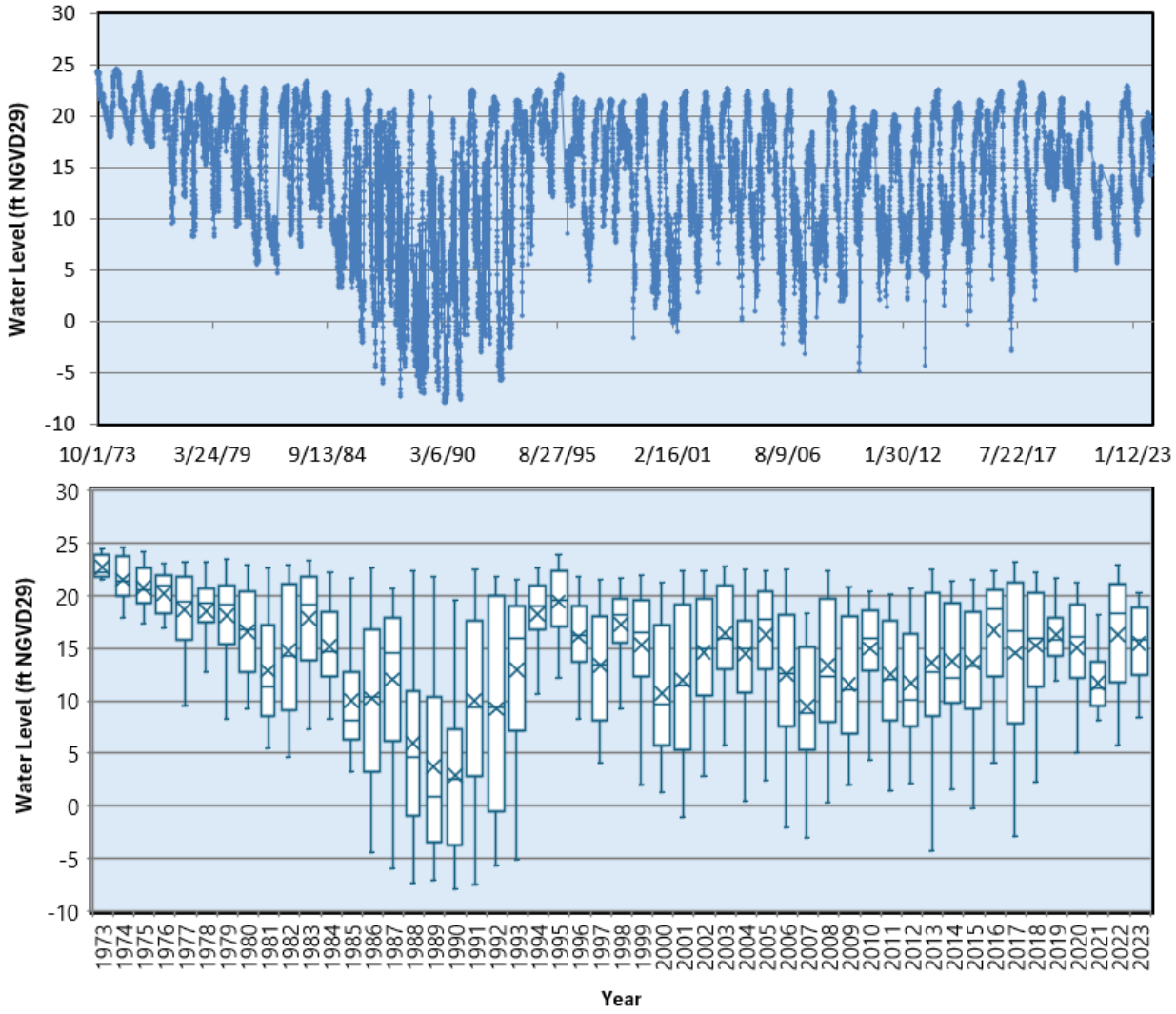


Figure 7-14. Groundwater Level Detail Timeseries and Annual Box Plot for Station USGS-262703081340201(1973 – 2023): L-731 [Well Depth 243 feet; Surface Elevation 24.4 feet NGVD 29]

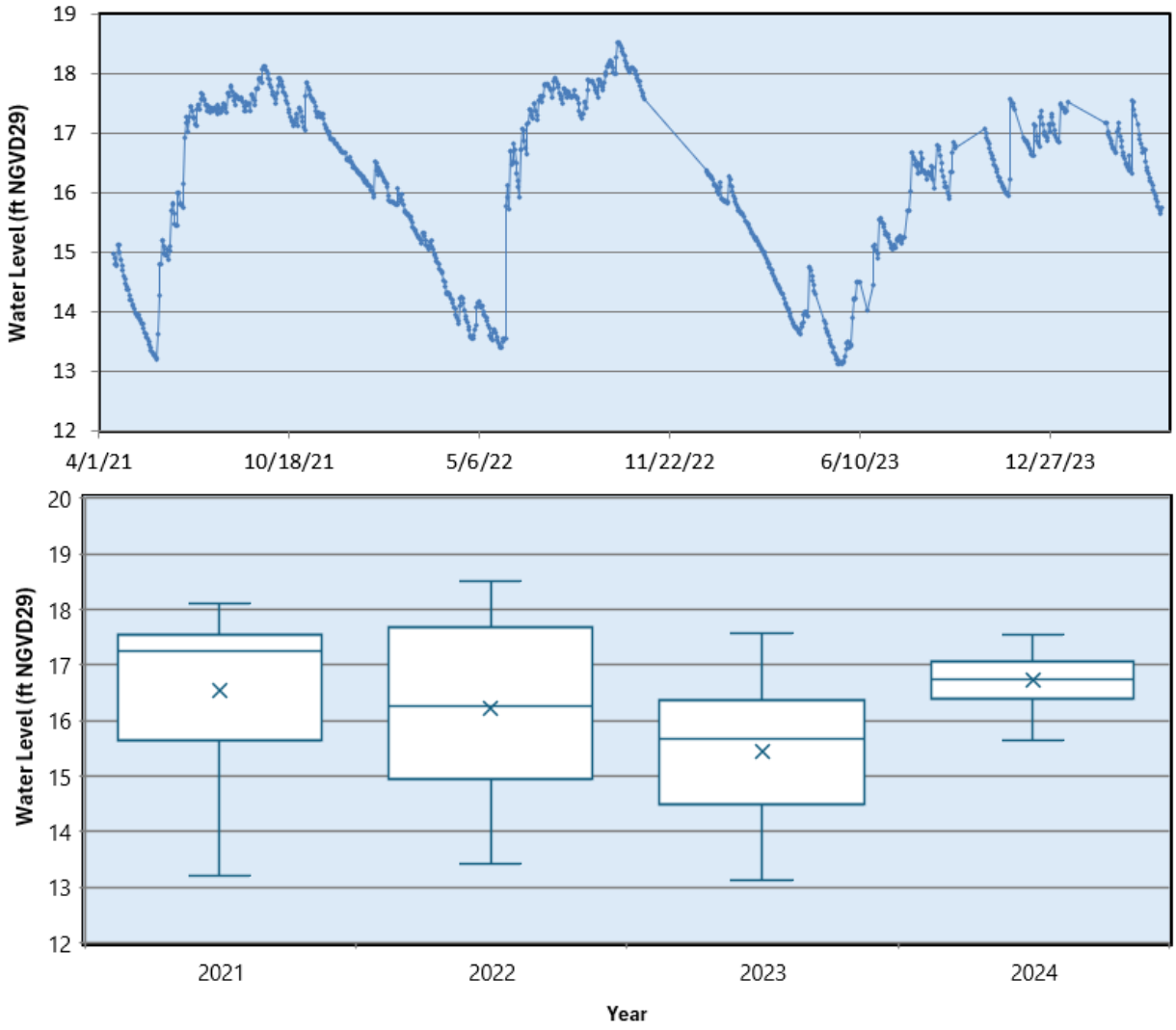


Figure 7-15. Groundwater Level Detail Timeseries and Annual Box Plot for Station USGS-262228081361901 (2021 – 2024): C-492 [Well Depth 64 feet; Surface Elevation 18.4 feet NGVD 29]

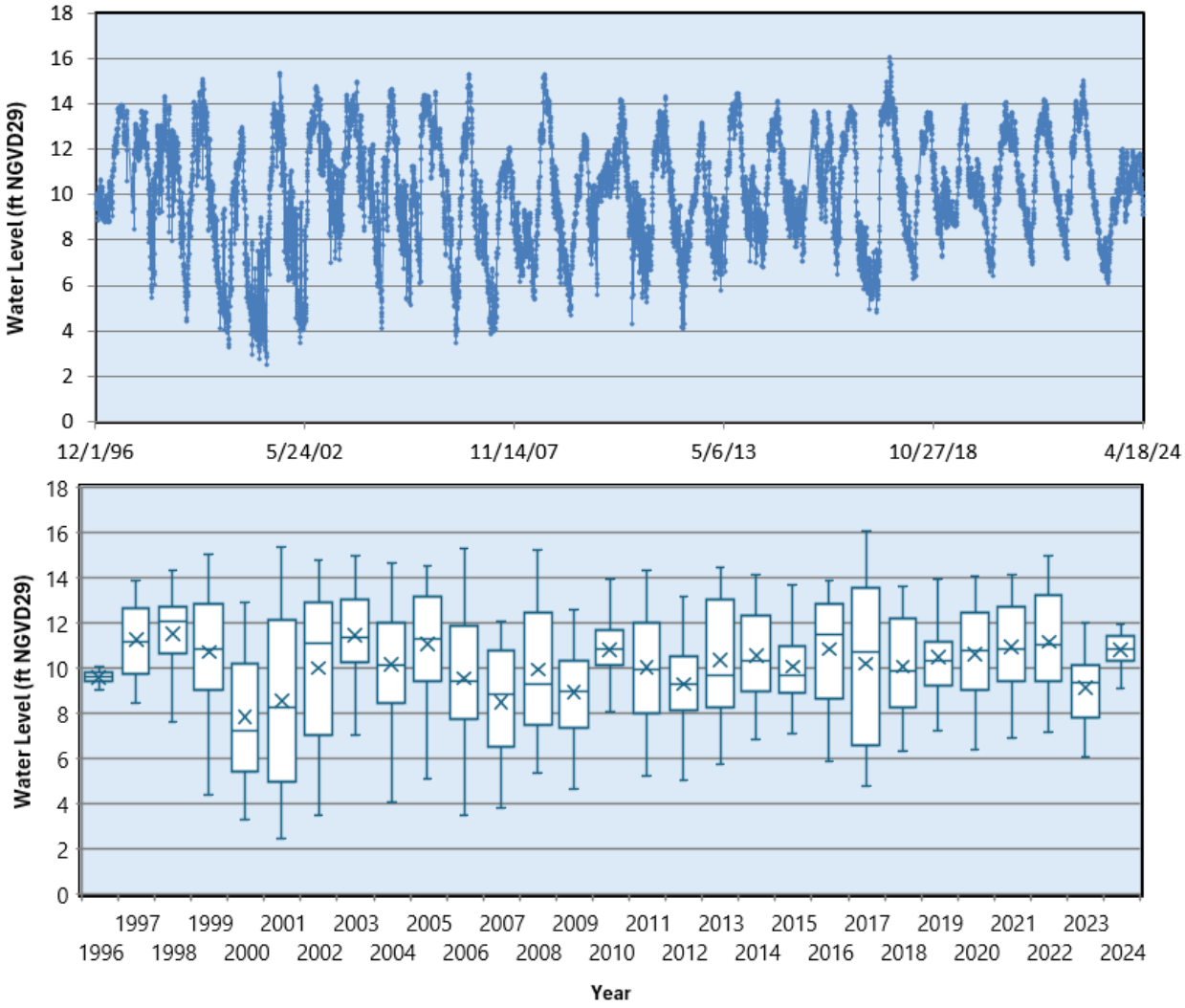


Figure 7-16. Groundwater Level Detail Timeseries and Annual Box Plot for Station USGS-261802081354801 (1996 – 2024): C-688 [Well Depth 242 feet; Surface Elevation 15.6 feet NGVD 29]

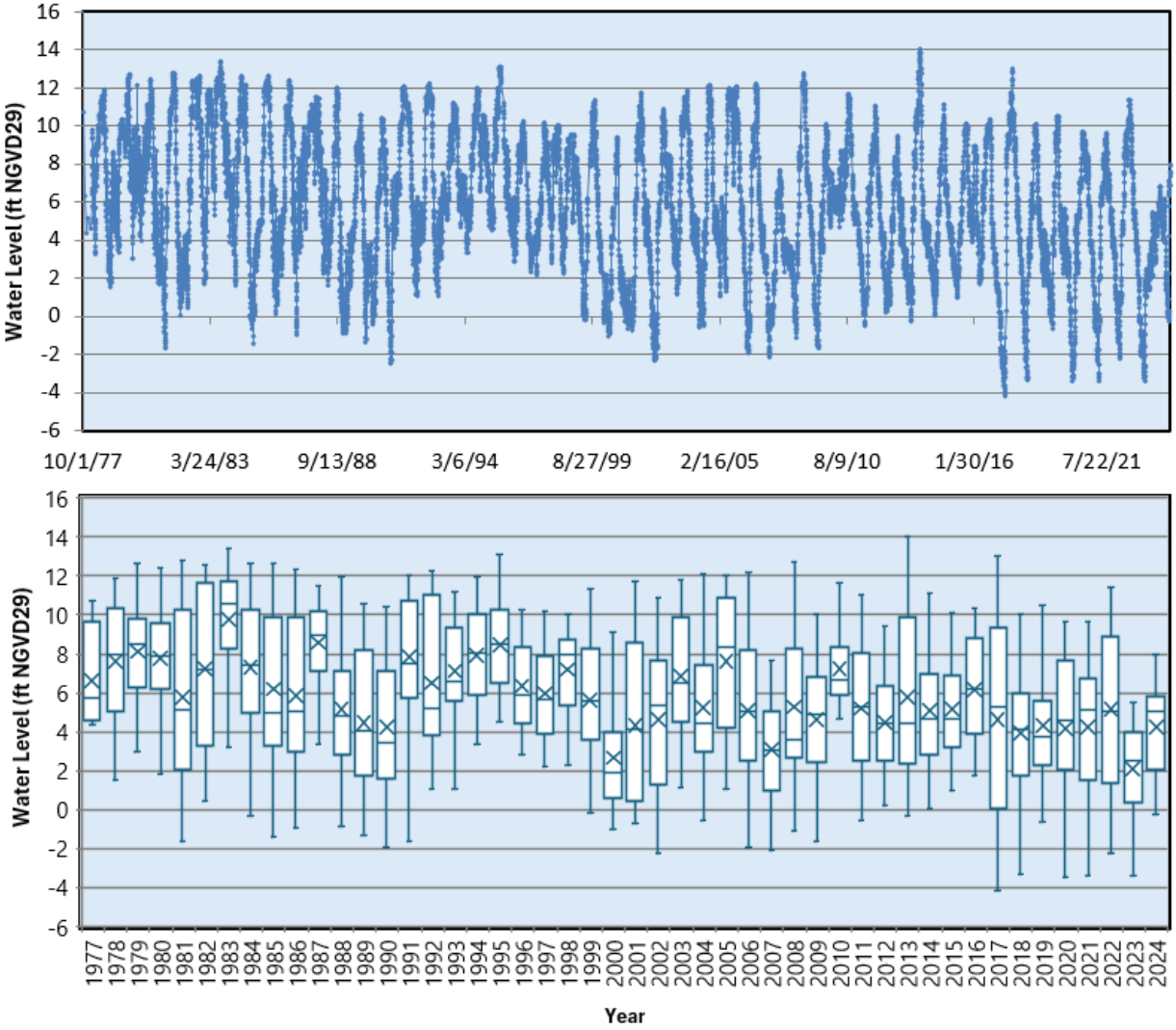


Figure 7-17. Groundwater Level Detail Timeseries and Annual Box Plot for Station USGS-261957081432201 (1977 – 2024): L-2194 [Well Depth 137 feet; Surface Elevation 14.6 feet NGVD 29]

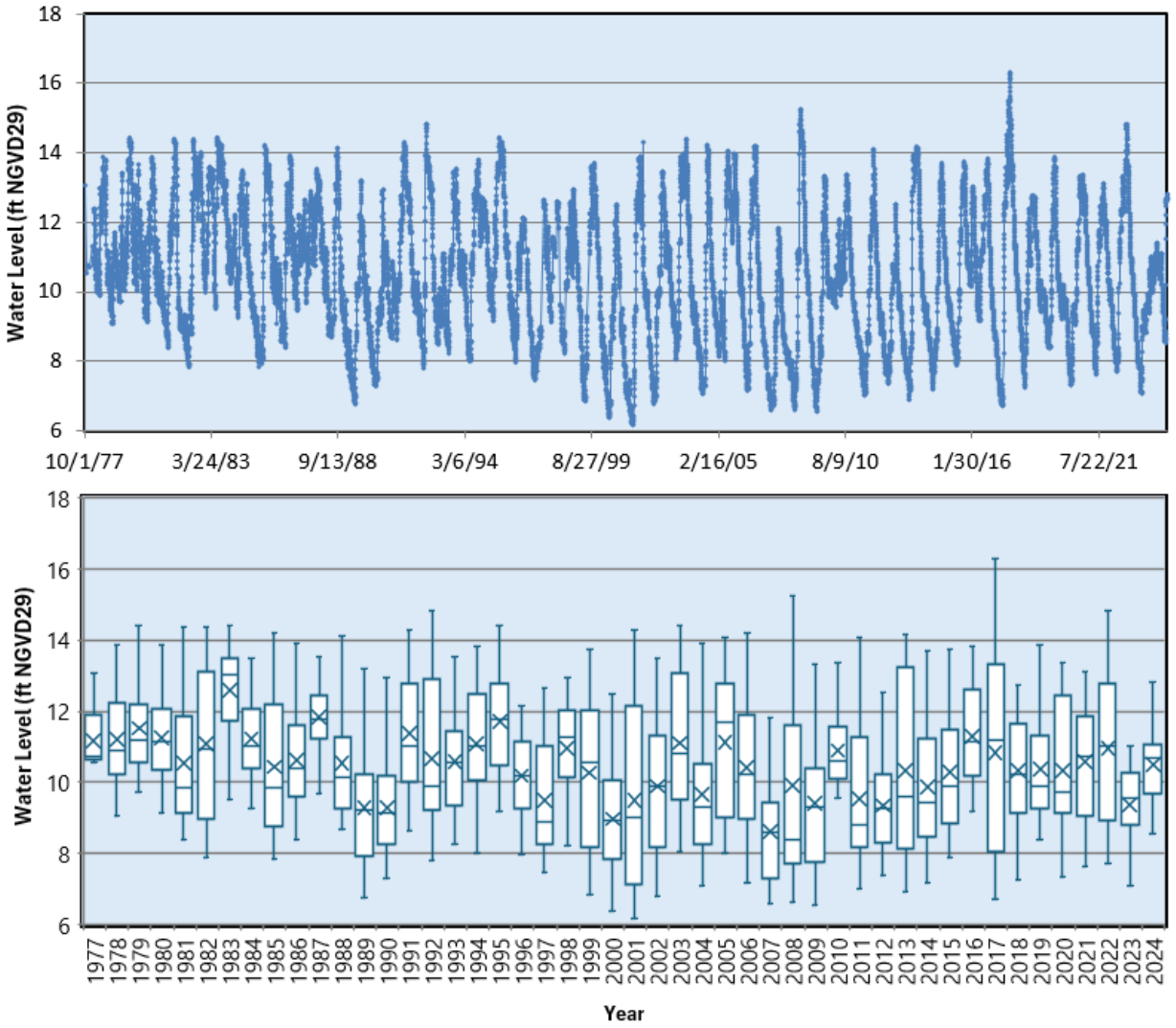


Figure 7-18. Groundwater Level Detail Timeseries and Annual Box Plot for Station USGS-261957081432202 (1977 – 2024): L-2195 [Well Depth 15 feet; Surface Elevation 14.7 feet NGVD 29]

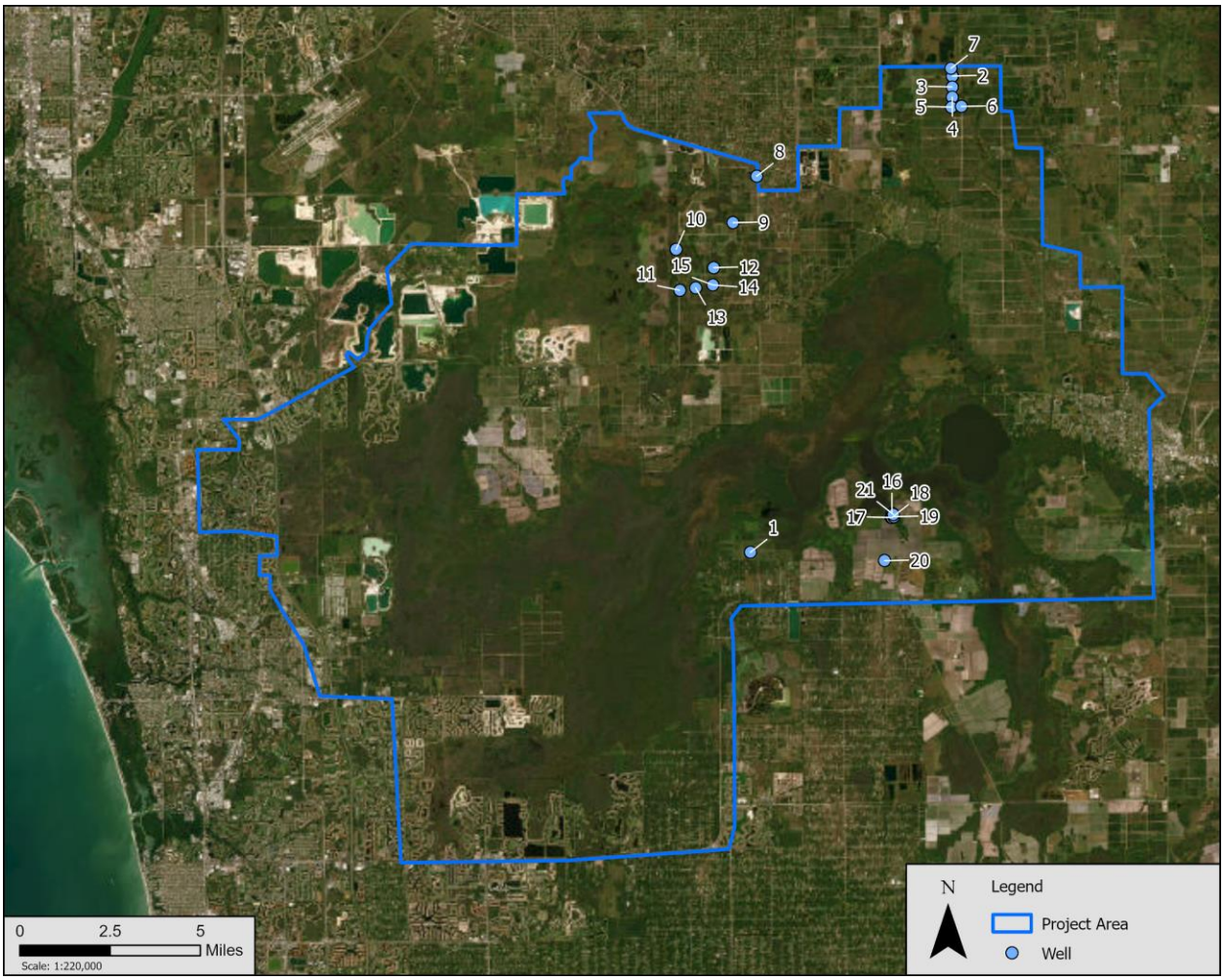


Figure 7-19. Corkscrew Watershed Initiative Study Area – Groundwater Level Well Stations (DBHYDRO)

The map ID numbers in the above figure correspond to the stations. Refer to Table 7-7 for the station names and data source.

Table 7-7. Groundwater Levels Inventory – Well Stations

ID	Station	Lat	Long	Period of Record		% Complete	Well Depth (ft)	Avg (feet NAVD 88, Daily Average)	Min (feet NAVD 88, Daily Average)	Max (feet NAVD 88, Daily Average)	StDev	Count
1	CORK.HQ	26.3836	-81.5831	Jan-85	Nov-86	100	---	15.6	13.0	17.3	1.04	680
2	GATORS.W1	26.5542	-81.5022	Jan-89	Jan-91	93	255	30.1	28.9	31.6	0.69	699
3	GATORS.W2	26.5503	-81.5022	Jan-89	Jan-91	93	245	30.1	28.8	31.7	0.73	699
4	GATORS.W3	26.5467	-81.5022	Jan-89	Jan-91	93	245	30.1	28.8	32.0	0.73	699
5	GATORS.W4	26.5431	-81.5025	Jan-89	Jan-91	93	245	30.1	28.8	32.1	0.72	692
6	GATORS.W5	26.5433	-81.4986	Jan-89	Jan-91	93	240	30.1	28.8	32.1	0.72	699
7	GATORS.W6	26.5569	-81.5028	Feb-89	Jan-91	93	240	30.1	28.8	32.1	0.71	677
8	WF1	26.5183	-81.5806	Dec-99	May-02	94	18.5	24.9	22.6	27.9	1.17	829
9	WF2	26.5017	-81.5900	Dec-99	May-24	97	19.5	25.7	22.3	29.3	1.16	8,623
10	WF3	26.4922	-81.6128	Jan-00	May-24	98	20	26.7	22.7	30.6	1.47	8,749
11	WF4	26.4775	-81.6114	Jan-00	Oct-12	96	22	26.3	23.1	30.7	1.28	4,506
12	WF5	26.4856	-81.5978	Jan-00	Oct-12	97	20	25.0	21.8	29.2	1.22	4,526
13	WF6	26.4783	-81.6050	Jan-00	Oct-12	98	19	25.0	21.5	28.8	1.34	4,587
14	WF7	26.4794	-81.5981	Dec-99	Oct-12	89	20	25.4	22.1	29.7	1.25	4,194
15	WF10	26.4794	-81.5981	Dec-99	Oct-12	86	65	25.0	-1.28	28.8	1.63	4,046
16	HF7	26.3975	-81.5264	Feb-00	Oct-12	100	20	16.0	11.3	20.3	2.03	4,633
17	HF1	26.3961	-81.5267	Dec-99	May-24	96	21	16.6	11.6	20.8	2.02	8,571
18	HF6	26.3961	-81.5264	Jan-00	May-24	95	75	13.2	-3.61	20.9	4.67	8,467
19	HF2	26.3964	-81.5256	Dec-99	Oct-12	100	20	16.7	11.8	20.3	1.77	4,689
20	HF3	26.3806	-81.5294	Dec-99	Oct-12	96	17	19.7	16.7	22.0	0.98	4,523
21	HF4	26.3972	-81.5258	Dec-99	Oct-12	100	20	15.8	11.1	21.0	2.15	4,685

Source: DBHYDRO

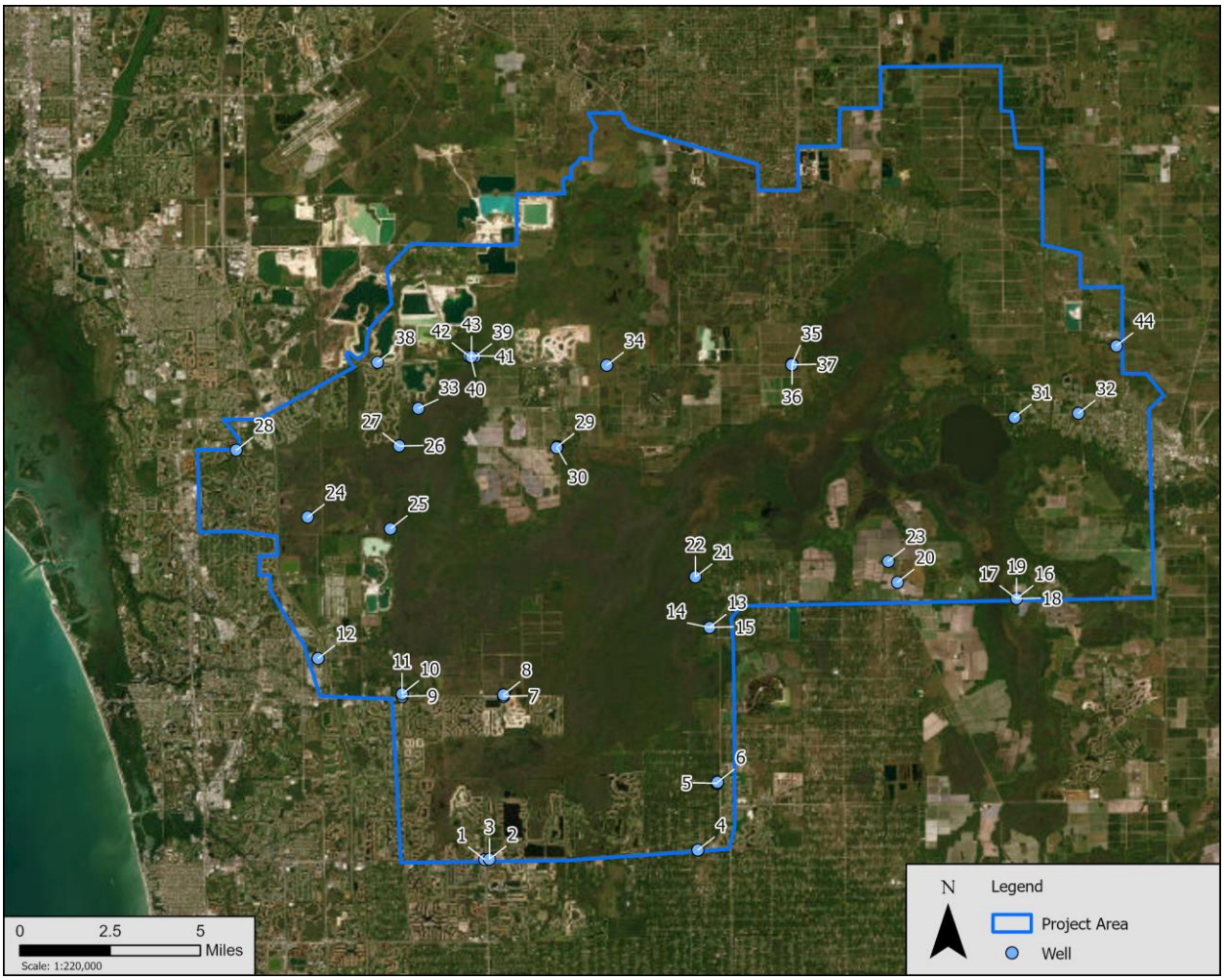


Figure 7-20. Corkscrew Watershed Initiative Study Area – Groundwater Level Well Stations (WQP)

The map ID numbers in the above figure correspond to the stations. Refer to Table 7-8 for the station names and data source.

Table 7-8. Groundwater Levels Inventory – Well Stations

ID	Station	Lat	Long	Period of Record		% Complete	Well Depth (ft)	Land Surface	Average (feet MSL, Field Readings)	Min	Max	StDev	Count	Aquifer[1/]
1	USGS-261621081412302	26.2734	-81.6895	Oct-81	Aug-00	3	300	18.1	6.17	-0.21	11.9	2.70	220	Int
2	USGS-261625081411801	26.2736	-81.6876	Nov-08	Mar-10	4	95	15.8	5.79	0.01	10.4	2.85	18	Surf
3	USGS-261625081411901	26.2736	-81.6876	Nov-08	Feb-10	3	13	15.7	9.93	7.62	14.5	1.74	16	Surf
4	USGS-261630081360001	26.2769	-81.6041	Oct-81	Aug-00	3	130	15.6	8.00	2.85	13.6	2.29	218	Int
5	USGS-261802081354801	26.3008	-81.5964	Oct-81	Mar-10	2	242	15.6	10.9	1.95	15.4	2.83	195	Int
6	USGS-261802081354802	26.3012	-81.5962	Sep-93	Feb-10	2	18	15.7	11.1	2.99	15.6	1.98	108	Surf
7	USGS-261954081410101	26.3320	-81.6820	Jan-76	Aug-93	1	295	15.0	6.24	-0.02	12.2	3.07	73	Int
8	USGS-261954081410102	26.3326	-81.6820	Apr-83	Aug-93	2	20	14.9	12.0	8.76	15.7	1.73	78	Surf
9	USGS-261954081432201	26.3320	-81.7226	Oct-77	Apr-93	3	138	12.0	6.27	-1.83	12.8	3.68	154	Int
10	USGS-261957081432201	26.3329	-81.7226	Sep-75	Jan-10	1	137	14.6	5.95	-1.82	12.1	3.60	151	Int
11	USGS-261957081432202	26.3329	-81.7226	Oct-75	Jan-10	1	15	14.7	10.1	6.77	14.2	1.81	140	Surf
12	USGS-262042081455001	26.3456	-81.7562	Jan-76	Feb-10	1	69	14.3	1.78	-5.97	10.3	3.62	186	Surf
13	USGS-262121081355501	26.3567	-81.5995	Oct-84	Oct-96	3	40	19.1	16.9	14.0	20.1	1.25	146	Surf
14	USGS-262121081355502	26.3567	-81.5995	Mar-85	Jul-00	3	340	19.1	28.1	15.3	32.2	2.62	186	Int
15	USGS-262121081355503	26.3567	-81.5995	Oct-84	Aug-00	3	113	19.1	14.1	6.93	18.8	2.20	189	Int
16	USGS-262158081283401	26.3670	-81.4765	Oct-84	Jan-10	2	60	21.3	19.5	15.4	21.5	1.14	155	Surf
17	USGS-262158081283402	26.3670	-81.4765	Oct-84	Jan-10	2	520	21.0	32.7	20.6	36.1	1.90	203	Int
18	USGS-262158081283403	26.3670	-81.4765	Oct-84	Jan-10	2	160	21.6	14.3	-0.84	21.3	5.31	213	Int
19	USGS-262158081283404	26.3670	-81.4765	Apr-86	Jan-10	1	390	21.1	11.4	-0.49	21.5	6.08	92	Int
20	USGS-262212081312501	26.3729	-81.5242	Oct-08	Jan-10	1	82	23.9	10.6	2.32	17.5	5.68	6	Int
21	USGS-262228081361901	26.3748	-81.6051	Oct-75	Jan-10	1	64	18.4	16.2	12.6	18.0	1.25	128	Surf
22	USGS-262228081361902	26.3748	-81.6051	Oct-86	Feb-10	2	309	18.9	26.3	11.8	30.9	2.78	207	Int
23	USGS-262248081314101	26.3804	-81.5279	Oct-08	Aug-09	3	70	22.7	13.7	3.04	17.8	5.86	8	Int
24	USGS-262331082383201	26.3962	-81.7604	May-83	Aug-00	1	38	16.2	13.7	7.27	16.6	2.00	74	Surf
25	USGS-262331082383202	26.3921	-81.7272	May-83	Feb-10	1	135	16.2	4.31	-4.18	11.3	3.74	119	Int
26	USGS-262513081432601	26.4217	-81.7237	Apr-83	Mar-10	1	32	18.2	16.4	12.3	18.7	1.53	103	Surf

ID	Station	Lat	Long	Period of Record		% Complete	Well Depth (ft)	Land Surface	Average (feet MSL, Field Readings)	Min	Max	StDev	Count	Aquifer[1/]
27	USGS-262513081432902	26.4217	-81.7237	Apr-83	Apr-96	1	220	17.2	7.07	2.43	11.5	2.17	35	Int
28	USGS-262513081472001	26.4202	-81.7890	Oct-06	Feb-10	3	33	15.8	12.5	10.7	14.3	0.98	39	Surf
29	USGS-262514081393401	26.4215	-81.6604	Jun-19	Jul-96	1	37	21.2	17.3	14.6	19.4	1.06	157	Surf
30	USGS-262514081393402	26.4211	-81.6606	Nov-82	Feb-10	2	300	21.2	8.58	-5.87	15.6	4.36	237	Int
31	USGS-262554081283801	26.4320	-81.4773	Oct-81	Jan-10	2	310	23.6	18.8	4.03	25.4	4.14	244	Int
32	USGS-262558081270501	26.4334	-81.4517	Apr-86	Feb-10	2	38	31.4	25.4	19.7	32.2	2.39	192	Surf
33	USGS-262605081425901	26.4352	-81.7161	Oct-08	Jan-10	2	60	15.8	15.1	12.4	16.0	1.13	8	Int
34	USGS-262659081382501	26.4506	-81.6406	Jan-01	Feb-10	1	184	27.3	15.9	-5.32	27.8	4.05	324	Int
35	USGS-262703081340201	26.4511	-81.5664	Apr-76	Mar-10	1	243	24.4	5.45	-8.05	22.5	9.05	104	Int
36	USGS-262703081340202	26.4508	-81.5664	Oct-75	Feb-10	3	20	24.4	21.9	18.6	24.1	0.67	341	Surf
37	USGS-262703081340203	26.4508	-81.5664	Oct-81	Feb-10	2	670	24.4	50.9	46.9	54.5	1.30	257	Int
38	USGS-262706081435401	26.4517	-81.7325	Oct-75	Nov-09	3	210	23.8	7.35	-14.1	14.5	5.18	317	Int
39	USGS-262711081413701	26.4537	-81.6934	Mar-92	Mar-10	1	134	18.6	15.0	8.69	19.2	3.07	38	Surf
40	USGS-262713081414401	26.4535	-81.6951	Mar-92	Mar-10	1	292	19.5	-16.3	-47.3	8.13	17.4	39	Int
41	USGS-262713081414402	26.4540	-81.6954	Oct-78	Jun-86	3	750	20.0	47.9	45.2	51.4	0.91	94	Int
42	USGS-262713081414601	26.4540	-81.6959	Oct-75	Nov-93	2	288	18.0	6.45	-15.0	16.8	6.60	139	Int
43	USGS-262713081414701	26.4537	-81.6948	Jan-01	Feb-10	1	50	20.8	14.5	7.30	20.0	3.20	251	Surf
44	USGS-262724081260701	26.4576	-81.4365	Oct-75	Jan-10	1	110	33.8	29.6	21.0	37.6	3.39	137	Int

Source: WQP
1/ Surf – Surficial; Int – Intermediate

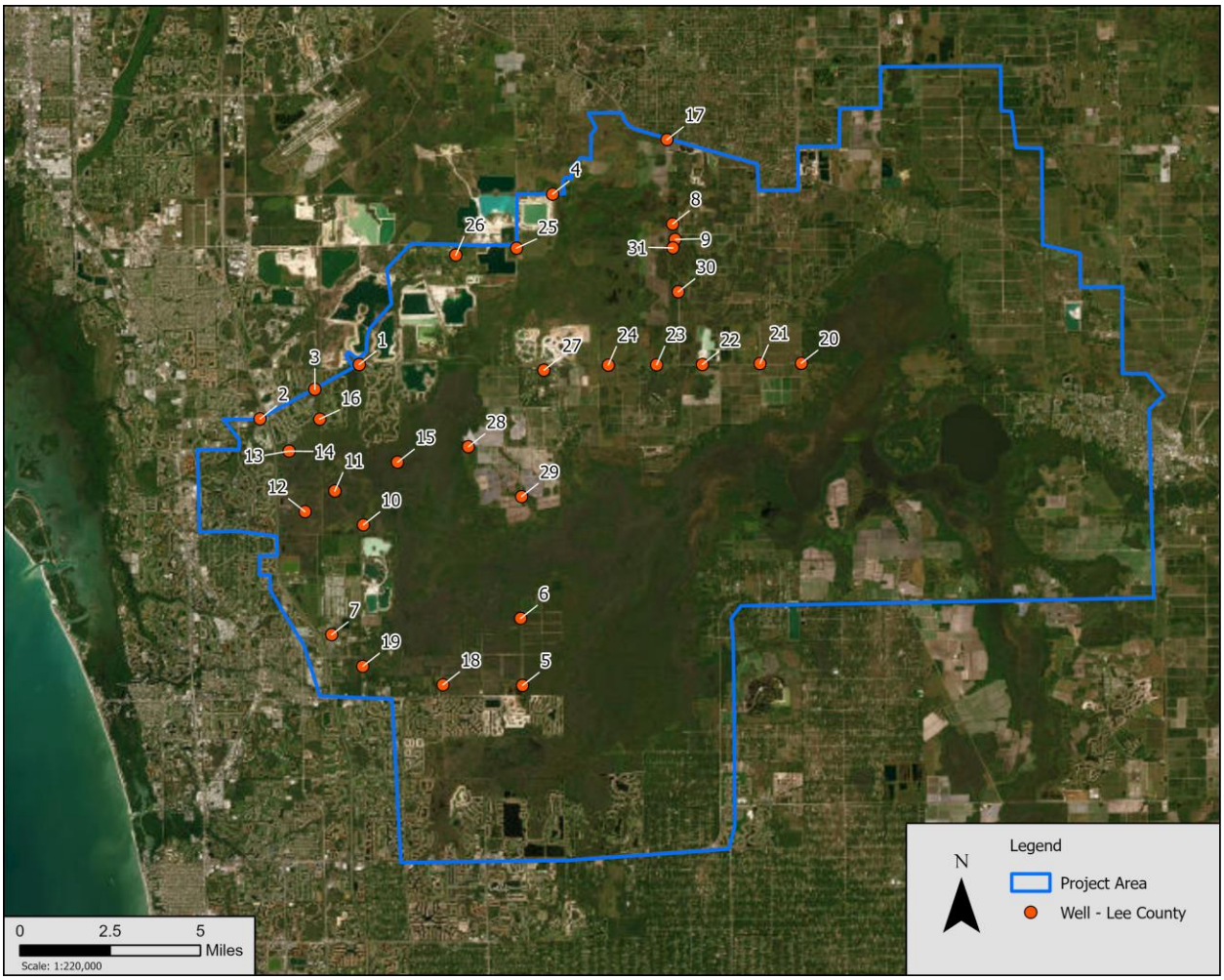


Figure 7-21. Corkscrew Watershed Initiative Study Area – Groundwater Level Well Stations (Lee County)

The map ID numbers in the above figure correspond to the stations. Refer to Table 7-9 *for the station names and data source.*

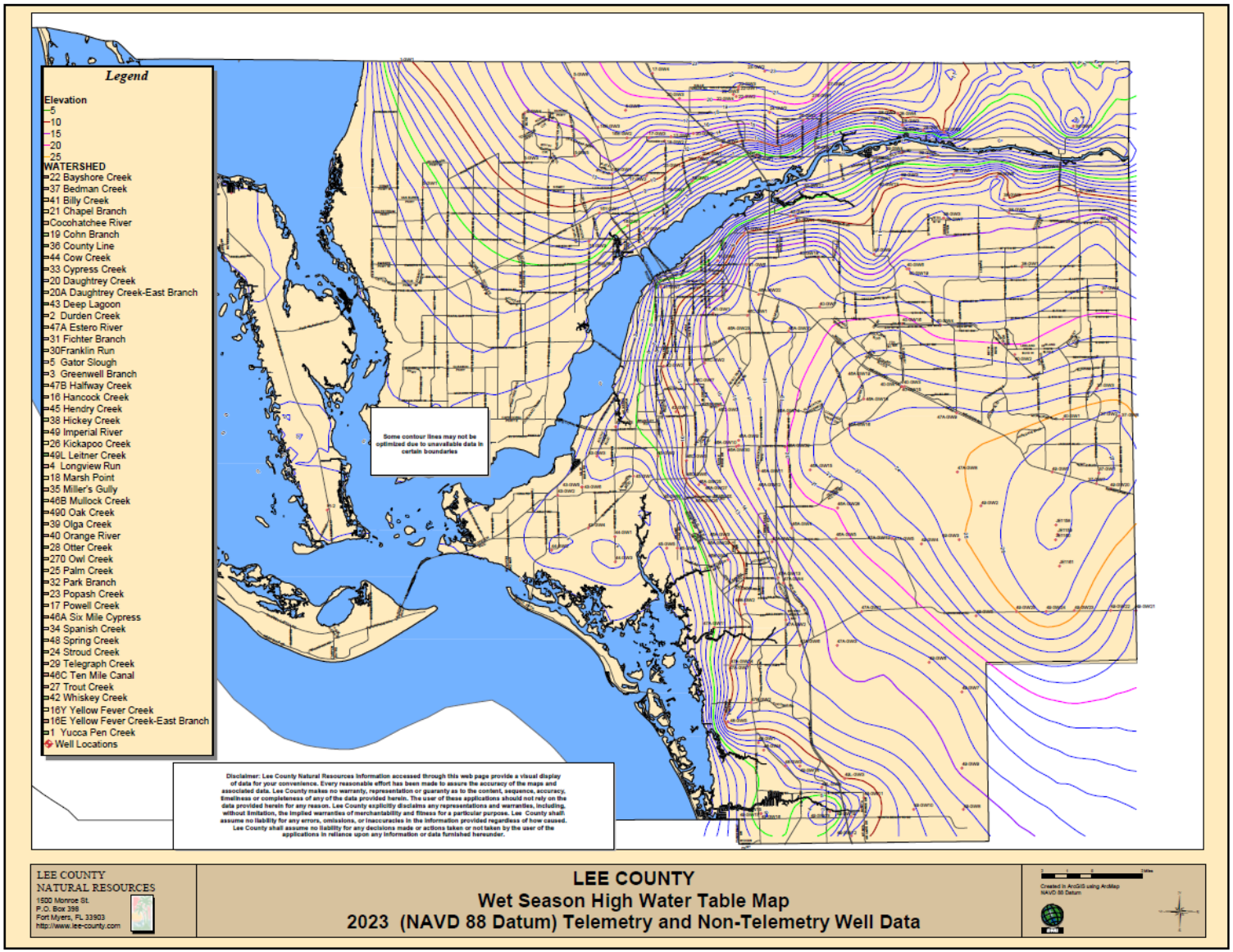


Figure 7-22. Lee County 2023 Wet Season Water Table Map

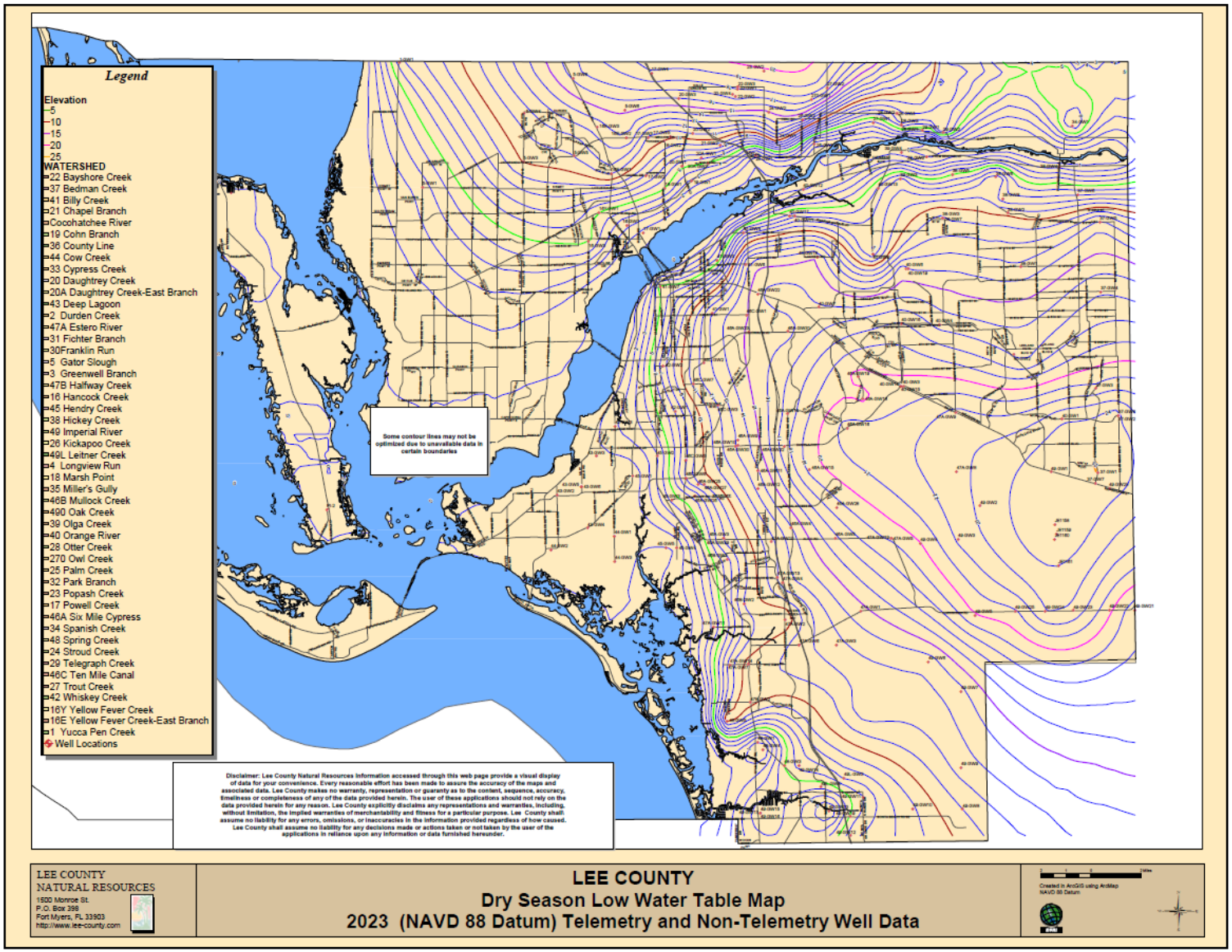


Figure 7-23. Lee County 2023 Dry Season Water Table Map

Table 7-9. Groundwater Levels Inventory – Lee County Well Stations (ft NAVD88)

ID	Station	Lat	Long	Period of Record		% Complete	Well Depth (ft)	Land Surface	Average	Min	Max	StDev	Count	Aquifer
1	47A-GW1 (T)	26.4509	-81.7397	2/4/1991	7/20/2021	39.6%	19.8	17.49	15.71	7.93	26.03	1.25	4407	Surf
2	47A-GW6 (T)	26.4314	-81.7794	3/5/1992	10/1/2024	48.0%	23.8	15.93	13.73	0	16.35	1.54	5712	Surf
3	47A-GW15 (T)	26.4420	-81.7575	6/22/2007	5/2/2011	100%	NA	19.50	15.65	12.58	17.94	1.06	1411	Surf
4	49-GW2 (T)	26.5119	-81.6623	1/1/1990	10/1/2024	48.9%	23.2	28.31	24.34	-0.64	75.38	3.21	6211	Surf
5	49-GW8 (T)	26.3359	-81.6743	8/3/1990	10/1/2024	50.6%	22.2	16.25	13.21	5.09	18.28	1.68	6318	Surf
6	49-GW9 (T)	26.3599	-81.6751	8/3/1990	10/1/2024	49.3%		15.58	13.52	-16.44	17.03	6.47	6152	Surf
7	49L-GW3 (T)	26.3540	-81.7508	1/1/2018	7/1/2021	99.8%	22.7	13.01	8.74	4.6	12.57	1.90	1276	Surf
8	JE1158 (T)	26.5013	-81.6142	4/27/2017	10/1/2024	94.8%	9.8	27.00	26.87	23.63	29.3	1.30	2574	Surf
9	JE1159 (T)	26.4957	-81.6132	5/10/2017	10/1/2024	90.7%	9	27.50	26.45	4.39	29.12	2.10	2450	Surf
10	Kiker-GW1 (T)	26.3934	-81.7381	1/1/2023	10/1/2024	100%	15.4	14.77	14.55	12.21	17.06	1.31	640	Surf
11	Kiker-GW2 (T)	26.4055	-81.7495	4/18/2023	10/1/2024	100%	9.22	12.5	13.99	10.91	15.61	1.21	533	Surf
12	Kiker-GW3 (T)	26.3982	-81.7615	1/1/2023	10/1/2024	100%	15.43	13.89	13.19	9.92	15.71	1.53	640	Surf
13	Kiker-GW5 (T)	26.4198	-81.7679	1/1/2023	10/1/2024	100%	9.22	12.5	11.62	8.88	14.28	1.45	640	Surf
14	Kiker-GW9 (T)	26.4198	-81.7679	1/1/2023	10/1/2024	100%	9.04	14.35	13.68	11.23	15.36	1.17	640	Surf
15	Kiker-GW14 (T)	26.4159	-81.7243	1/1/2023	10/1/2024	100%	5.75	14.55	14.31	12.77	15.84	1.00	640	Surf
16	47A-GW3	26.4314	-81.7556	3/5/1992	10/17/2024	4.2%	32.1	17.02	14.58	11.97	17.88	1.04	496	Surf
17	49-GW1	26.5314	-81.6165	8/3/1990	10/15/2024	4.3%	8.78	29.7	25.98	22.67	28.67	1.00	542	Surf
18	49-GW10	26.3361	-81.7062	7/18/1990	9/30/2024	4.2%	12.85	12.85	11.08	7.33	16.24	1.93	527	Surf
19	49-GW11	26.3428	-81.7383	7/18/1990	10/18/2024	4.3%	6.7	11.85	9.91	5.86	14.92	2.70	536	Surf
20	49-GW21	26.4514	-81.5627	5/9/2007	9/27/2024	3.7%	33.05	24.7	20.21	17.06	23.26	1.23	233	Surf
21	49-GW22	26.4512	-81.5792	5/9/2007	12/17/2014	5.0%	N/A	N/A	20.93	19.92	29.64	0.93	138	Surf
22	49-GW23	26.4509	-81.6023	5/9/2007	10/17/2024	3.9%	9.78	28.51	24.22	20.65	27.23	1.46	246	Surf
23	49-GW24	26.4508	-81.6206	5/9/2007	10/17/2024	3.8%	8.47	27.77	25.22	21.74	28.64	1.70	243	Surf
24	49-GW25	26.4507	-81.6400	5/9/2007	10/17/2024	3.6%	7.75	26.67	23.44	19.92	26.92	1.66	229	Surf
25	49-GW3	26.4926	-81.6767	8/3/1990	10/17/2024	3.7%	8.9	26.67	23.67	18.47	27.24	1.43	462	Surf
26	49-GW4	26.4900	-81.7011	8/3/1990	10/17/2024	4.3%	8.65	24.24	21.99	17.83	25.08	1.52	535	Surf

ID	Station	Lat	Long	Period of Record		% Complete	Well Depth (ft)	Land Surface	Average	Min	Max	StDev	Count	Aquifer
27	49-GW5	26.4488	-81.6657	8/3/1990	10/17/2024	4.2%	8.23	24.53	21.63	17.38	25.26	1.57	530	Surf
28	49-GW6	26.4214	-81.6960	8/3/1990	10/17/2024	4.3%	7.63	17.4	15.10	10.95	17.95	1.50	535	Surf
29	49-GW7	26.4036	-81.6747	8/3/1990	10/17/2024	4.2%	8.71	18.2	15.32	12.01	18.26	1.25	519	Surf
30	JE-1161	26.4769	-81.6119	1/24/2020	10/17/2024	6.2%	9.96	26.83	26.19	23.03	28.51	1.56	108	Surf
31	JE-1160	26.4926	-81.6141	1/24/2020	12/16/2020	5.5%	8.47	27.77	26.40	23.01	29.73	2.14	18	Surf

Source: Lee County
Aquifer: Surf – Surficial

7.3 Hydrologic Data Gaps

Historical data may have missing or incomplete records due to various reasons, such as instrument malfunctions, environmental challenges like severe weather events that can harm monitoring equipment or prevent access to data collection sites, or insufficient funding or resources. These gaps need to be recognized and resolved to ensure that water resource management decisions rely on full and precise data.

Appendix A provides an inventory of data gaps for data-abundant stations with periods ranging from less than 1 week to greater than 1 year as well as identifying when data gaps occur. The presence or absence of data gaps for the primary stations identified above are summarized below:

Surface Water Flows

- COCO3_S: Structure 3 spillway on the Cocohatchee Canal (2000 – 2024): 100 percent complete with no significant data gaps.

Surface Water Levels

- Canal Stations
    - CORK3: Corkscrew Canal, Weir 3 (2004 – 2024): 100 percent complete with no significant data gaps.
    - COCO3_H and COCO3_T: Cocohatchee Canal, Headwater and Tailwater (2000 – 2024): 99 percent complete with minor data gaps. Notable gaps in the Headwater station include a 3- to 4-week period (May 2008) and a 1- to 2-week period (November 2013).
    - KEHL_H and HEHL_T: Kehl Canal, Headwater and Tailwater (2003 – 2024): 98 percent complete with minor data gaps. Notable gaps in the Headwater station include a 3- to 4-week period (July 2016) and a 2- to 3-week period (March 2014); while the Tailwater station include a 1- to 3-month period (August and September 2017) and three 2- to 3-week periods (July 2003, March 2014, and July 2016).
- Lake Station
    - USGS-02291200: Lake Trafford (1941 - 2024): 98 percent complete with minor data gaps. Notable gaps include seven 1- to 3-month periods and four 3- to 4-week periods between April 1991 and June 2008.
- Wetland Stations
    - CRKWPS: Corkscrew Swamp Sanctuary (2015 – 2024): 100 percent complete with no significant data gaps.
    - CORKSCREW_B_GAUGE: Corkscrew Swamp Sanctuary (1959 – 2021): 97 percent complete with minor data gaps. Notable gaps include seven 9-month periods from June 1970 to February 1971, a 3-month period from March to May 1962, and eight 1- to 3-month periods in 1960, 1961, 1971, 1975, 1977, 2018, and 2020.

- BRDROOK_SW: CREW Marsh Bird Rookery: 100 percent complete with no significant data gaps.

Groundwater Levels

- USGS-262703081340201: L-731, Intermediate aquifer (1973 – 2023): 96 percent complete with minor data gaps. Notable gaps include a 6-month period from July to December 2021 and five 1- to 3-month periods in 1981, 1982, 1996, 2020, and 2021.
- USGS-262228081361901: C-492, Surficial aquifer (2021 – 2024): 84 percent complete with a short period of record and data gaps for two 1- to 3-month periods (December 2022 and February 2024) and a 3- to 4-week period (October 2023).
- USGS-261802081354801: C-688, Intermediate aquifer (1996 – 2024): 96 percent complete with minor data gaps. Notable gaps include three 1- to 3-month periods (November 1997, September 2015, and January 2004), a 3- to 4-week period (July 2018), and two 2- to 3-week periods (November 2005 and March 2024).
- USGS-261957081432201: L-2194, Intermediate aquifer (1977 – 2024): 97 percent complete with minor data gaps. Notable gaps include seven 1- to 3-month periods (November 1977, January 1978, November 1995, November 1996, October 1998, July 1999, and February 2000) and six 3- to 4-week periods (October 1977, December 1977, February 1978, March 1997, September 2000, and September 2008).
- USGS-261957081432202: L-2195, Surficial aquifer (1977 – 2024): 97 percent complete with minor data gaps. Notable gaps include seven 1- to 3-month periods (November 1977, January 1978, November 1996, August 1997, February 1998, July 1999, and March 2019) and three 3- to 4-week periods (October 1977, December 1977, and February 1998).

8.0 Soils and Geology

8.1 Soils and Geology Data Sources

Soil classification and properties were obtained from the U.S. Department of Agriculture (USDA) Natural Resource Conservation Service (NRCS) Soil Survey Geography Database (SSURGO). Detailed soil characteristics, including drainage and hydric features, were further analyzed using the U.S. Environmental Protection Agency (EPA) Enviro Atlas and the NRCS National Technical Committee for Hydric Soils resources.

Geomorphology districts and provinces were obtained by FDEP's Florida Geological Survey Special Publication 59, also known as the Florida Geomorphology Atlas. It is a comprehensive discussion of Florida's landforms that benefits from digital elevation models, light detection and ranging data and satellite imagery, and geologic data in a geographic information system.

8.2 Soils and Geology Data Summary

Based on the NRCS SSURGO, a total of 35 soil series are mapped within the CWI Project area (see Figure 8-1 and Table 8-1). Immokalee, Oldsmar, Winder, and Pineda Series make up over 50 percent of the CWI Project area and include mostly natural communities of the CREW lands. The following are the natural use categories for the soils based on NRCS SSURGO descriptions:

- Cypress Lake: Forest land, rangeland, wildlife habitat, recreation, and urban land. With adequate water control, some areas are used for truck crops, citrus, and pasture.
- Immokalee: Under natural conditions, Immokalee soils are used for water quality, forestry, and wildlife habitat. Large areas with adequate water management are used for citrus, truck crops, pastureland, and range.
- Oldsmar: Under natural conditions, Oldsmar soils are used for water quality, forestry, and wildlife habitat; some areas are used for citrus, truck crops, pastureland, range, and urban.
- Winder: Most areas of Winder soils are in native vegetation and used for wildlife habitat. With adequate water control, some areas are used for citrus, winter truck crops, and improved pasture.
- Pineda: Many areas of Pineda soils have been drained and are used for citrus, truck crops, and tame pasture (pangola grass and Bahia grass). In their undrained state, these soils are used for rangeland.

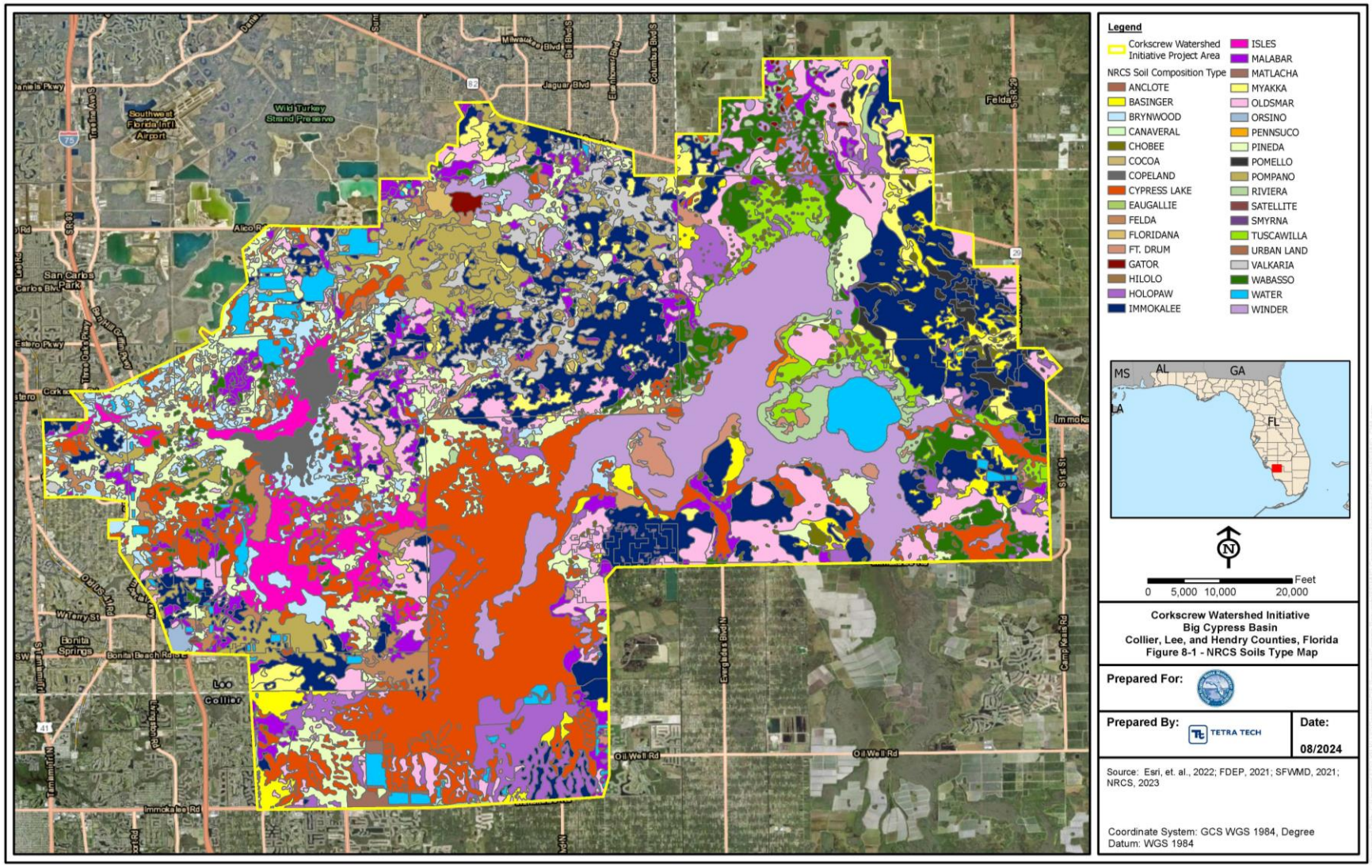


Figure 8-1. Soil Classifications within the CWI Project Area

Table 8-1. Soil Classification Descriptions within the CWI Project Area

Soil Series	Classification	Drainage Class	Area (acres)
Cypress Lake	Loamy, siliceous, superactive, hyperthermic Arenic Endoaqualfs	Very poorly and poorly drained	26,514
Immokalee	Sandy, siliceous, hyperthermic arenic alaquods	Poorly drained; very poorly drained in depressional and ponded phases	24,273
Oldsmar	Sandy, siliceous, hyperthermic alfic arenic alaquods	Very poorly and poorly drained.	16,546
Winder	Fine-loamy, siliceous, superactive, hyperthermic typic glossaqualfs	Poorly drained; slow to very slow permeability	16,370
Pineda	Loamy, siliceous, active, hyperthermic arenic glossaqualfs	Poorly drained; very slow permeability	15,499
Pompano	Siliceous, hyperthermic typic psammaquents	Very poorly to poorly drained	9,750
Holopaw	Loamy, siliceous, active, hyperthermic grossarenic endoaqualfs	Poorly and very poorly drained	7,145
Malabar	Loamy, siliceous, active, hyperthermic grossarenic endoaqualfs	Poorly and very poorly drained	7,008
Wabasso	Sandy, siliceous, hyperthermic alfic alaquods	Poorly drained and very poorly drained	6,418
Brynwood	Siliceous, hyperthermic lithic psammaquents	Very poorly to poorly drained	5,836
Valkaria	Siliceous, hyperthermic spodic psammaquents	Poorly or very poorly drained; slow or ponded runoff, rapid permeability	5,643
Isles	Loamy, siliceous, superactive, hyperthermic arenic endoaqualfs	Very poorly drained or poorly drained; moderate permeability	4,900
Felda	Loamy, siliceous, superactive, hyperthermic arenic endoaqualfs	Very poorly and poorly drained	4,782
Water	Open water	Subaqueous	4,663
Myakka	Sandy, siliceous, hyperthermic aeric alaquods	Very poorly and poorly drained	4,477
Basinger	Siliceous, hyperthermic spodic psammaquents	Very poorly drained	3,671
Riviera	Loamy, siliceous, active, hyperthermic arenic glossaqualfs	Poorly and very poorly drained	3,024
Tuscawilla	Fine-loamy, siliceous, superactive, hyperthermic typic endoaqualfs	Very poorly drained; moderate permeability	2,980
Chobee	Fine-loamy, siliceous, superactive, hyperthermic typic argiaquolls	Very poorly drained	1,975
Copeland	Fine-loamy, siliceous, superactive, hyperthermic typic argiaquolls	Very poorly drained; moderate permeability	1,909
Pomello	Sandy, siliceous, hyperthermic oxyaquic alorthods	Somewhat poorly and moderately well drained	1,719
Ft. Drum	Sandy, siliceous, hyperthermic aeric endoaquepts	Poorly drained	1,644
Floridana	Loamy, siliceous, superactive, hyperthermic arenic argiaquolls	Very poorly drained; very slow permeability	465

Soil Series	Classification	Drainage Class	Area (acres)
Matlacha	Sandy, siliceous, hyperthermic anthroportic udorthents	Somewhat poorly drained	460
Gator	Loamy, siliceous, euic, hyperthermic terric haplosaprists	Very poorly drained	430
Orsino	Hyperthermic, uncoated spodic quartzipsamments	Moderately well drained; slow surface runoff; very rapid permeability	213
Anclote	Sandy, siliceous, hyperthermic typic endoaquolls	Very poorly drained; rapid permeability	173
Pennsuco	Coarse-silty, carbonatic, hyperthermic typic fluvaquents	Poorly and very poorly drained; moderate to moderately slow permeability	104
Eaugallie	Sandy, siliceous, hyperthermic alfic alaquods	Very poorly or poorly drained	100
Hilolo	Fine-loamy, siliceous, superactive, hyperthermic mollic endoaqualfs	Poorly drained	54
Cocoa	Siliceous, hyperthermic psammentic hapludalfs	Well drained; rapid permeability to the coquina layer	46
Satellite	Hyperthermic, uncoated aquic quartzipsamments	Somewhat poorly drained; rapid permeability	25
Smyrna	Sandy, siliceous, hyperthermic aeric alaquods	Poorly to very poorly drained	19
Canaveral	Hyperthermic, uncoated aquic quartzipsamments	Somewhat poorly to moderately well drained; very rapid permeability	12
Urban Land	Not applicable (field verification required)	Not applicable (field verification required)	10

The drainage class identifies the natural drainage condition of the soil. It refers to the frequency and duration of wet periods under conditions similar to those under which the soil developed (NRCS 2017). There are seven drainage classes ranging from excessively drained to very poorly drained. The drainage characteristics of soil determine the types of vegetation and how the land can be used. Soil drainage is an important factor in identifying aquifers and recharge areas; monitoring the movement of chemicals contaminants; and determining the suitability of specific areas for conservation, agriculture, or development (EPA 2024). Poorly drained wetlands typically indicate the presence of wetlands. Descriptions of the drainage classes are as follow:

- Excessively drained: Water is removed very rapidly. Presence of water within the soil profile is very rate or very deep.
- Somewhat excessively drained: Water is removed rapidly. Presence of water within the soil profile is very rate or very deep.
- Well drained: Water is removed from the soil readily but not rapidly. Presence of water within soil profile is deep or very deep.
- Moderately well drained: Water is removed from the soil somewhat slowly during periods of the year. Soils are wet for only a short time within the rooting depth during the growing season.

- Somewhat poorly drained: Water is removed so slowly that the soil is wet at shallow depth for significant periods during the growing season or remains wet for long periods.
- Poorly drained: Water is removed so slowly that the soil is wet at shallow depth periodically during the growing season or remains wet for long periods.
- Very poorly drained: Water is removed from the soil so slowly that water remains at or very near the surface much of the growing season.
- Subaqueous: Free water is above the soil surface

The majority of the soils, approximately 61 percent, within the CWI Project area are classified as poorly drained and are commonly found within CREW lands portion of the CWI Project area. Very poorly drained soils make up approximately 35 percent and are scattered throughout the CWI Project area. Moderately well drained and somewhat poorly drained areas account for approximately 1 percent and are found in the more developed areas in the northwest and southern portions of the CWI Project area. See Figure 8-2 and Table 8-1 for drainage class locations in the CWI Project area and soil series specifics, respectively.

The NRCS National Technical Committee for Hydric Soils defines hydric soils as a soil that formed under conditions of saturation, flooding, or ponding long enough during the growing season to develop anaerobic conditions in the upper horizon. Hydric soils support the growth and regeneration of vegetation that has adapted to grow in saturated/inundated and low-oxygen conditions (NRCS 2018). The CWI Project area consists of approximately 112,610 acres (63 percent) of hydric soils (see Figure 8-3). Most of the hydric soils are located within the CREW lands portion of the CWI Project area.

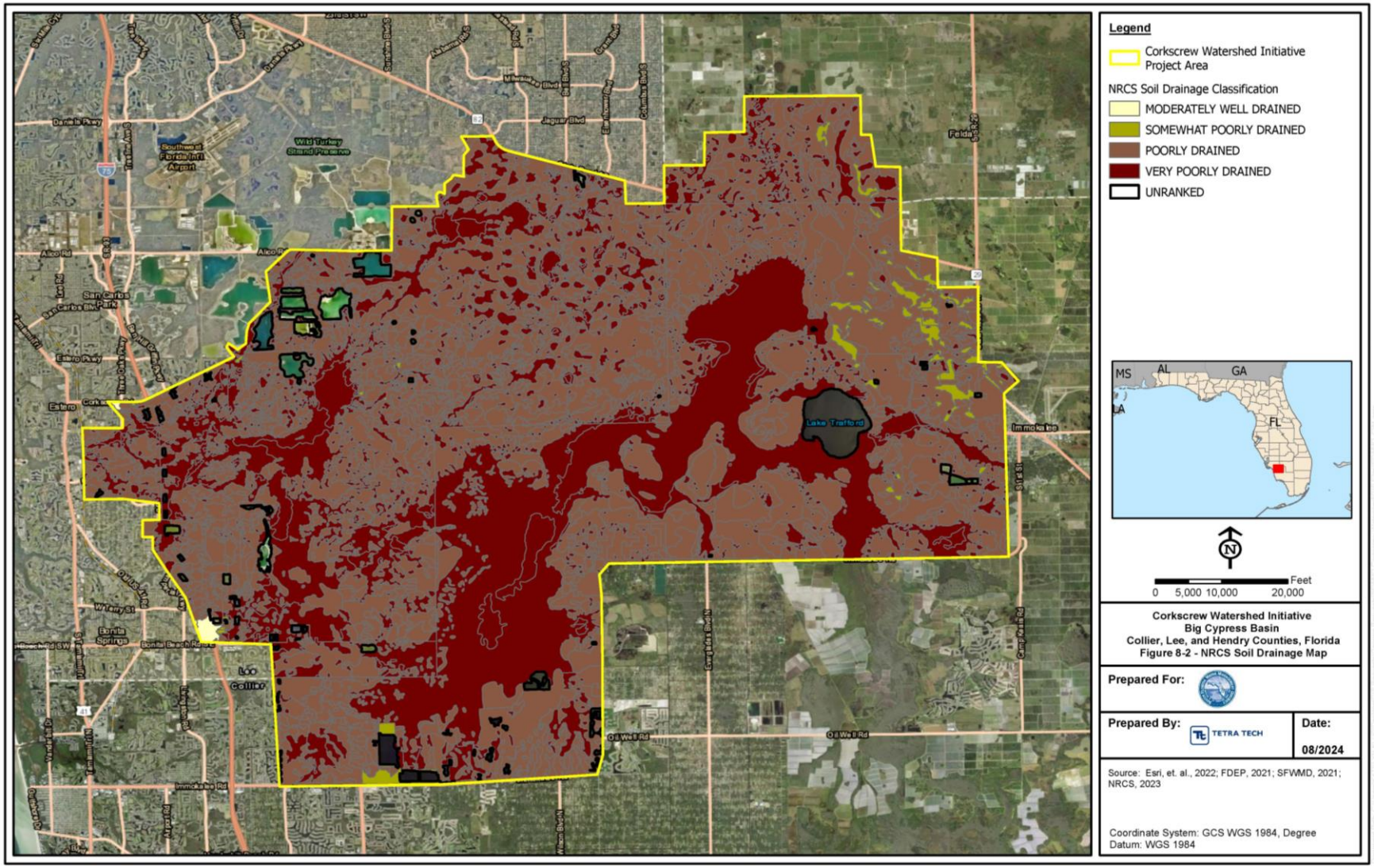


Figure 8-2. Soil Drainage within the CWI Project Area

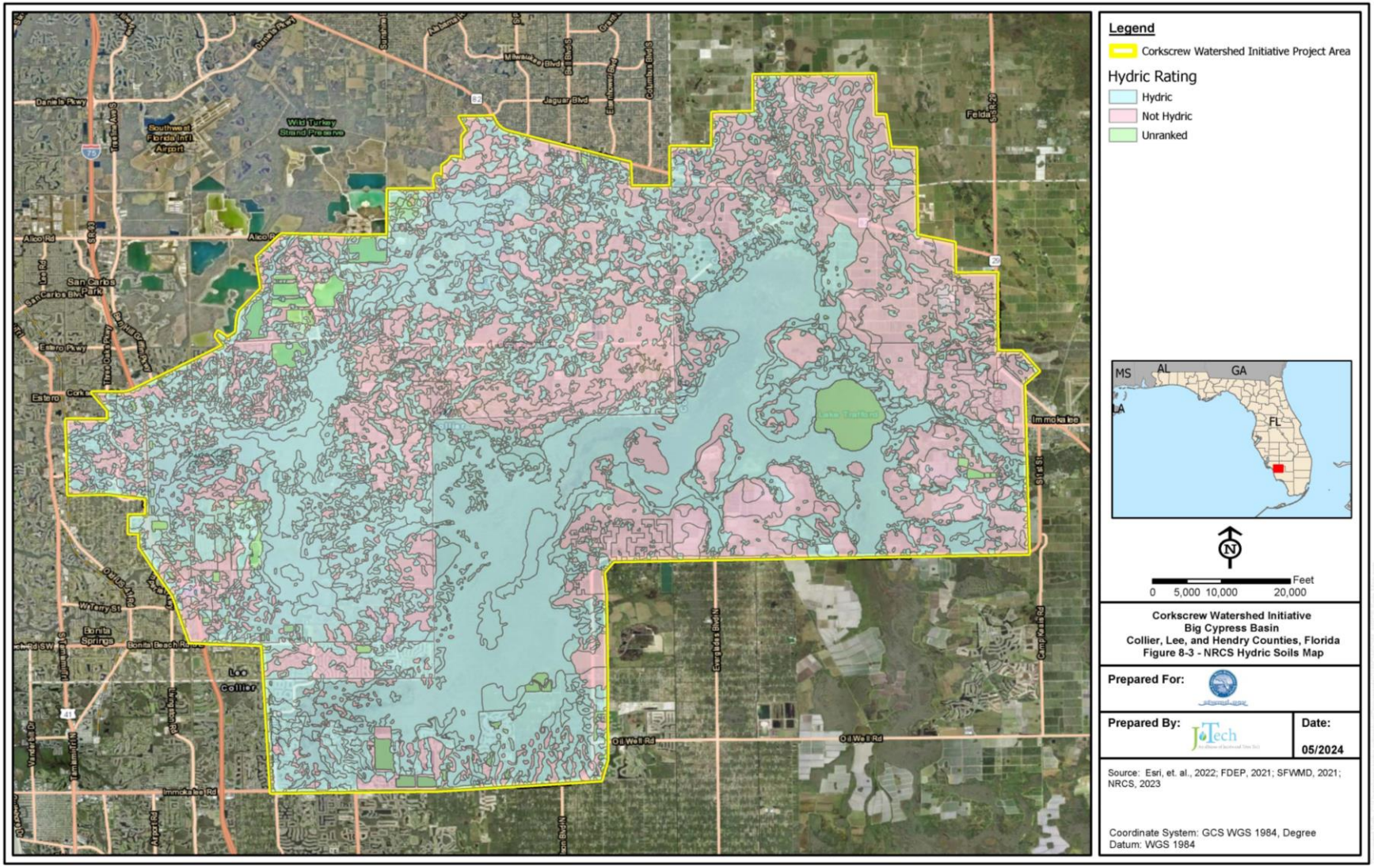


Figure 8-3. Hydric Soils within the CWI Project Area

Florida is divided into 10 regional geomorphic districts that are subdivided into 71 sub-regional local provinces. This classification system is based on landform similarities, the relationship to surrounding features, and geologic processes affecting the area (Williams 2022). Approximately 51 percent of the CWI Project area is located within the Big Cypress Province and the remaining 49 percent is located within Immokalee Rise Province (see Figure 8-4). The Big Cypress Province and Immokalee Rise Province are both part of the Everglades District. The Everglades District is characterized mostly by wetlands, but also include Pleistocene to Holocene carbonate islands and coastal ridges. Draining consists of surface water sheet flow, predominantly from north to south.

The Big Cypress Province is largely undeveloped, including the CSS, and has been preserved by federal, tribal, and state agencies as well as environmental organizations. The Pliocene Tamiami Formation underlies the entire Province, which includes limestone and shelly sand features, both of which control karst development. A cemented paleosol, also known as caprock, occurs in the province, which is a dense limestone or calcite-cemented, shelly, quartz sandstone, depending on the geologic formations and sediment found at the land surface (Williams 2022).

The Immokalee Rise Province is mostly developed for agriculture and has many drainage canals and diches. Residential and commercial development is extensive in the northwestern part of the province, which includes the CWI Project area. The province sits slightly higher in elevation compared to neighboring provinces and has swampy drainage with linear marshes and cypress sloughs. It consists of Tertiary-Quaternary shelly sediments and Quaternary undifferentiated sediments at or near the land surface due to marine deposition during high sea level stands (Williams 2022).

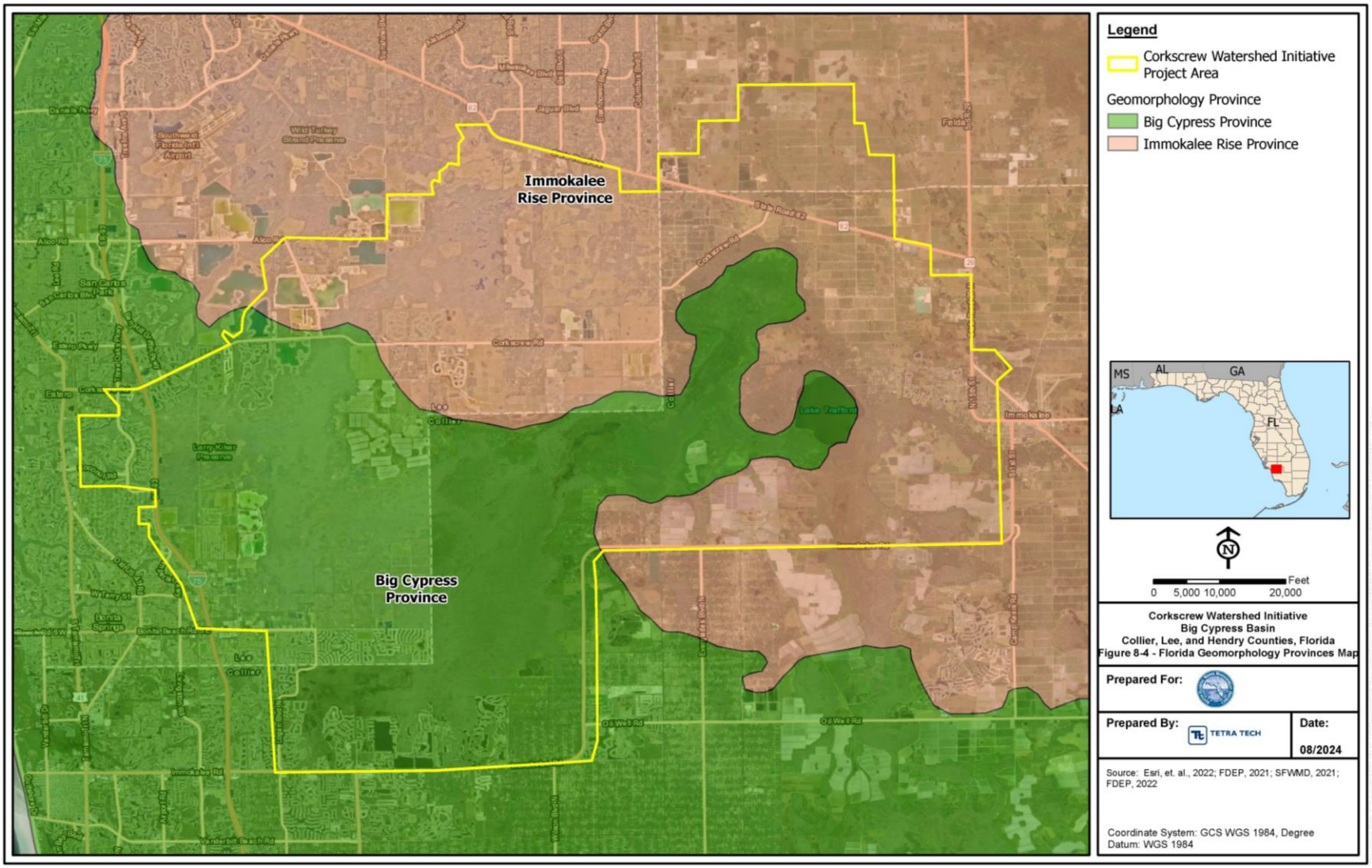


Figure 8-4. Geomorphology Provinces within the CWI Project Area

8.3 Soils and Geology Data Gaps

Since soil survey efforts are typically conducted as one-time assessments, this precludes them from being able to capture the change of soil properties over time due to factors like land use, climate change, and natural processes, thus resulting in temporal gaps within the data. Surveys may not capture the variability of soils within small areas, leading to generalization data that may not accurately reflect local conditions. For example, drainage class is inferred from observation of landscape position and soil morphology. In some instances, direct observations and/or measurements of hydrology may be used to aid in drainage class determination and confirm optimal land utilization for this area.

9.0 Protected Species

9.1 Protected Species Data Sources

The Information for Planning and Consultation (IPaC) is an online tool developed by the USFWS (2024a) to assist project proponents and planners in considering the potential environmental impacts of their project on federally listed species and their habitats. It was used to review the potential occurrence of federally listed species and/or critical habitats within the CWI Project area.

FNAI's web-based tool, Biodiversity Matrix Map Server, was used as a screening tool for the likelihood of federal and state species occurrence. The biodiversity matrix's report includes a site map and list of species and natural communities by occurrence status: Documented, Documented-Historic, Likely, and Potential. Additionally, the Florida FWC Commission Imperiled Species Management Plan was reviewed for state species specific including potential presence ranges.

The Florida Geographic Data Library serves as a mechanism for distributing spatial data throughout the state of Florida. It is warehoused and maintained at the University of Florida's GeoPlan Center was utilized to obtain documented species occurrences within the CWI Project area. Data available in the Florida Geographic Data Library is collected from various state, federal, and other agencies.

9.2 Protected Species Data Summary

The Endangered Species Act of 1973 (ESA) and the Marine Mammal Protection Act (MMPA) of 1972, provide a framework for the conservation of species at risk of extinction, aiming to protect their habitats and implement recovery plans. Both the ESA and MMPA prohibit the "take" (harming, capturing, or killing) of listed species and promotes habitat conservation efforts. The enforcement of the ESA and the MMPA is primarily carried out by the USFWS and the National Marine Fisheries Service (NMFS) depending on the applicable species and/or habitat. Cooperative partnerships with other federal, state, and local agencies ensure the protection of listed species and marine mammals.

The potential use of the CWI Project area by federally protected species was assessed by desktop review using the USFWS IPaC online tool. The desktop review identified four flowering plants, five mammals, seven birds, four reptiles, one fish, and two invertebrate federally protected species to potentially occur within the CWI Project area (see Table 9-1). These species listings trigger the need for environmental assessments and/or consultations with the USFWS, NMFS, and/or FWC Commission to ensure that potential projects within the CWI Project area do not impact the species.

Table 9-1. Federally Listed Species Potential Occurrence within the CWI Project Area

Common Name	Scientific Name	ESA Status
Mammals		
Florida bonneted bat	*Eumops floridanus*	Endangered
Florida panther	*Puma (=Felis) concolor coryi*	Endangered
Tricolored bat	*Perimyotis subflavus*	Proposed Endangered
West Indian manatee	*Trichechus manatus*	Threatened
Birds		
Crested caracara	*Caracara plancus audubonii*	Threatened

Common Name	Scientific Name	ESA Status
Eastern black rail	*Laterallus jamaicensis spp. jamaicensis*	Threatened
Everglade snail kite	*Rostrhamus sociabilis plumbeus*	Endangered
Florida scrub kay	Aphelocoma coerulescens	Threatened
Red-cockaded woodpecker	*Picoides borealis*	Endangered
Rufa red knot	*Calidris canutus rufa*	Threatened
Wood stork	*Mycertia americana*	Threatened
Reptiles		
American alligator	*Alligator mississippiensis*	Similarity of Appearance, Threatened
Eastern indigo snake	*Crymarchon couperi*	Threatened
Green sea turtle	*Chelonia mydas*	Threatened
Kemp's Ridley sea turtle	*Lepidochelys kempii*	Endangered
Fishes		
Gulf sturgeon	*Acipenser oxyrinchus*	Threatened
Insects		
Miami blue butterfly	*Cyclargus thomasi Bethunebakeri*	Endangered
Monarch butterfly	*Danaus Plexippus*	Candidate
Flowering Plants		
Aboriginal prickly-apple	*Harrisia aboriginum*	Endangered
Beautiful pawpaw	*Deeringothamnus pulchellus*	Endangered
Florida prairie-clover	*Dalea carthagenensis floridana*	Endangered
Garber's spurge	*Chamaesyce garberi*	Threatened

Documented occurrences of four federally listed bird species have been identified within the CWI Project area (see Figure 9-1): crested caracara, Florida grasshopper sparrow, Everglades snail kite, and wood stork. The bird occurrences include is a wood stork colony, active 2010-2019, and eight wading bird colonies. Consultation with the USFWS and FWC Commission is recommended for projects within the CWI Project area, aimed to assess potential impacts on the birds and incorporate protective measures including design, seasonal work restrictions, and/or creating buffer zones around existing colonies.

A total of six bald eagle (*Haliaeetus leucocephalus*) nests were documented within the CWI Project area (see Figure 9-2). The bald eagle is protected under the Bald and Golden Eagle Protection Act (16 U.S.C. 668-668d), enacted in 1940 and amended several times; this Act requires consideration during any planning phases of projects. When nests are found near project boundaries, it may require changes in a project design or timing to avoid disturbance of bald eagles during nesting season, extending from October through May in Florida, dependent on when young have fledged the nest.

The desktop analysis revealing the presence of the Florida scrub jay habitat and species presence within the CWI Project area signifies that this species potentially inhabits the eastern portion of the CWI Project area (see Figure 9-3). The Florida scrub jay is a habitat specialist, relaying on sand pine/xeric oak and scrubby flatwoods typically found in well-drained, sandy soils (FNAI 2001). This species' potential presence within the CWI Project area highlights the need for careful consideration of its habitat requirements during project planning. The analysis would likely necessitate further on-site surveys and consultations with USFWS and the FWC Commission.

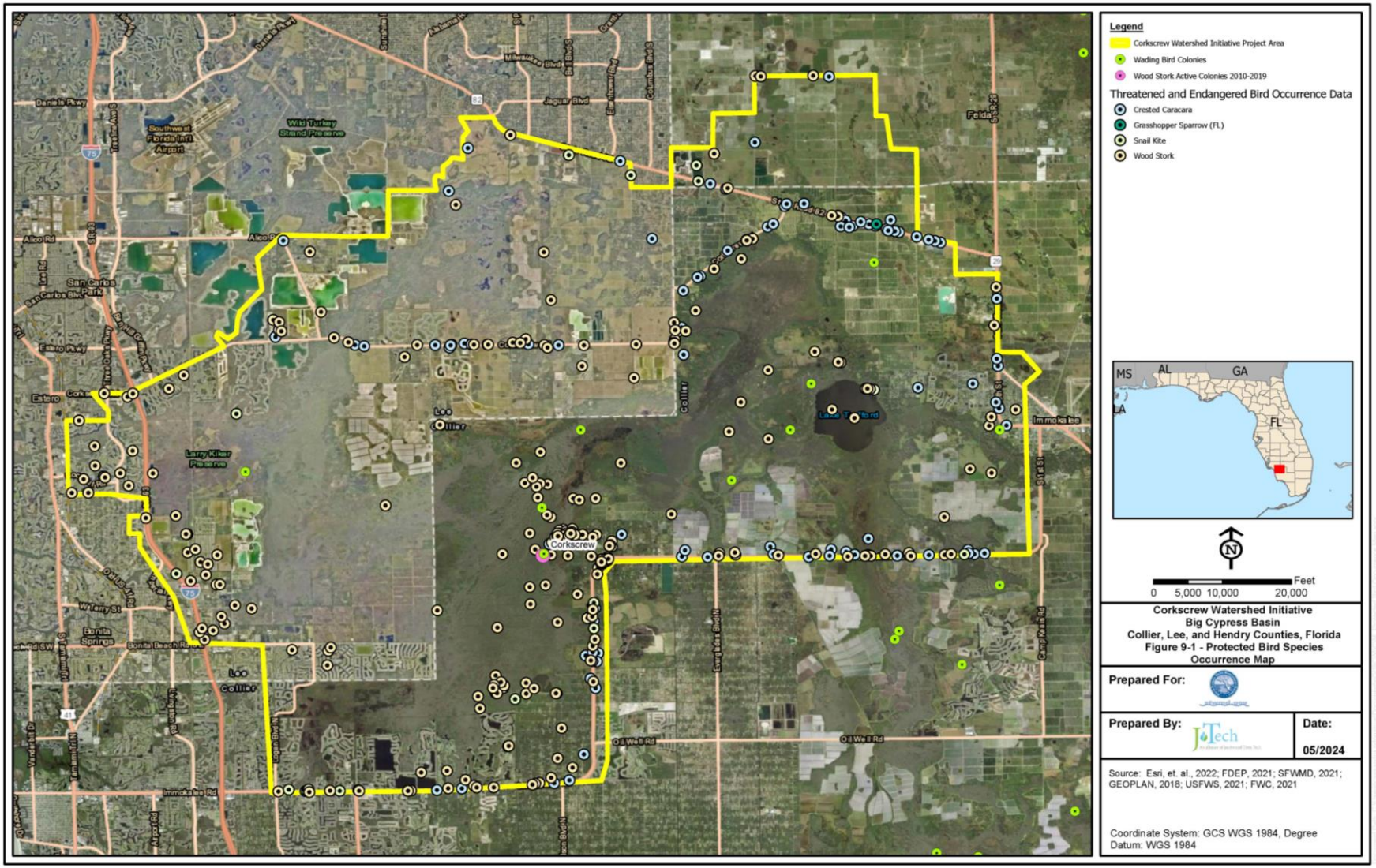


Figure 9-1. Protected Bird Species Occurrence within the CWI Project Area

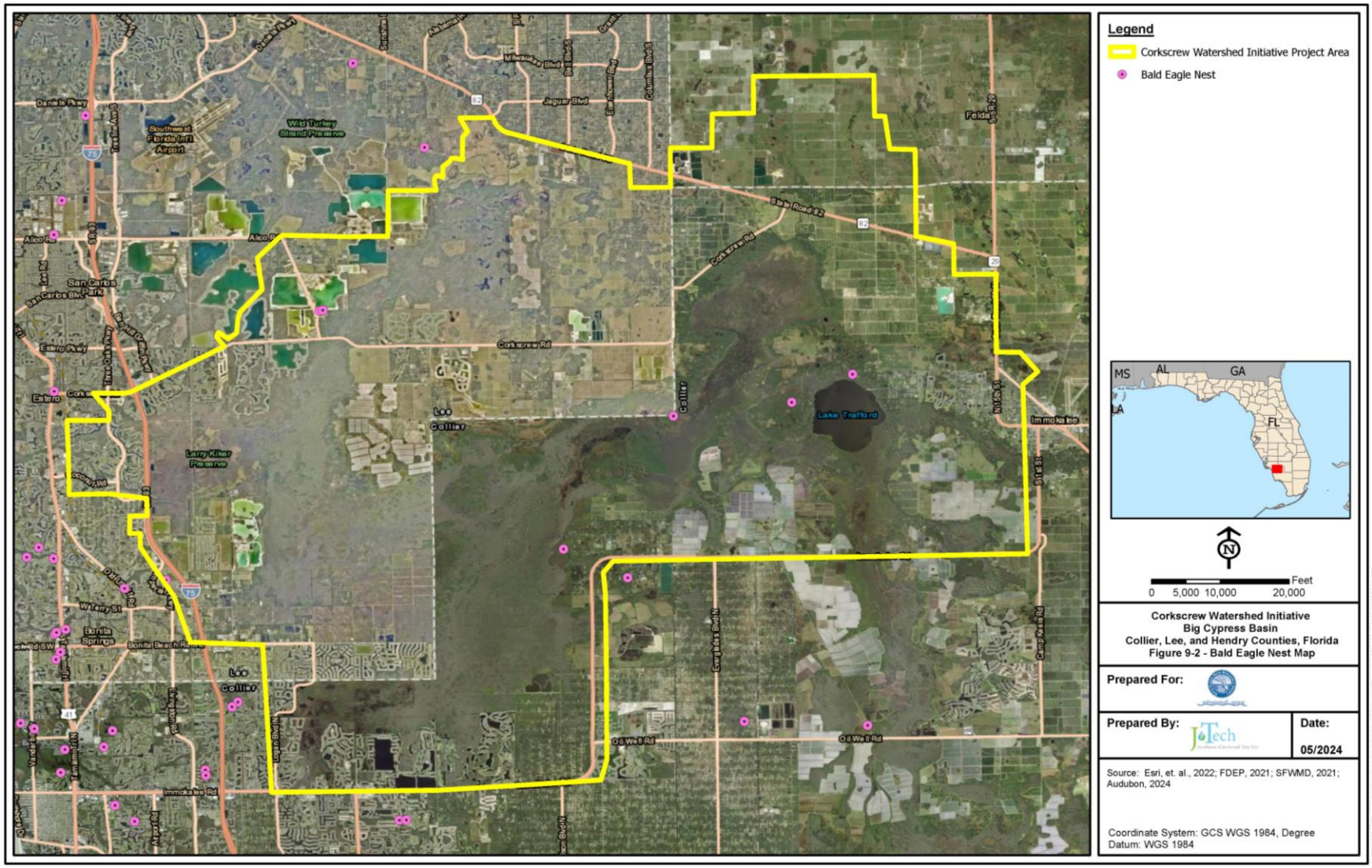


Figure 9-2. Bald Eagle Nests within the CWI Project Area

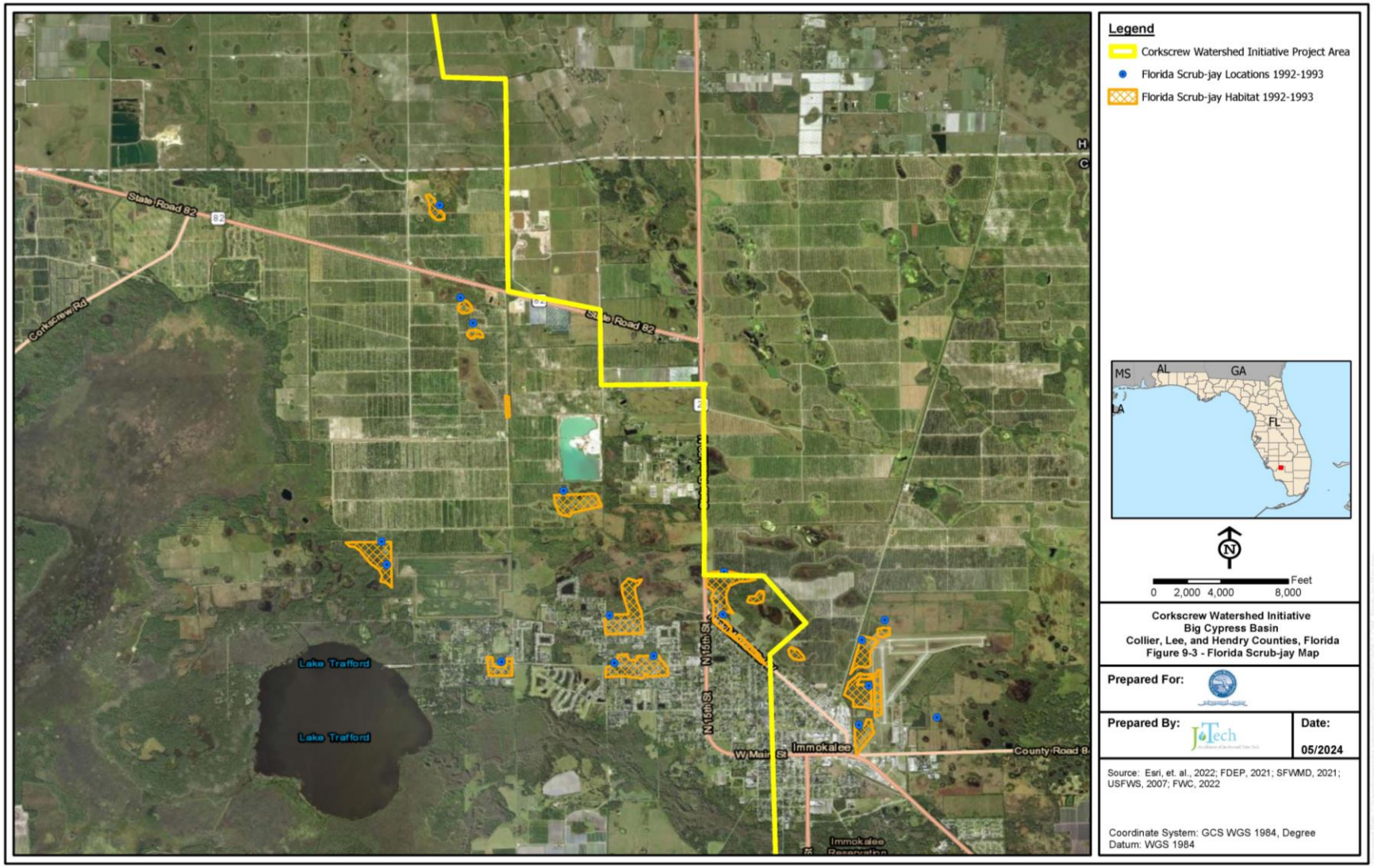


Figure 9-3. Florida Scrub Jay Occurrence within the CWI Project Area

The Florida panther focus areas are habitat zones as defined by the USFWS's panther sub team of Multispecies/Ecosystem Recovery Implementation Team. They are specific regions in Florida identified as critical for the survival and recovery of the endangered Florida panther. These areas encompass key habitats essential for the panther's breeding, hunting, and movement, as well as corridors that facilitate their dispersal across the landscape. The CWI Project area is located within the primary and secondary zones of the Florida panther focus area. There are also documented occurrences of the Florida panther throughout the CWI Project area (see Figure 9-4). Florida panther mortality has also been documented with the CWI Project area. Mortality factors affecting the Florida panther include vehicle collisions, which are the leading cause of death; habitat loss due to urban development; and land conversion, which reduces the Florida panther's range and access to prey. The majority of the moralities located within the CWI Project area have occurred along a roadway. Addressing these threats involves implementing measures such as wildlife crossings to reduce vehicle collisions, and habitat preservation and restoration.

Projects located within Florida panther focus areas are expected to undergo thorough environmental assessments to evaluate the potential effects on the Florida panther and its habitat. The consultation process would involve the USFWS and FWC Commission to develop and implement mitigation measures such as habitat preservation, wildlife corridors, and project timing.

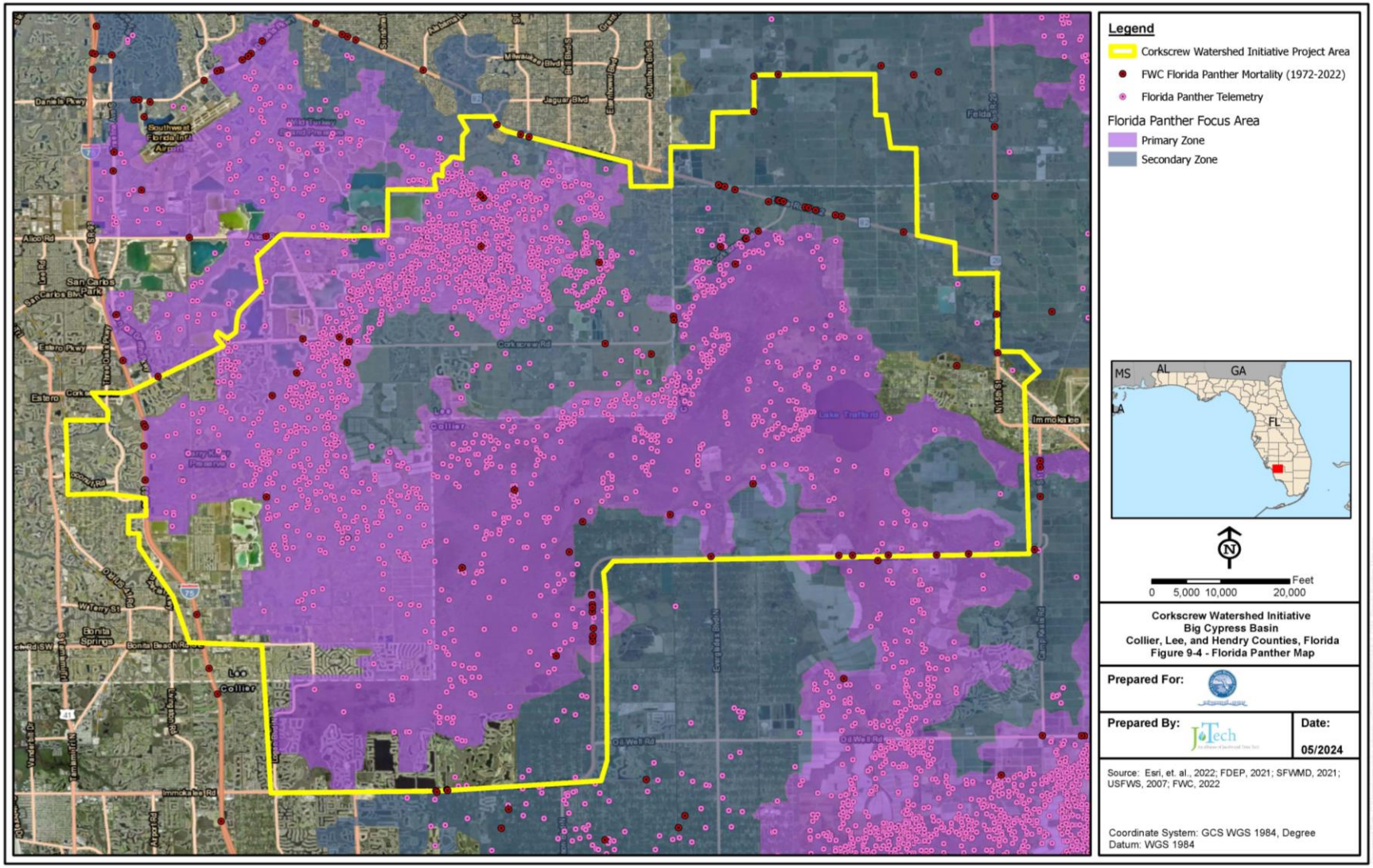


Figure 9-4. Florida Panther Occurrence within the CWI Project Area

The FWC Commission's Imperiled Species Management Plan focuses on the conservation and management of species classified as imperiled within the state of Florida. The plan is designed to address the needs of species at risk of extinction or severe population decline due to habitat loss, climate change, and other environmental pressures (FWC Commission 2016). The potential use of the CWI Project area by state protected species was assessed by desktop review using the FNAI Biodiversity Matrix and review of the FWC Commission Imperial Species Management Plan. The desktop review found 19 flowering plants, 1 mammal, 7 birds, and 2 reptiles that are state protected species that have the potential to occur within the CWI Project area (see Table 9-2). These species' listings trigger the need for environmental assessments and/or consultations with the FWC Commission to ensure any potential projects within the CWI Project area may impact the species.

The impact of future project activities on protected species can be minimized through standard project controls such as protected species surveys, construction monitoring, and signage. Projects that support more natural hydroperiods are likely to support natural communities and the species that are dependent on the natural areas.

Table 9-2. State Listed Species' Potential Occurrence within the CWI Project Area

Common Name	Scientific Name	State Status
Mammals		
Big cypress fox squirrel	*Sciurus niger avicennia*	Threatened
Birds		
Florida burrowing owl	Athene cunicularia floridana	Threatened
Little blue heron	Egretta caerulea	Threatened
Tricolored heron	Egretta tricolor	Threatened
Florida sandhill crane	Antigone canadensis pratensis	Threatened
Least tern	Sternula antillarum	Threatened
Roseate spoonbill	Platalea ajaja	Threatened
Southeastern American kestrel	Falco sparverius Paulus	Threatened
Reptiles		
Gopher tortoise	Gopherus polyphemus	Threatened
Florida pine snake	Pituophis melanoleucus mugitus	Threatened
Flowering Plants		
Pinewoods bluestem	*Andropogon arctatus*	Threatened
Many-flowered grass-pink	*Calopogon multiflorus*	Threatened
Ghost orchid	*Dendrophylax lindenii*	Endangered
Nodding pinweed	*Lechea cernua*	Threatened
Small's flax	*Linum carteri var. smallii*	Endangered
Celestial lily	*Nemastylis floridana*	Endangered
Florida beargrass	*Nolina atopocarpa*	Threatened
Giant orchid	*Pteroglossaspis ecristata*	Threatened
Florida royal palm	*Roystonea regia*	Endangered
Florida spiny-pod	*Matelea floridana*	Endangered

Common Name	Scientific Name	State Status
Sand butterfly pea	*Centrosema arenicola*	Endangered
Yellow fringeless orchid	*Platanthera integra*	Endangered
Coastal hoary-pea	*Tephrosia angustissima var. curtissii*	Endangered
Lowland loosestrife	*Lythrum flagellare*	Endangered
Sand-dune spurge	*Chamaesyce cumulicola*	Endangered
Beautiful pawpaw	*Ceeringothamnus pulchellus*	Endangered
Aboriginal prickly apple	*Harrisia aboriginum*	Endangered
Pine pinweed	*Lechea divaricate*	Endangered
Cutthroatgrass	*Coleataenia abscissa*	Endangered

9.3 Protected Species Data Gaps

Listed species surveys typically have a lifespan of a few years to be considered reliable data for project planning proposes. It can vary depending on several factors, including the species, habitat type, and regulatory requirements. Several data sources used for the desktop analysis incorporate older data that can contribute to data gaps for protected species occurrences. For example, Florida scrub jay habitat locations are dated from 1992-1993. Updated field surveys within then CWI Project area are needed to confirm occurrences and may help identify any new or emerging environmental concerns that may have not been evident in previous assessments.

10.0 Protected/Critical Habitats

10.1 Protected Habitat Data Sources

The USFWS Environmental Conservation Online System contains spatial data for active proposed and final critical habitat for USFWS. It was used to obtain information regarding critical habitats and consultation areas within the CWI Project area. The FWC Commission and FDEP online geospatial mapping resources were used for supportive data and research for species critical habitats and consultation areas located within the CWI Project area.

10.2 Protected Habitat Data Summary

Critical habitat is designated under Section 4 of the ESA when a species is proposed as threatened or endangered, and the USFWS or the NMFS determines that specific areas are essential for the species conservation. The USFWS or NMFS propose critical habitat designations based on the best available scientific information on what a species needs to survive, reproduce, and recover. The ESA also directs the agencies to evaluate the economic impacts of the proposed critical habitat designation. The designation is made after a peer and public review and comment period, allowing input from stakeholders, including landowners and government agencies (USFWS 2017).

Critical habitat is defined as specific geographical areas that are essential for the conservation and recovery of threatened or endangered species. These areas may contain physical or biological features necessary for the species life process, such as breeding, feeding, or sheltering. Designation of critical habitat helps ensure that actions do not destroy or adversely modify this essential area, thereby supporting the species' survival and recovery.

Critical habitat for the endangered Florida bonneted bat is located within the CWI Project area (see Figure 10-1). The critical habitat was designated in the Federal Register (FR) on March 7, 2024 (89 FR 16624). No other species critical habitat designations are located within the CWI Project area.

The USFWS designated 1.2 million acres in 13 countries across South and Central Florida as critical habitat for the Florida bonneted bat, to provide physical and biological features necessary for the bat's survival and reproduction. Approximately 48,865 acres are located within the CWI Project area. The species was listed as endangered in 2013 and has one of the most limited ranged of any bat species in the western hemisphere. Habitat loss and degradation due to sea-level rise, development, and agriculture have impacted the species and further limited its range (USFWS 2024b).

Section 7 of the ESA requires federal agencies to consult with either the USFWS or NMFS to ensure that their actions do not harm endangered or threatened species or their critical habitats. This consultation process is integral to the ESA's protective measures and ensures that federal activities are conducted with careful consideration of their environmental impact, helping to protect vulnerable species from further decline. Most consultations are conducted informally with the USFWS or NMFS (USFWS 1998).

Consultation areas are regions where federal agencies or permitting entities are recommended to consult with the USFWS or NMFS when any project they authorize, fund, or carry out may affect threatened or endangered species. These areas are often identified around the designated critical habitat of a species but can also extend to other regions where the species is known to occur. The

consultation process ensures that actions, such as construction projects, permits, or land management activities, do not jeopardize the continued existence of the species or adversely modify its critical habitat. The CWI Project area is located within 12 species consultation areas (see Figure 10-1 and Figure 10-2). Table 10-1 depicts acreages and percent total of each species consultation area with the CWI Project area. It is recommended that future projects within the CWI Project area consult with the USFWS or NMFS to clarify what listed, proposed, and candidate species or designated or proposed critical habitats may be in the project's action area, and to determine what effect the proposed action may have on these species or critical habitats.

Table 10-1. Protected Species Consultation Areas within the CWI Project Area

Consultation Area	Acres	% Total of CWI Area
Eastern indigo snake	178,857	100
Florida bonneted bat	178,857	100
Florida panther	159,284	89
American crocodile	489	< 0
Wood stork	178,857	100
Eastern black rail	178,857	100
Rufa red knot	178,857	100
Red cockaded woodpecker	94,779	53
Crested caracara	174,829	98
Florida grasshopper sparrow	23,438	13
Everglades snail kite	178,557	99
Florida scrub jay	178,348	99

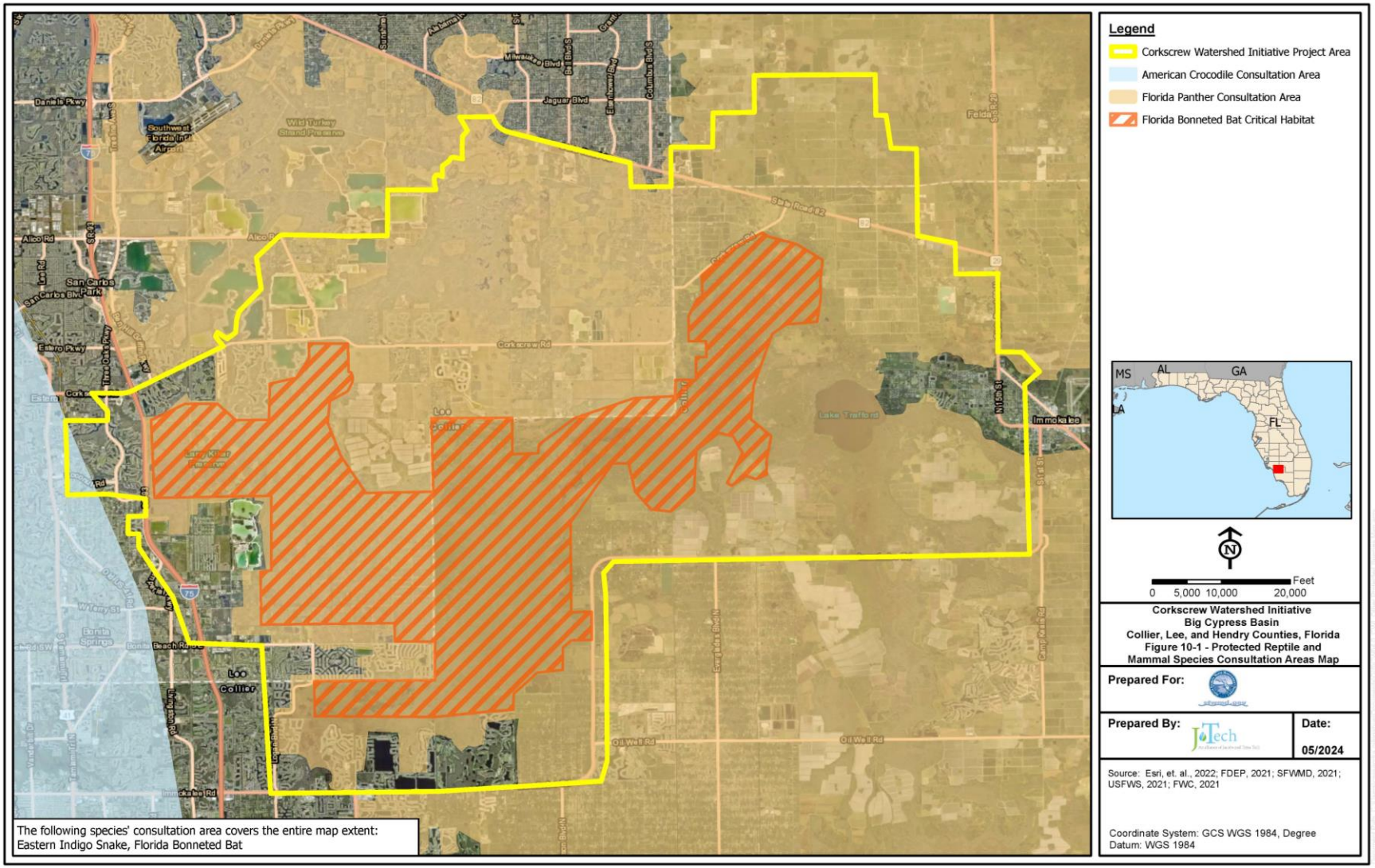


Figure 10-1. Protected Reptile and Mammal Species Consultation Areas within the CWI Project Area

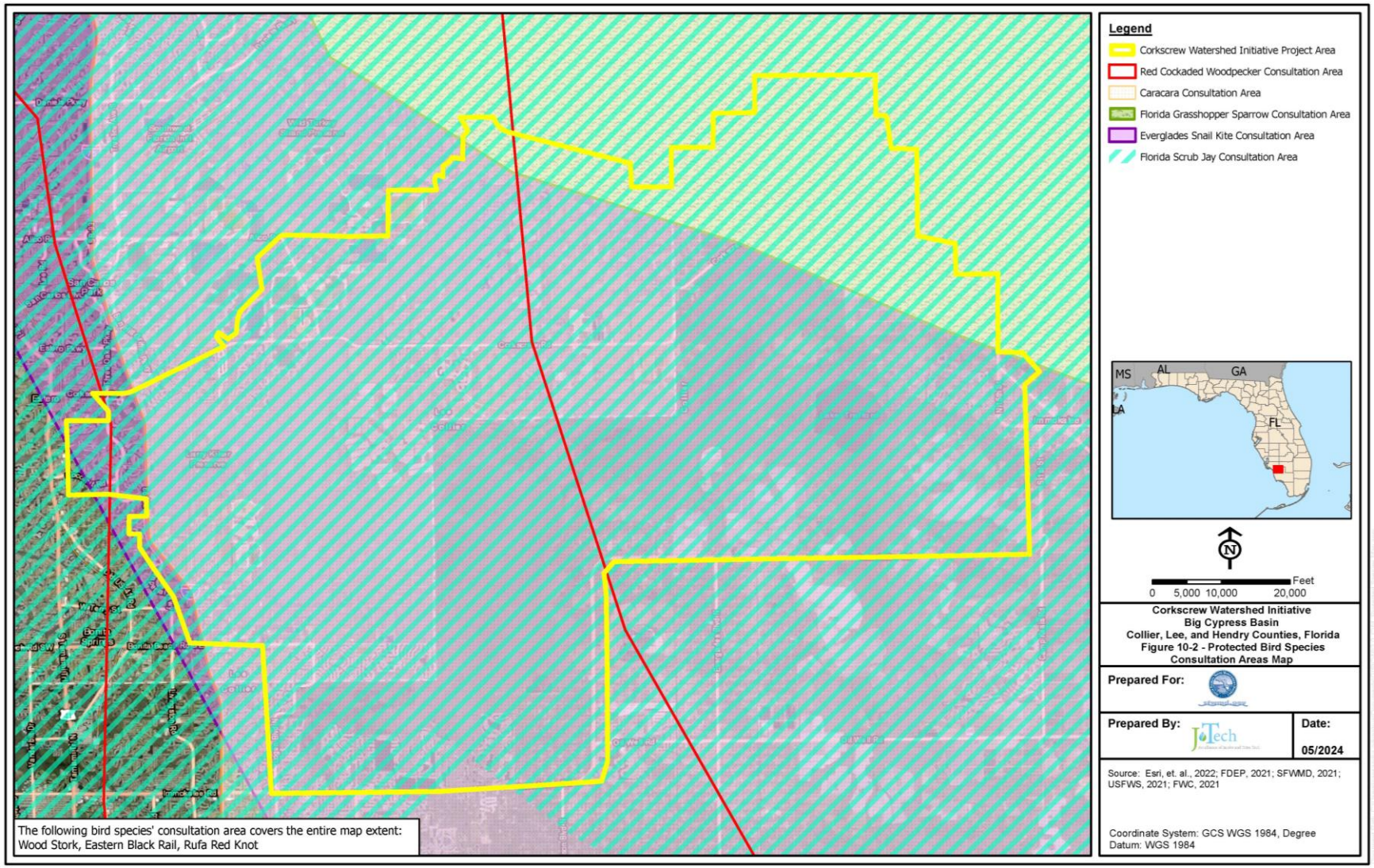


Figure 10-2. Protected Bird Species Consultation Areas within the CWI Project Area

10.3 Protected Habitat Data Gaps

Protected habitat data gaps may arise from incomplete or outdated information on species distribution, habitat quality, and ecosystem functions within protected areas. This can include outdated data on how climate change, human activities, or invasive species are impacting these habitats over time. These gaps can result in inadequate management strategies, where certain threats are underestimated and/or overlooked. Planning for climate change can assist in the development of effective conservation plans that address these potential challenges and protect the biodiversity in vulnerable protected environments.

11.0 Project-specific Field Investigations

11.1 Purpose

Field Investigations were undertaken to augment the modelling effort and provide site-specific details that may not have been available in regional information or previous study results. Fieldwork also helped to verify or discount anecdotal information that may have been provided.

11.2 Locations

Field investigations to date have been conducted in two locations that were identified by the modelers as needing additional information. The first was the western portion of Flint Pen Strand and Kehl Canal area, while the second was the Bird Rookery Swamp area.

The Flint Pen – Kehl Canal was missing data related to the number and sizes of conveyance pipes as well as the locations of potential impediments such as berms and trams. Lidar data was used to obtain a general overview of the area before proceeding into the field. Existing roads and trams were traversed, and locations, sizes, and coverage of located pipes were documented. In addition, portions of roadways that were inundated with overland flow were also noted.

Figure 11-1. Undocumented Pipe Under Vincent Road

Figure 11-2. Flow Over East Terry Street

The Bird Rookery Swamp area has had work done (culvert replacements) that was not fully documented along the main tram roads through this preserve area. There were also some questions as to the number of pipes under Shady Hollow Blvd. W as well as the stability of a berm along the north side of Shady Hollow Blvd W. Pipe locations, along with the size of the pipe and road coverage, were documented. Surface flow overtopping the trams was also noted, as was the general direction of flow through the pipes that were located.

Figure 11-3. Typical Pipe Under Bird Rookery Tram Road

Figure 11-4. Flow Over Bird Rookery Tram Road

Figure 11-5. Breach in Berm on North Side of Shady Hollow Blvd.

11.3 Summary of Findings

Several undocumented pipes ranging in size from 12 to 48 inches were located in the Flint Pen and Kehl Canal area. Overland flow over the roads was prevalent throughout this area. Flow through the Kehl Canal was also noted to be held up in a few areas by vegetation and debris within the canal. Water elevations were high during the field investigations, and the majority of the flow appeared to be overland. In many locations, the ditches were outside of their banks.

Within the Bird Rookery Swamp area, pipe locations, elevations, and sizes were verified or amended to match the observed field conditions. While the majority of pipes were measured at 60 inches, several smaller sizes were also noted.

Applicable information from the field investigations was provided and incorporated into the modelling effort.

11.4 Data Gaps and Need for Additional Work

Water levels throughout the study area made widespread field investigations difficult. Work was instead confined to specific areas identified as lacking current information or with questions related to older data available. As the model is refined, additional field work may be needed to investigate other areas in order to improve modelling results or investigate potential problem areas. As potential enhancement projects are discussed and brought online, field work may also be needed to collect site-specific data needed for project planning or permitting.

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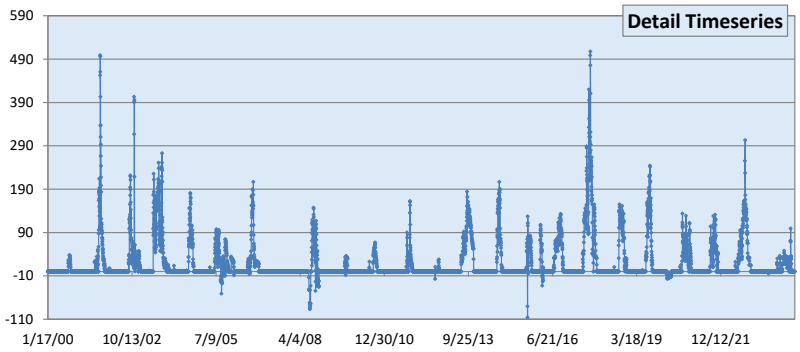
Appendix A- Hydrologic Data Summaries

CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

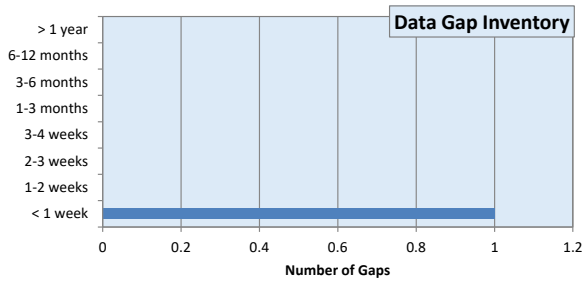
COCO3_S (2000 - 2024) : SPILLWAY ON COCOHATCHEE CANAL, STRUCTURE 3 AT PALM RIVER RD.

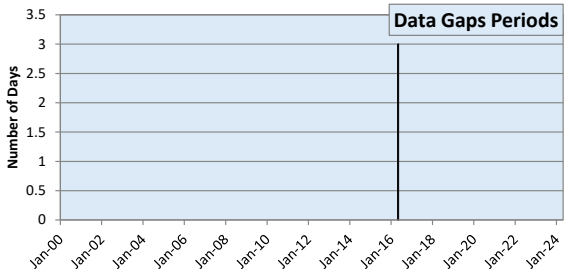
FLOW (cfs) - CANAL

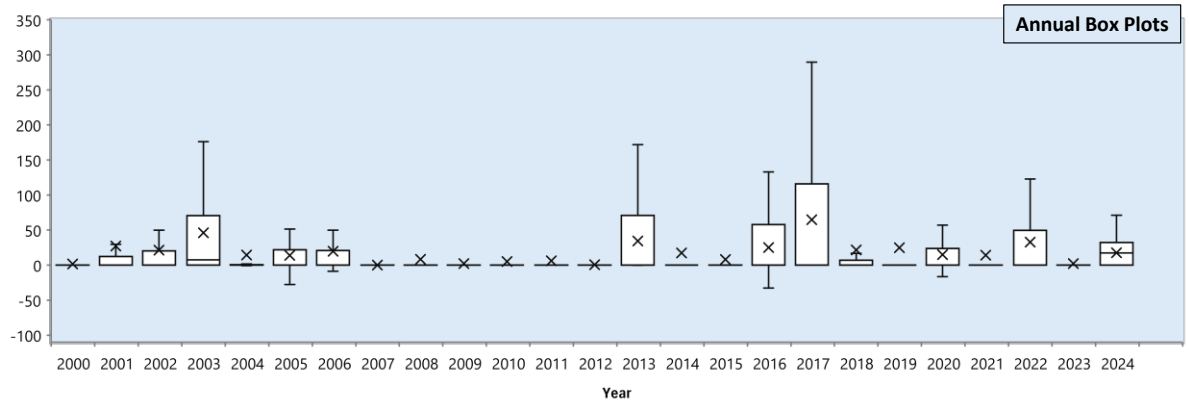
(26.27306, -81.71722)

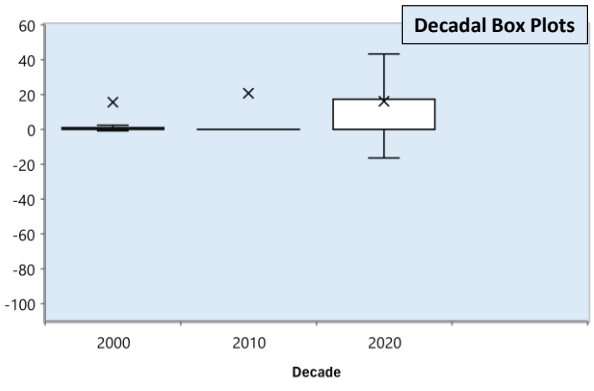


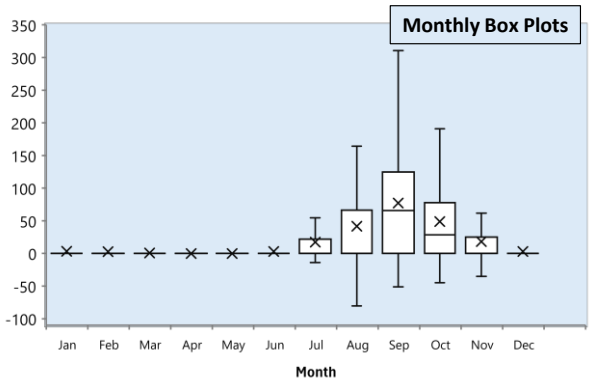
Statistics			
P100 (Max)	507.36	Average	17.82
P90	70.191	StdDev	45.92
P75	3.585	Count	8,880
P50 (Median)	0	SE	0.49
P25	0		
P10	0	POR	Jan-2000
P0 (Min)	-106.16		May-2024
Range	613.52		
IQR	3.585		
% Complete	100%		









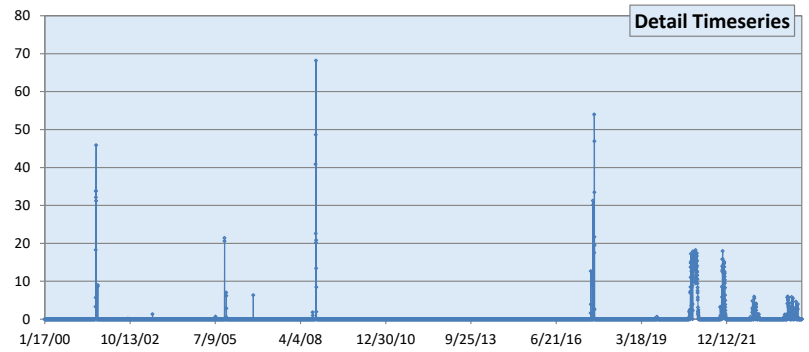


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

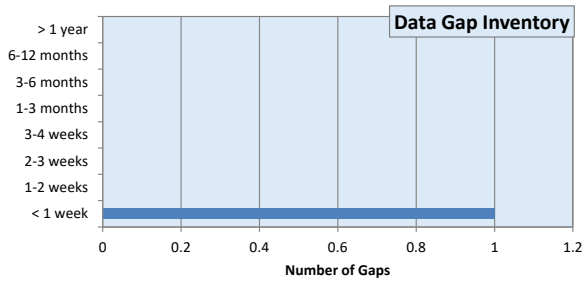
COCO3_W (2000 - 2024) : WEIR OVERFLOW ON COCOHATCHEE CANAL, STRUCTURE 3 AT PALM RIVER RD.

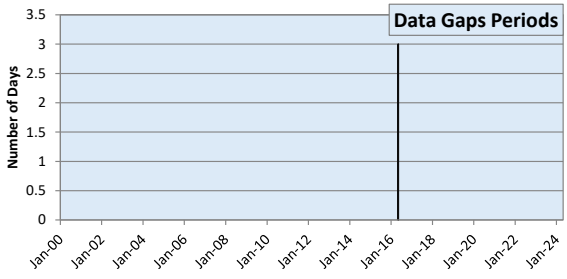
FLOW (cfs) - CANAL

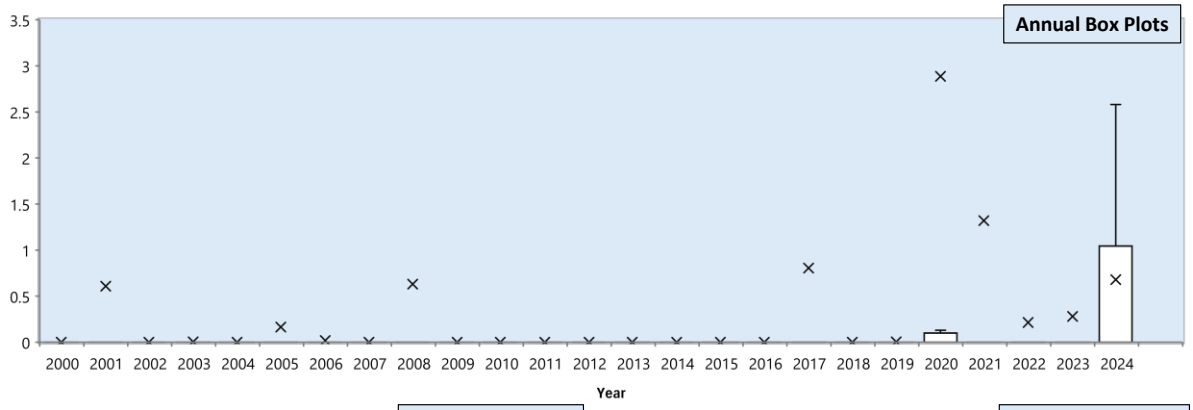
(26.27306, -81.71722)

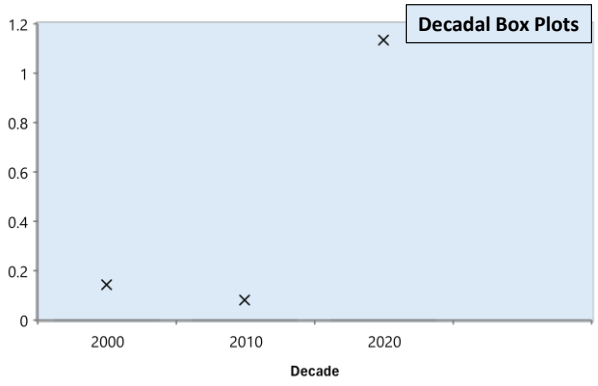


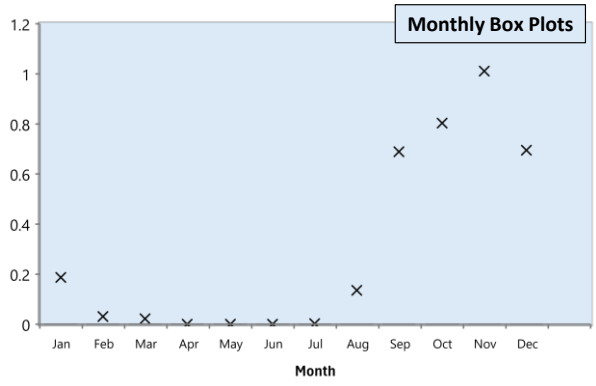
Statistics			
P100 (Max)	68.18	Average	0.30
P90	0	StdDev	2.33
P75	0	Count	8,880
P50 (Median)	0	SE	0.02
P25	0		
P10	0	POR	Jan-2000
P0 (Min)	-17.77		May-2024
Range	85.95		
IQR	0		
% Complete	100%		









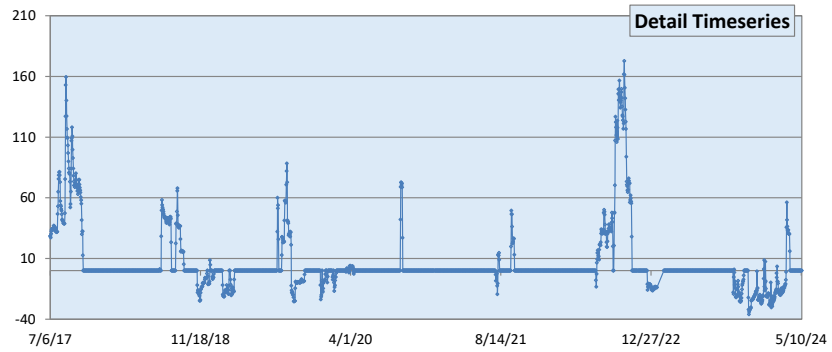


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

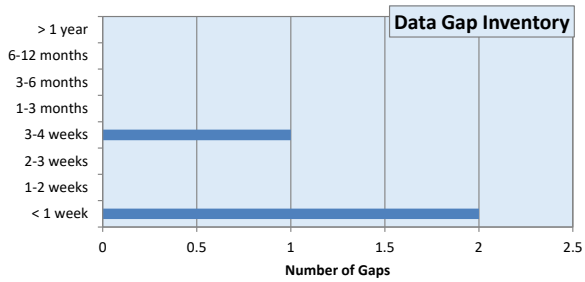
COCO4_S (2017 - 2024) : COCO4 SPILLWAY

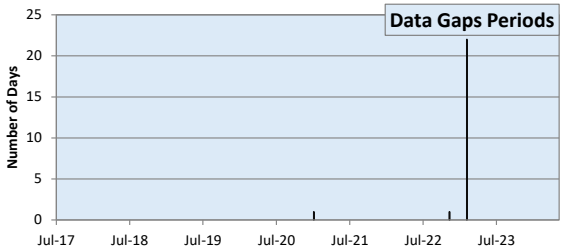
FLOW (cfs) - CANAL

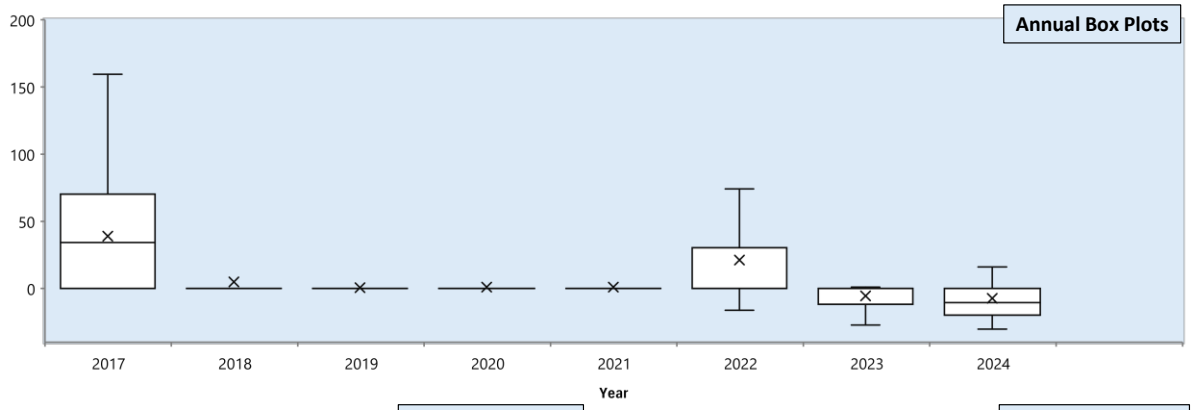
(26.27556, -81.62611)

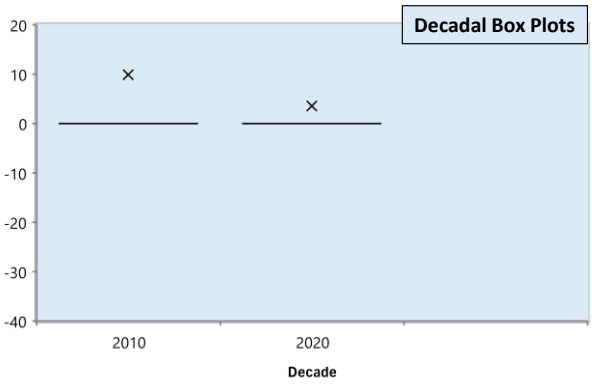


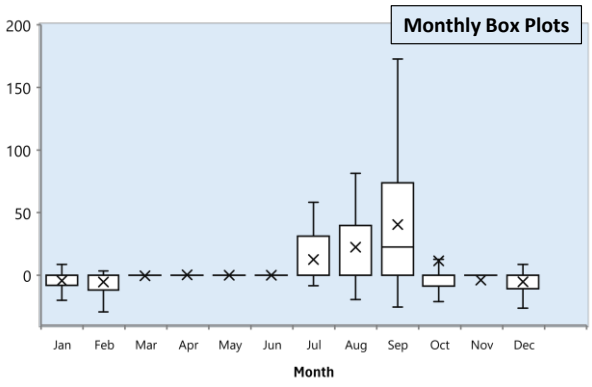
Statistics			
P100 (Max)	172.74	Average	5.89
P90	33.772	StdDev	25.47
P75	0	Count	2,479
P50 (Median)	0	SE	0.51
P25	0		
P10	-10.932	POR	Jul-2017
P0 (Min)	-36.05		May-2024
Range	208.79		
IQR	0		
% Complete	99%		









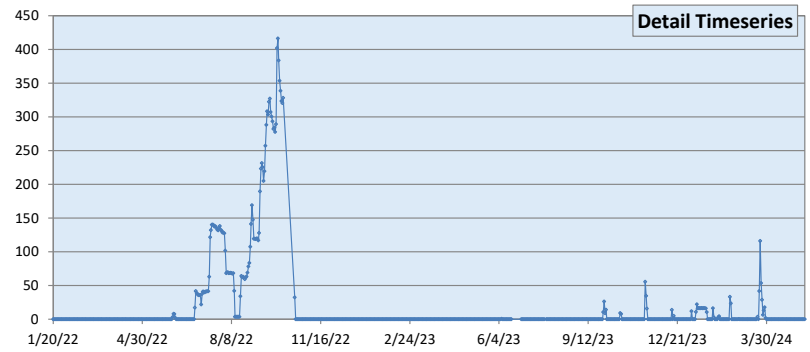


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

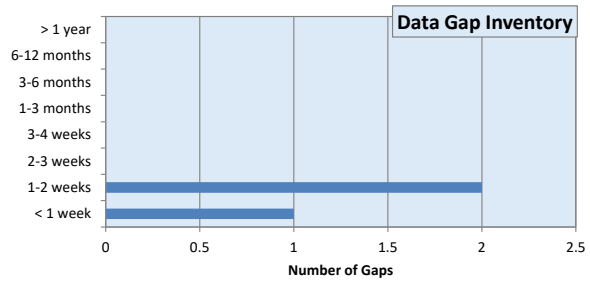
CORK1_C (2022 - 2024) : CORKSCREW CANAL #1

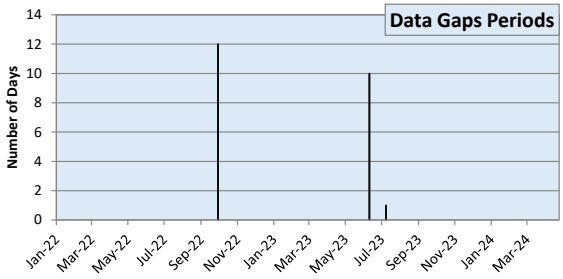
FLOW (cfs) - CANAL

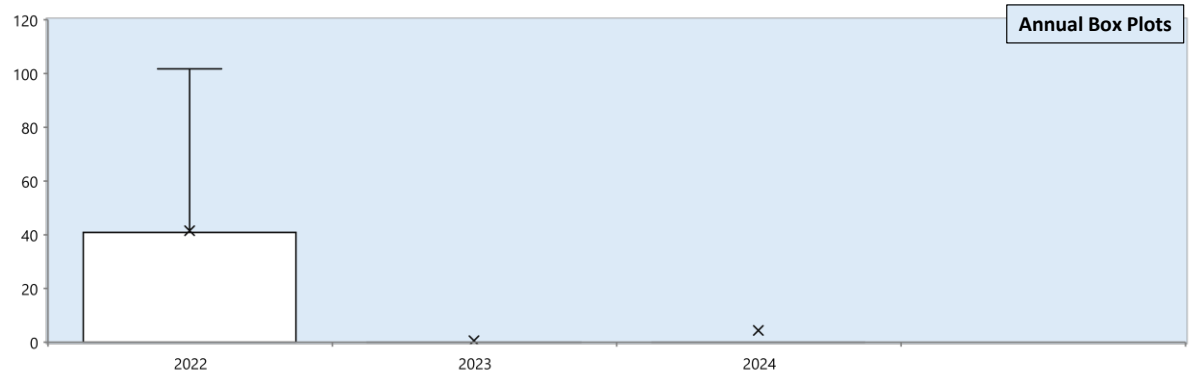
(26.2775, -81.60111)

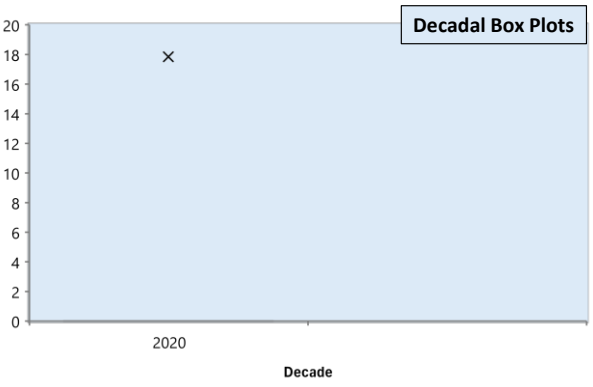


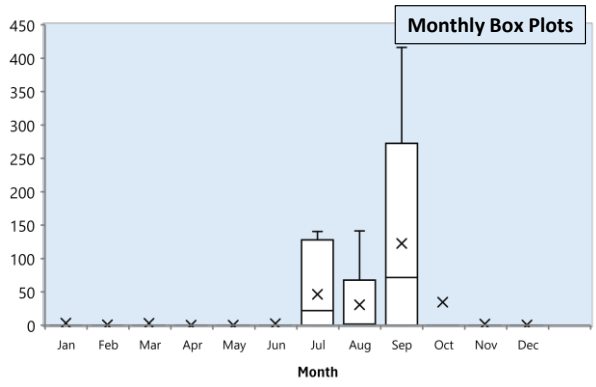
Statistics			
P100 (Max)	416.31	Average	17.84
P90	41.36	StdDev	58.86
P75	0	Count	821
P50 (Median)	0	SE	2.05
P25	0		
P10	0	POR	Jan-2022
P0 (Min)	0		May-2024
Range	416.31		
IQR	0		
% Complete	97%		









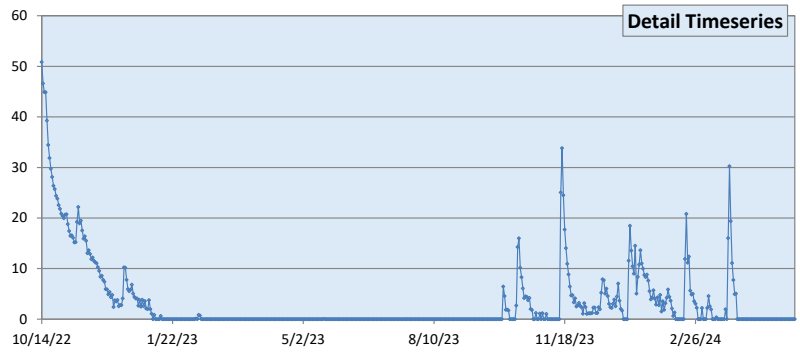


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

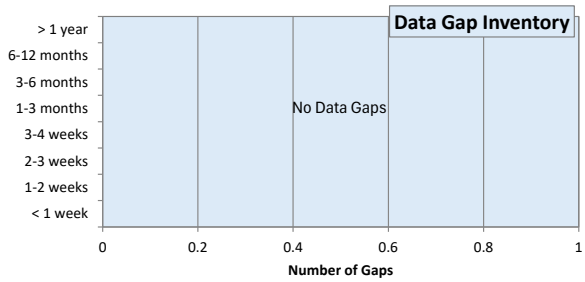
CORK2_C (2022 - 2024) : CORKSCREW CANAL #2

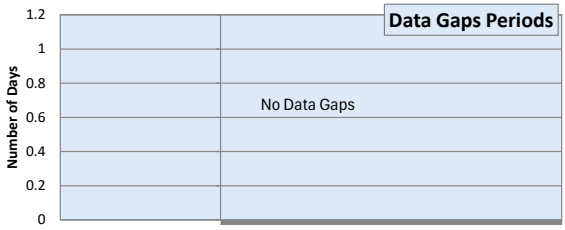
FLOW (cfs) - CANAL

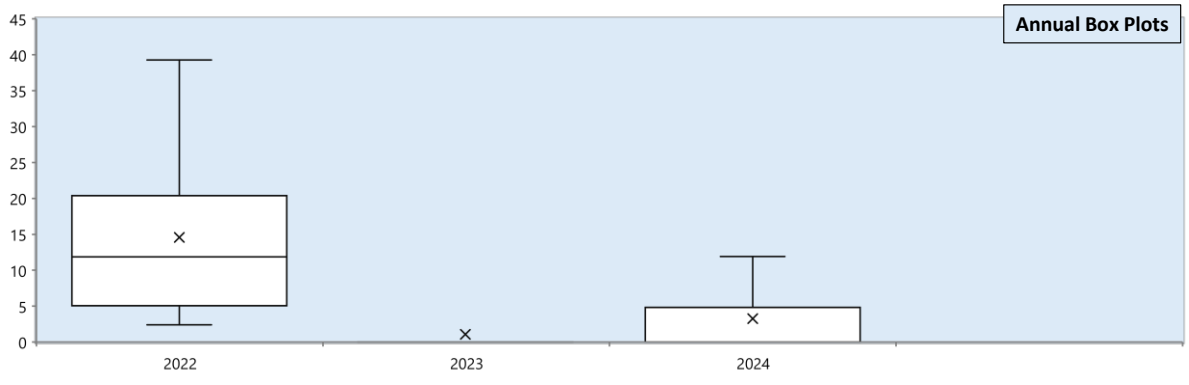
(26.31194, -81.60972)

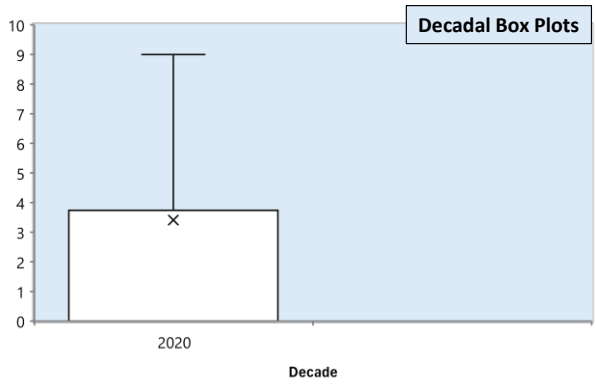


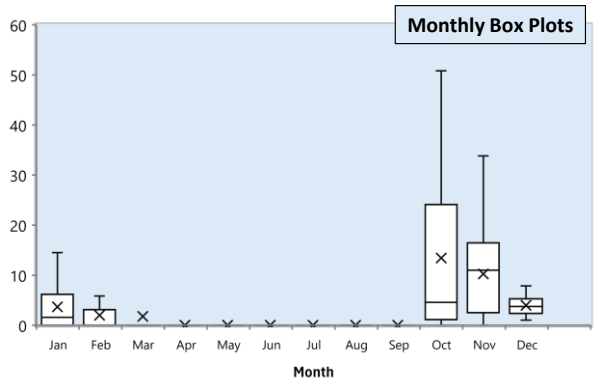
Statistics			
P100 (Max)	50.84	Average	3.41
P90	11.532	StdDev	7.18
P75	3.73	Count	577
P50 (Median)	0	SE	0.30
P25	0		
P10	0	POR	Oct-2022
P0 (Min)	0		May-2024
Range	50.84		
IQR	3.73		
% Complete	100%		









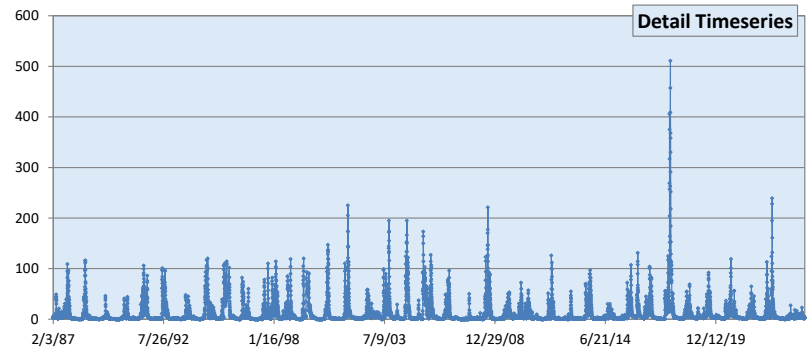


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

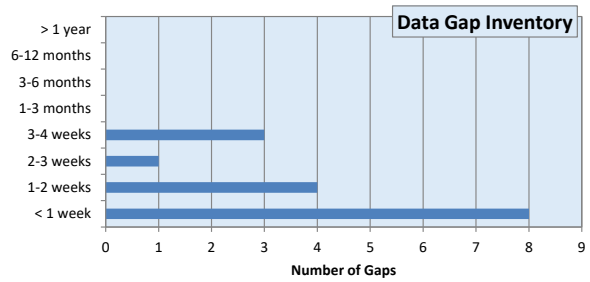
ESTERO S (1987 - 2024) : SOUTH BRANCH ESTERO RIVER AT ESTERO

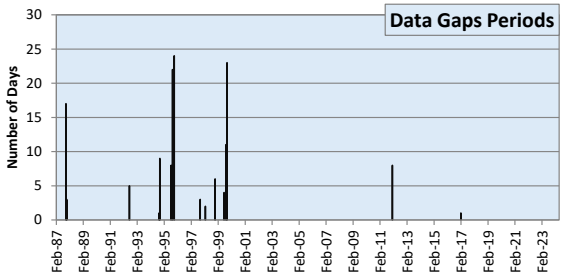
FLOW (cfs) - STREAM

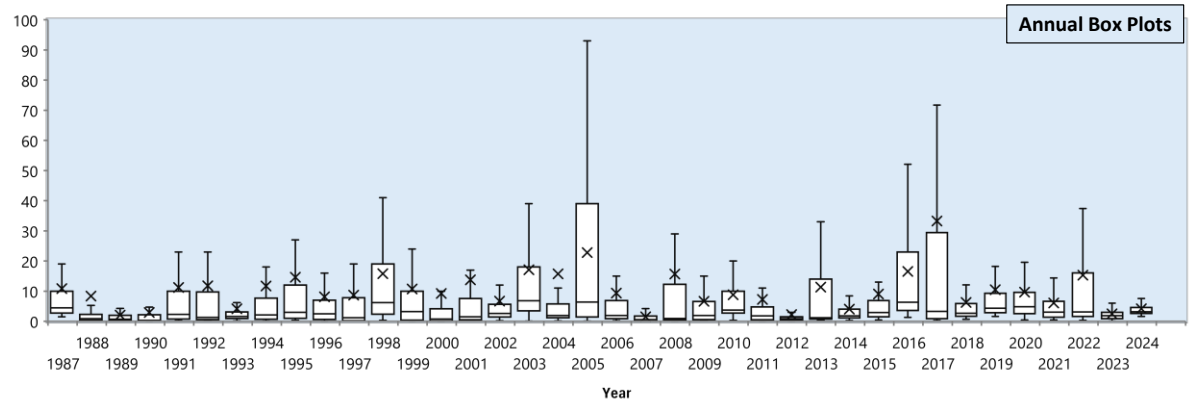
(26.42889, -81.69306)

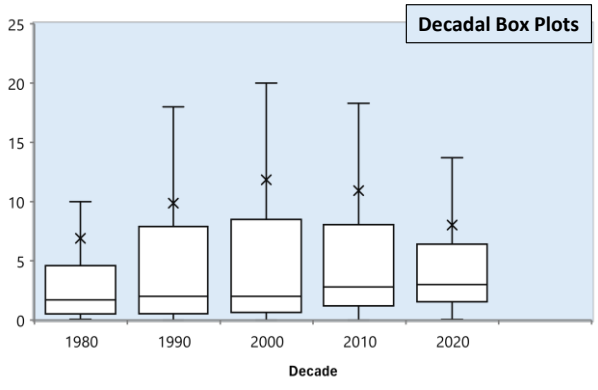


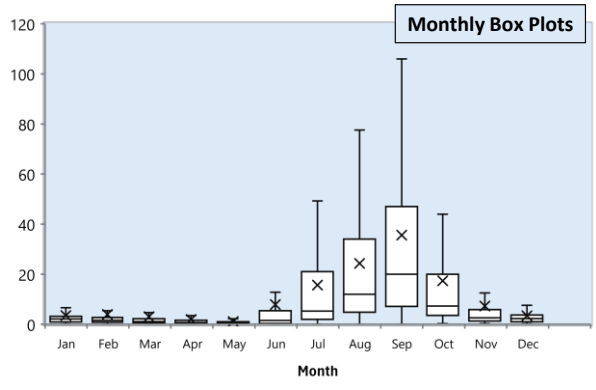
Statistics			
P100 (Max)	511	Average	10.24
P90	30	StdDev	23.11
P75	7.4	Count	13,467
P50 (Median)	2.4	SE	0.20
P25	0.85		
P10	0.28	POR	Feb-1987
P0 (Min)	0		May-2024
Range	511		
IQR	6.55		
% Complete	99%		









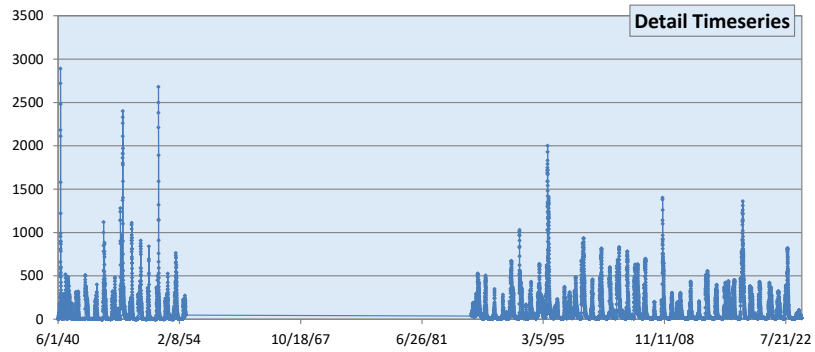


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

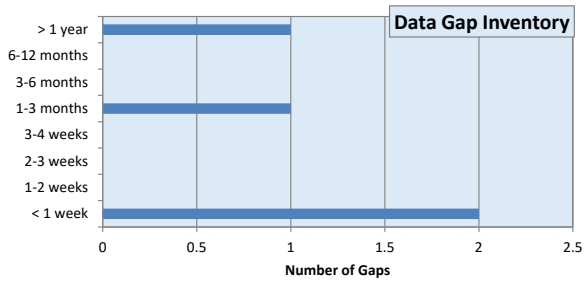
IMPERIAL (1940 - 2024) : IMPERIAL RIVER NEAR BONITA SPRINGS, FL

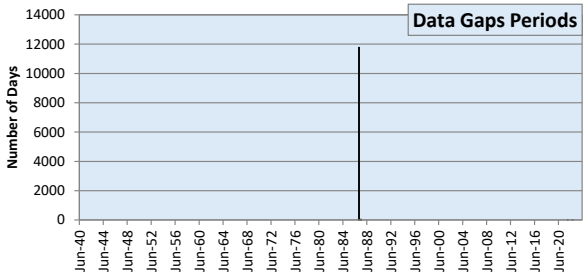
FLOW (cfs) - STREAM

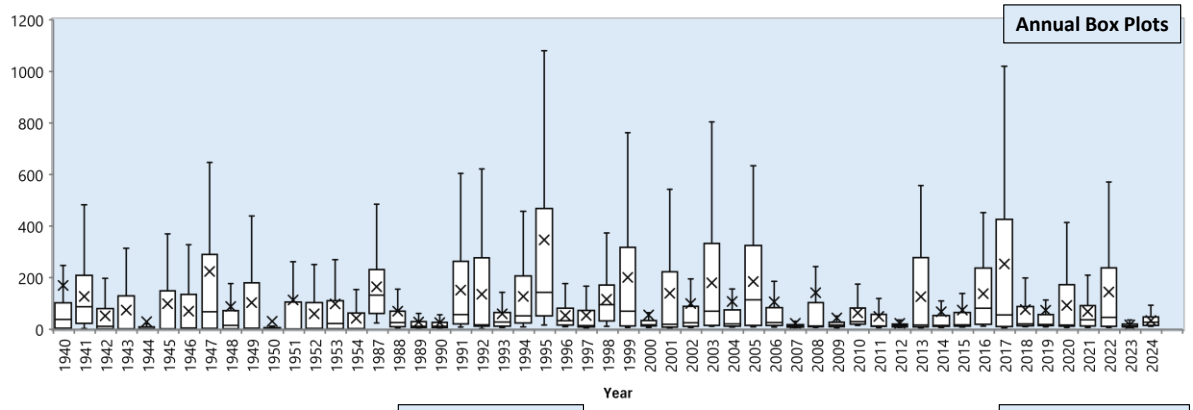
(26.33556, -81.74944)

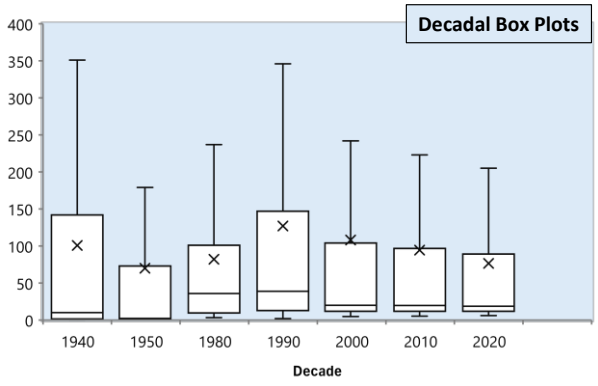


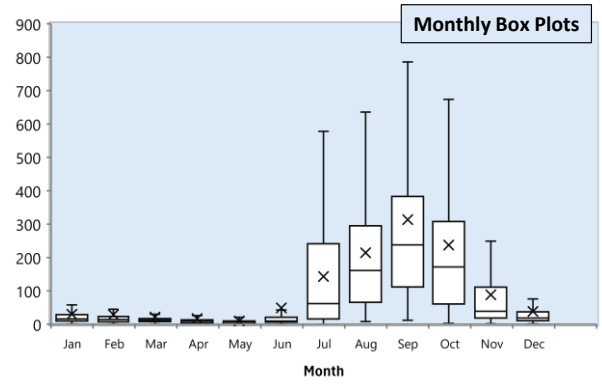
Statistics			
P100 (Max)	2890	Average	100.12
P90	298	StdDev	183.19
P75	115	Count	18,841
P50 (Median)	21	SE	1.33
P25	9.6		
P10	1.9	POR	Jun-1940
P0 (Min)	0		May-2024
Range	2890		
IQR	105.4		
% Complete	61%		









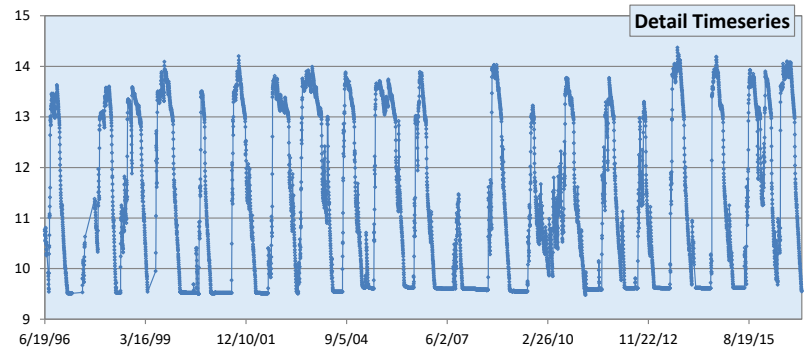


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

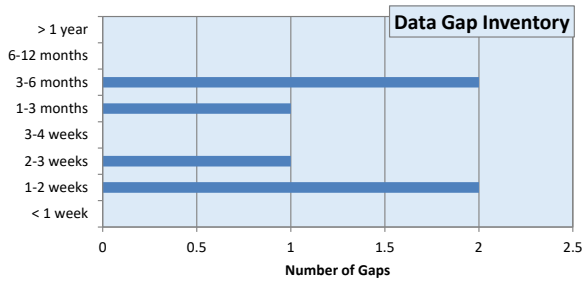
951EXT (1996 - 2017) : GOLDEN GATE CANAL EXTENSION AT COLLIER ROAD 951

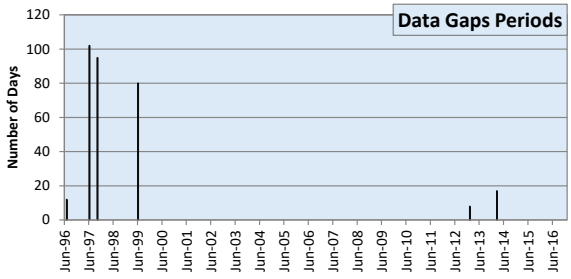
STG (ft) - CANAL

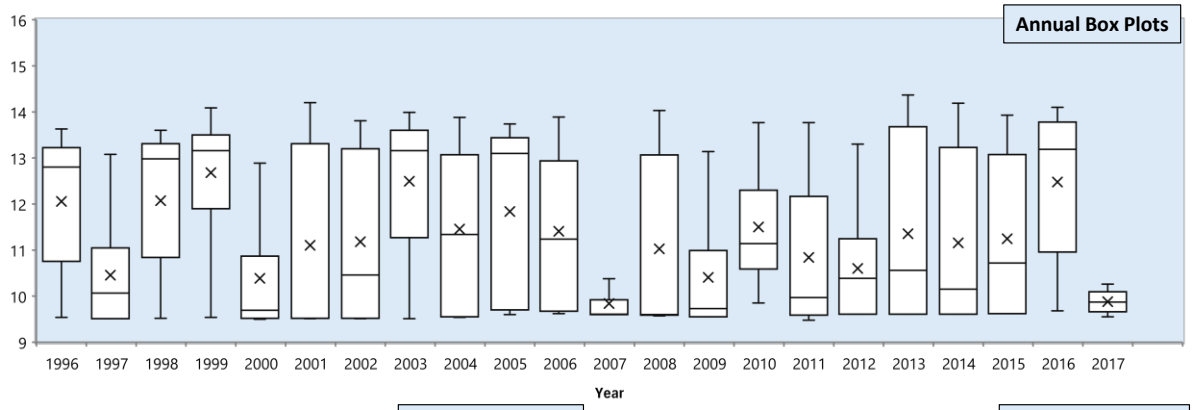
(26.3025, -81.68833)

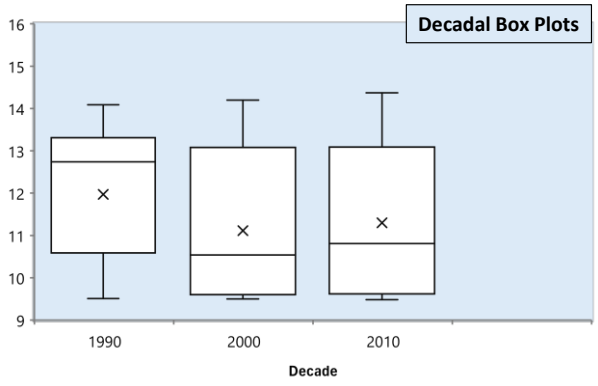


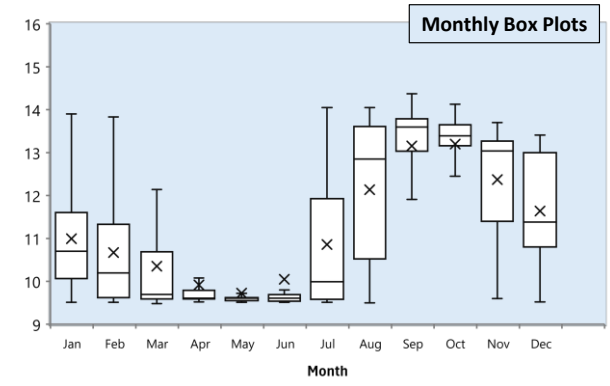
Statistics			
P100 (Max)	14.37	Average	11.30
P90	13.61	StdDev	1.64
P75	13.14	Count	7,212
P50 (Median)	10.86	SE	0.02
P25	9.61		
P10	9.55	POR	Jun-1996
P0 (Min)	9.48		Jan-2017
Range	4.89		
IQR	3.53		
% Complete	96%		









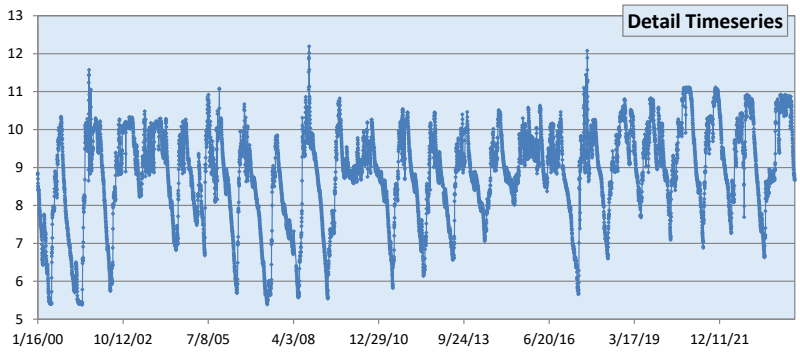


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

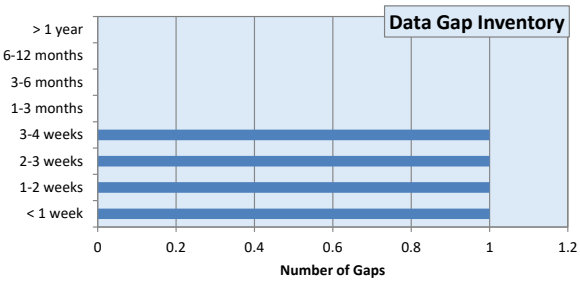
COCO3_H (2000 - 2024) : COCOHATCHEE CANAL (HEADWATER)

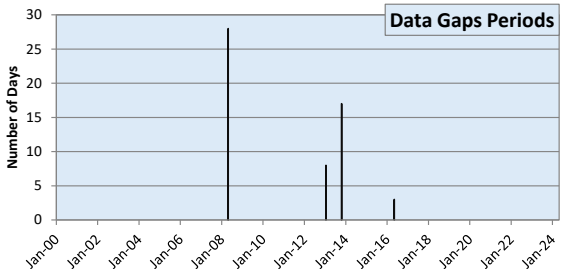
STG (ft) - CANAL

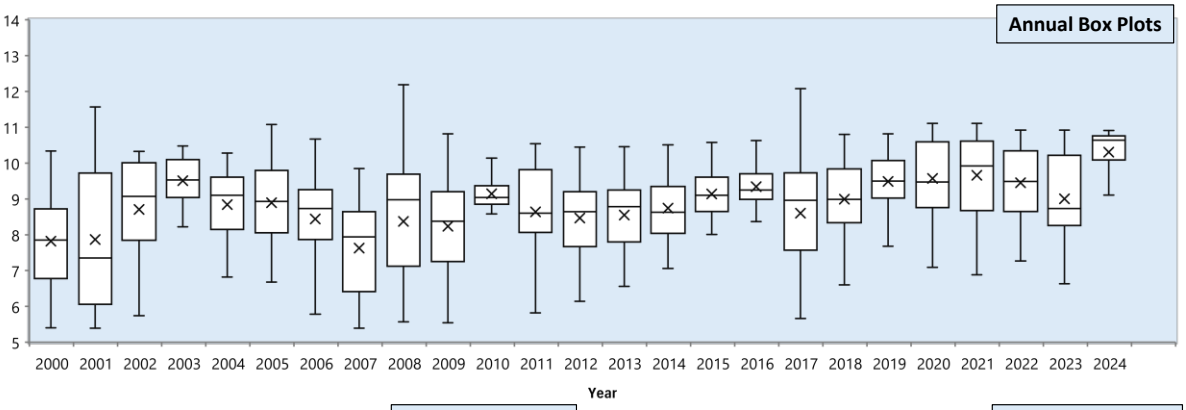
(26.27306, -81.71694)

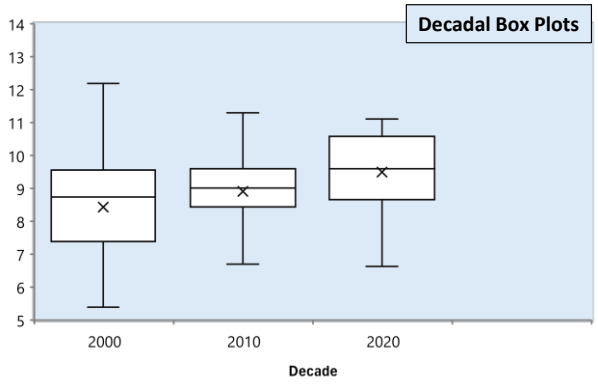


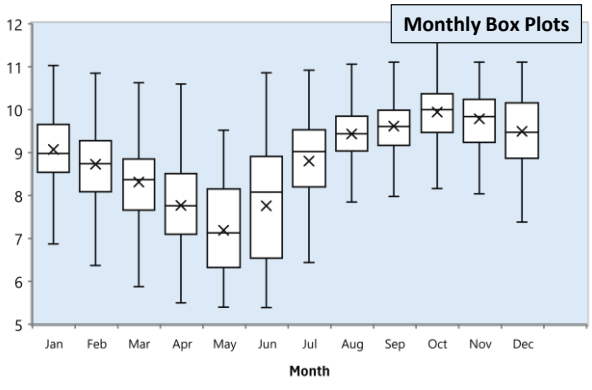
Statistics			
P100 (Max)	12.19	Average	8.82
P90	10.27	StdDev	1.26
P75	9.74	Count	8,828
P50 (Median)	8.98	SE	0.01
P25	8.14		
P10	6.96	POR	Jan-2000
P0 (Min)	5.39		May-2024
Range	6.8		
IQR	1.6		
% Complete	99%		









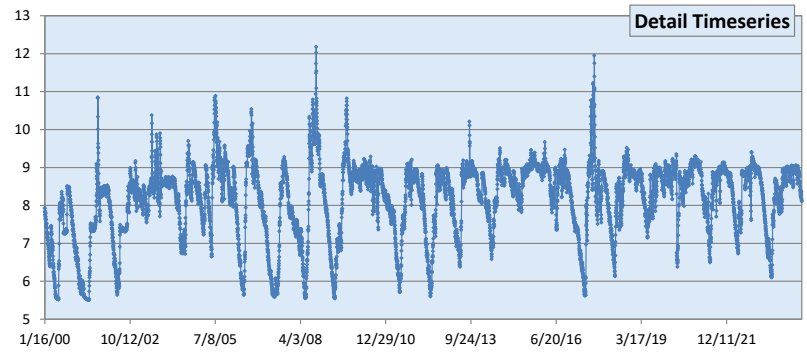


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

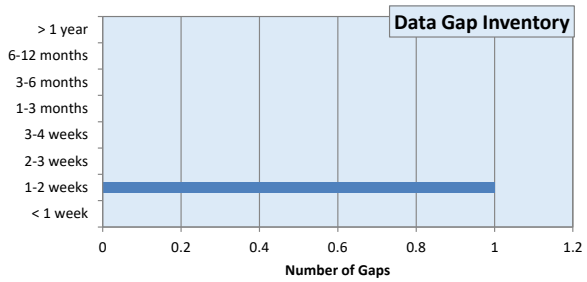
COCO3_T (2000 - 2024) : COCOHATCHEE CANAL (TAILWATER)

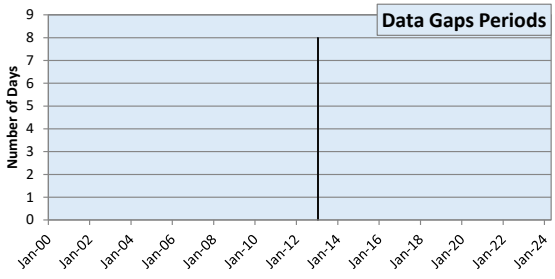
STG (ft) - CANAL

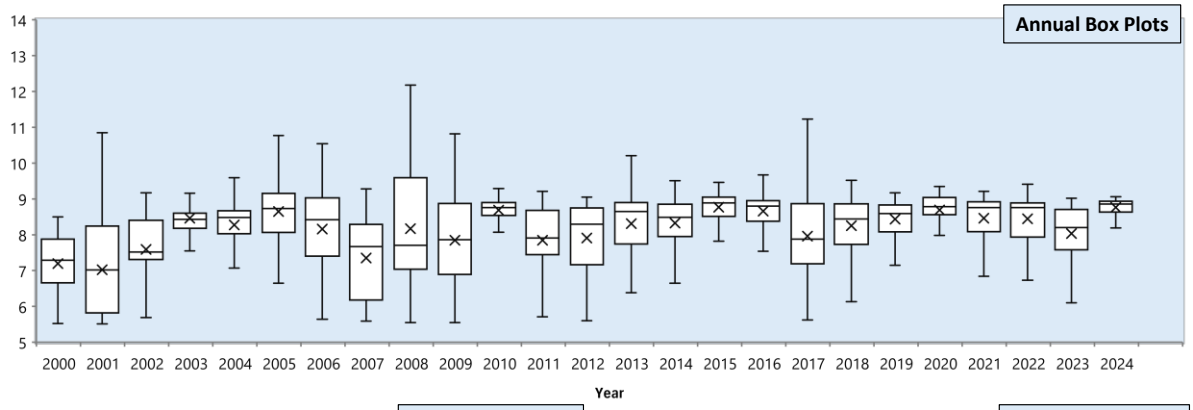
(26.27306, -81.71722)

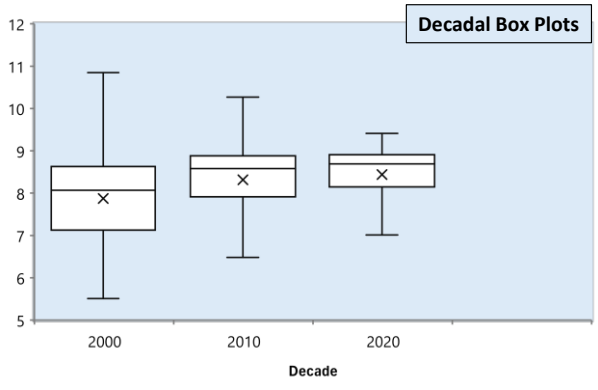


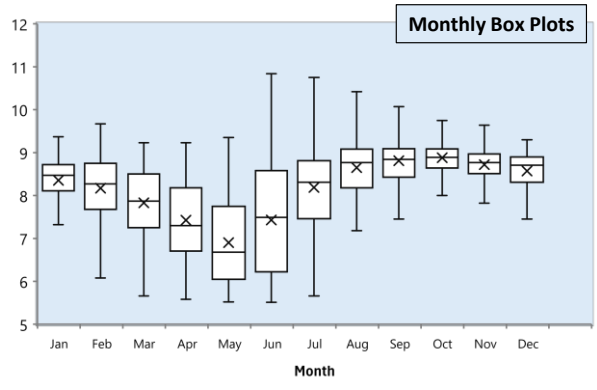
Statistics			
P100 (Max)	12.18	Average	8.16
P90	9.07	StdDev	0.99
P75	8.86	Count	8,876
P50 (Median)	8.43	SE	0.01
P25	7.6		
P10	6.64	POR	Jan-2000
P0 (Min)	5.51		May-2024
Range	6.67		
IQR	1.26		
% Complete	100%		









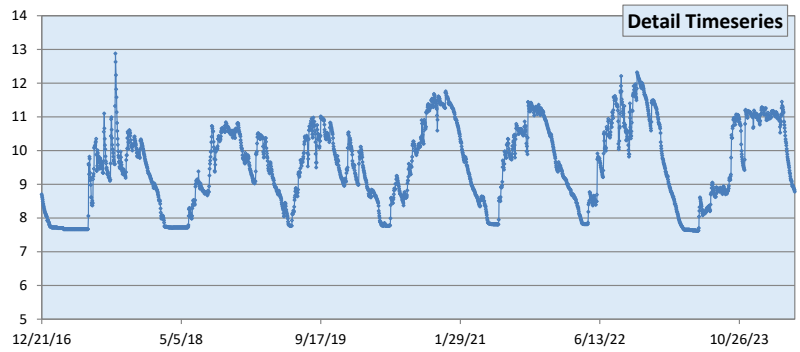


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

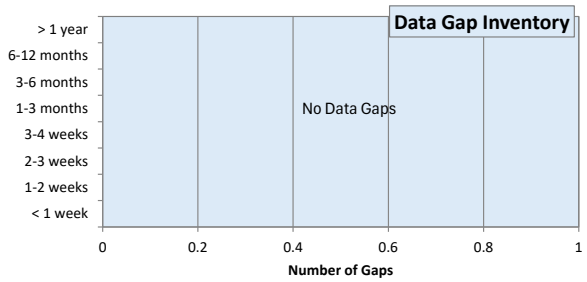
COCO4_H (2016 - 2024) : COCO4 - HEADWATER IN THE BIG CYPRESS BASIN AREA

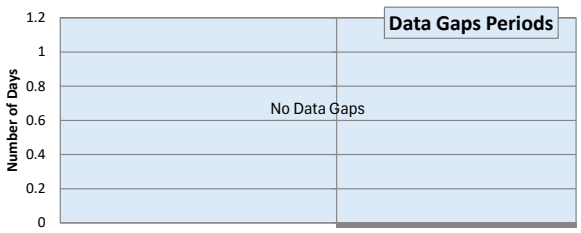
STG (ft) - CANAL

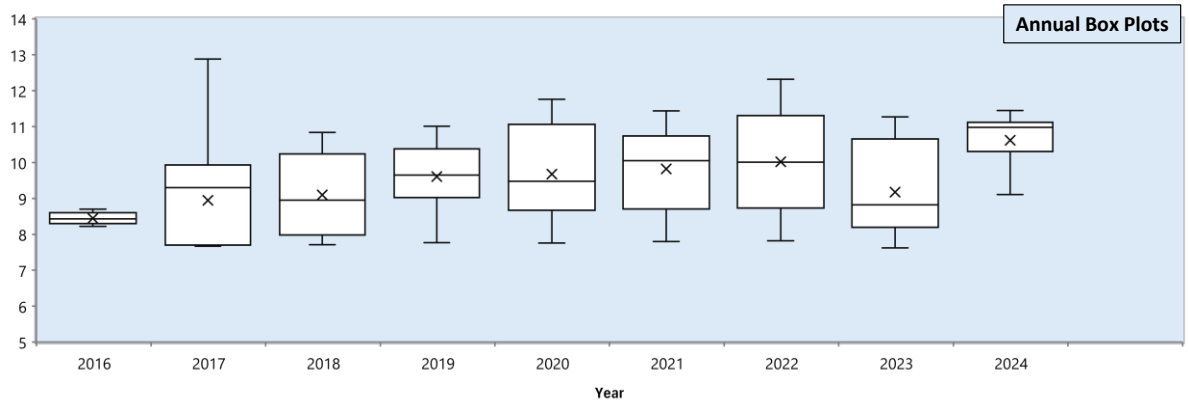
(26.27528, -81.62611)

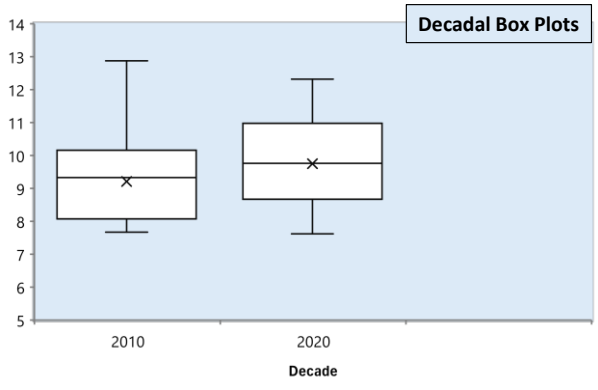


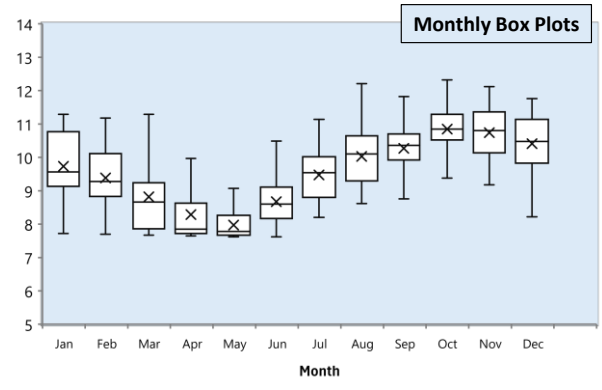
Statistics			
P100 (Max)	12.88	Average	9.53
P90	11.171	StdDev	1.22
P75	10.56	Count	2,700
P50 (Median)	9.52	SE	0.02
P25	8.56		
P10	7.74	POR	Dec-2016
P0 (Min)	7.62		May-2024
Range	5.26		
IQR	2		
% Complete	100%		









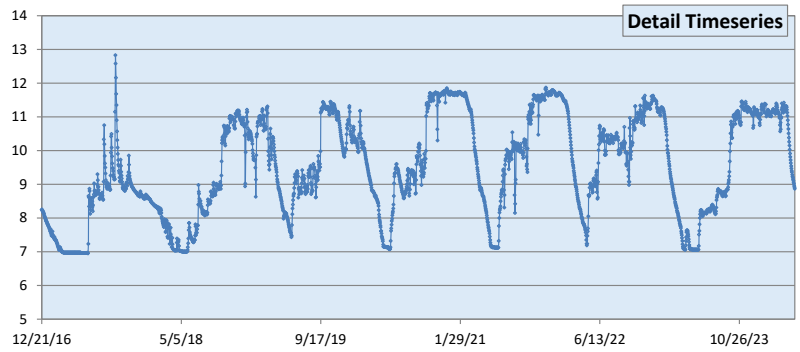


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

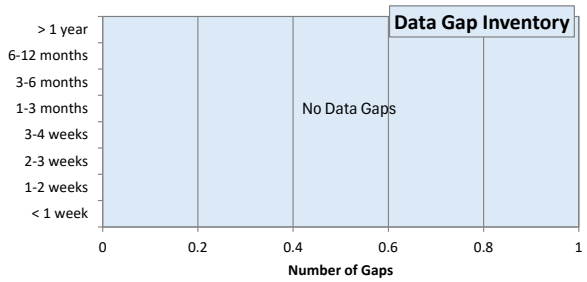
COCO4_T (2016 - 2024) : COCO4 - TAILWATER IN THE BIG CYPRESS BASIN AREA

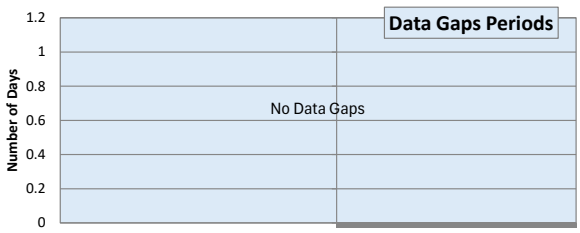
STG (ft) - CANAL

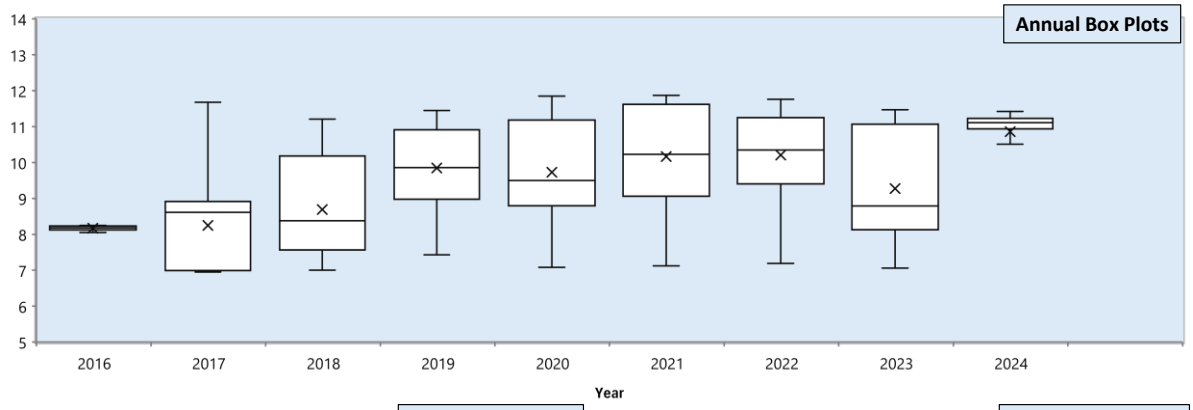
(26.27556, -81.62583)

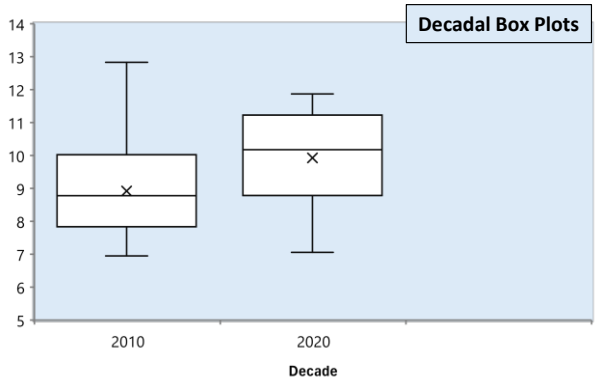


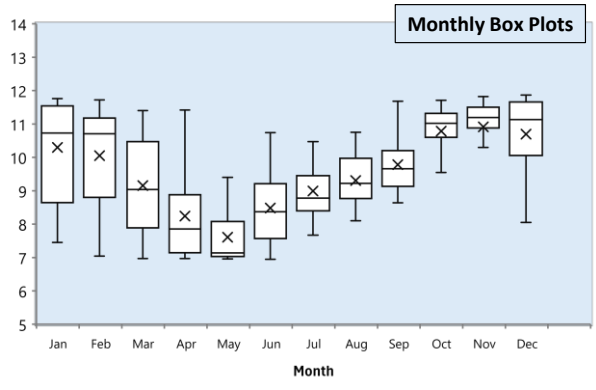
Statistics			
P100 (Max)	12.83	Average	9.52
P90	11.451	StdDev	1.49
P75	11	Count	2,700
P50 (Median)	9.43	SE	0.03
P25	8.36		
P10	7.24	POR	Dec-2016
P0 (Min)	6.95		May-2024
Range	5.88		
IQR	2.64		
% Complete	100%		









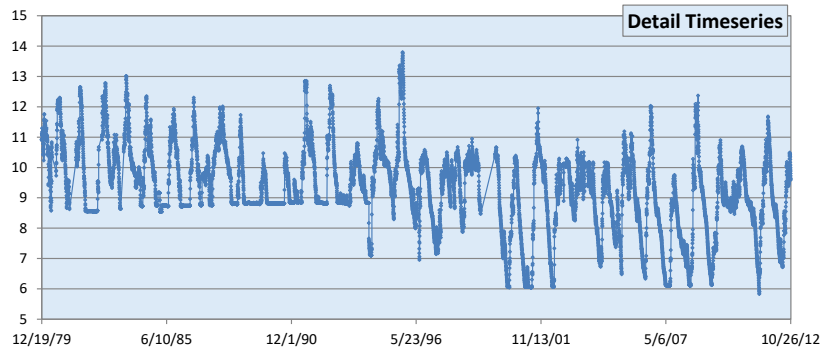


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

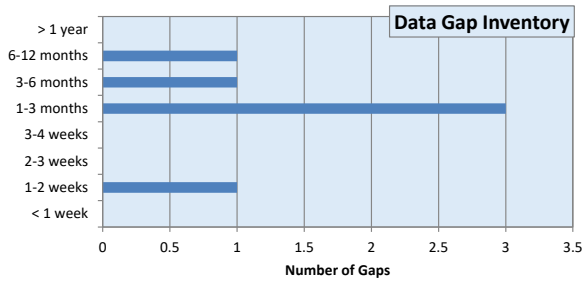
COCOH.95_H (1979 - 2012) : COCOHATCHEE CANAL

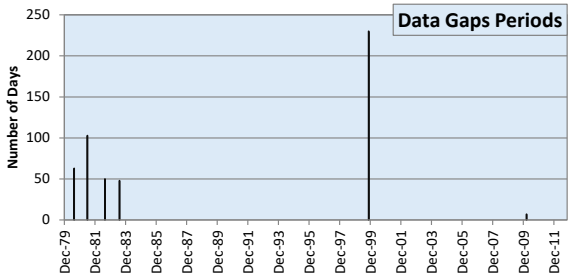
STG (ft) - CANAL

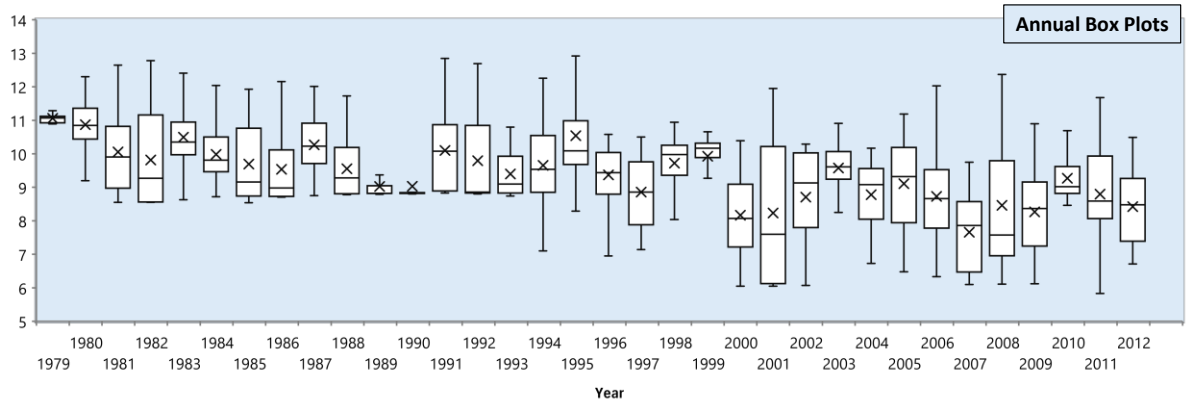
(26.27333, -81.68917)

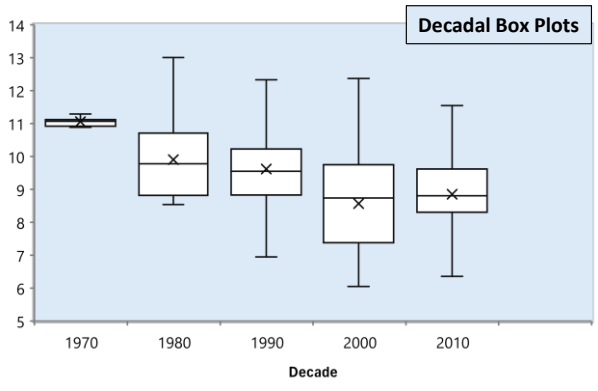


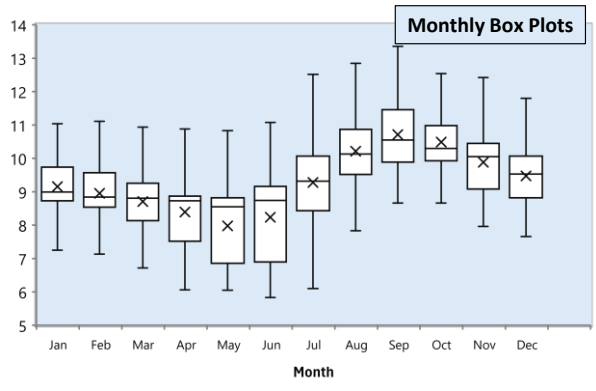
Statistics			
P100 (Max)	13.8	Average	9.30
P90	10.91	StdDev	1.35
P75	10.17	Count	11,504
P50 (Median)	9.3	SE	0.01
P25	8.71		
P10	7.43	POR	Dec-1979
P0 (Min)	5.83		Oct-2012
Range	7.97		
IQR	1.46		
% Complete	96%		









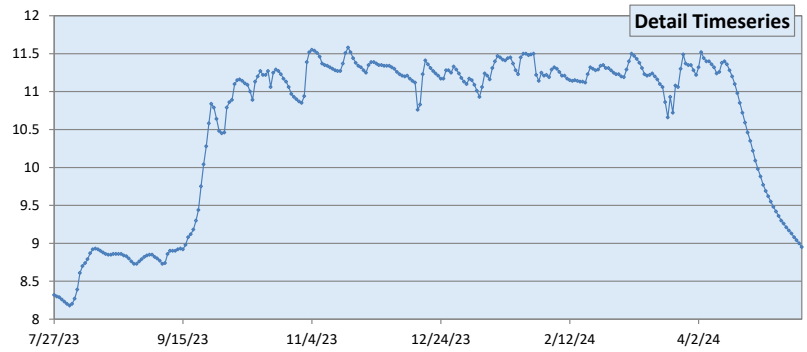


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

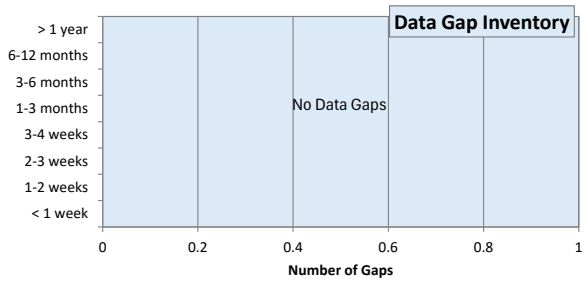
CORK1_H (2023 - 2024) : CORKSCREW CANAL #1

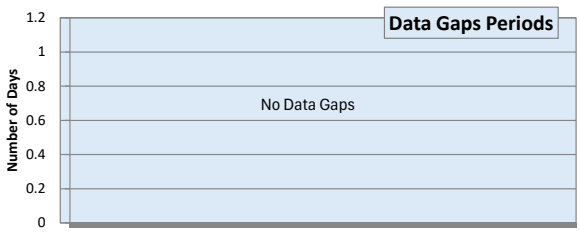
STG (ft) - CANAL

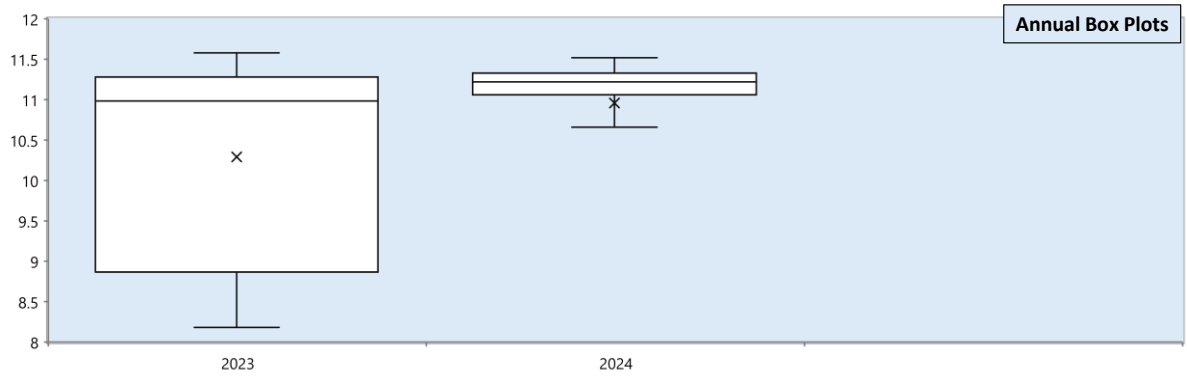
(26.27861, -81.60083)

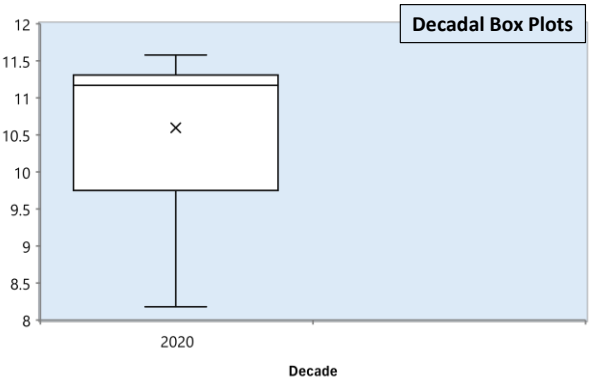


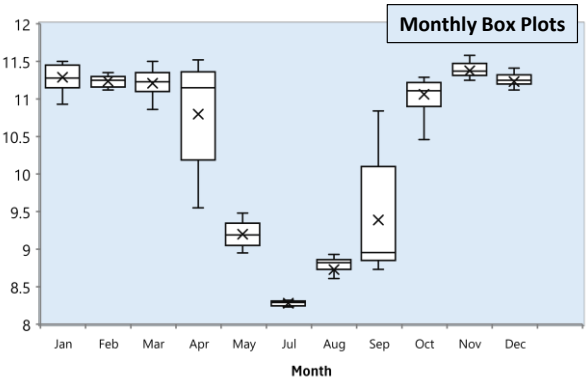
Statistics			
P100 (Max)	11.58	Average	10.60
P90	11.4	StdDev	1.04
P75	11.305	Count	291
P50 (Median)	11.17	SE	0.06
P25	9.76		
P10	8.85	POR	Jul-2023
P0 (Min)	8.18		May-2024
Range	3.4		
IQR	1.545		
% Complete	100%		









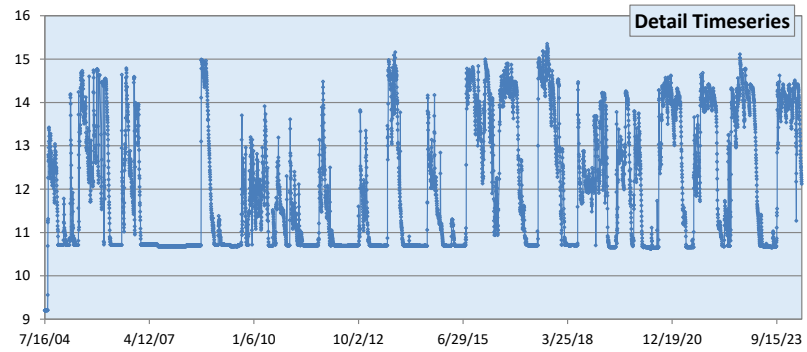


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

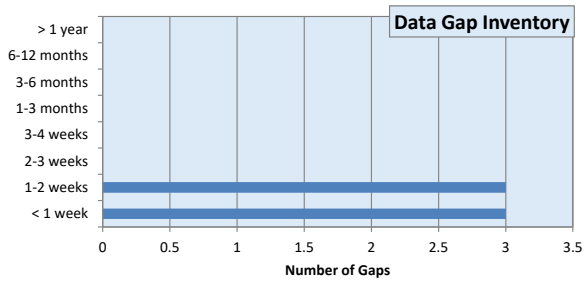
CORK3 (2004 - 2024) : CORKSCREW CANAL, WEIR 3

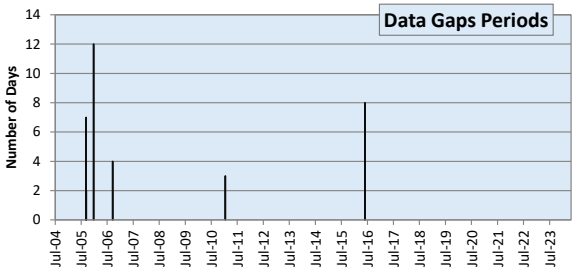
STG (ft) - CANAL

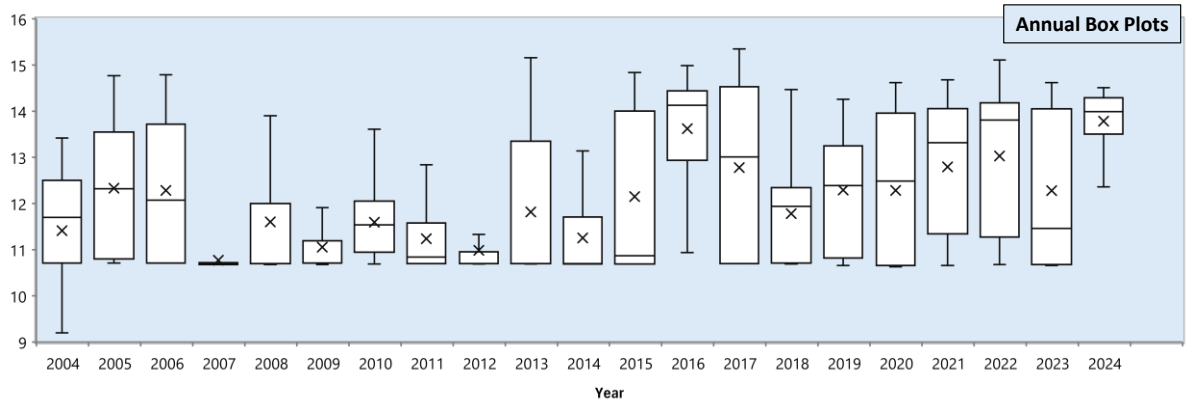
(26.31139, -81.62611)

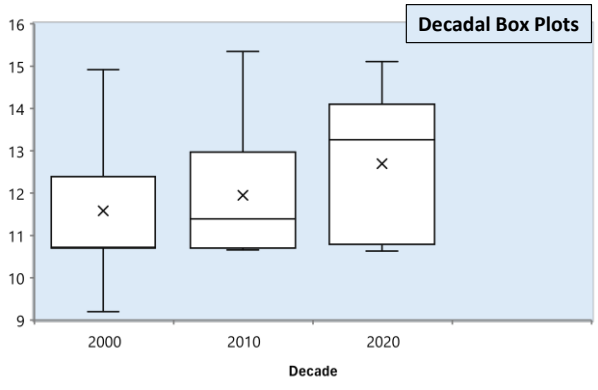


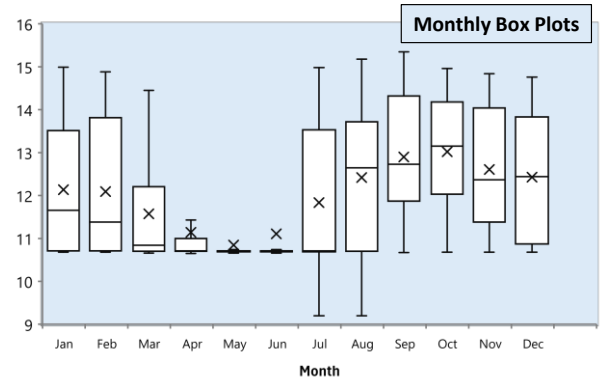
Statistics			
P100 (Max)	15.35	Average	12.01
P90	14.3	StdDev	1.47
P75	13.46	Count	7,205
P50 (Median)	11.38	SE	0.02
P25	10.7		
P10	10.68	POR	Jul-2004
P0 (Min)	9.2		May-2024
Range	6.15		
IQR	2.76		
% Complete	100%		











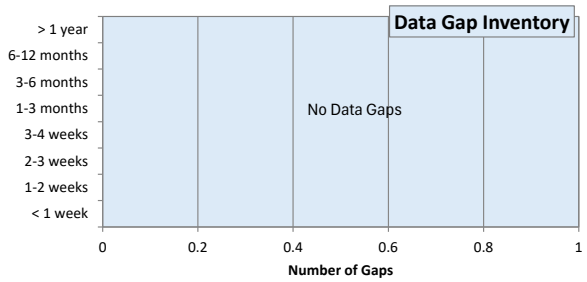
CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

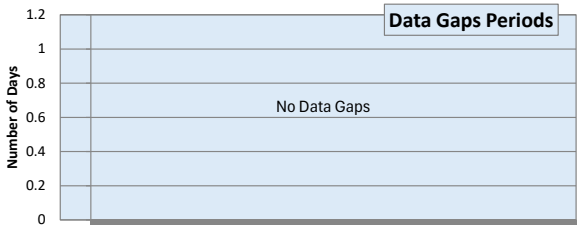
GOLD.846 (2022 - 2023) : GOLDEN GATE TRIBUTARY CANAL AT C.R.846

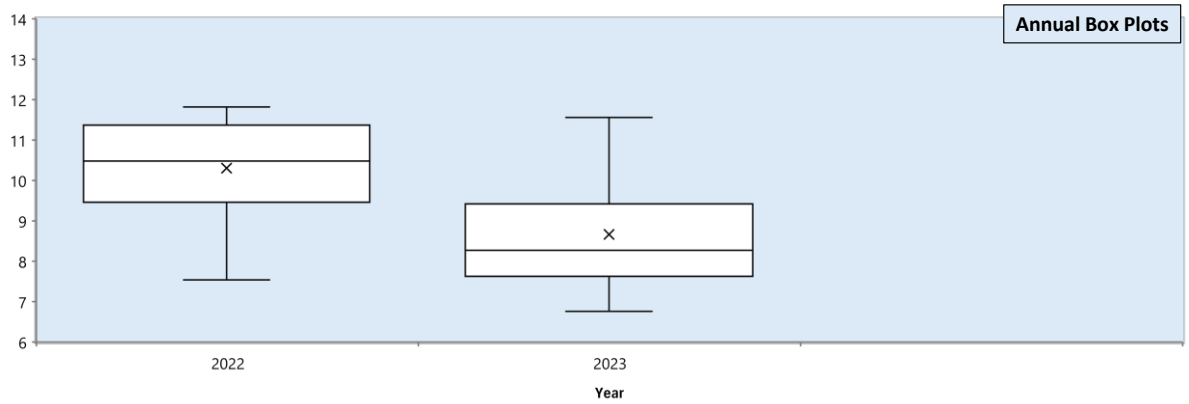
STG (ft) - CANAL

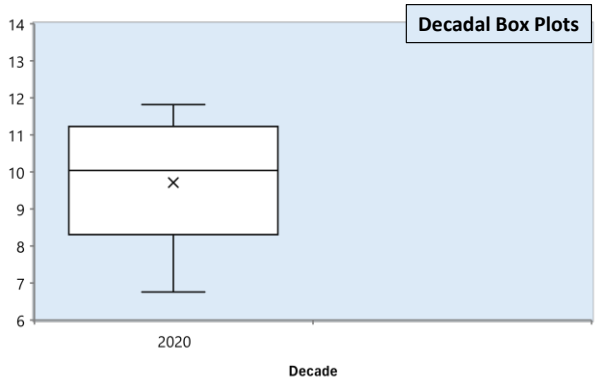
(26.27861, -81.60083)

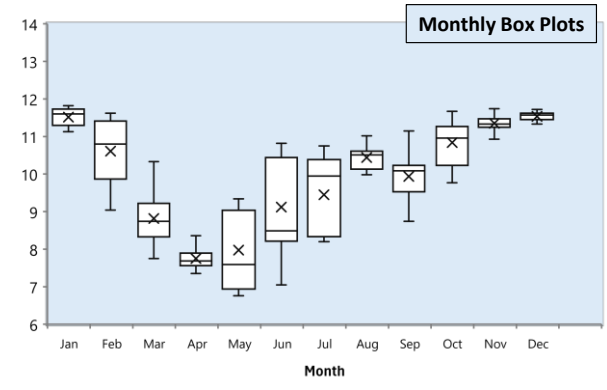
Statistics			
P100 (Max)	11.82	Average	9.71
P90	11.56	StdDev	1.49
P75	11.22	Count	571
P50 (Median)	10.04	SE	0.06
P25	8.315		
P10	7.63	POR	Jan-2022
P0 (Min)	6.76		Jul-2023
Range	5.06		
IQR	2.905		
% Complete	100%		









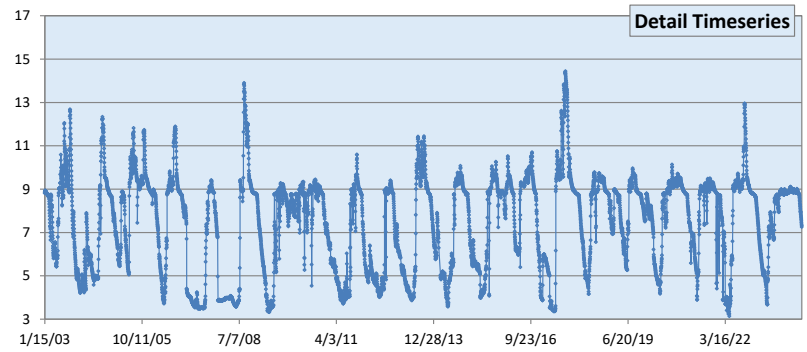


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

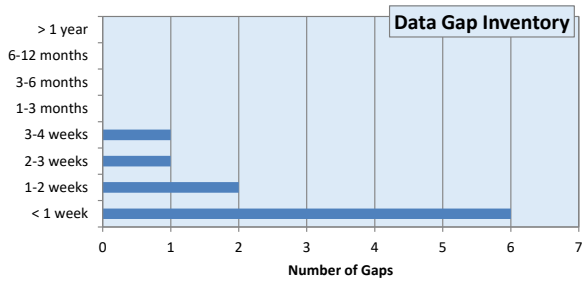
KEHL_H (2003 - 2024) : GATE STRUCTURE ON KEHL CANAL

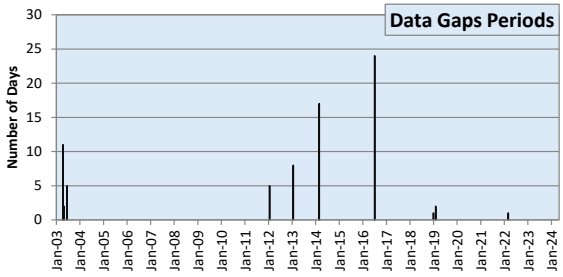
STG (ft) - CANAL

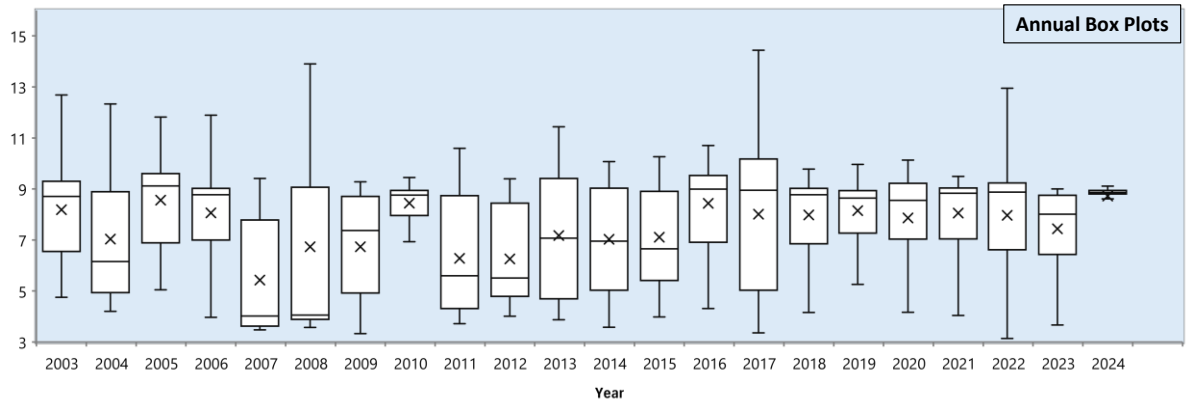
(26.33889, -81.73778)

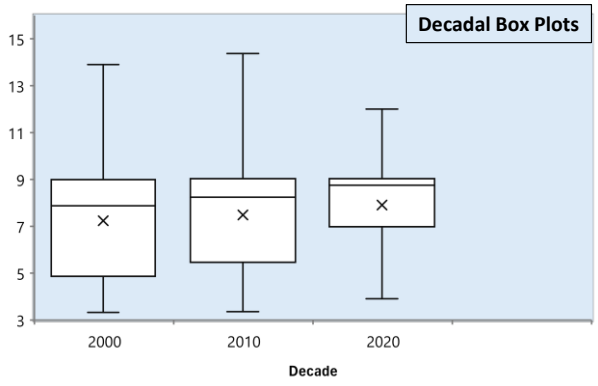


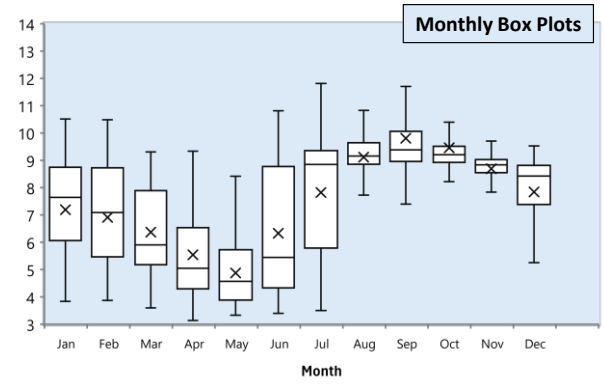
Statistics			
P100 (Max)	14.44	Average	7.49
P90	9.56	StdDev	2.20
P75	9.02	Count	7,713
P50 (Median)	8.35	SE	0.03
P25	5.48		
P10	4.08	POR	Jan-2003
P0 (Min)	3.14		May-2024
Range	11.3		
IQR	3.54		
% Complete	99%		









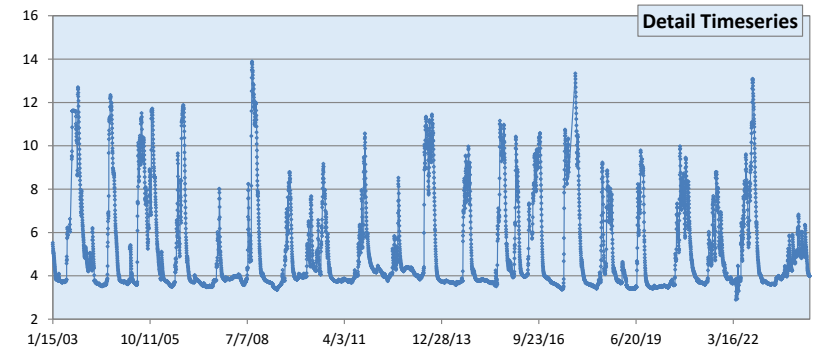


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

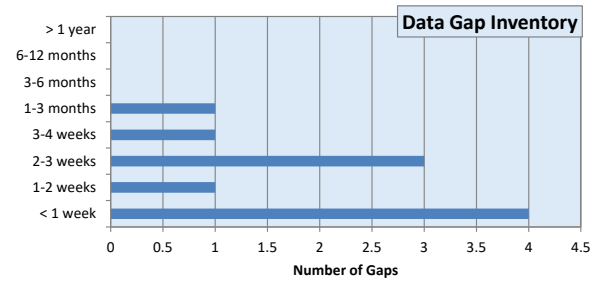
KEHL_T (2003 - 2024) : GATE STRUCTURE ON KEHL CANAL

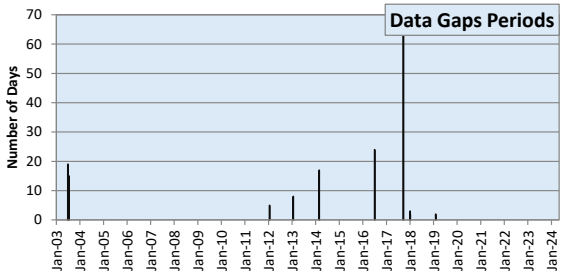
STG (ft) - CANAL

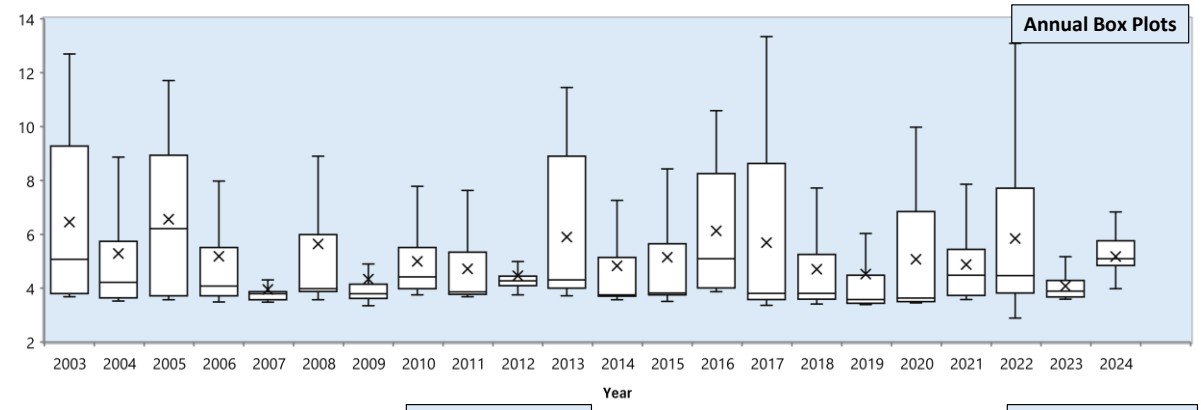
(26.33889, -81.73778)

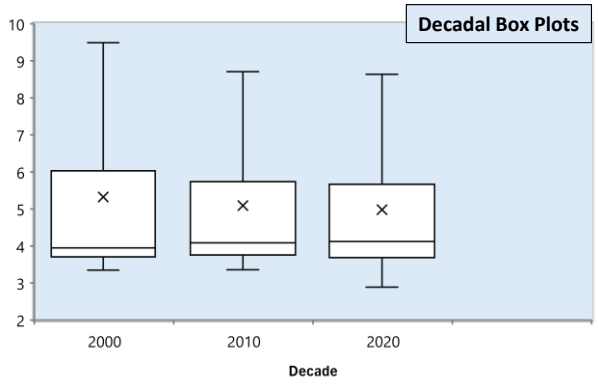


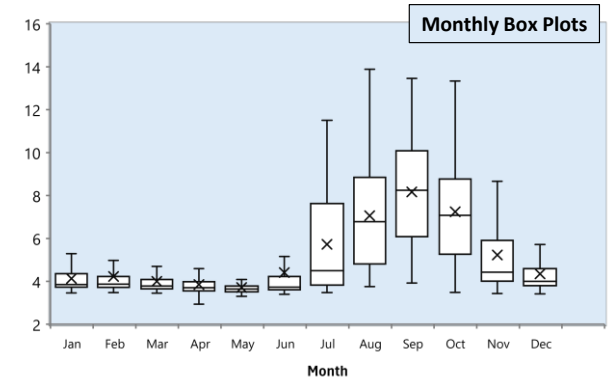
Statistics			
P100 (Max)	13.89	Average	5.15
P90	8.79	StdDev	2.18
P75	5.79	Count	7,629
P50 (Median)	4.04	SE	0.02
P25	3.73		
P10	3.58	POR	Jan-2003
P0 (Min)	2.89		May-2024
Range	11		
IQR	2.06		
% Complete	98%		









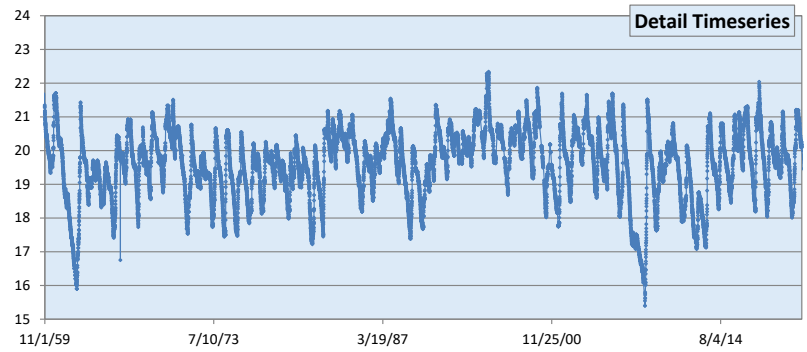


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

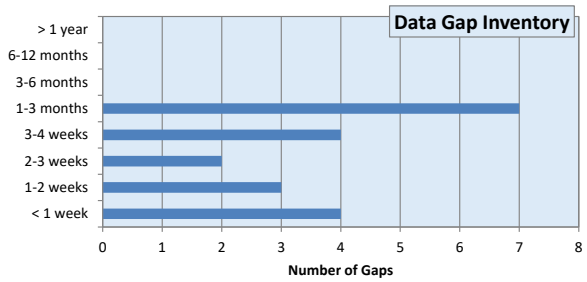
USGS-02291200 (1941 - 2024) : LAKE TRAFFORD NR IMMOKALEE, FLA.

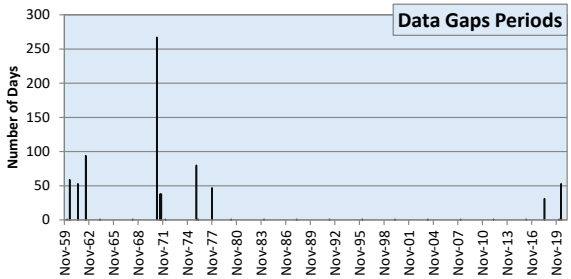
STG (ft NGVD29) - LAKE

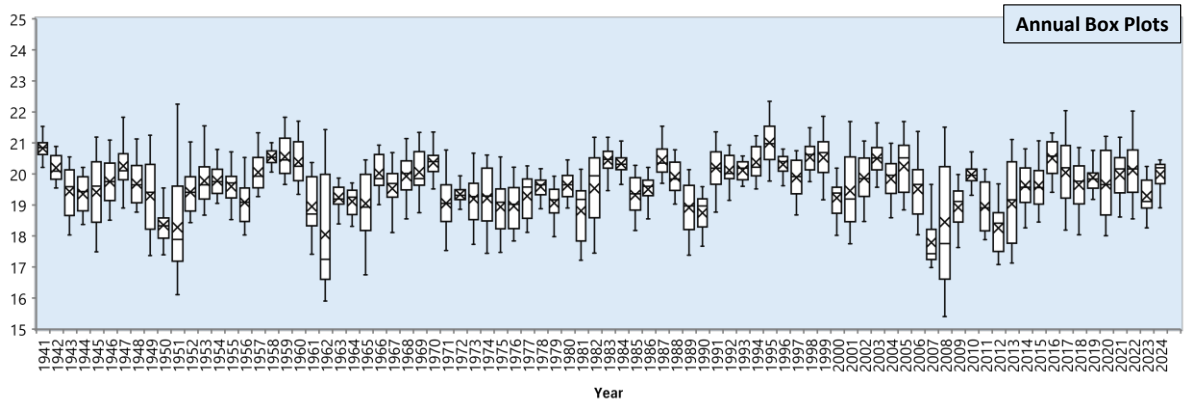
(26.4326, -81.4832)

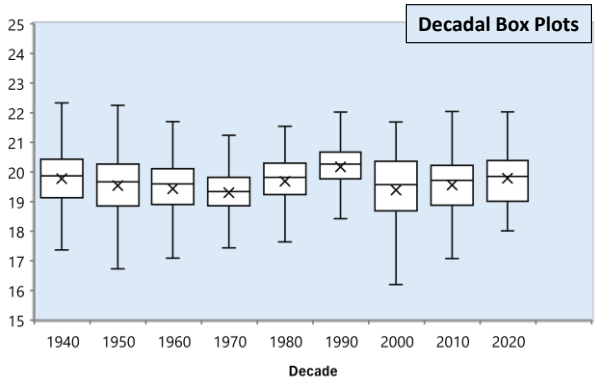


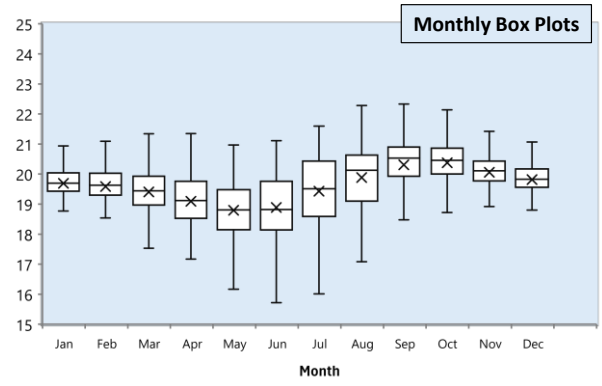
Statistics			
P100 (Max)	22.79	Average	19.61
P90	20.78	StdDev	0.99
P75	20.33	Count	29,840
P50 (Median)	19.73	SE	0.01
P25	19.04		
P10	18.25	POR	Apr-1941
P0 (Min)	15.4		Jul-2024
Range	7.39		
IQR	1.29		
% Complete	98%		









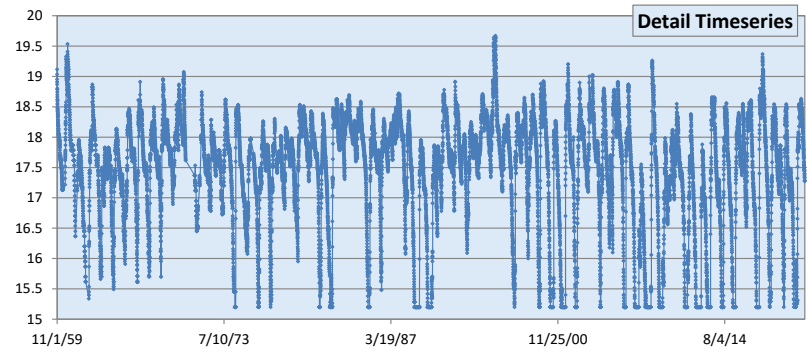


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

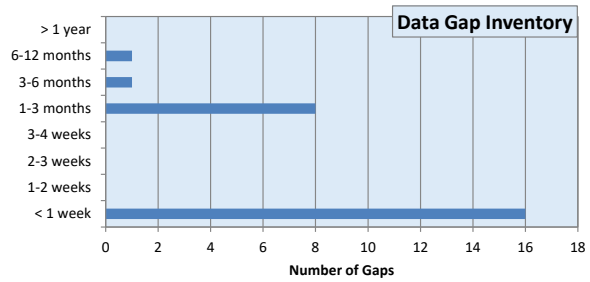
CORKSCREW_B_GAUGE (1959 - 2021) : CORKSCREW SWAMP SANCTUARY

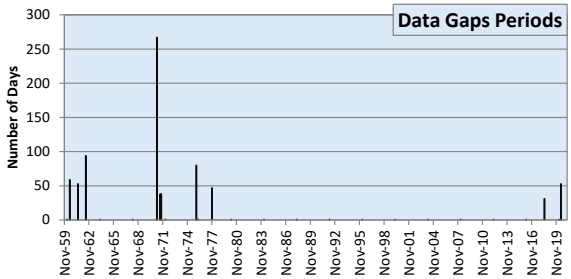
STG (ft NGVD29) - WETLAND

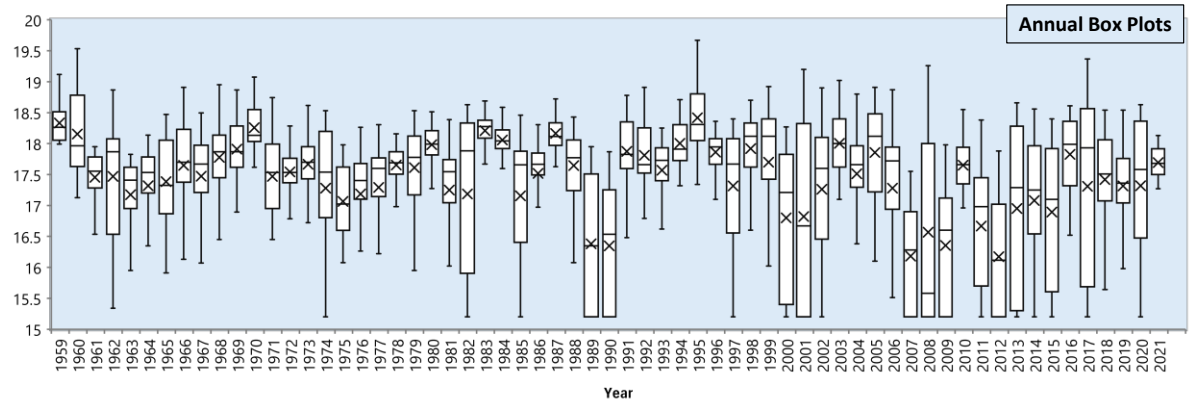
(26.36935, -81.61434)

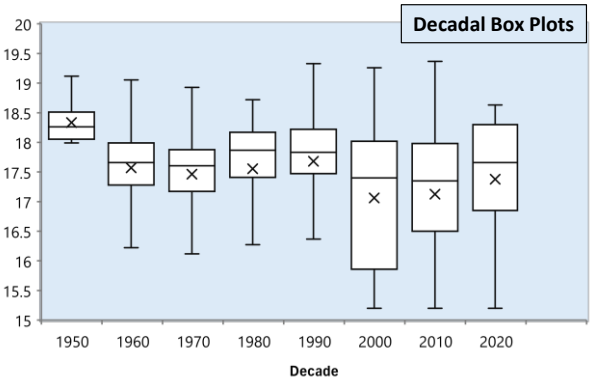


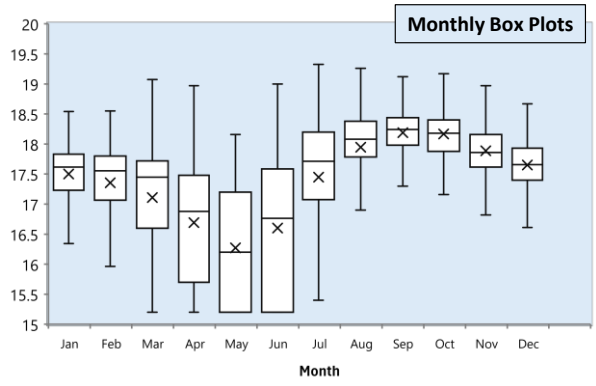
Statistics			
P100 (Max)	19.67	Average	17.41
P90	18.39	StdDev	0.97
P75	18.08	Count	21,625
P50 (Median)	17.66	SE	0.01
P25	17.03		
P10	15.62	POR	Nov-1959
P0 (Min)	15.20		Feb-2021
Range	4.47		
IQR	1.05		
% Complete	97%		









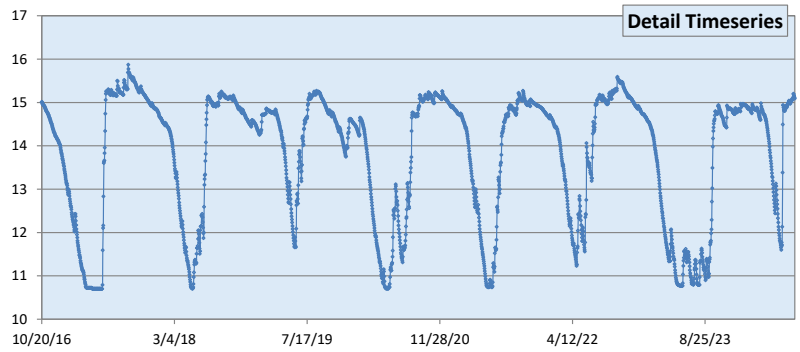


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

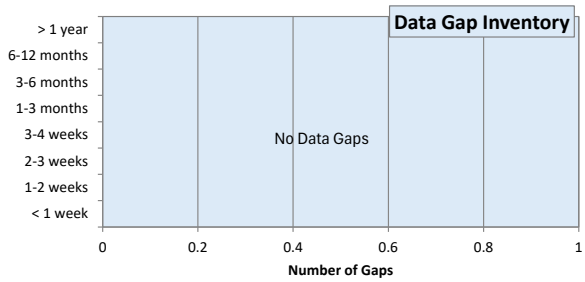
BRDROOK_SW (2016 - 2024) : SURFACE WATER AT CREW MARSH BIRD ROOKERY (BCB AREA)

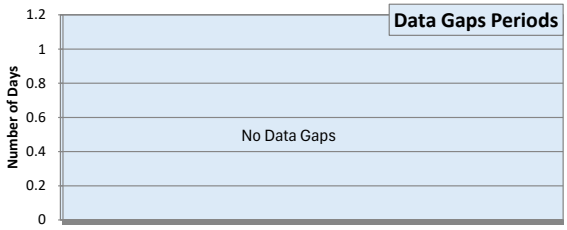
STG (ft NAVD88) - WETLAND

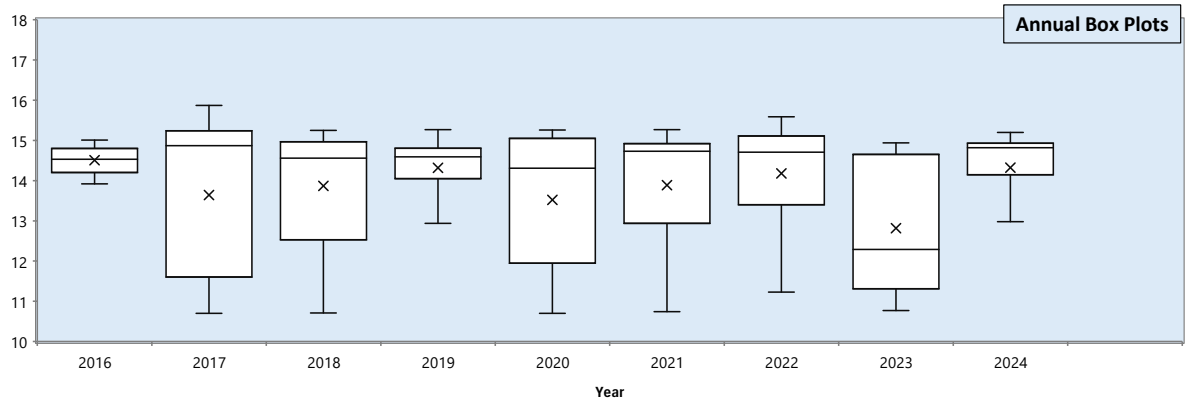
(26.31523, -81.63551)

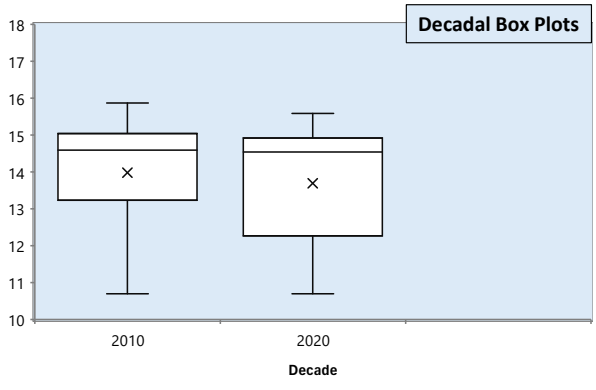


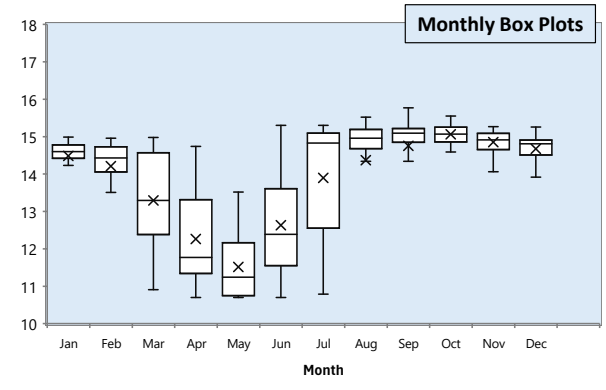
Statistics			
P100 (Max)	15.87	Average	13.81
P90	15.17	StdDev	1.50
P75	14.94	Count	2,839
P50 (Median)	14.56	SE	0.03
P25	12.59		
P10	11.29	POR	Oct-2016
P0 (Min)	10.70		Jul-2024
Range	5.17		
IQR	2.36		
% Complete	100%		









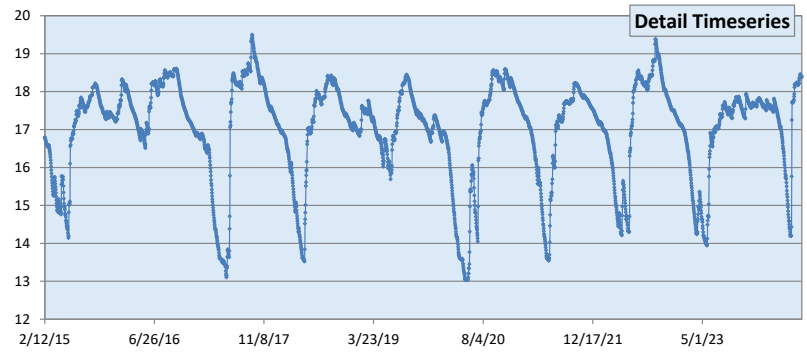


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

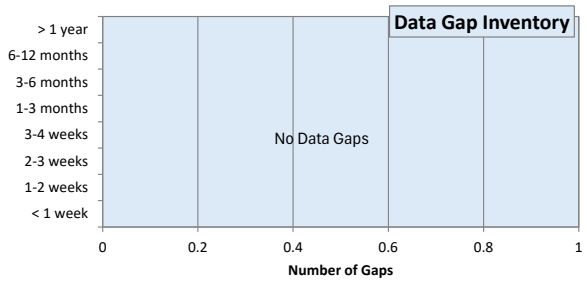
CRKSWPS (2015 - 2024) : CORKSCREW SWAMP SANCTUARY

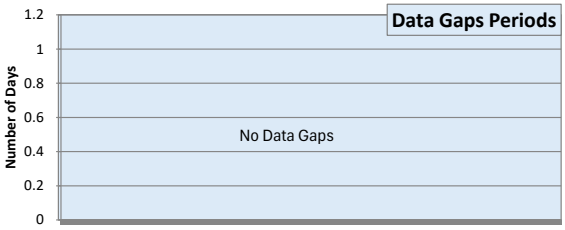
STG (ft NAVD88) - WETLAND

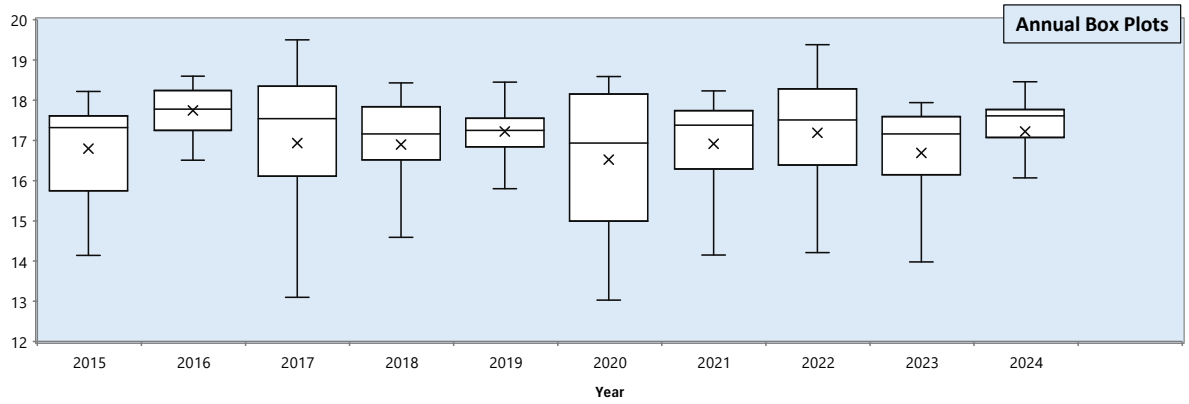
(26.40322, -81.58417)

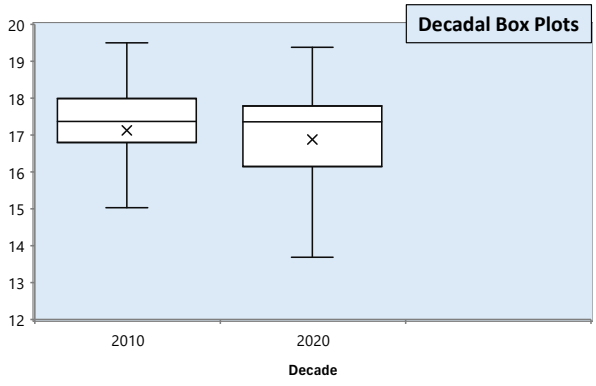


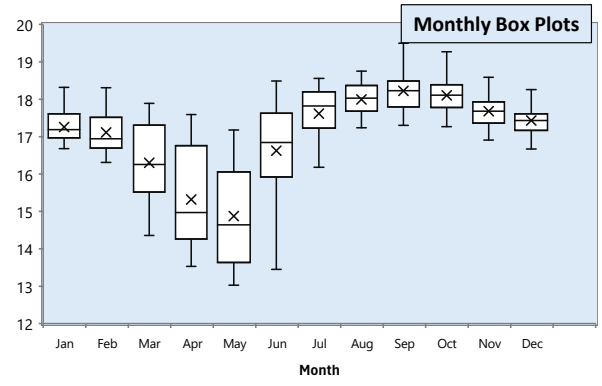
Statistics			
P100 (Max)	19.50	Average	17.01
P90	18.33	StdDev	1.32
P75	17.88	Count	3,455
P50 (Median)	17.37	SE	0.02
P25	16.62		
P10	14.76	POR	Feb-2015
P0 (Min)	13.03		Jul-2024
Range	6.47		
IQR	1.26		
% Complete	100%		









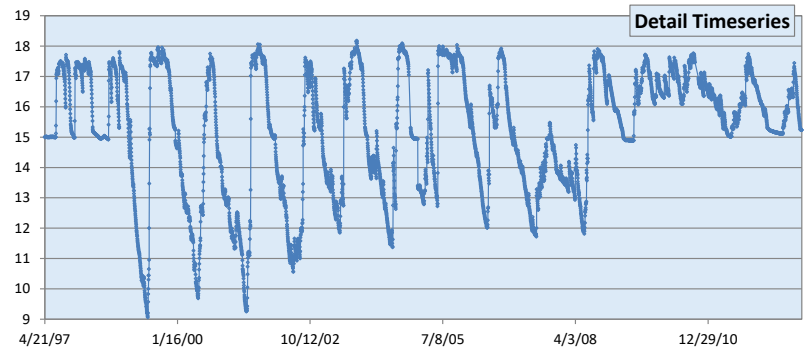


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

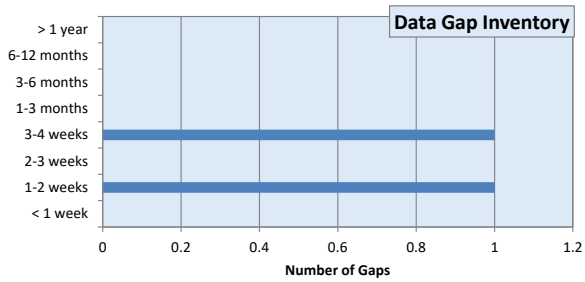
FP2 (1997 - 2012) : FLINT PEN STRAND, SITE 2

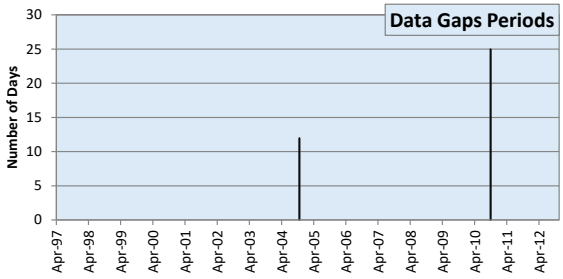
STG (ft) - WETLAND

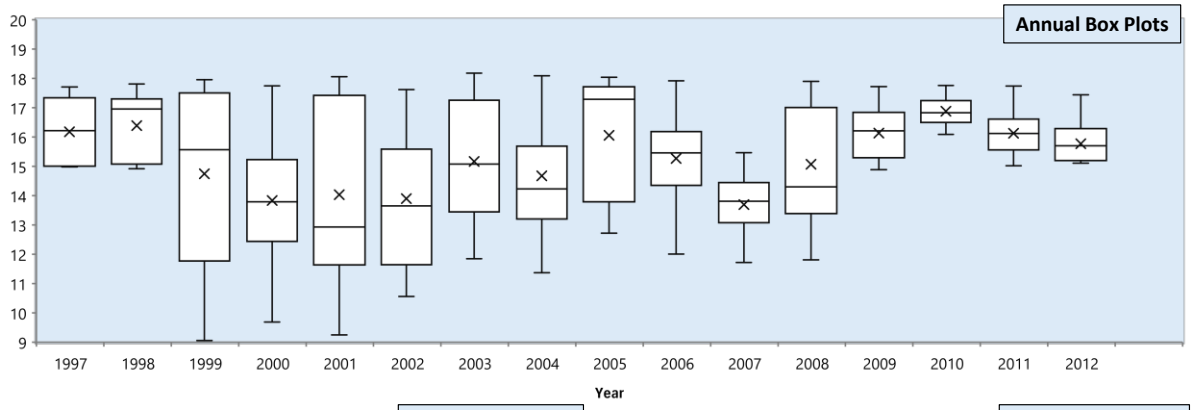
(26.45111, -81.705)

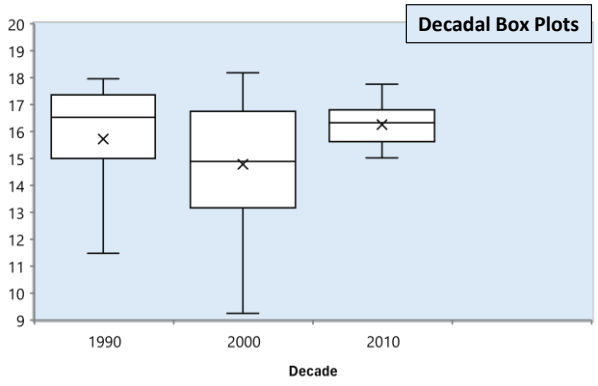


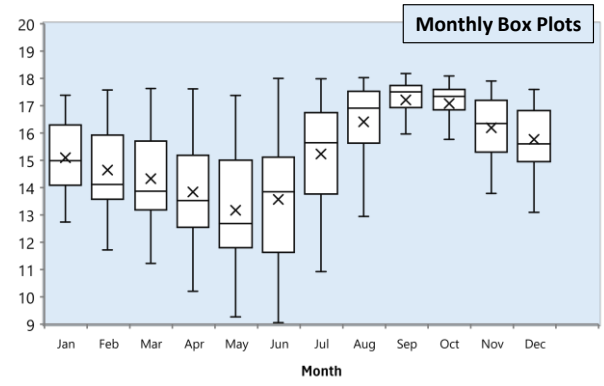
Statistics			
P100 (Max)	18.18	Average	15.22
P90	17.57	StdDev	2.03
P75	17.02	Count	5,671
P50 (Median)	15.45	SE	0.03
P25	13.74		
P10	12.20	POR	Apr-1997
P0 (Min)	9.06		Dec-2012
Range	9.12		
IQR	3.28		
% Complete	99%		









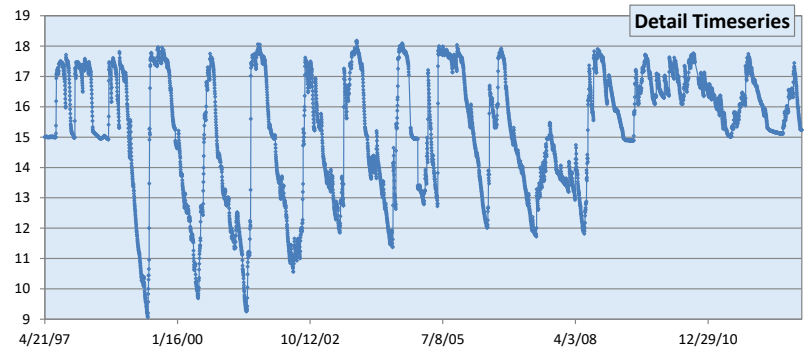


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

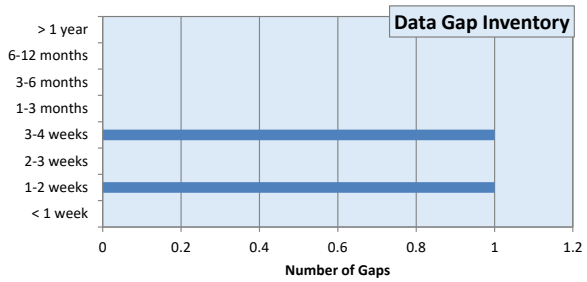
FP2 (1997 - 2012) : FLINT PEN STRAND, SITE 2

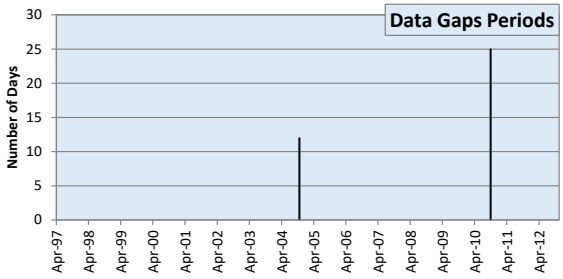
STG (ft) - WETLAND

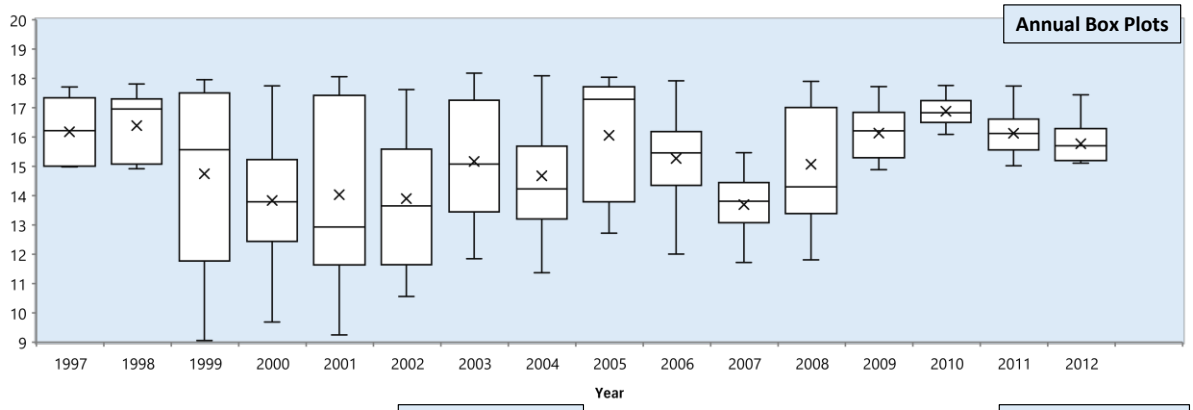
(26.45111, -81.705)

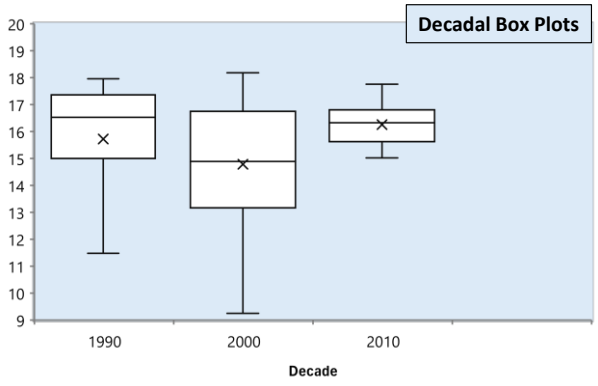


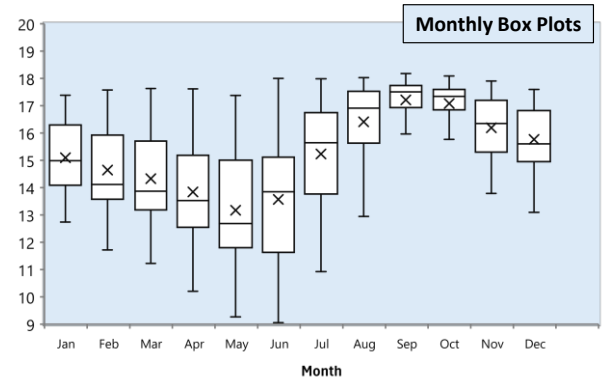
Statistics			
P100 (Max)	18.18	Average	15.22
P90	17.57	StdDev	2.03
P75	17.02	Count	5,671
P50 (Median)	15.45	SE	0.03
P25	13.74		
P10	12.20	POR	Apr-1997
P0 (Min)	9.06		Dec-2012
Range	9.12		
IQR	3.28		
% Complete	99%		









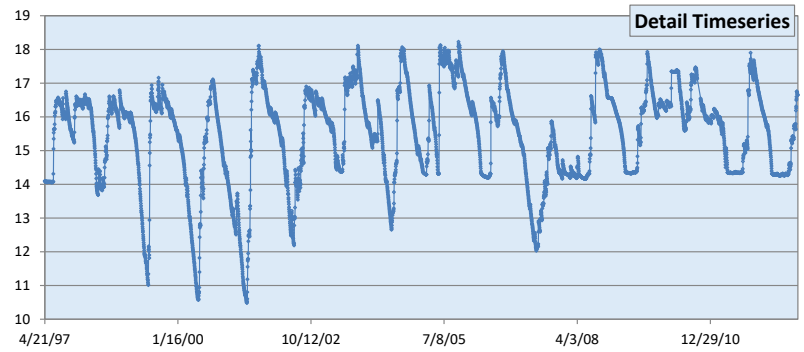


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

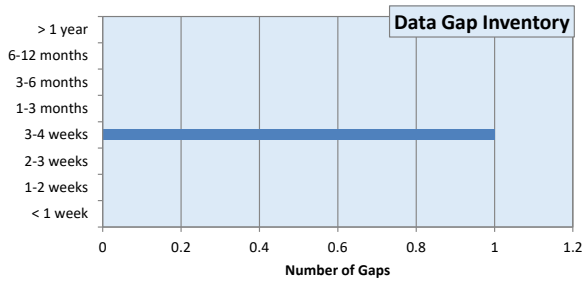
FP3 (1997 - 2012) : FLINT PEN STRAND, SITE 3

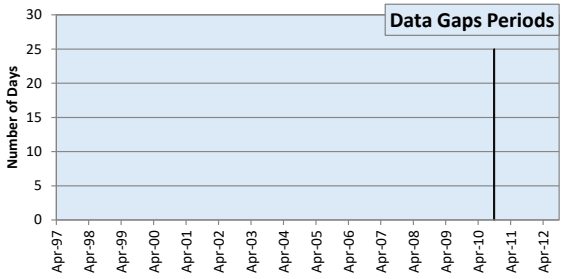
STG (ft) - WETLAND

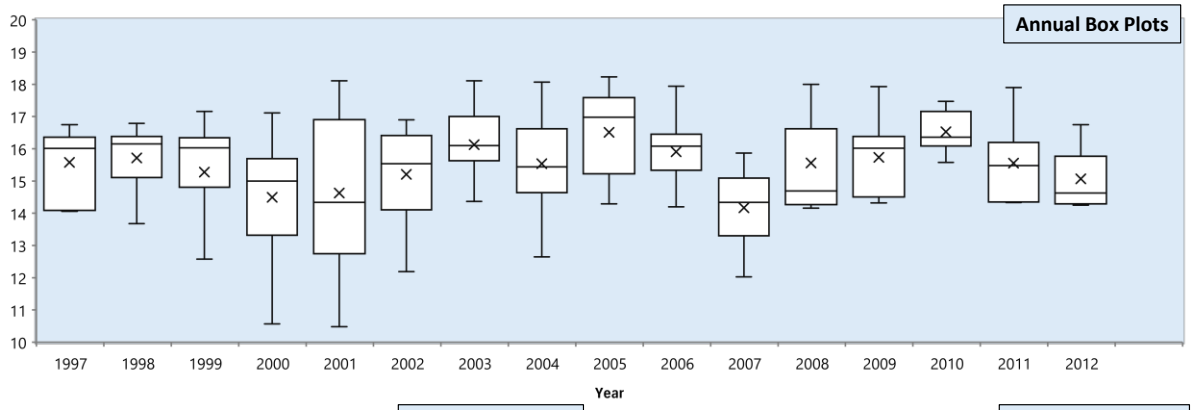
(26.43944, -81.71472)

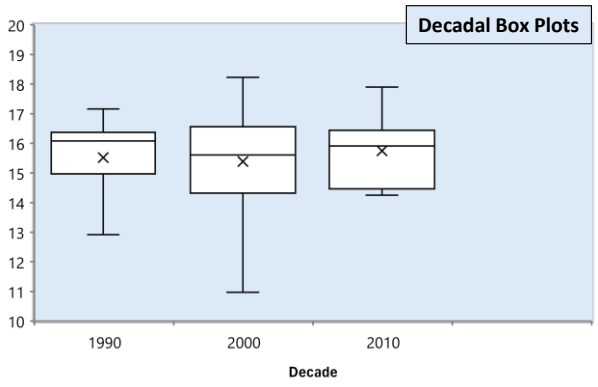


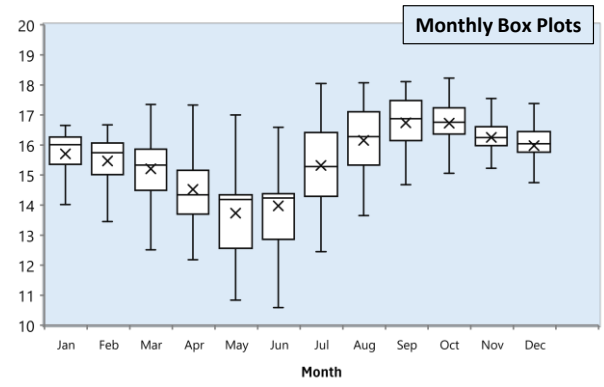
Statistics			
P100 (Max)	18.23	Average	15.47
P90	17.22	StdDev	1.46
P75	16.46	Count	5,634
P50 (Median)	15.82	SE	0.02
P25	14.35		
P10	13.74	POR	Apr-1997
P0 (Min)	10.48		Oct-2012
Range	7.75		
IQR	2.11		
% Complete	100%		









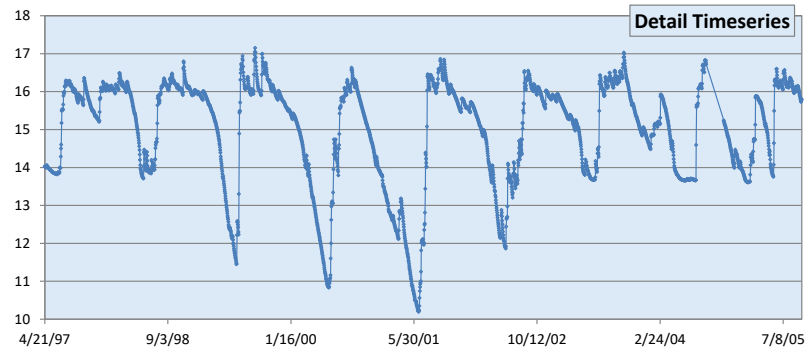


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

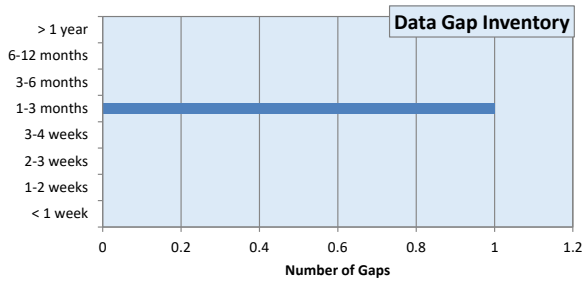
FP4 (1997 - 2005) : FLINT PEN STRAND, SITE 4

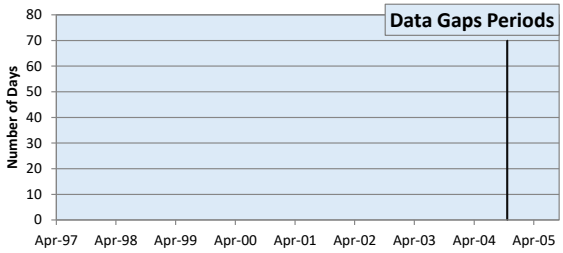
STG (ft) - WETLAND

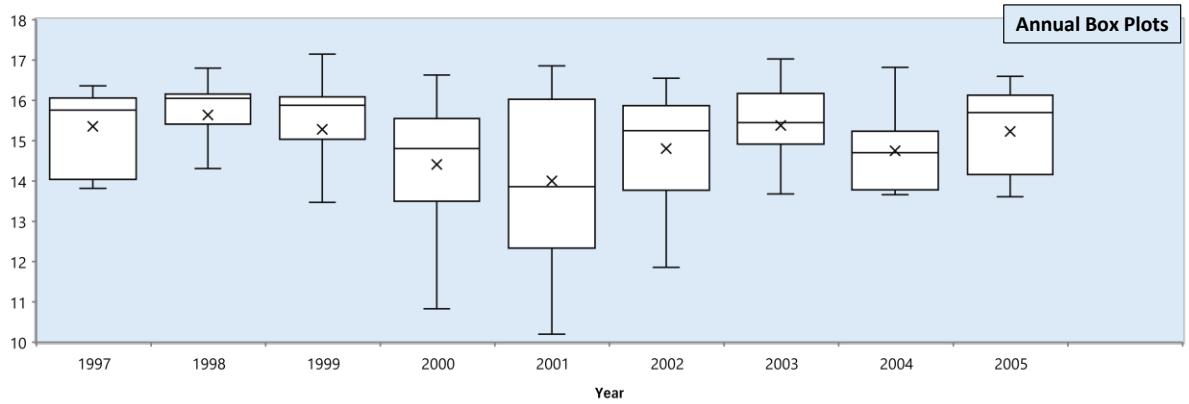
(26.43417, -81.71694)

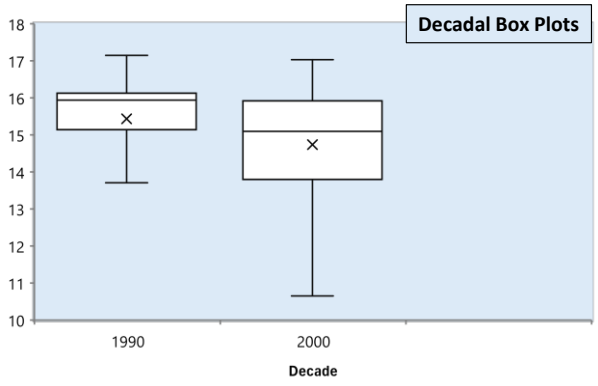


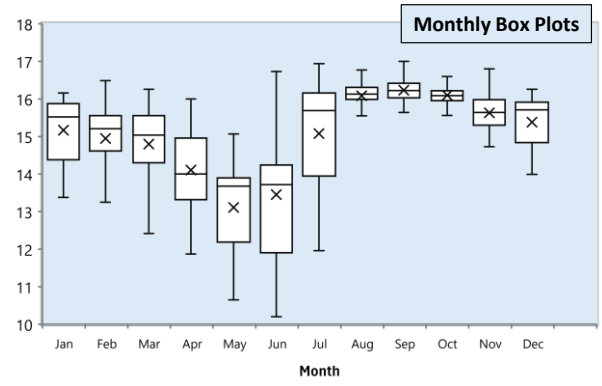
Statistics			
P100 (Max)	17.15	Average	14.97
P90	16.27	StdDev	1.39
P75	16.05	Count	3,007
P50 (Median)	15.47	SE	0.03
P25	13.99		
P10	12.91	POR	Apr-1997
P0 (Min)	10.20		Sep-2005
Range	6.95		
IQR	2.06		
% Complete	98%		









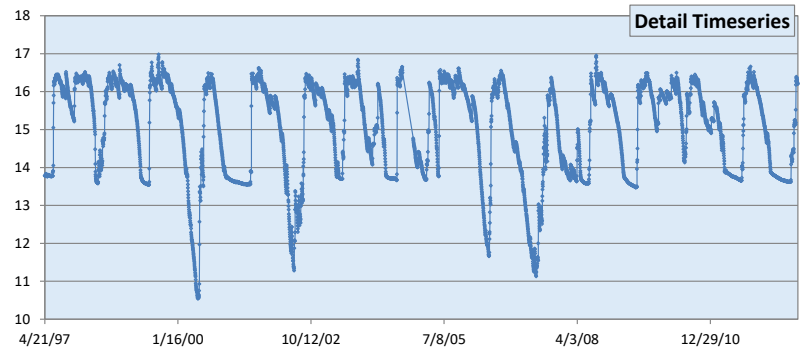


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

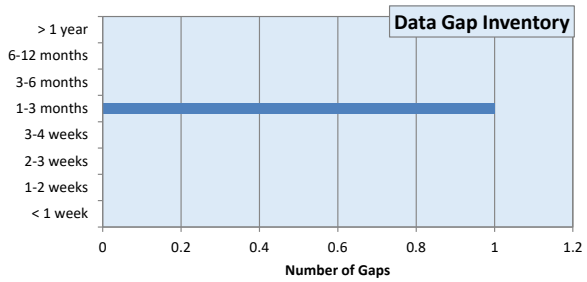
FP5 (1997 - 2012) : FLINT PEN STRAND, SITE 5

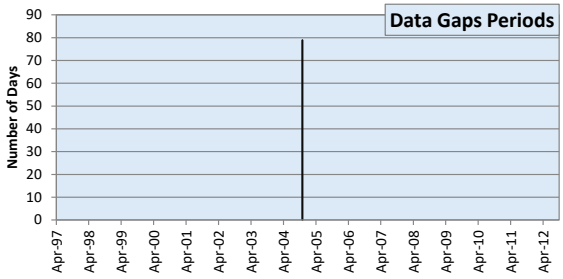
STG (ft) - WETLAND

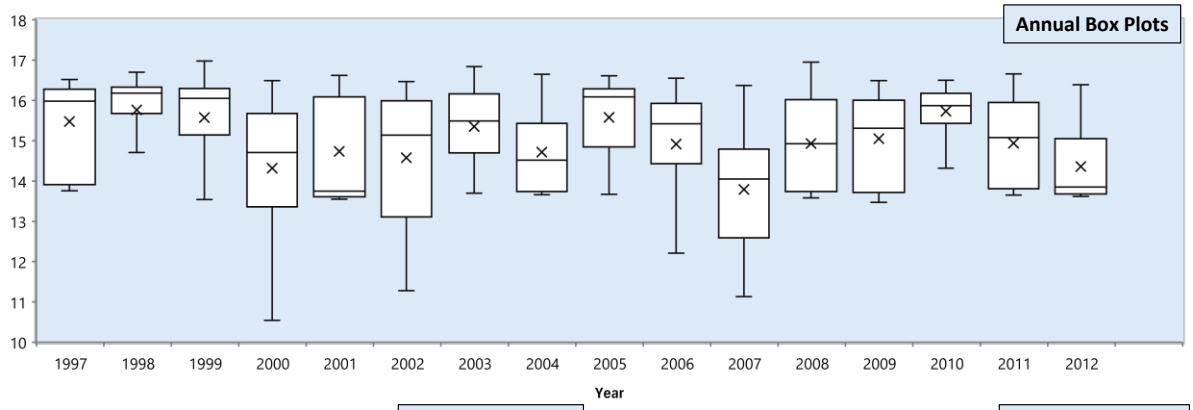
(26.43278, -81.72111)

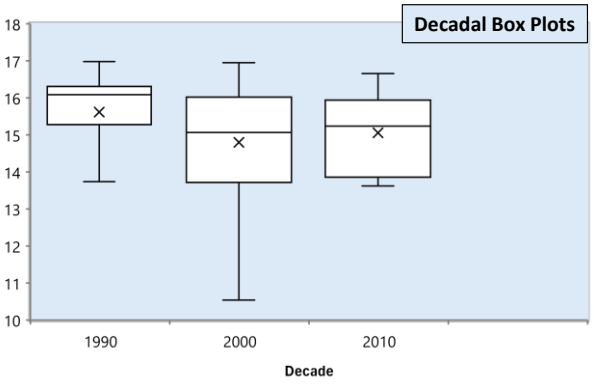


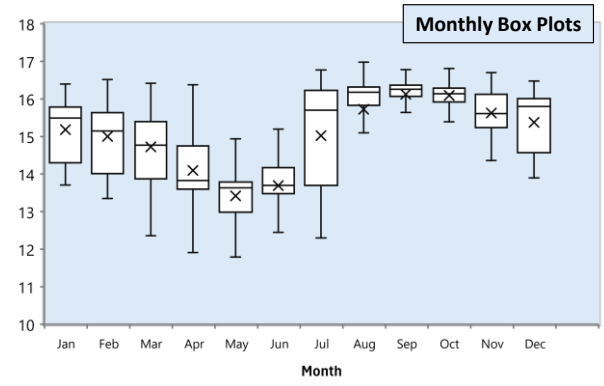
Statistics			
P100 (Max)	16.98	Average	14.99
P90	16.32	StdDev	1.28
P75	16.12	Count	5,580
P50 (Median)	15.38	SE	0.02
P25	13.82		
P10	13.56	POR	Apr-1997
P0 (Min)	10.54		Oct-2012
Range	6.44		
IQR	2.30		
% Complete	99%		









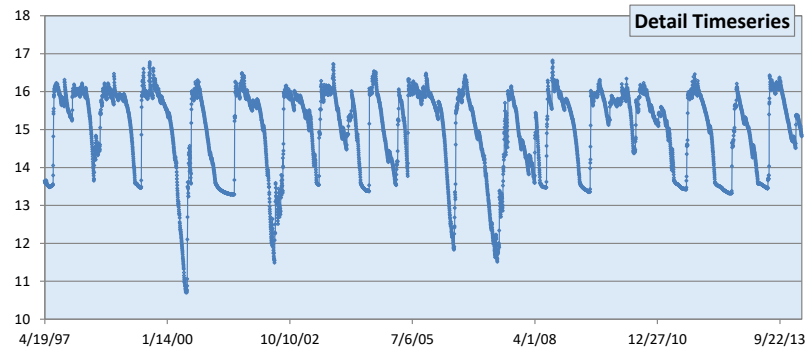


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

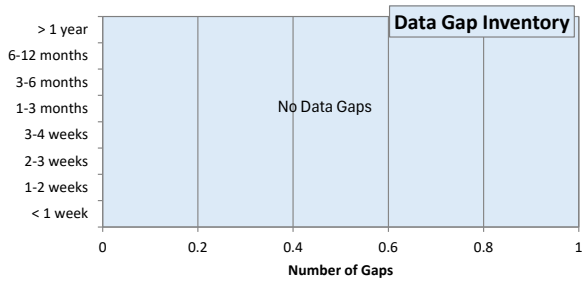
FP6 (1997 - 2014) : FLINT PEN STRAND, SITE 6

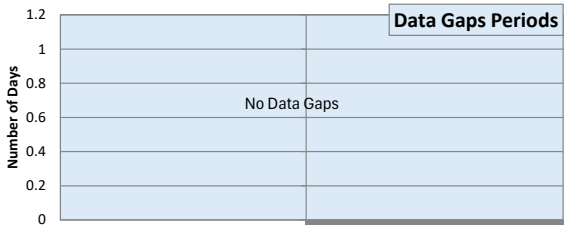
STG (ft) - WETLAND

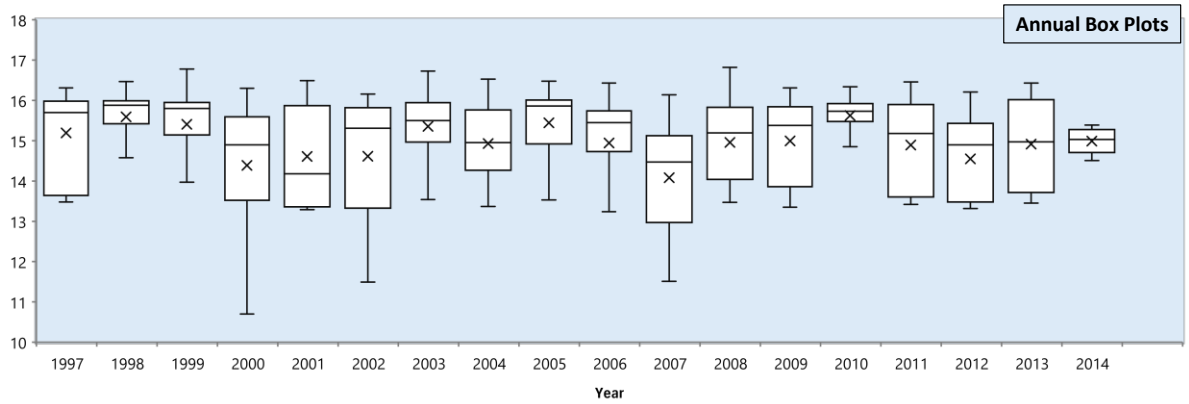
(26.42722, -81.71861)

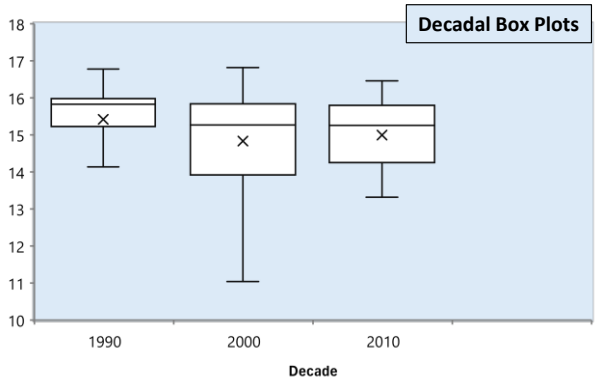


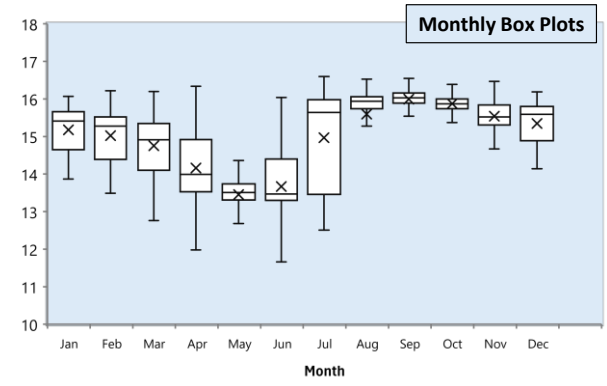
Statistics			
P100 (Max)	16.82	Average	14.97
P90	16.06	StdDev	1.13
P75	15.88	Count	6,180
P50 (Median)	15.38	SE	0.01
P25	14.14		
P10	13.41	POR	Apr-1997
P0 (Min)	10.70		Mar-2014
Range	6.12		
IQR	1.74		
% Complete	100%		









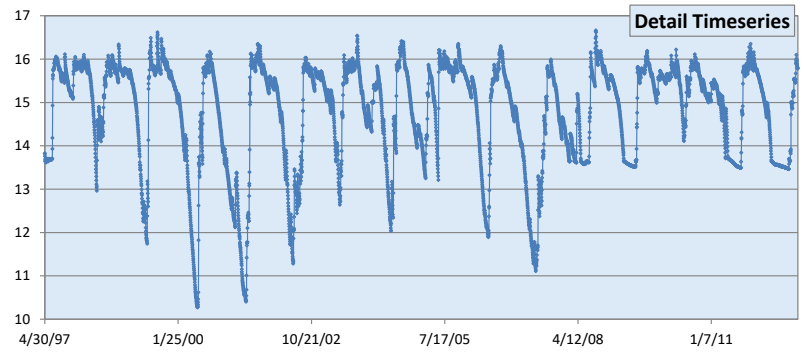


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

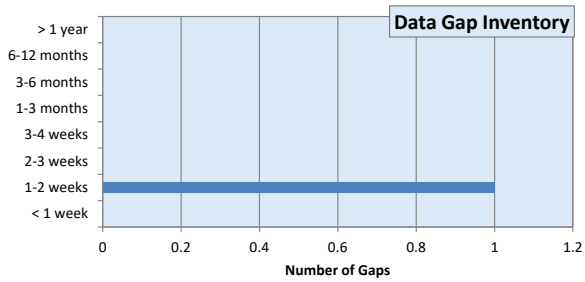
FP7 (1997 - 2012) : FLINT PEN STRAND, SITE 7

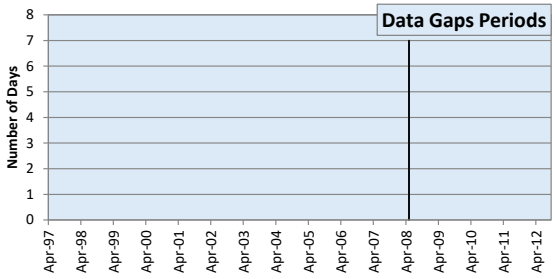
STG (ft) - WETLAND

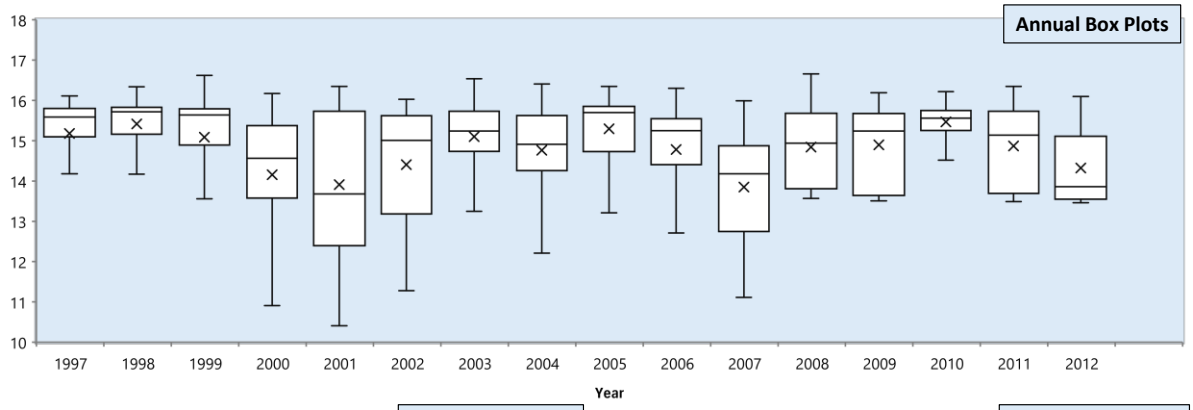
(26.42333, -81.71833)

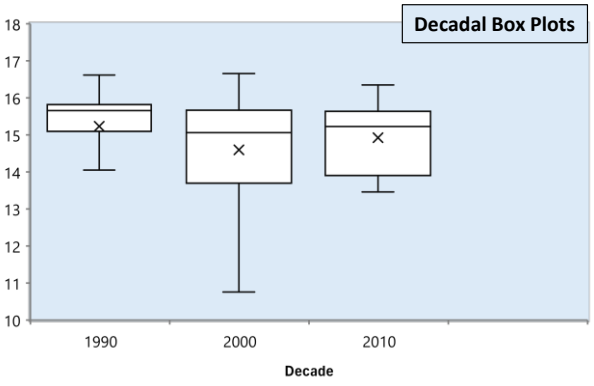


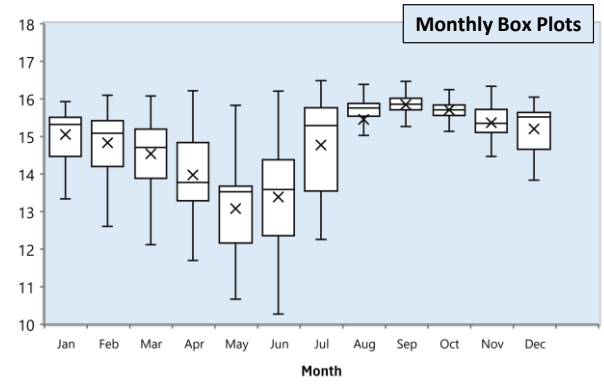
Statistics			
P100 (Max)	16.66	Average	14.77
P90	15.89	StdDev	1.23
P75	15.72	Count	5,643
P50 (Median)	15.24	SE	0.02
P25	13.89		
P10	13.06	POR	Apr-1997
P0 (Min)	10.27		Oct-2012
Range	6.39		
IQR	1.83		
% Complete	100%		









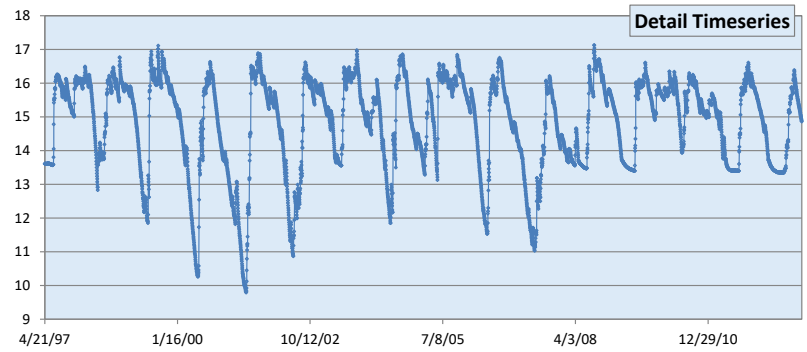


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

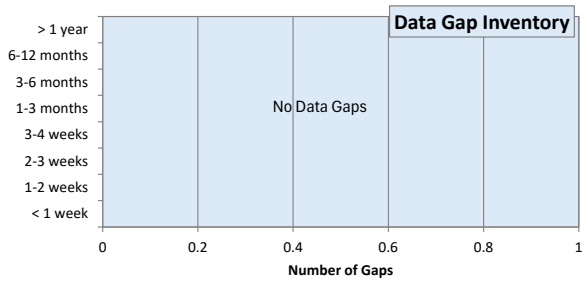
FP8 (1997 - 2012) : FLINT PEN STRAND, SITE 8

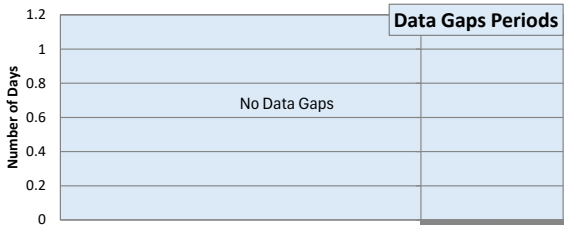
STG (ft) - WETLAND

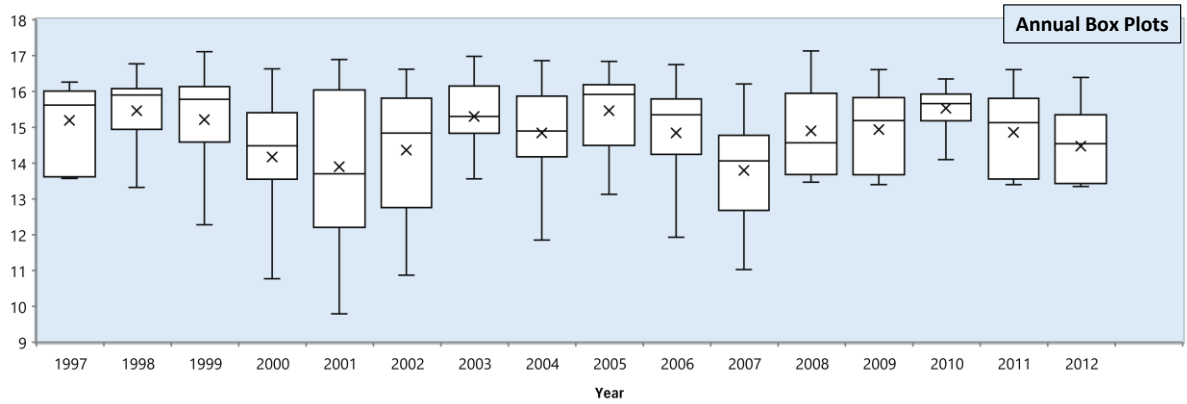
(26.42972, -81.71389)

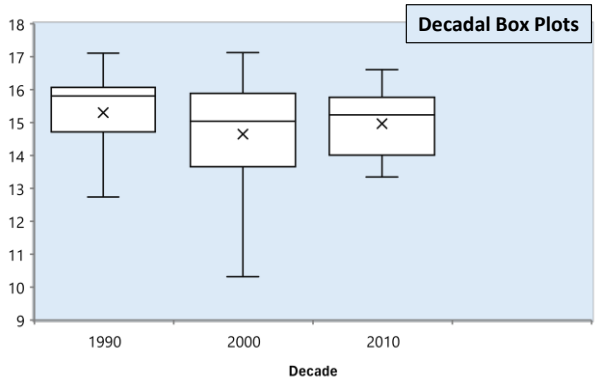


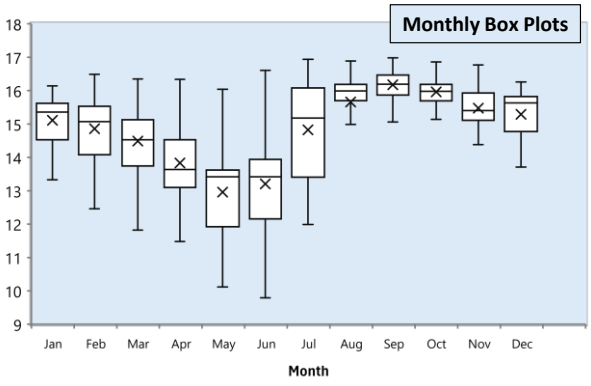
Statistics			
P100 (Max)	17.13	Average	14.82
P90	16.23	StdDev	1.40
P75	15.93	Count	5,708
P50 (Median)	15.24	SE	0.02
P25	13.78		
P10	12.92	POR	Apr-1997
P0 (Min)	9.79		Dec-2012
Range	7.34		
IQR	2.15		
% Complete	100%		









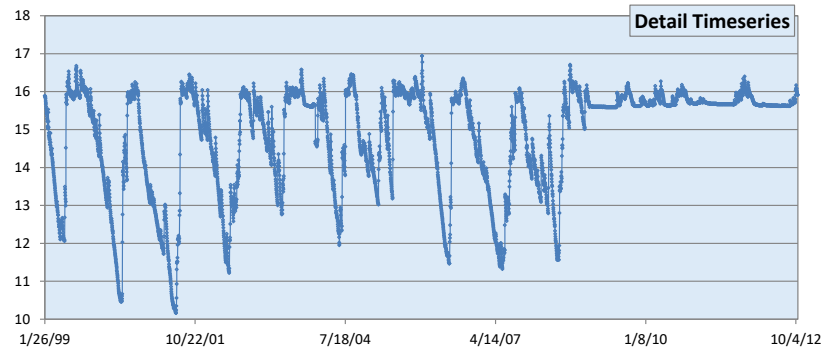


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

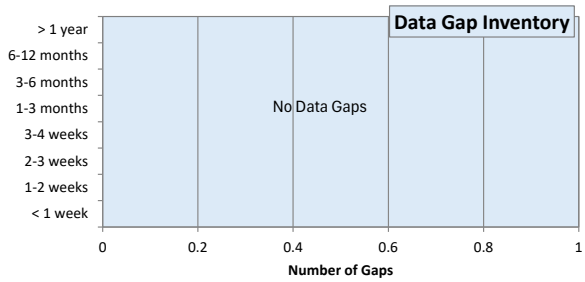
FP9 (1999 - 2012) : FLINT PEN STRAND, SITE 9

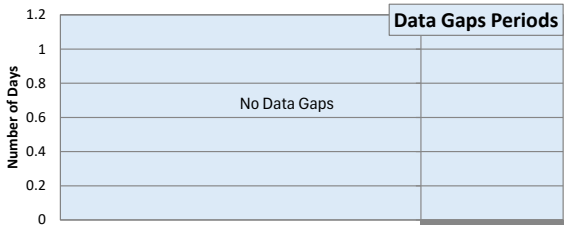
STG (ft) - WETLAND

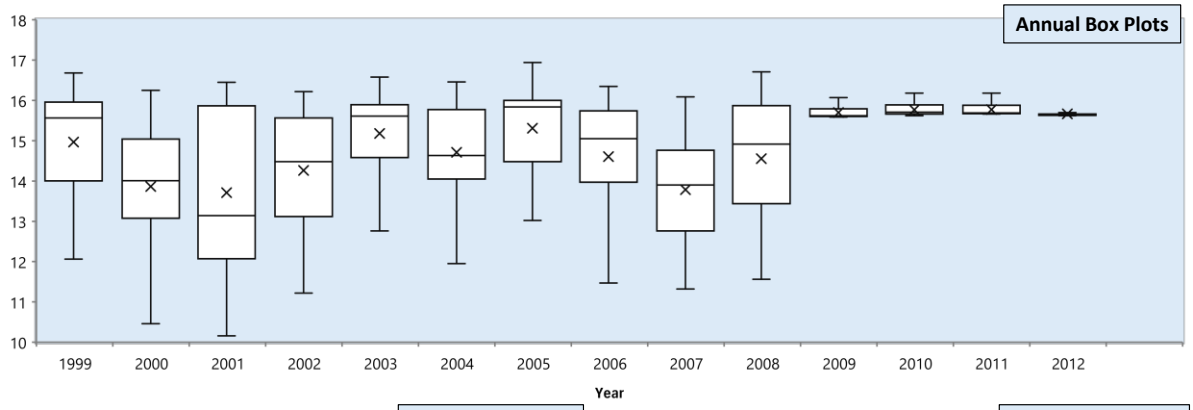
(26.42333, -81.72167)

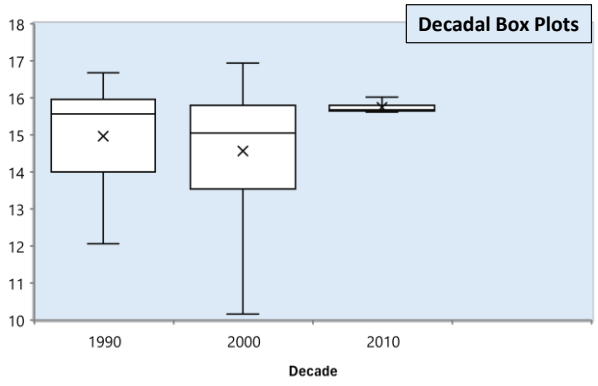


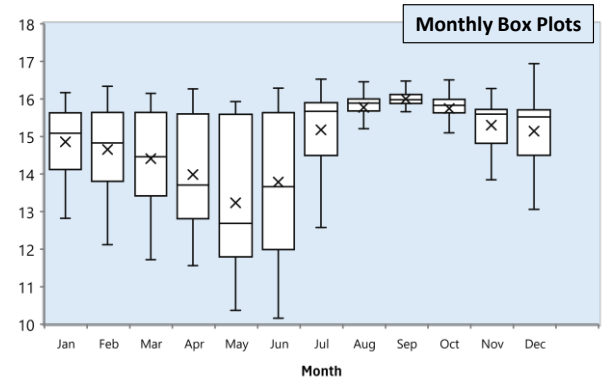
Statistics			
P100 (Max)	16.94	Average	14.83
P90	16.01	StdDev	1.39
P75	15.82	Count	5,014
P50 (Median)	15.60	SE	0.02
P25	14.00		
P10	12.63	POR	Jan-1999
P0 (Min)	10.16		Oct-2012
Range	6.78		
IQR	1.82		
% Complete	100%		









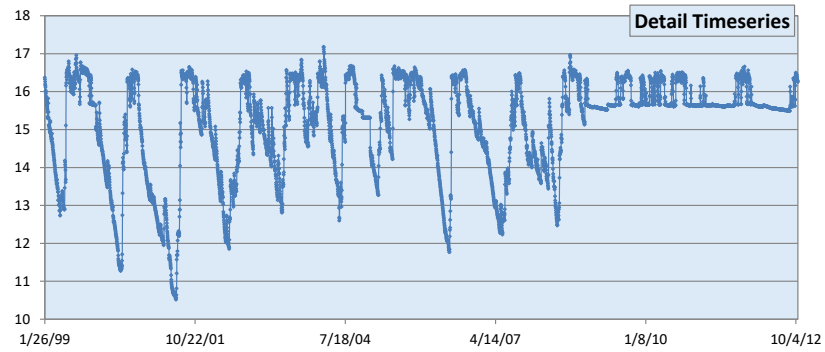


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

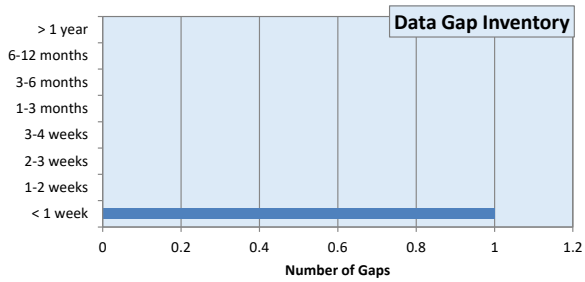
FP10 (1999 - 2012) : FLINT PEN STRAND, SITE 10

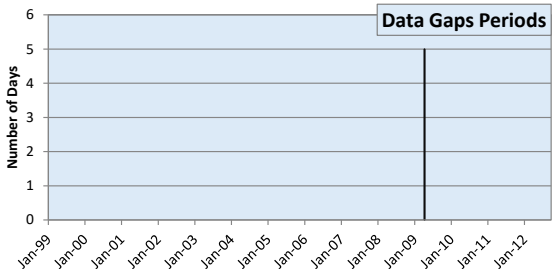
STG (ft) - WETLAND

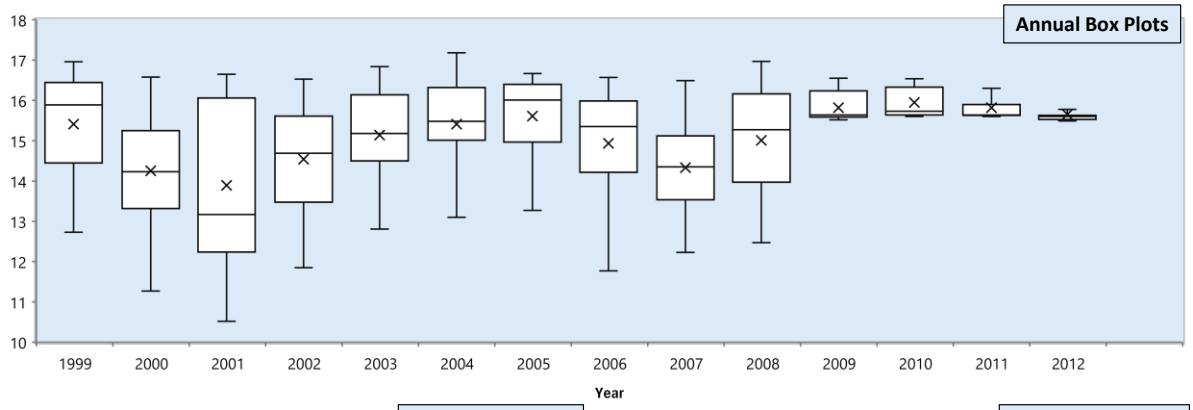
(26.43306, -81.72333)

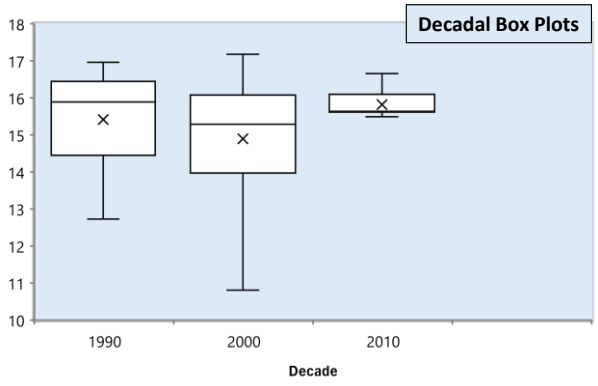


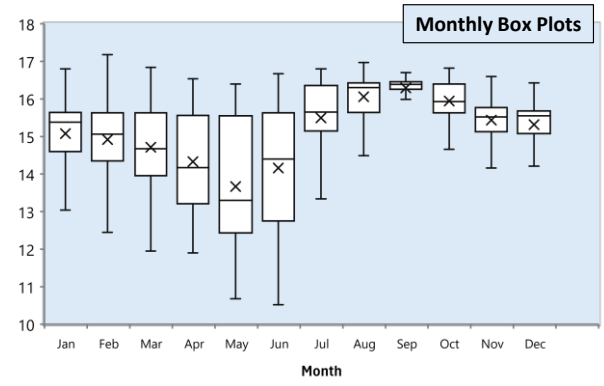
Statistics			
P100 (Max)	17.18	Average	15.12
P90	16.43	StdDev	1.29
P75	16.16	Count	5,009
P50 (Median)	15.59	SE	0.02
P25	14.38		
P10	13.12	POR	Jan-1999
P0 (Min)	10.52		Oct-2012
Range	6.66		
IQR	1.78		
% Complete	100%		









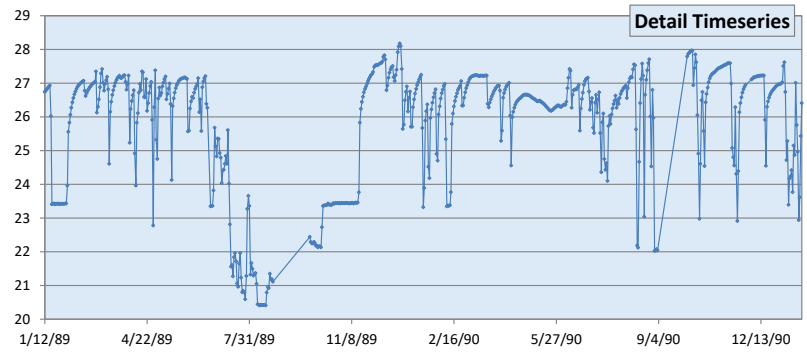


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

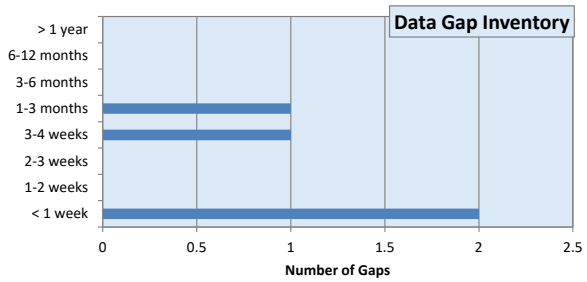
GATORS.2_H (1989 - 1991) : GATOR SLOUGH CITRUS STUDY - SECONDARY INFLOW PUMP (HEADWATER)

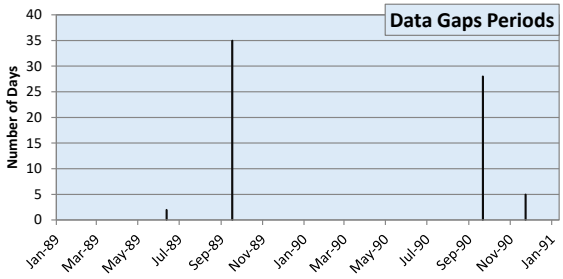
STG (ft) - WETLAND

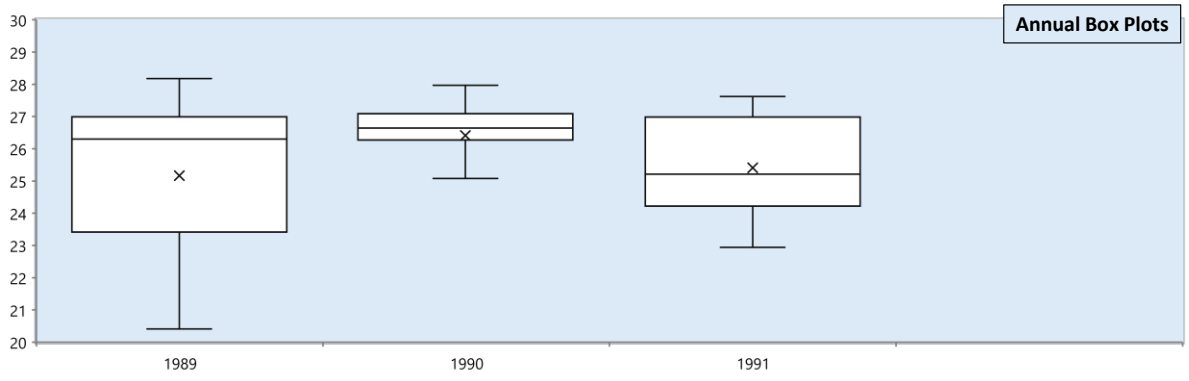
(26.53583, -81.52611)

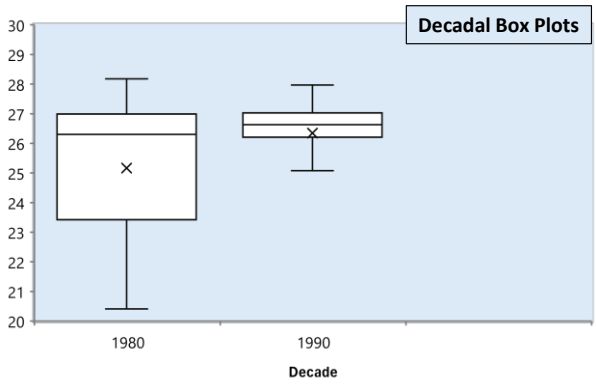


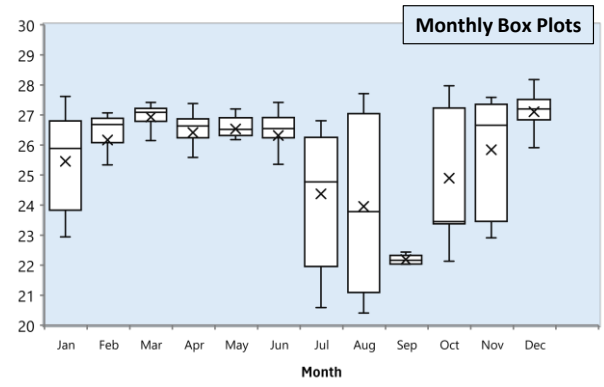
Statistics			
P100 (Max)	28.18	Average	25.79
P90	27.27	StdDev	1.82
P75	27.01	Count	671
P50 (Median)	26.56	SE	0.07
P25	24.86		
P10	23.35	POR	Jan-1989
P0 (Min)	20.41		Jan-1991
Range	7.77		
IQR	2.16		
% Complete	91%		









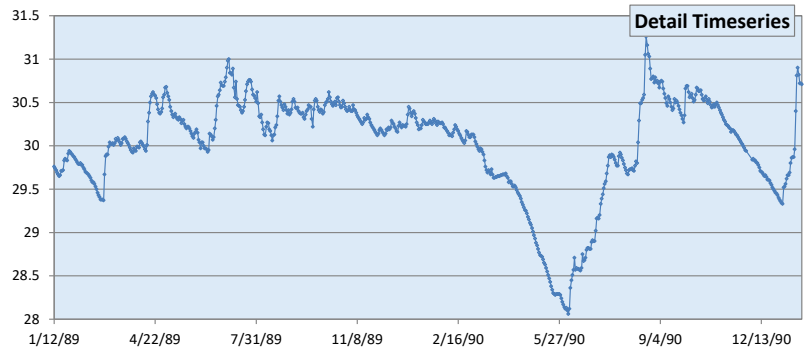


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

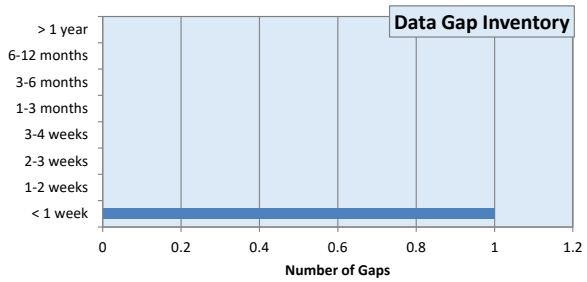
GATORS.2_T (1989 - 1991) : GATOR SLOUGH CITRUS STUDY - SECONDARY INFLOW PUMP (TAILWATER)

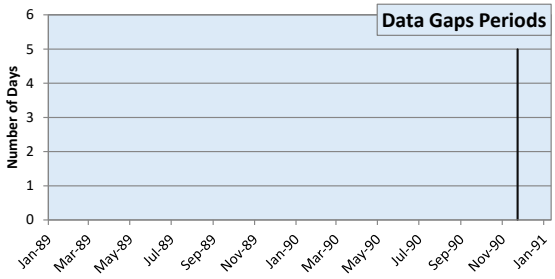
STG (ft) - WETLAND

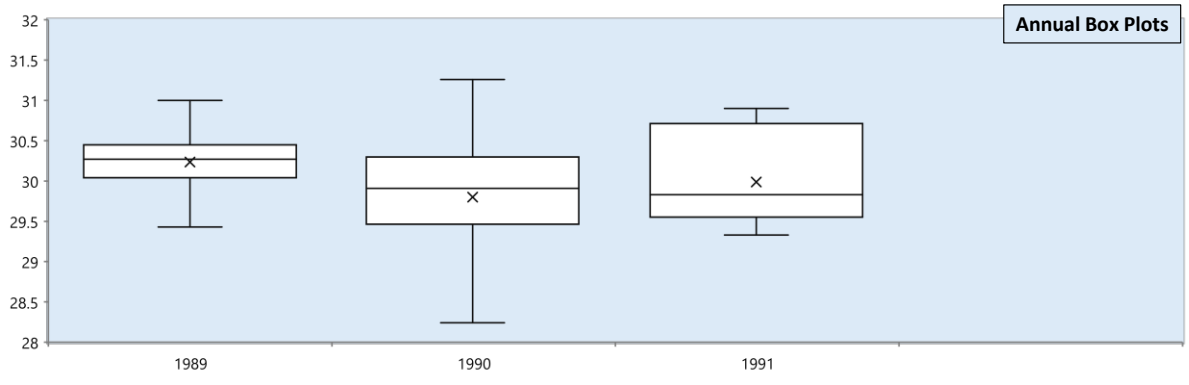
(26.53583, -81.52611)

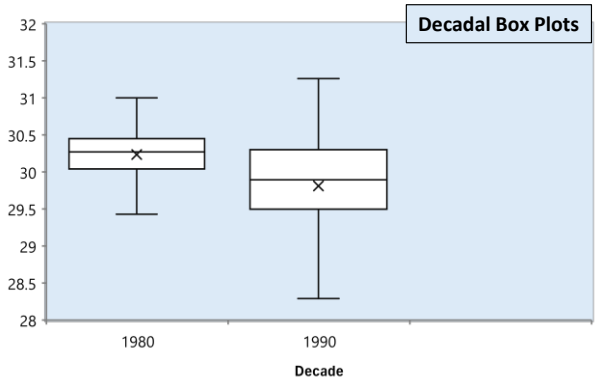


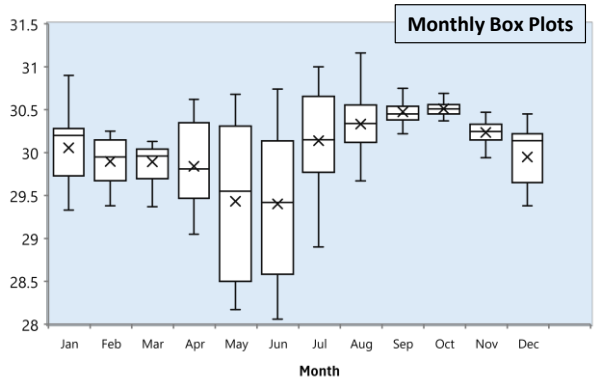
Statistics			
P100 (Max)	31.26	Average	30.02
P90	30.58	StdDev	0.59
P75	30.42	Count	736
P50 (Median)	30.16	SE	0.02
P25	29.73		
P10	29.26	POR	Jan-1989
P0 (Min)	28.06		Jan-1991
Range	3.20		
IQR	0.69		
% Complete	99%		









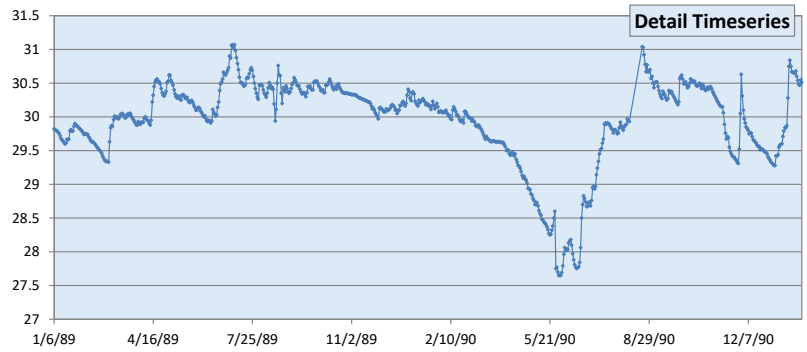


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

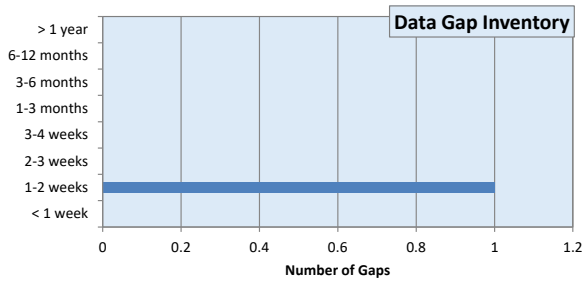
GATORS.O_H (1989 - 1991) : GATOR SLOUGH STUDY - SPILLWAY SITE (HEADWATER)

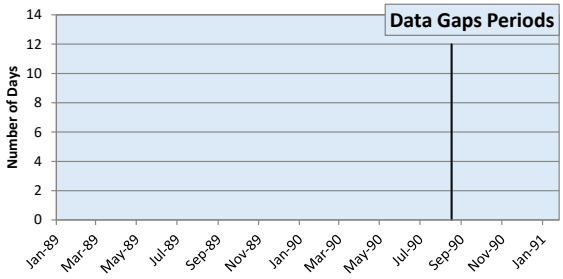
STG (ft) - WETLAND

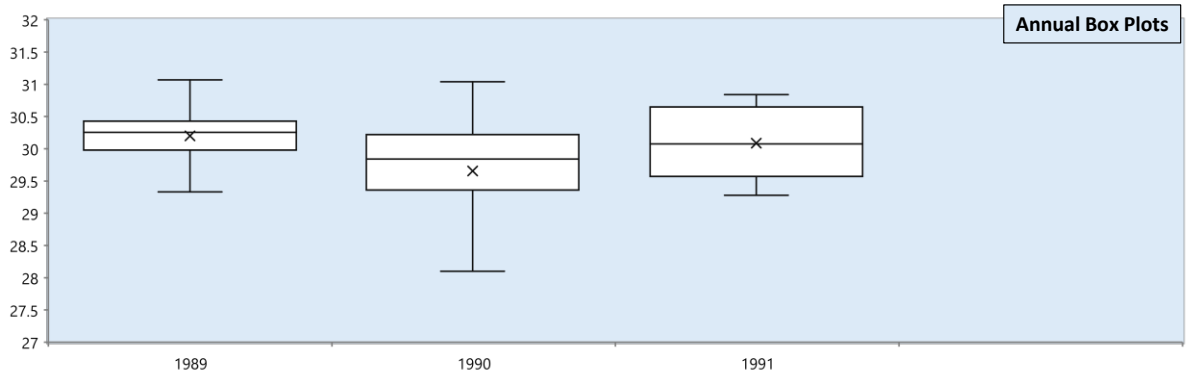
(26.52833, -81.51944)

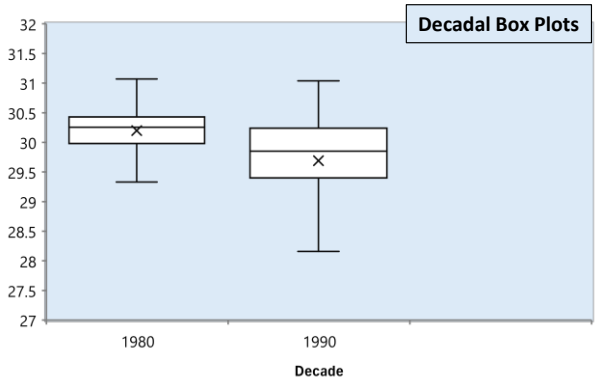


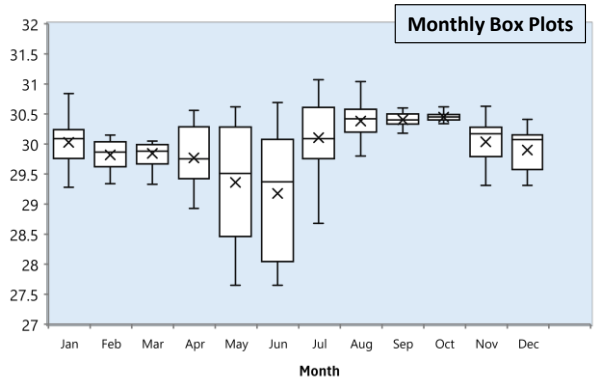
Statistics			
P100 (Max)	31.07	Average	29.94
P90	30.52	StdDev	0.64
P75	30.38	Count	743
P50 (Median)	30.08	SE	0.02
P25	29.67		
P10	29.13	POR	Jan-1989
P0 (Min)	27.65		Jan-1991
Range	3.42		
IQR	0.71		
% Complete	99%		









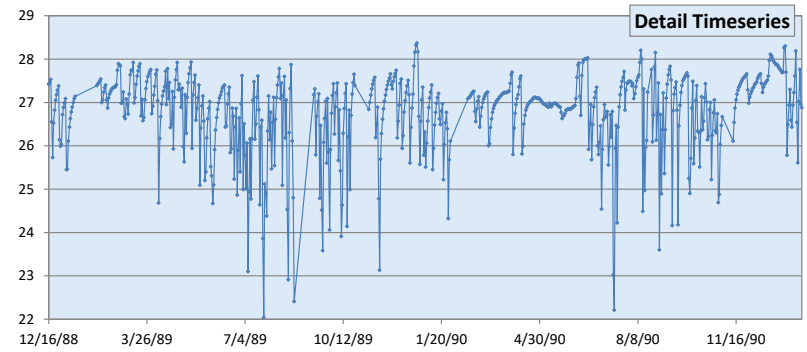


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

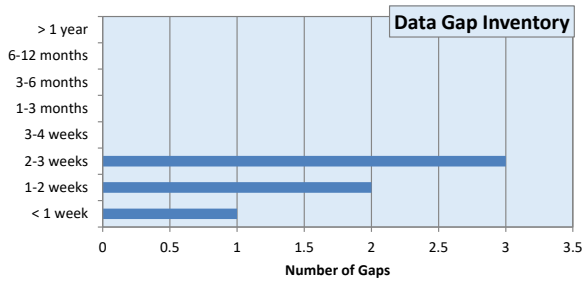
GATORS.P_H (1988 - 1991) : GATOR SLOUGH CITRUS STUDY - MAIN INFLOW PUMP STATION (HEADWATER)

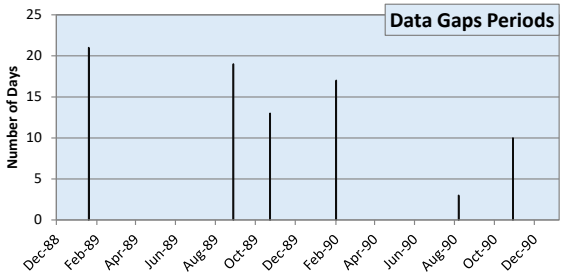
STG (ft) - WETLAND

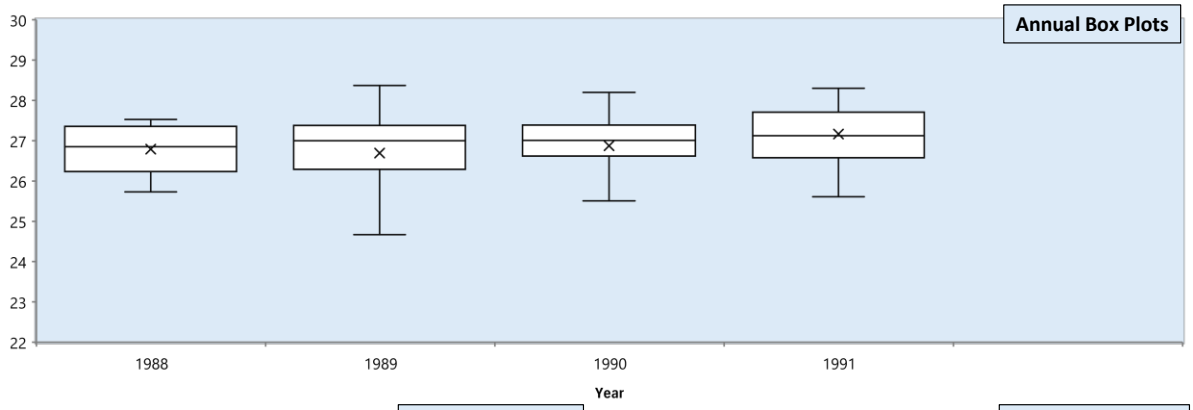
(26.53861, -81.51778)

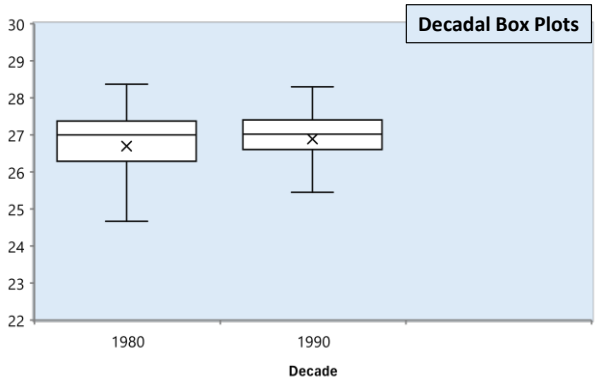


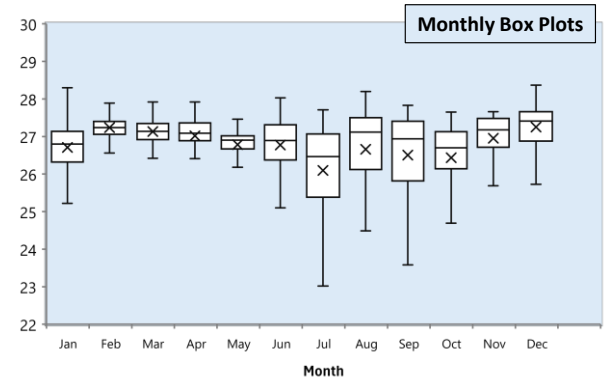
Statistics			
P100 (Max)	28.37	Average	26.80
P90	27.66	StdDev	0.92
P75	27.39	Count	685
P50 (Median)	27.01	SE	0.04
P25	26.49		
P10	25.62	POR	Dec-1988
P0 (Min)	22.04		Jan-1991
Range	6.33		
IQR	0.90		
% Complete	89%		









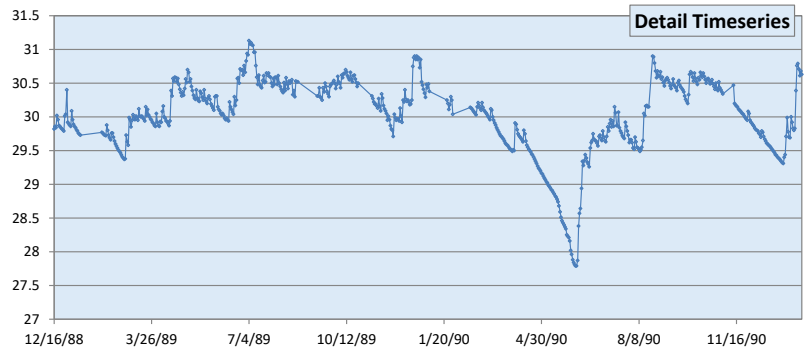


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

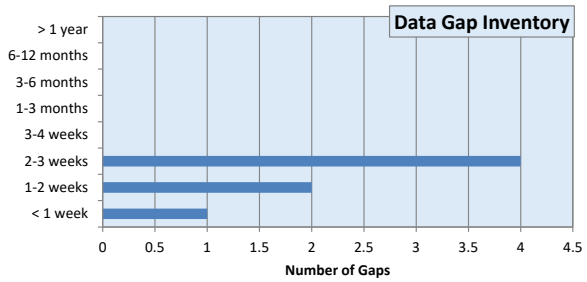
GATORS.P_T (1988 - 1991) : GATOR SLOUGH CITRUS STUDY - MAIN INFLOW PUMP STATION (TAILWATER)

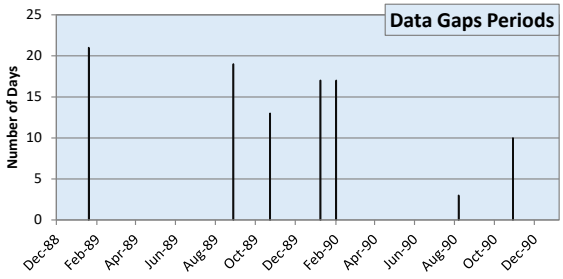
STG (ft) - WETLAND

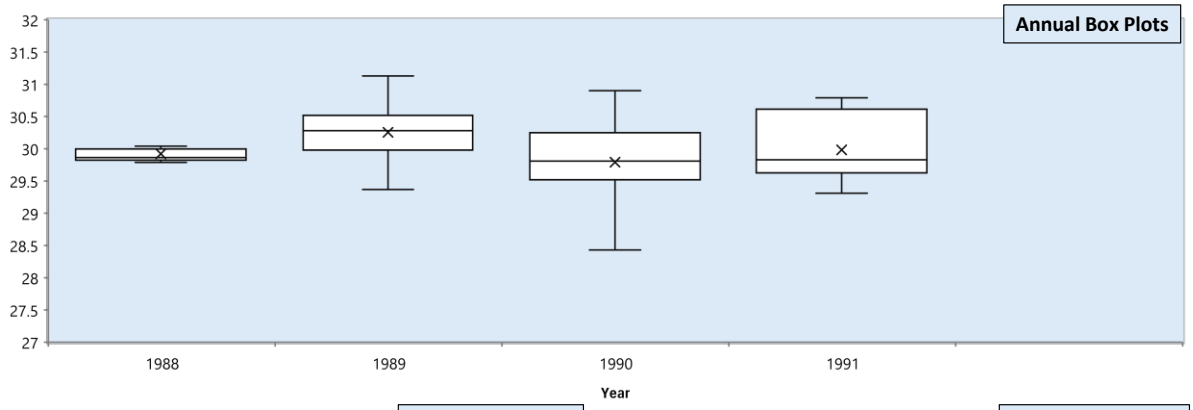
(26.53861, -81.51778)

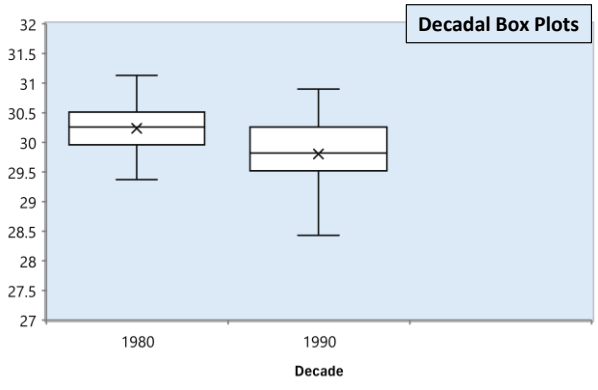


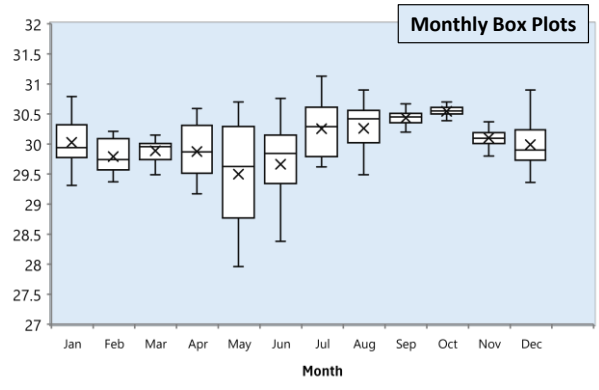
Statistics			
P100 (Max)	31.13	Average	30.02
P90	30.59	StdDev	0.56
P75	30.45	Count	668
P50 (Median)	30.06	SE	0.02
P25	29.73		
P10	29.41	POR	Dec-1988
P0 (Min)	27.79		Jan-1991
Range	3.34		
IQR	0.72		
% Complete	87%		









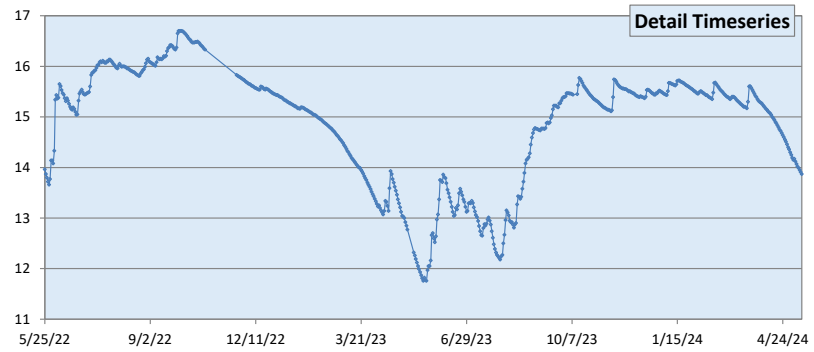


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

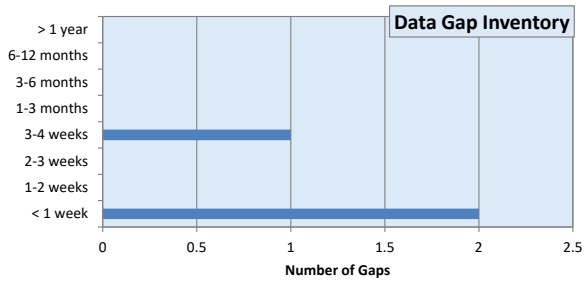
SOCREW3 (2022 - 2024) : CREW BIRD ROOKERY SWAMP NW NR ORANGETREE, FL

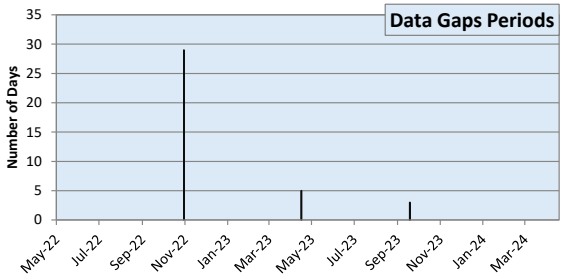
STG (ft) - WETLAND

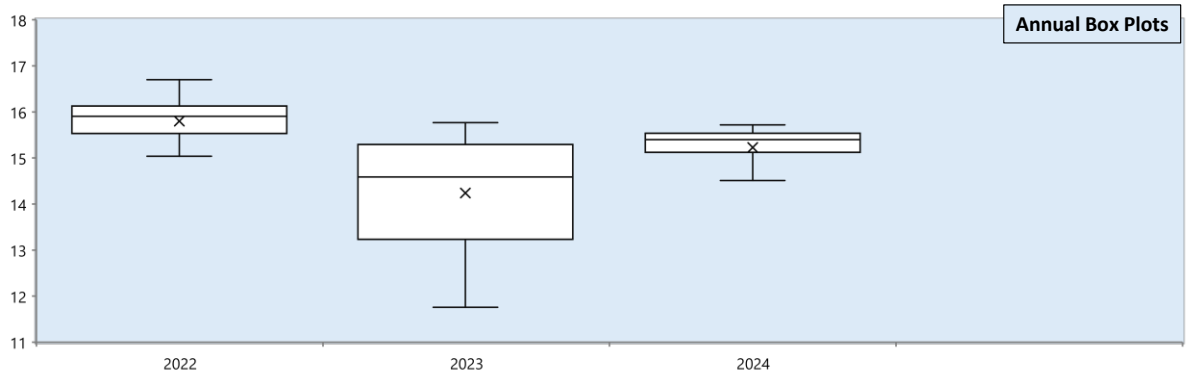
(26.35111, -81.64583)

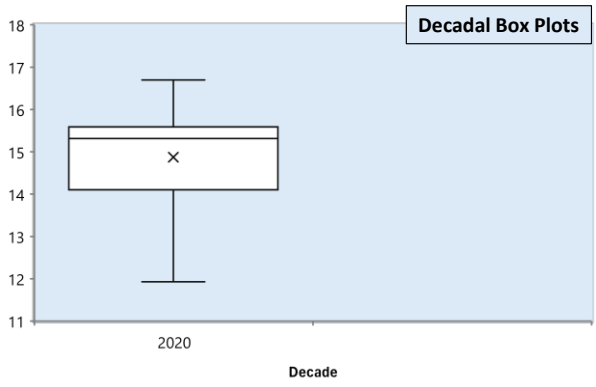


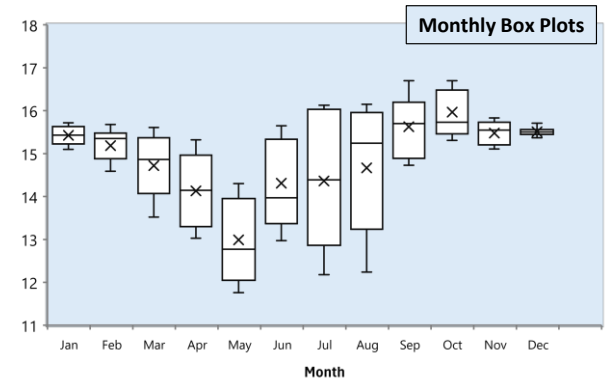
Statistics			
P100 (Max)	16.70	Average	14.87
P90	16.05	StdDev	1.14
P75	15.59	Count	682
P50 (Median)	15.32	SE	0.04
P25	14.11		
P10	13.07	POR	May-2022
P0 (Min)	11.76		May-2024
Range	4.94		
IQR	1.48		
% Complete	95%		









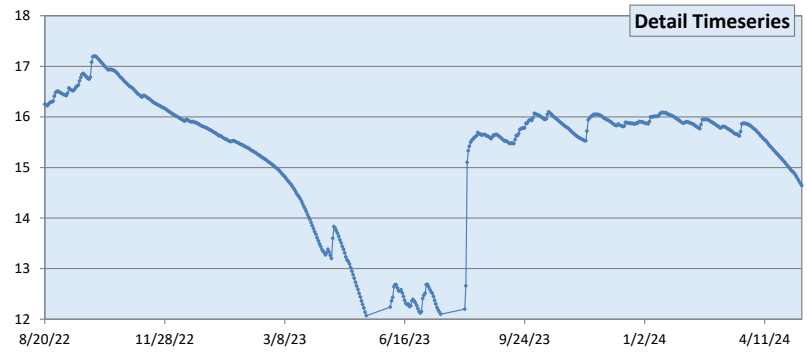


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

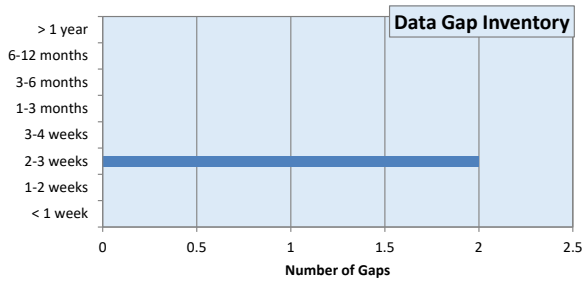
SOCREW4 (2022 - 2024) : CREW BIRD ROOKERY SWAMP NE NR ORANGETREE, FL

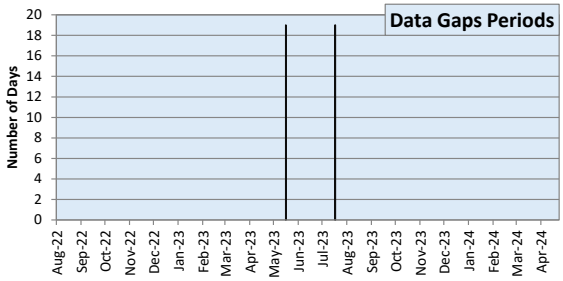
STG (ft) - WETLAND

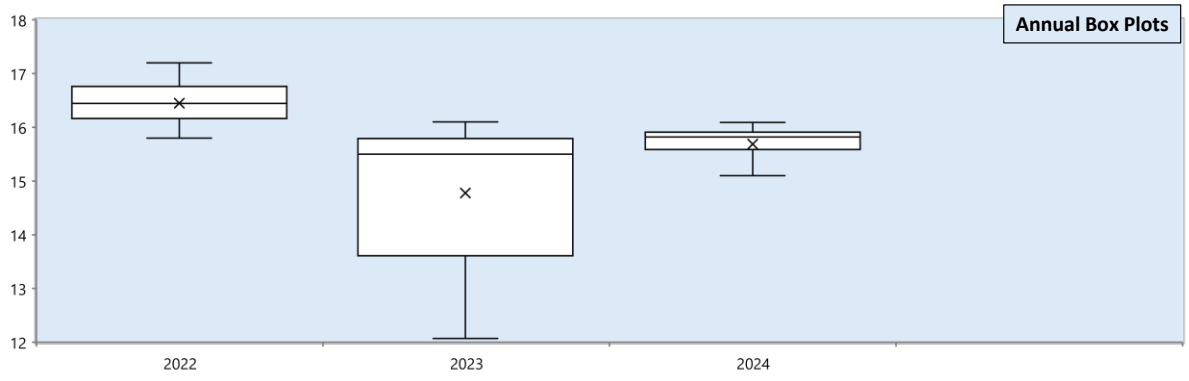
(26.35306, -81.61889)

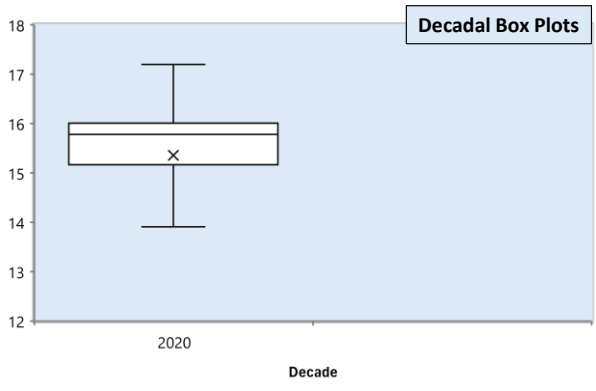


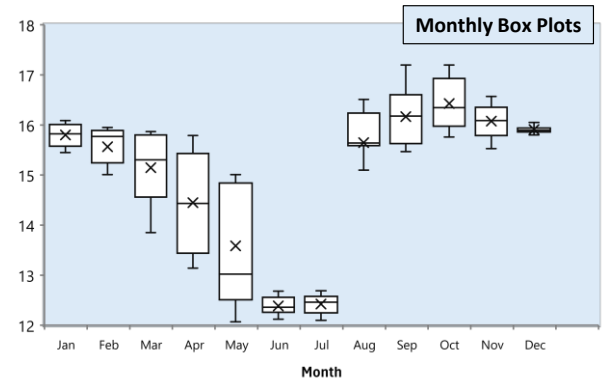
Statistics			
P100 (Max)	17.20	Average	15.36
P90	16.49	StdDev	1.23
P75	16.01	Count	594
P50 (Median)	15.78	SE	0.05
P25	15.17		
P10	13.11	POR	Aug-2022
P0 (Min)	12.07		May-2024
Range	5.13		
IQR	0.84		
% Complete	94%		









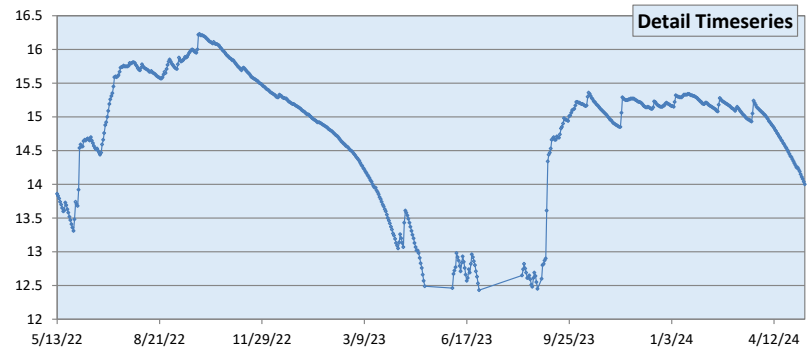


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

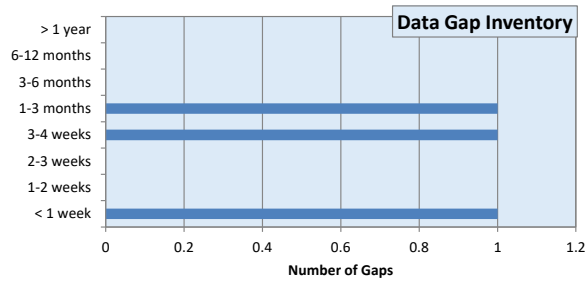
SOCREW5 (2022 - 2024) : CREW BIRD ROOKERY SWAMP SOUTH NR ORANGETREE, FL

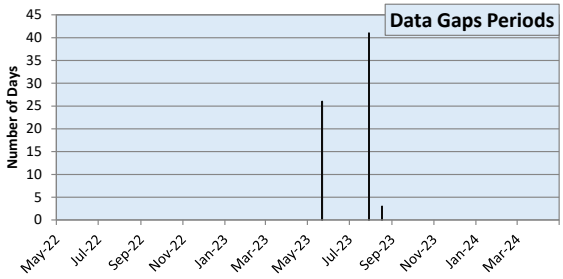
STG (ft) - WETLAND

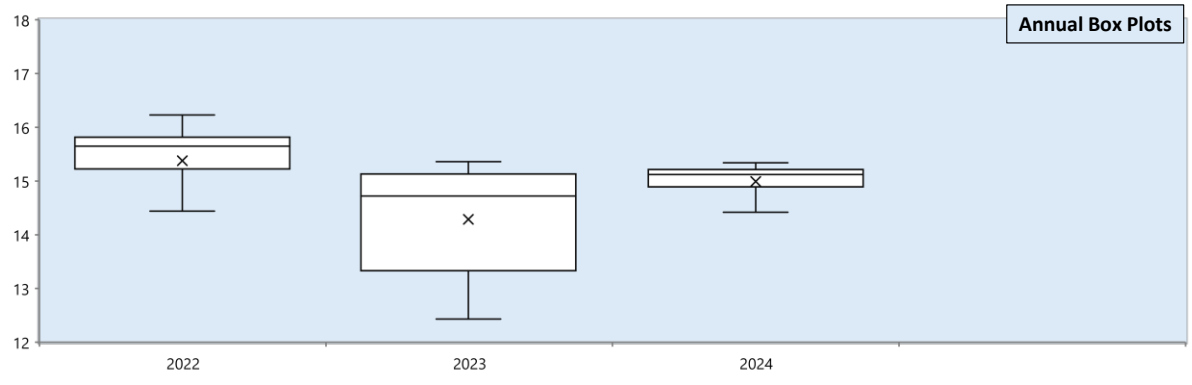
(26.32917, -81.63139)

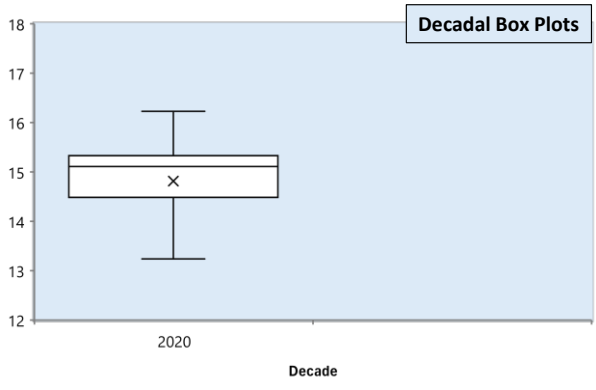


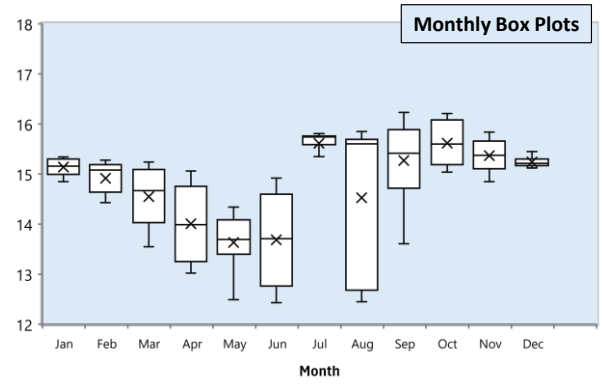
Statistics			
P100 (Max)	16.23	Average	14.81
P90	15.78	StdDev	0.92
P75	15.33	Count	661
P50 (Median)	15.11	SE	0.04
P25	14.49		
P10	13.20	POR	May-2022
P0 (Min)	12.43		May-2024
Range	3.80		
IQR	0.84		
% Complete	91%		











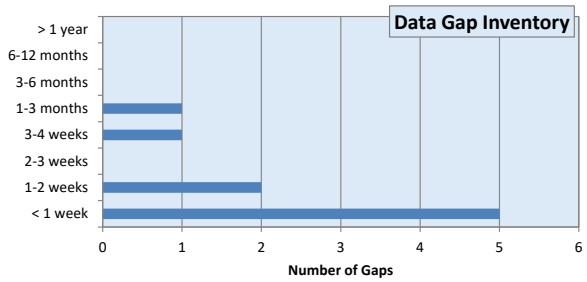
CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

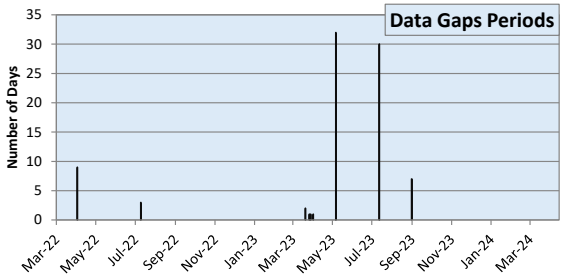
SOCREW6 (2022 - 2024) : LOWER BIRD ROOKERY SWAMP NR BONITA SPRINGS, FL

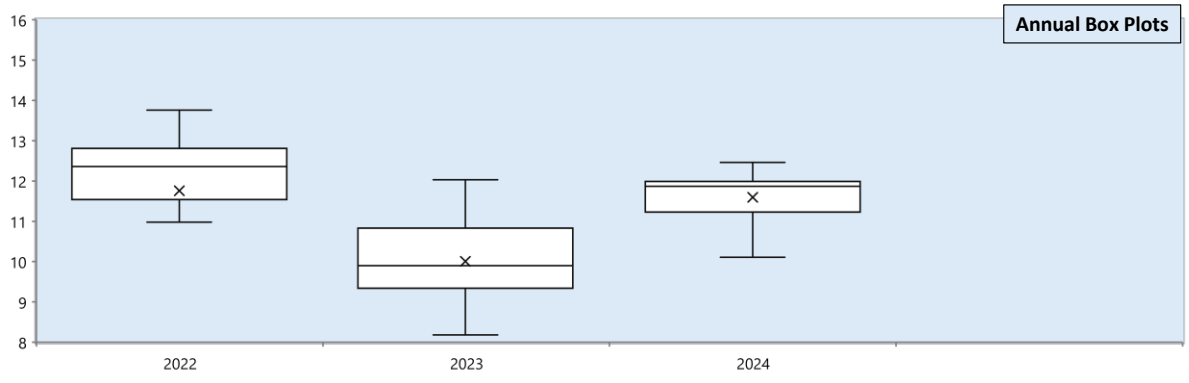
STG (ft) - WETLAND

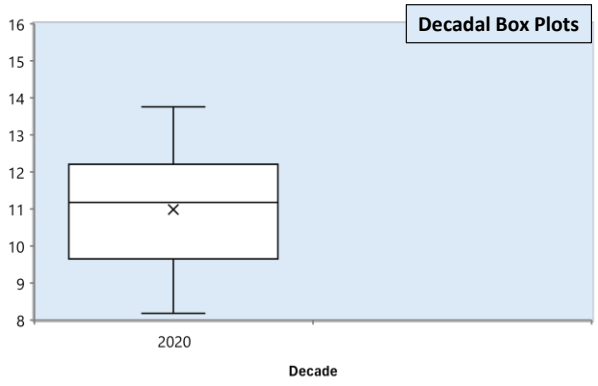
(26.29972, -81.70528)

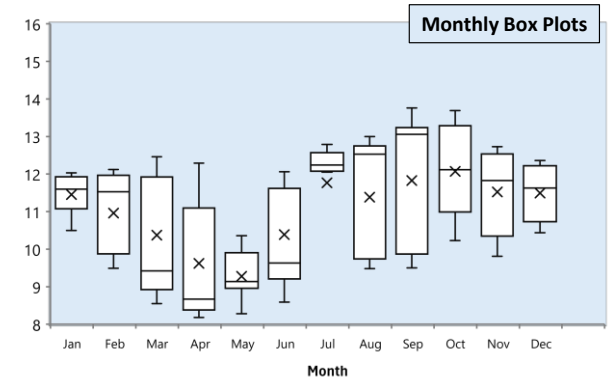
Statistics			
P100 (Max)	13.76	Average	10.99
P90	12.79	StdDev	1.48
P75	12.21	Count	690
P50 (Median)	11.18	SE	0.06
P25	9.65		
P10	8.87	POR	Mar-2022
P0 (Min)	8.18		May-2024
Range	5.58		
IQR	2.56		
% Complete	89%		







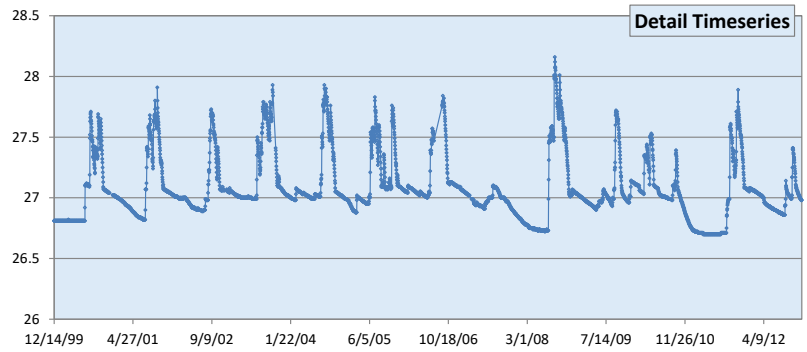




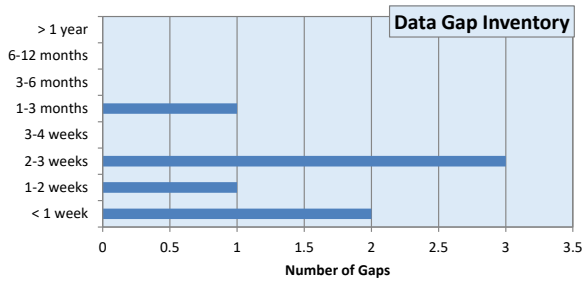
CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

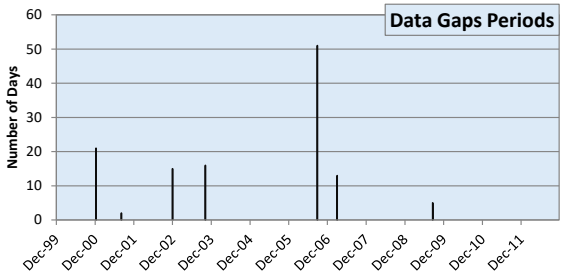
ST1_H (1999 - 2012) : SOLATED WETLANDS - STAIRSTEP PROJECT - SITE 1 SURFACE WATER STG (ft) - WETLAND

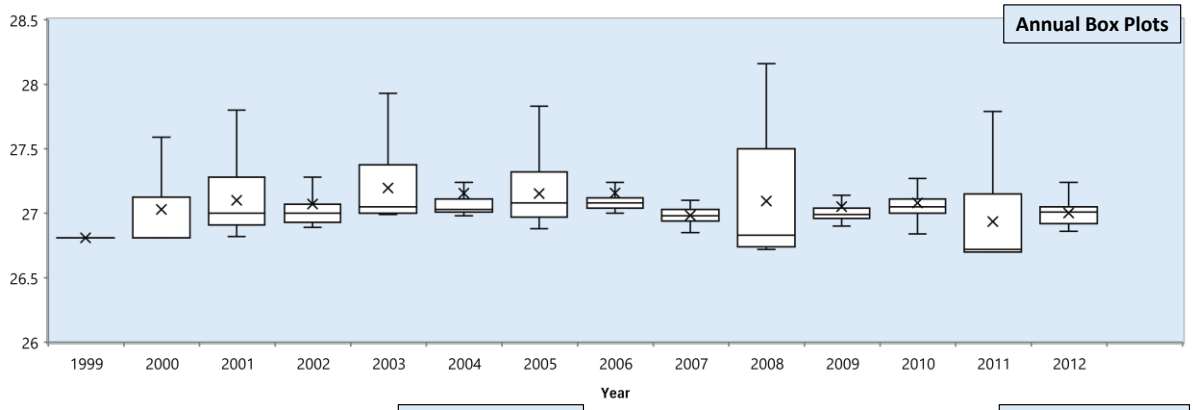
(26.46, -81.63194)

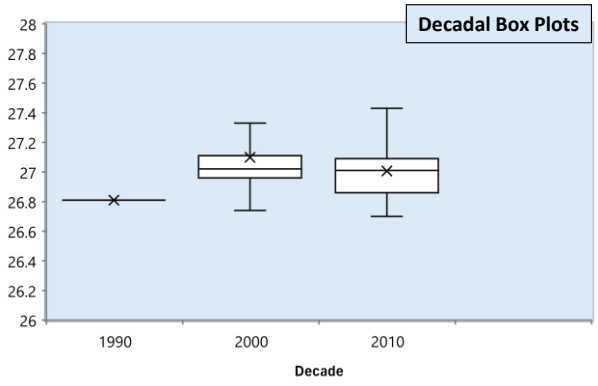


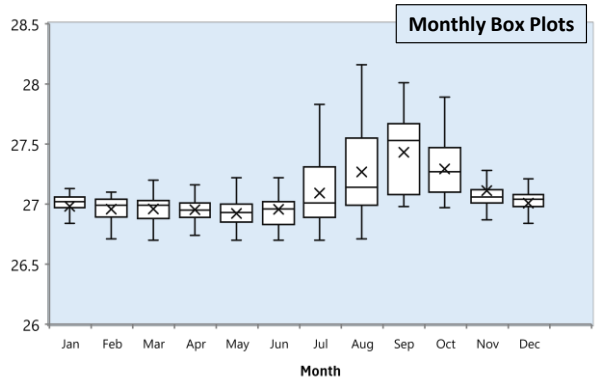
Statistics			
P100 (Max)	28.16	Average	27.08
P90	27.52	StdDev	0.26
P75	27.10	Count	4,619
P50 (Median)	27.02	SE	0.00
P25	26.94		
P10	26.81	POR	Dec-1999
P0 (Min)	26.70		Dec-2012
Range	1.46		
IQR	0.16		
% Complete	97%		









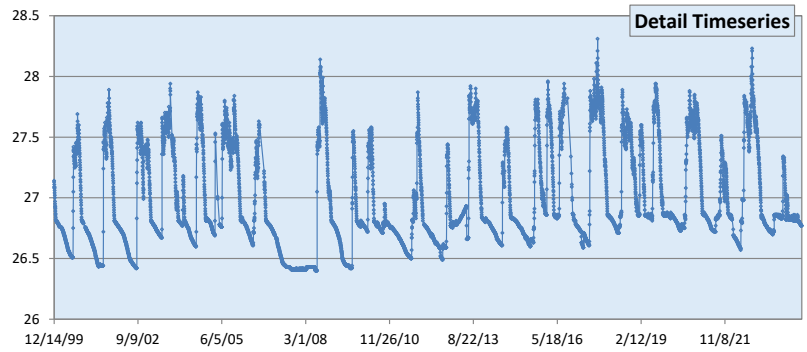


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

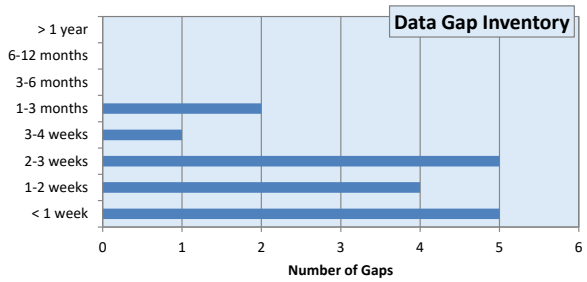
ST2_H (1999 - 2024) : ISOLATED WETLANDS - STAIRSTEP PROJECT - SITE 2 SURFACE WATER

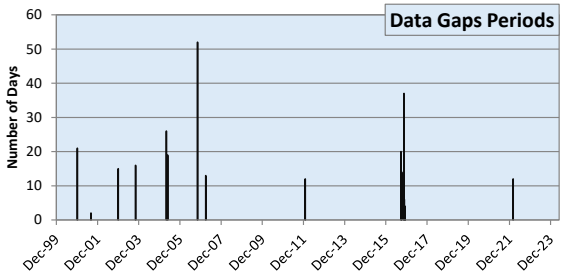
STG (ft) - WETLAND

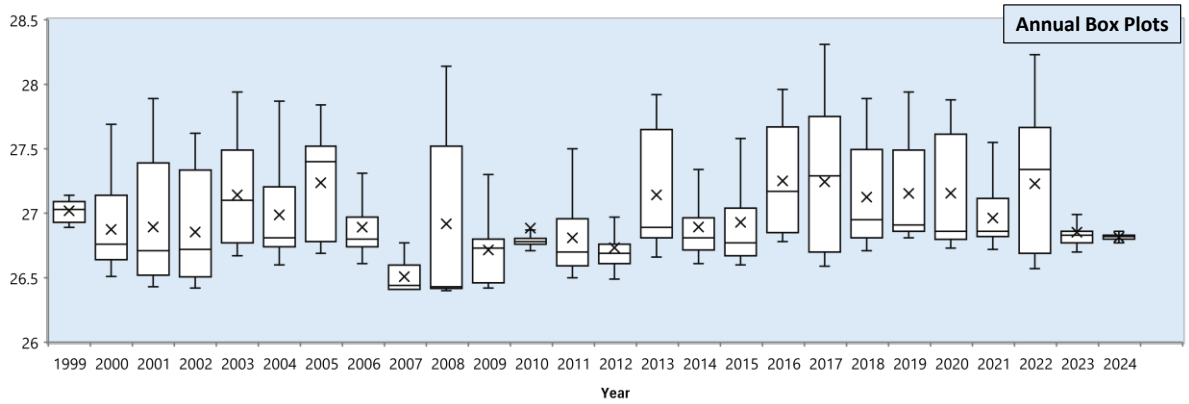
(26.46444, -81.63222)

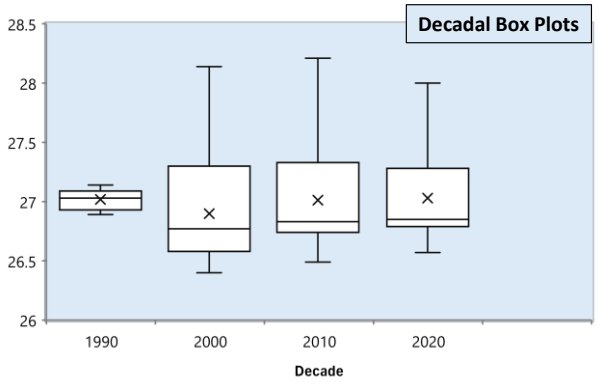


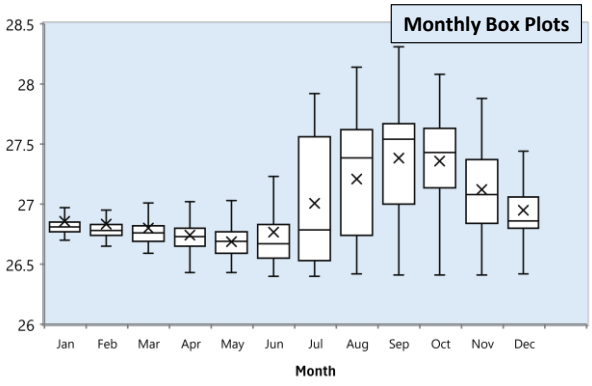
Statistics			
P100 (Max)	28.31	Average	26.97
P90	27.63	StdDev	0.40
P75	27.30	Count	8,642
P50 (Median)	26.81	SE	0.00
P25	26.71		
P10	26.54	POR	Dec-1999
P0 (Min)	26.40		May-2024
Range	1.91		
IQR	0.59		
% Complete	97%		









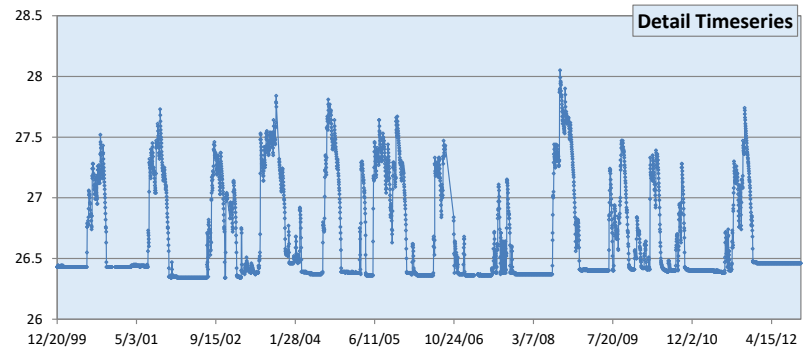


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

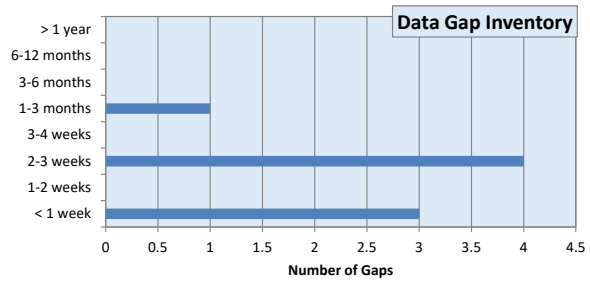
ST3_H (1999 - 2012) : ISOLATED WETLANDS - STAIRSTEP PROJECT - SITE 3 SURFACE WATER

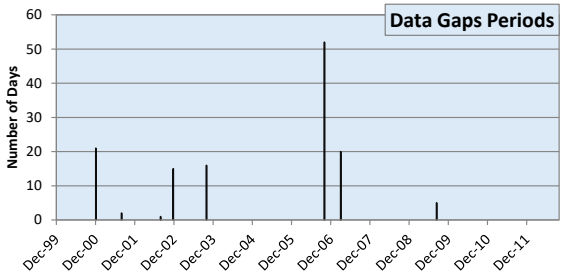
STG (ft) - WETLAND

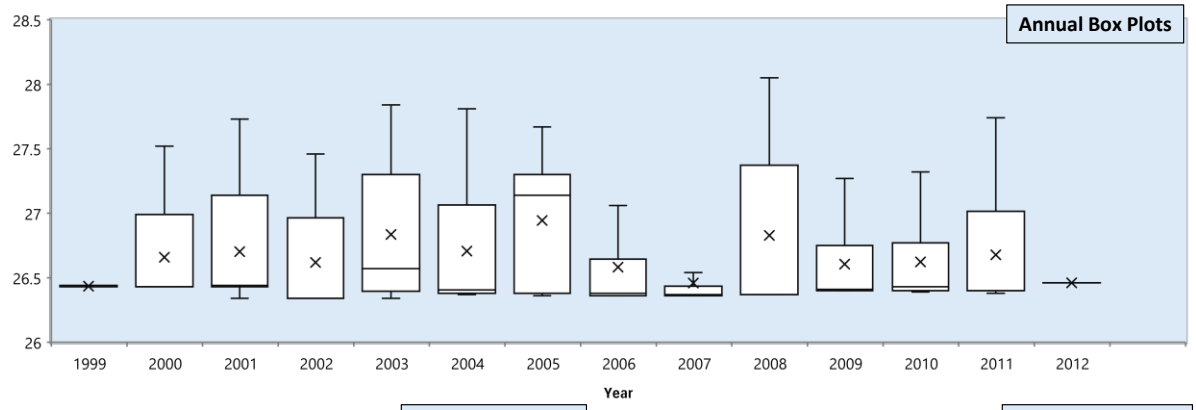
(26.46417, -81.63833)

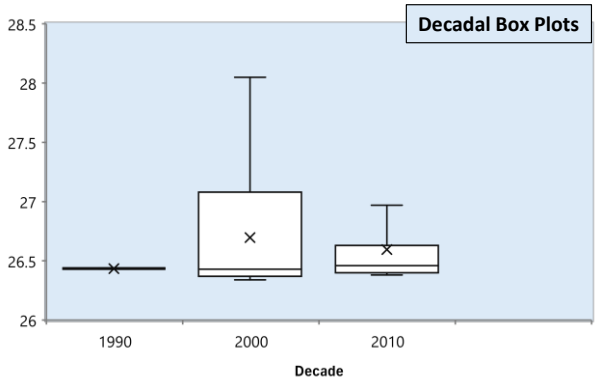


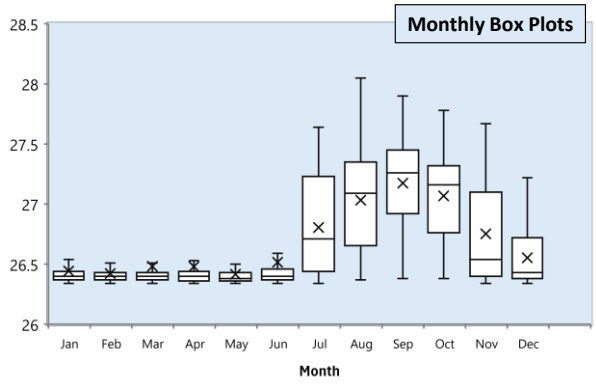
Statistics			
P100 (Max)	28.05	Average	26.67
P90	27.34	StdDev	0.40
P75	26.99	Count	4,554
P50 (Median)	26.44	SE	0.01
P25	26.38		
P10	26.36	POR	Dec-1999
P0 (Min)	26.34		Oct-2012
Range	1.71		
IQR	0.61		
% Complete	97%		









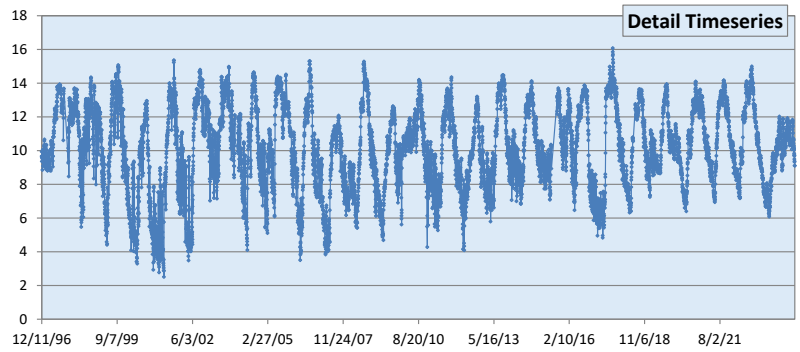


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

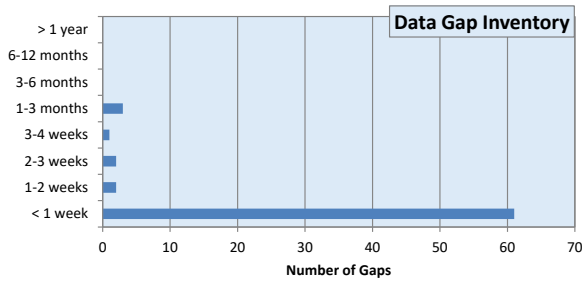
USGS-261802081354801 (1996 - 2024) : C-688

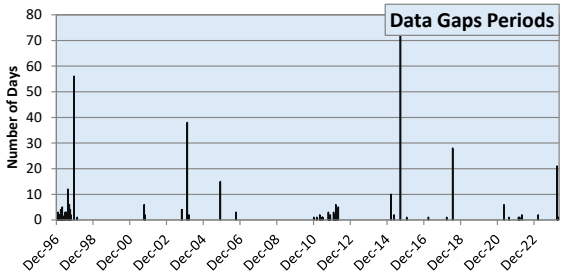
STG (Max) (ft NGVD29) - WELL

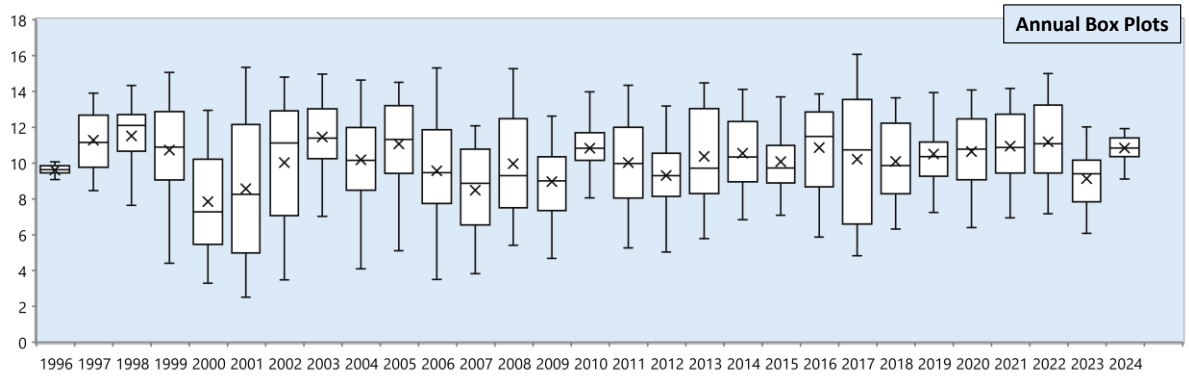
(26.3008, -81.5964)

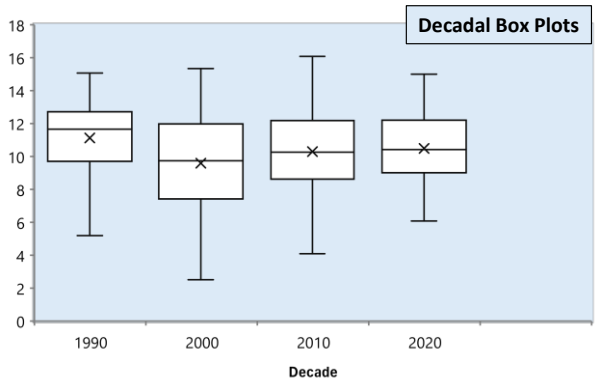


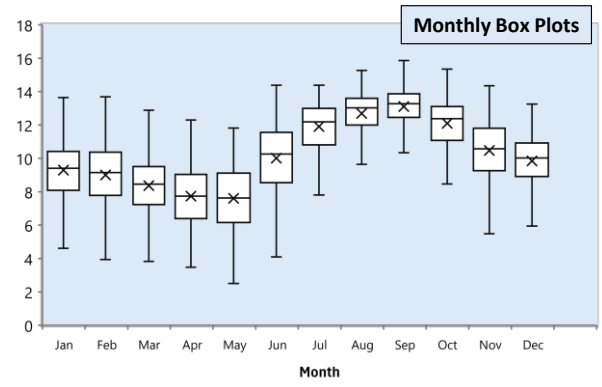
Statistics			
P100 (Max)	16.08	Average	10.16
P90	13.41	StdDev	2.50
P75	12.24	Count	9,604
P50 (Median)	10.27	SE	0.03
P25	8.43		
P10	6.78	POR	Dec-1996
P0 (Min)	2.51		Apr-2024
Range	13.57		
IQR	3.81		
% Complete	96%		









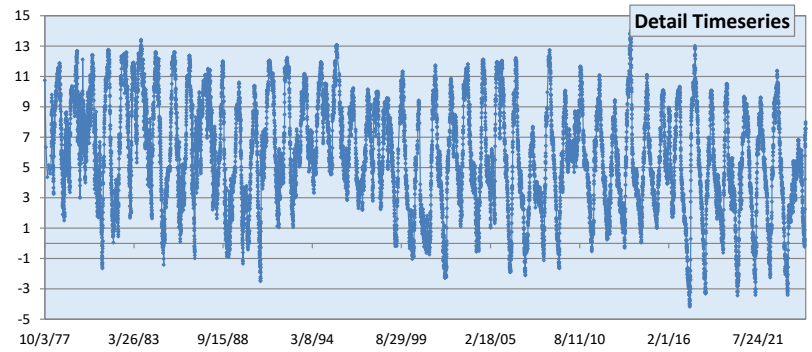


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

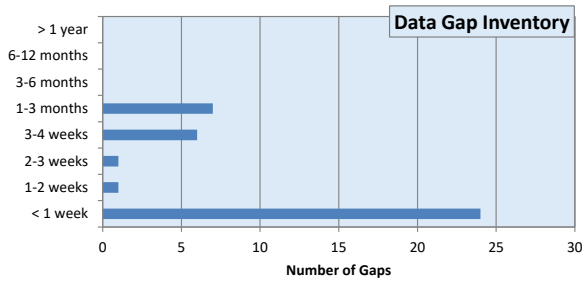
USGS-261957081432201 (1977 - 2024) : L-2194

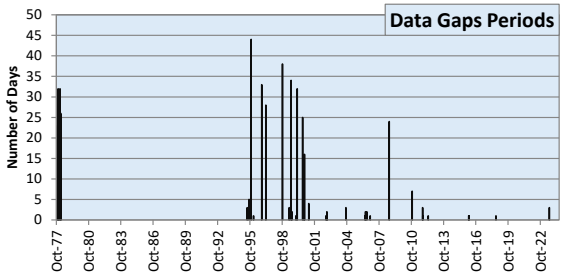
STG (Max) (ft NGVD29) - WELL

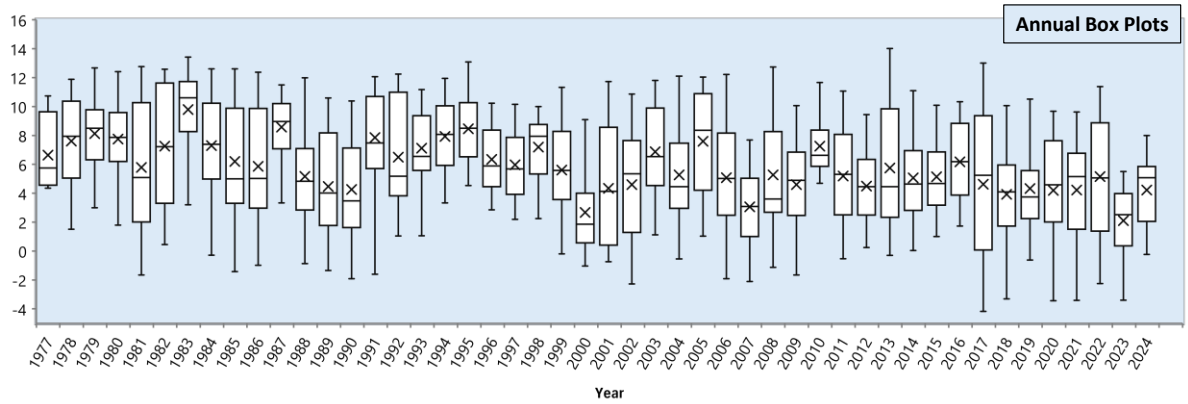
(26.3329, -81.7226)

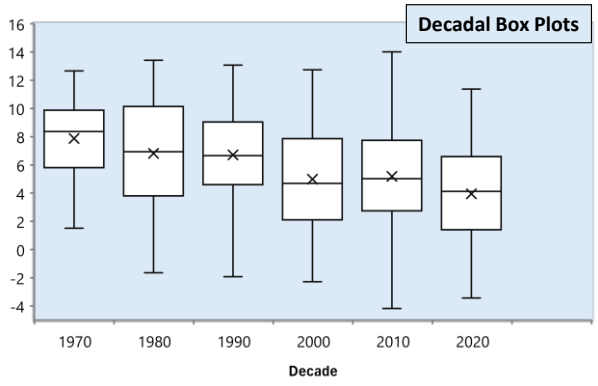


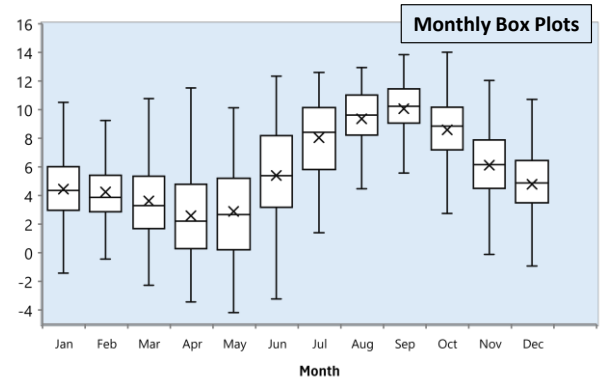
Statistics			
P100 (Max)	14.02	Average	5.81
P90	10.63	StdDev	3.58
P75	8.74	Count	16,604
P50 (Median)	5.67	SE	0.03
P25	3.25		
P10	1.00	POR	Oct-1977
P0 (Min)	-4.18		Jul-2024
Range	18.20		
IQR	5.49		
% Complete	97%		









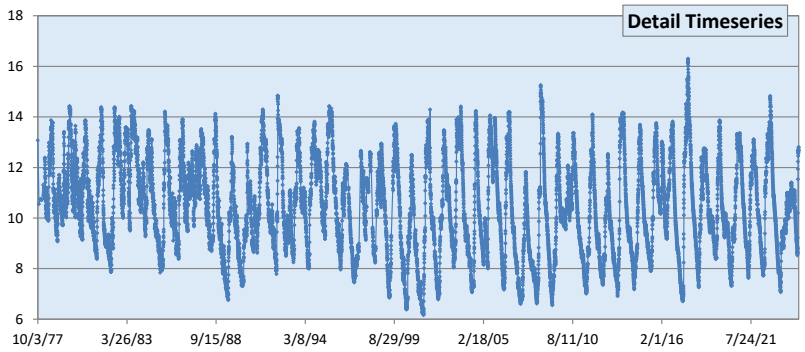


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

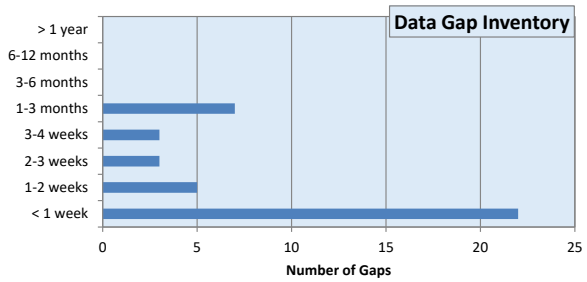
USGS-261957081432202 (1977 - 2024) : L-2195

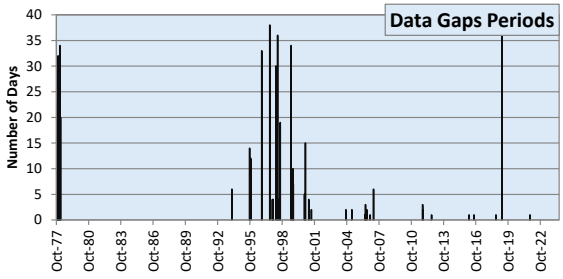
STG (Max) (ft NGVD29) - WELL

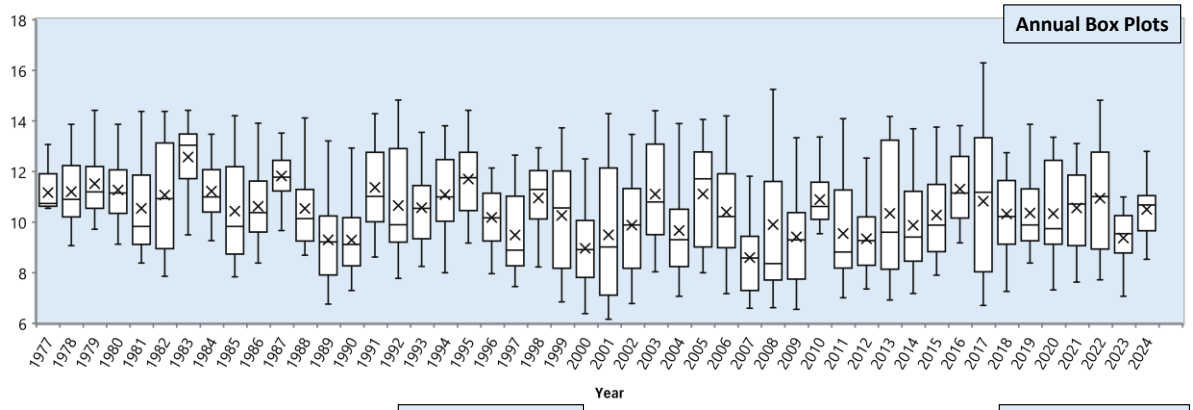
(26.3329, -81.7226)

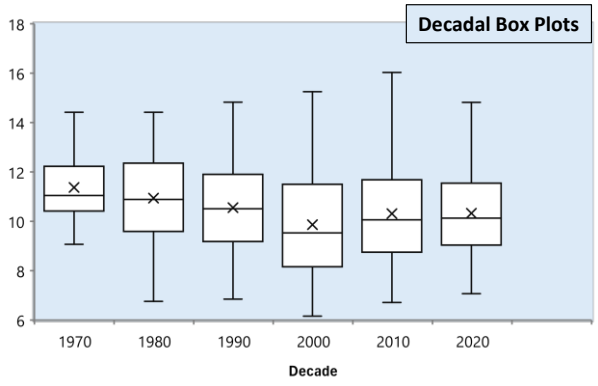


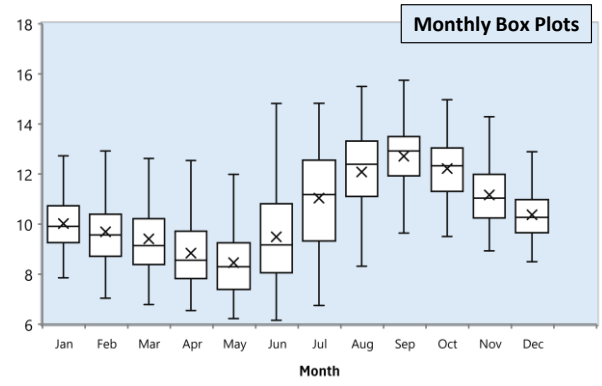
Statistics			
P100 (Max)	16.30	Average	10.45
P90	13.14	StdDev	1.90
P75	11.91	Count	16,588
P50 (Median)	10.32	SE	0.01
P25	8.98		
P10	7.99	POR	Oct-1977
P0 (Min)	6.16		Jul-2024
Range	10.14		
IQR	2.93		
% Complete	97%		









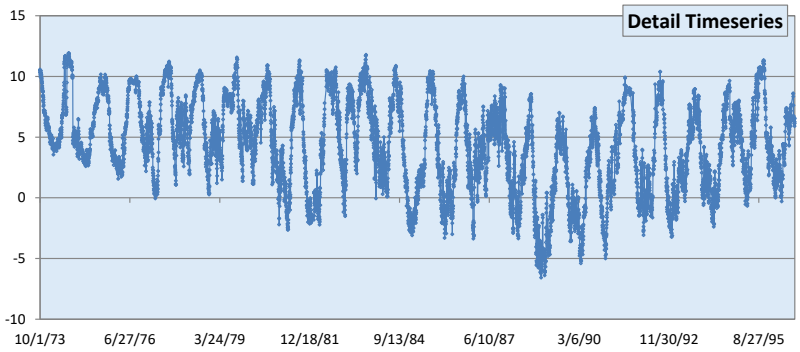


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

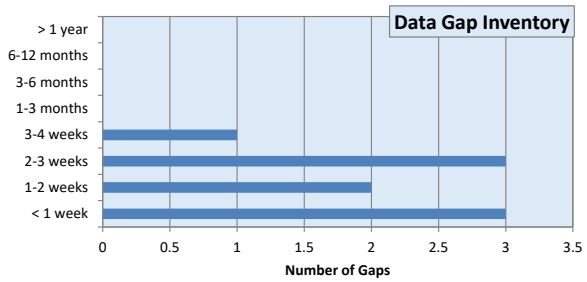
USGS-262042081455001 (1973 - 1996) : L-1691

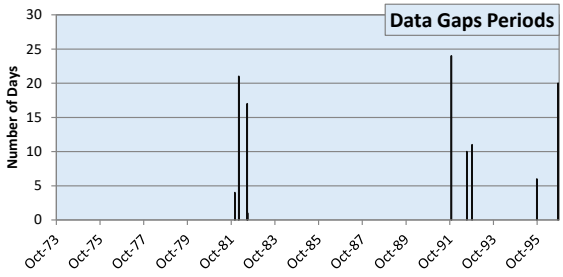
STG (Max) (ft NGVD29) - WELL

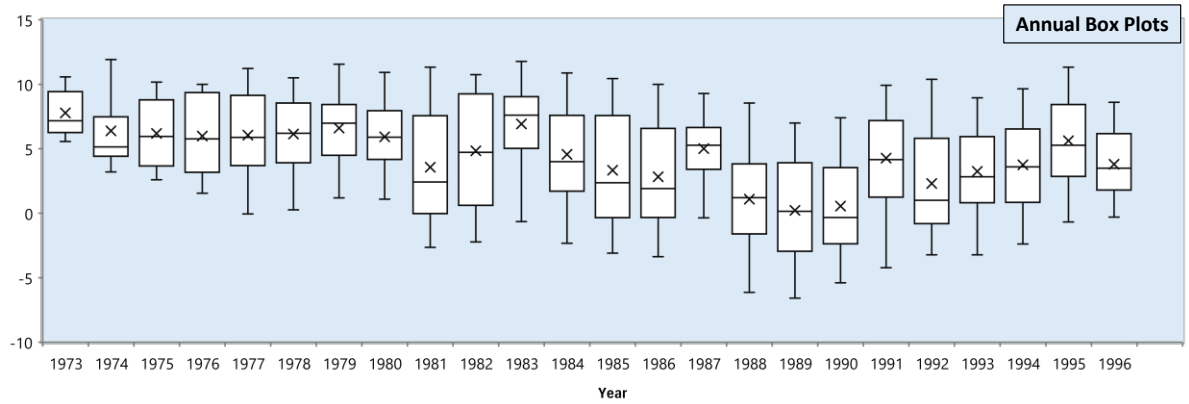
(26.3456, -81.7562)

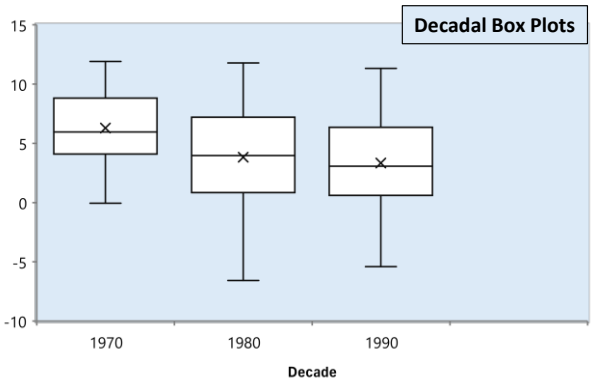


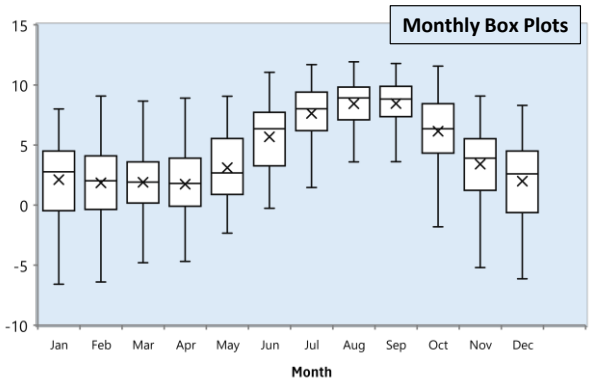
Statistics			
P100 (Max)	11.92	Average	4.37
P90	9.36	StdDev	3.78
P75	7.42	Count	8,287
P50 (Median)	4.50	SE	0.04
P25	1.63		
P10	-0.89	POR	Oct-1973
P0 (Min)	-6.58		Sep-1996
Range	18.50		
IQR	5.79		
% Complete	99%		









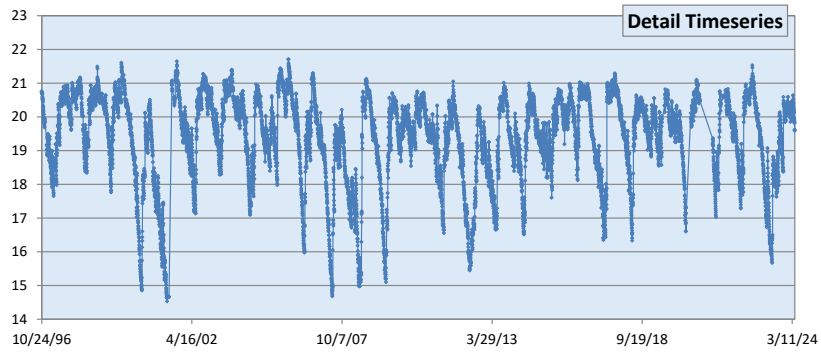


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

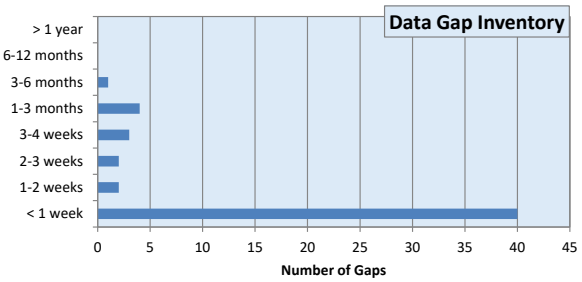
USGS-262158081283401 (1996 - 2024) : C-981

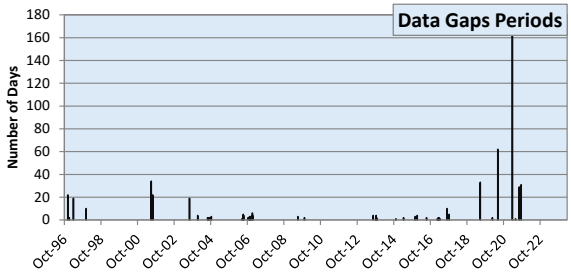
STG (Max) (ft NGVD29) - WELL

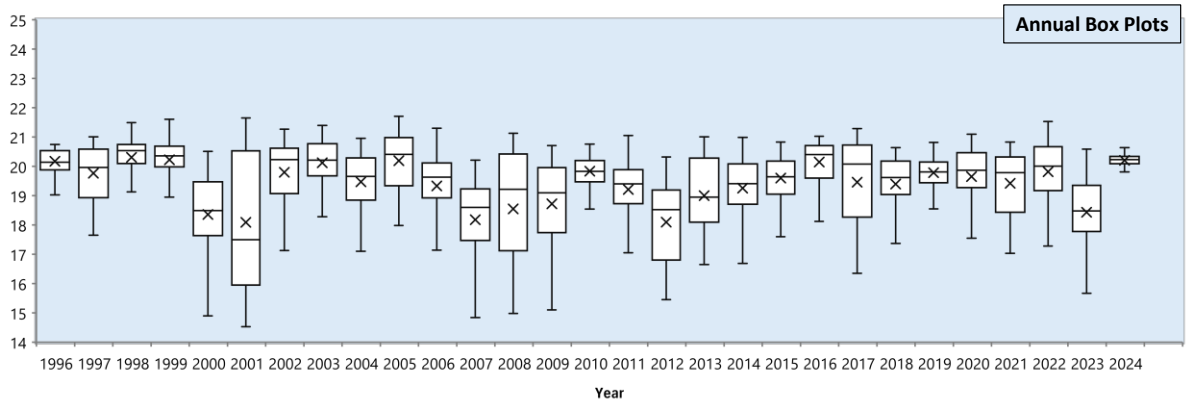
(26.367, -81.4765)

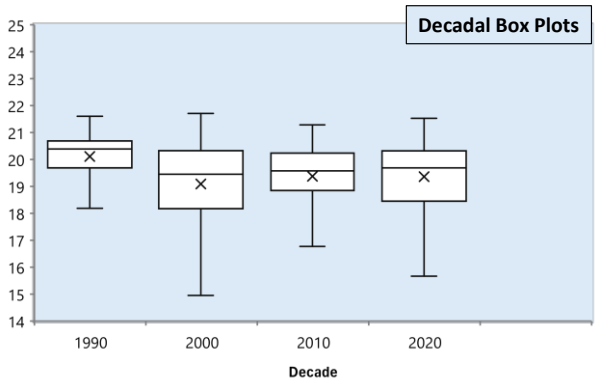


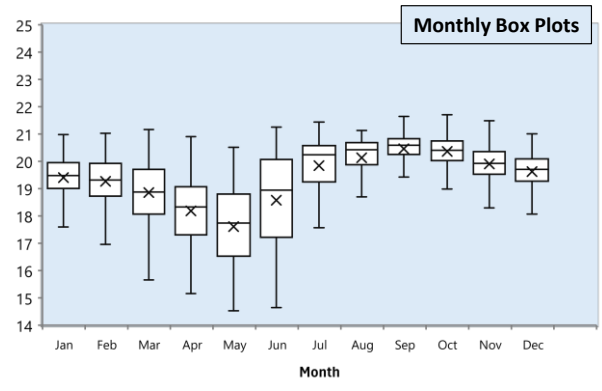
Statistics			
P100 (Max)	21.71	Average	19.35
P90	20.75	StdDev	1.34
P75	20.37	Count	9,478
P50 (Median)	19.65	SE	0.01
P25	18.71		
P10	17.40	POR	Oct-1996
P0 (Min)	14.53		Apr-2024
Range	7.18		
IQR	1.66		
% Complete	94%		









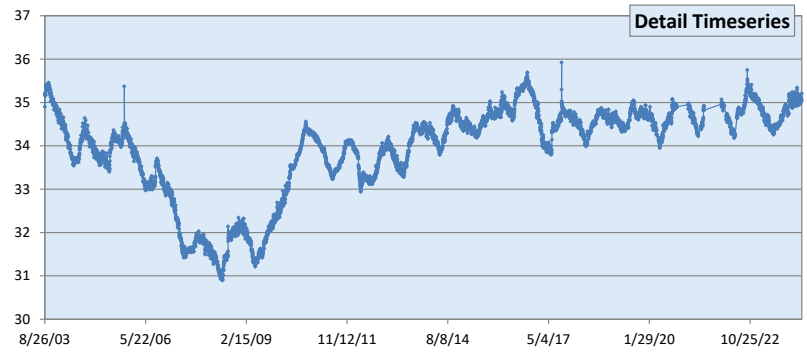


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

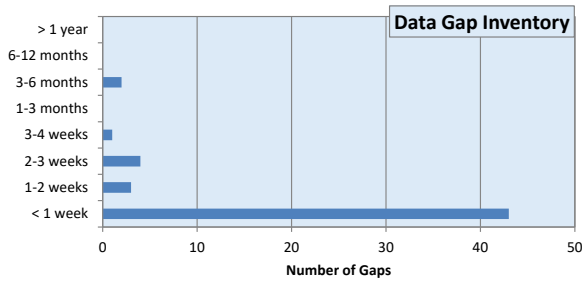
USGS-262158081283402 (2003 - 2024) : C-983

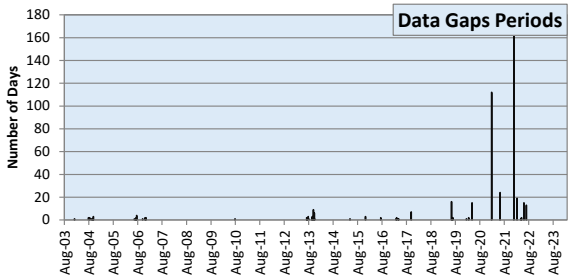
STG (Max) (ft NGVD29) - WELL

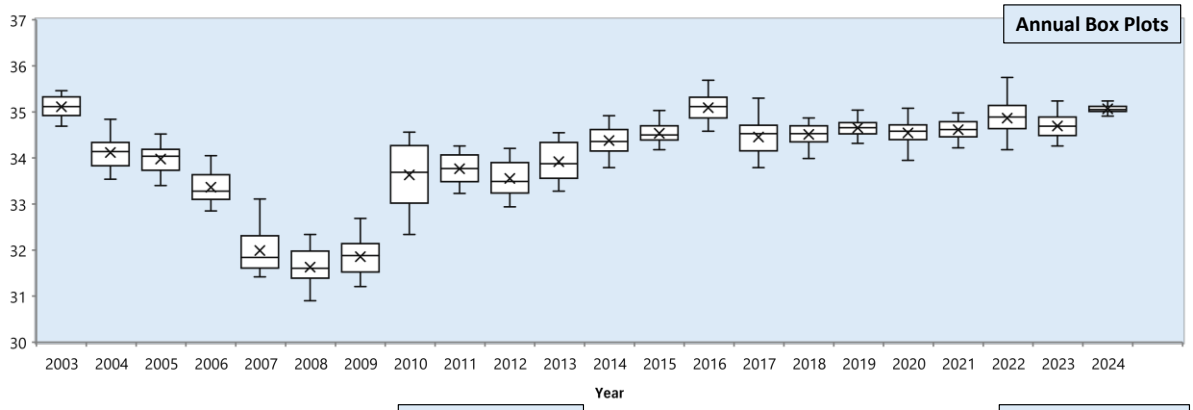
(26.367, -81.4765)

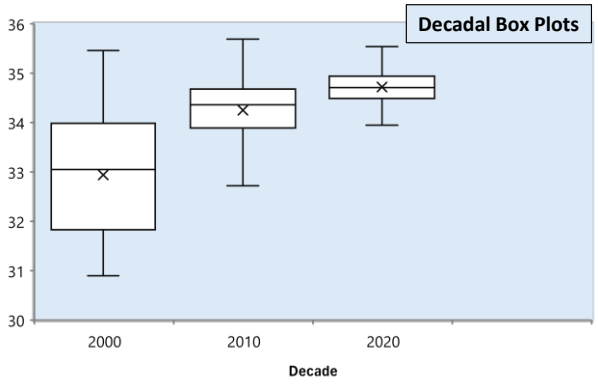


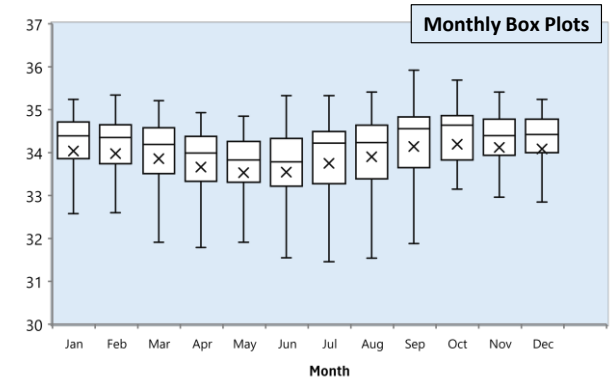
Statistics			
P100 (Max)	35.92	Average	33.90
P90	34.93	StdDev	1.06
P75	34.66	Count	7,041
P50 (Median)	34.24	SE	0.01
P25	33.47		
P10	31.94	POR	Aug-2003
P0 (Min)	30.90		Mar-2024
Range	5.02		
IQR	1.19		
% Complete	94%		









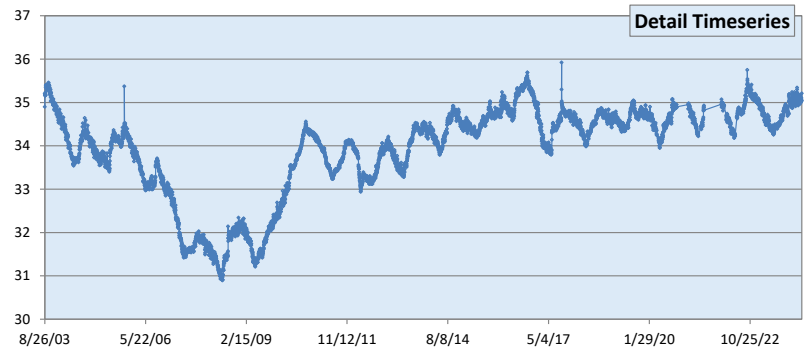


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

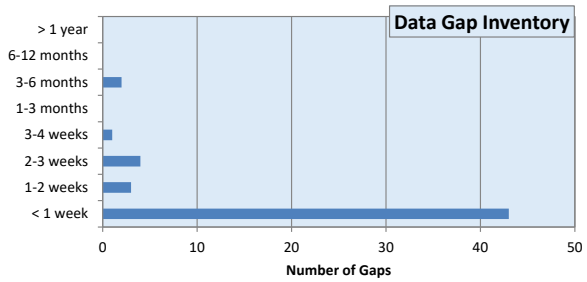
USGS-262158081283402 (2003 - 2024) : C-983

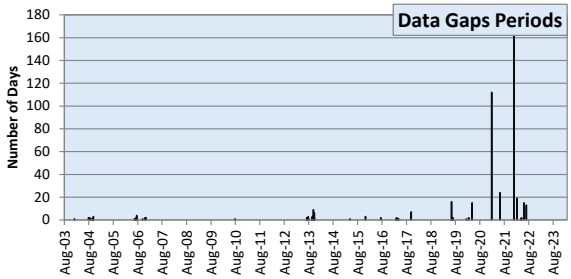
STG (Max) (ft NGVD29) - WELL

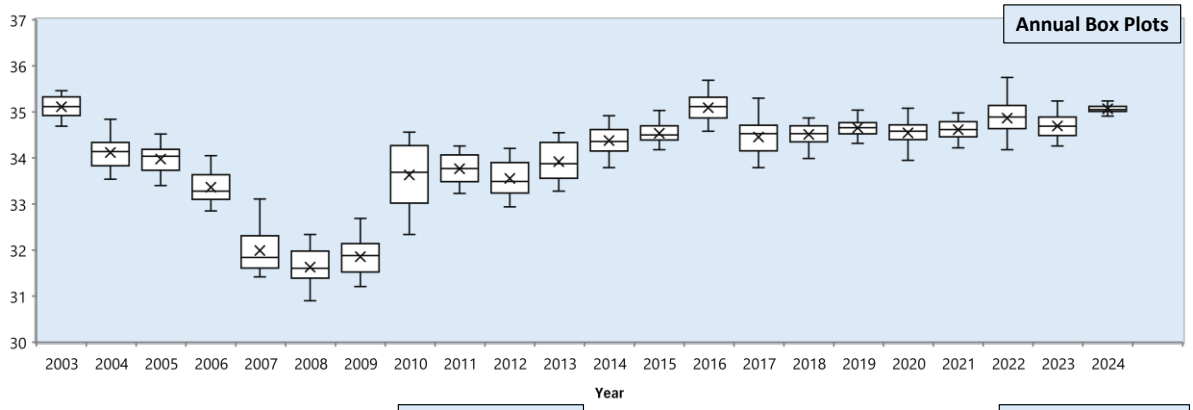
(26.367, -81.4765)

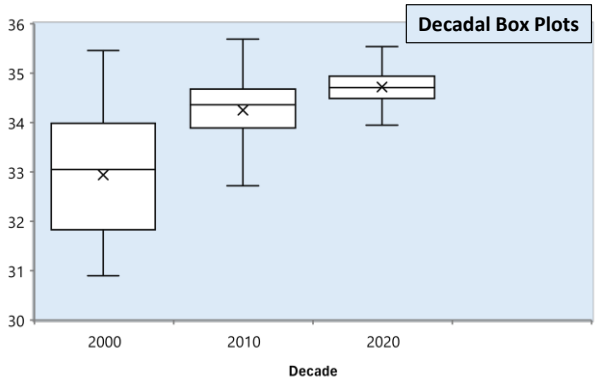


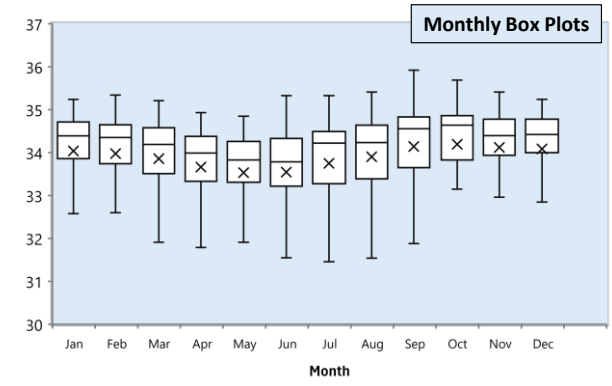
Statistics			
P100 (Max)	35.92	Average	33.90
P90	34.93	StdDev	1.06
P75	34.66	Count	7,041
P50 (Median)	34.24	SE	0.01
P25	33.47		
P10	31.94	POR	Aug-2003
P0 (Min)	30.90		Mar-2024
Range	5.02		
IQR	1.19		
% Complete	94%		









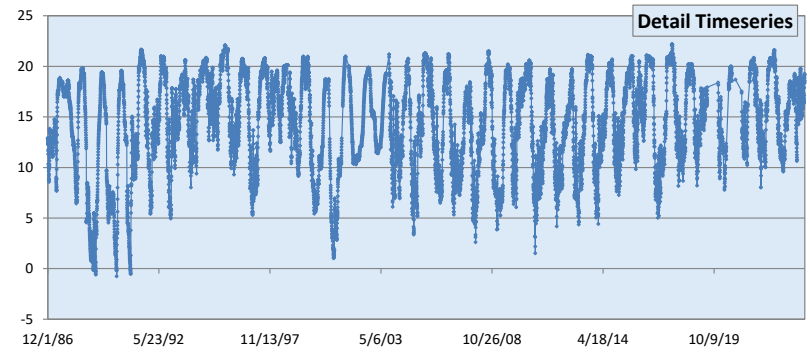


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

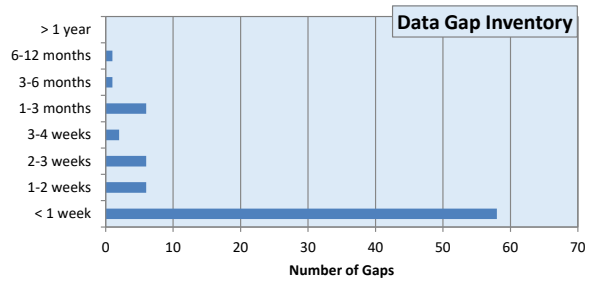
USGS-262158081283404 (1986 - 2024) : C-1079

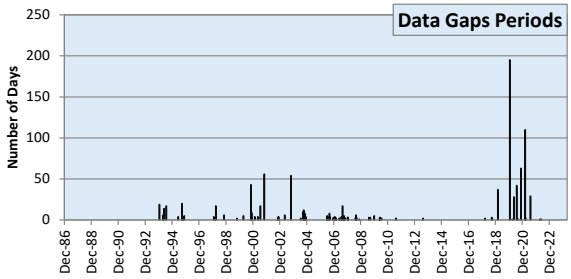
STG (Max) (ft NGVD29) - WELL

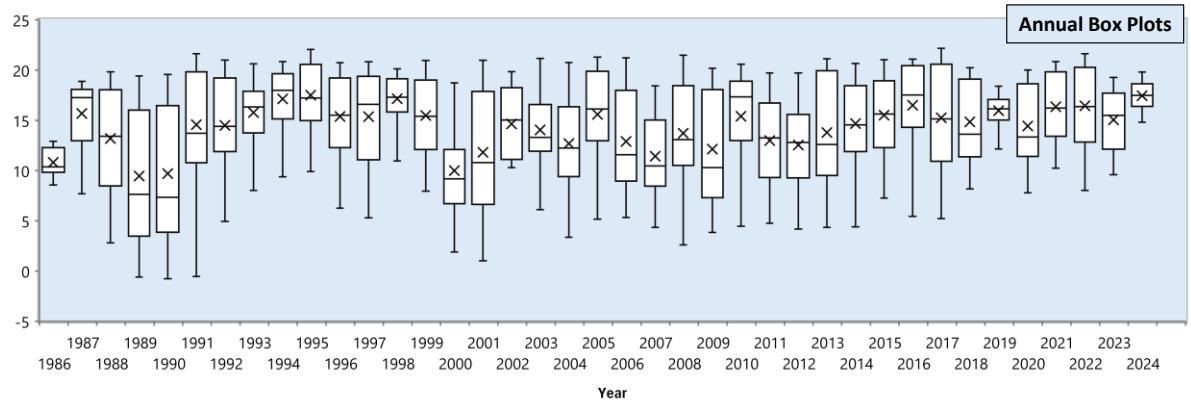
(26.367, -81.4765)

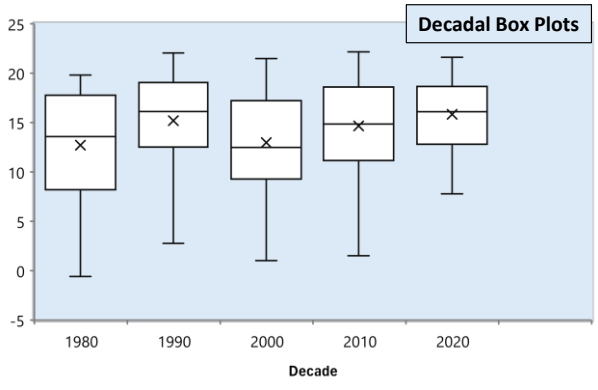


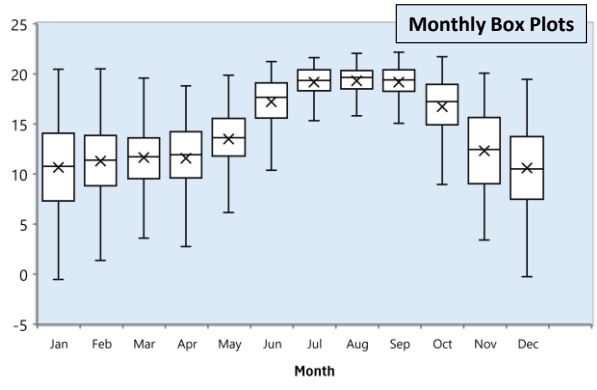
Statistics			
P100 (Max)	22.17	Average	14.32
P90	20.03	StdDev	4.71
P75	18.40	Count	12,641
P50 (Median)	14.84	SE	0.04
P25	11.03		
P10	7.60	POR	Dec-1986
P0 (Min)	-0.77		Mar-2024
Range	22.94		
IQR	7.37		
% Complete	93%		









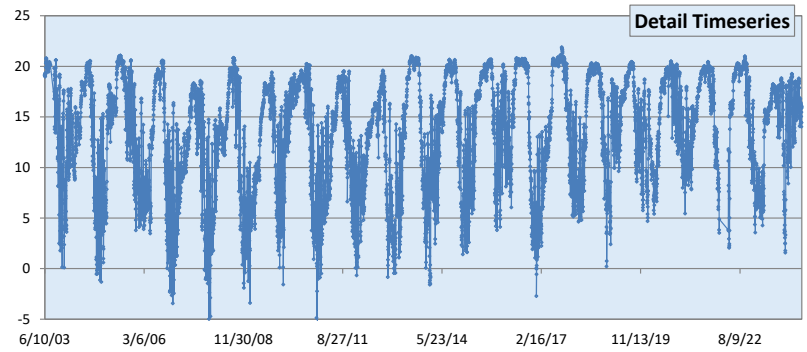


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

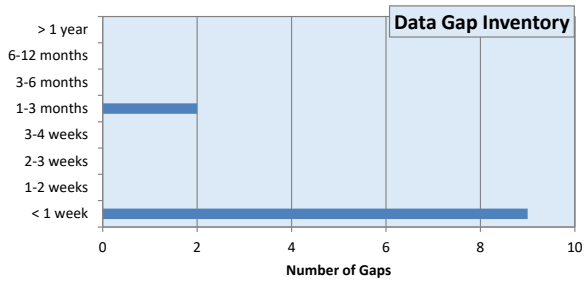
USGS-262212081312501 (2003 - 2024) : C-1245

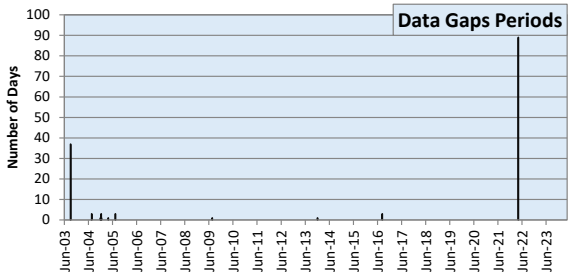
STG (Max) (ft NGVD29) - WELL

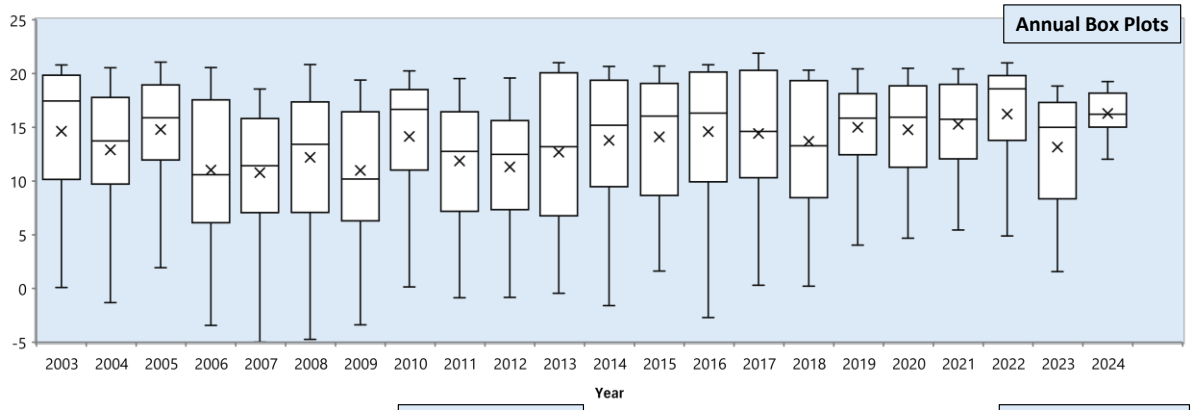
(26.3729, -81.5242)

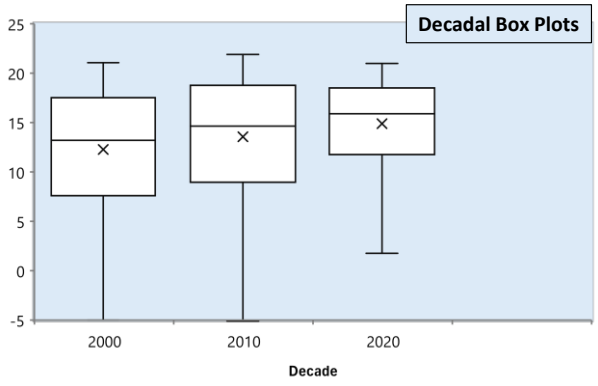


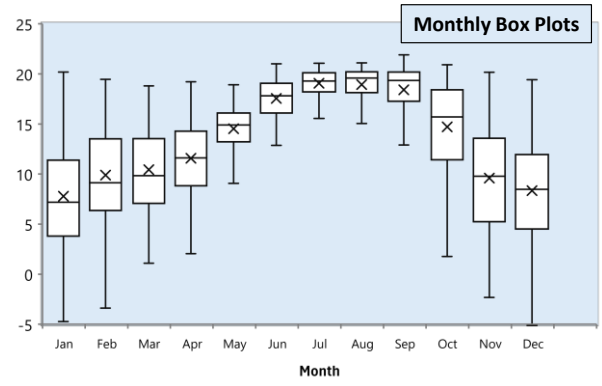
Statistics			
P100 (Max)	21.90	Average	13.43
P90	19.95	StdDev	5.60
P75	18.28	Count	7,481
P50 (Median)	14.56	SE	0.06
P25	9.13		
P10	5.19	POR	Jun-2003
P0 (Min)	-5.12		Apr-2024
Range	27.02		
IQR	9.15		
% Complete	98%		









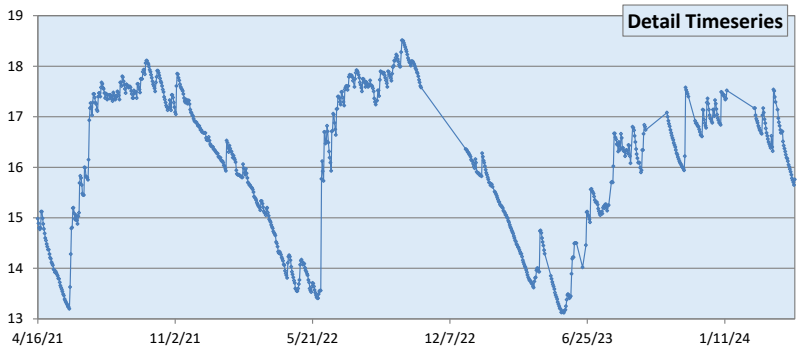


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

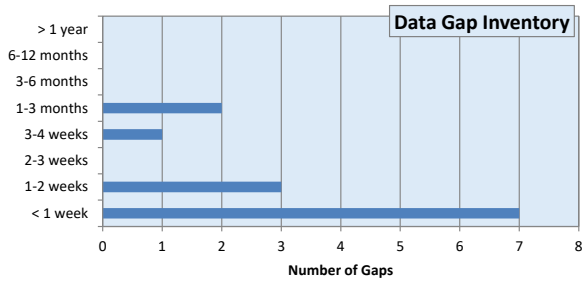
USGS-262228081361901 (2021 - 2024) : C-492

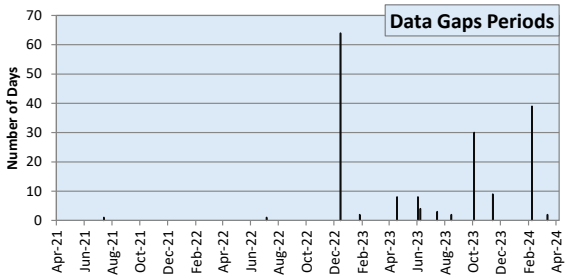
STG (Max) (ft NGVD29) - WELL

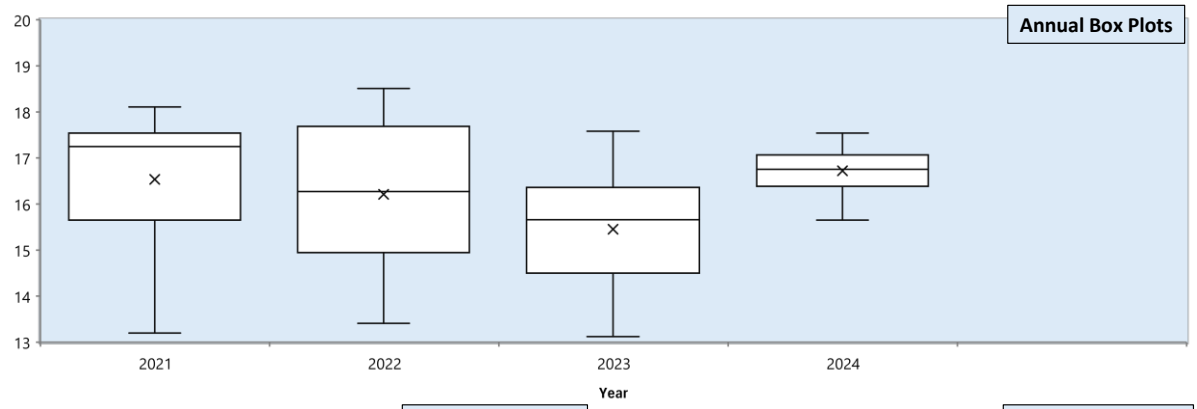
(26.3748, -81.6051)

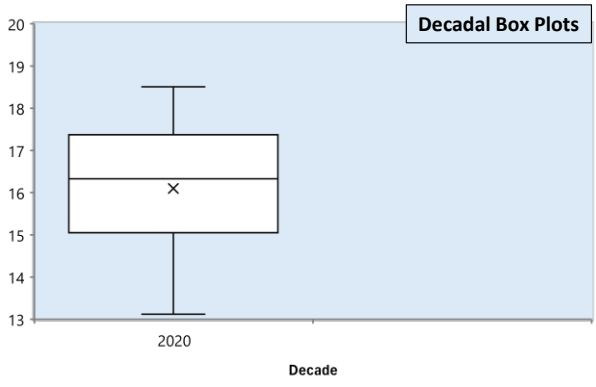


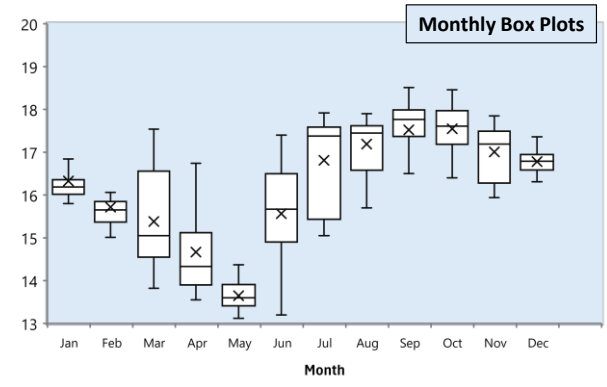
Statistics			
P100 (Max)	18.51	Average	16.10
P90	17.75	StdDev	1.42
P75	17.37	Count	930
P50 (Median)	16.33	SE	0.05
P25	15.05		
P10	13.87	POR	Apr-2021
P0 (Min)	13.12		Apr-2024
Range	5.39		
IQR	2.32		
% Complete	84%		









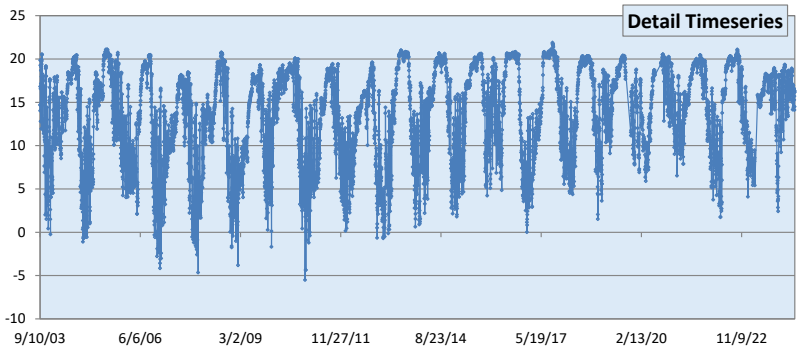


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

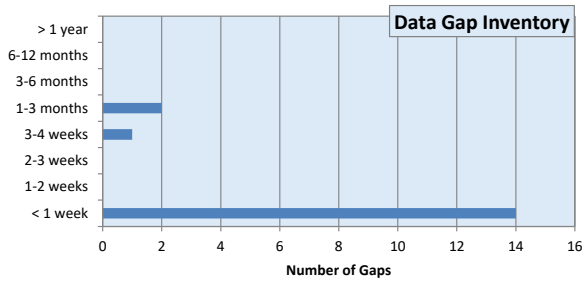
USGS-262248081314101 (2003 - 2024) : C-1244

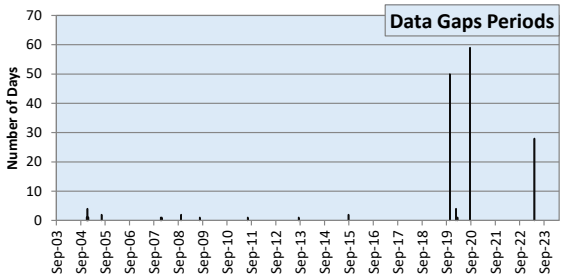
STG (Max) (ft NGVD29) - WELL

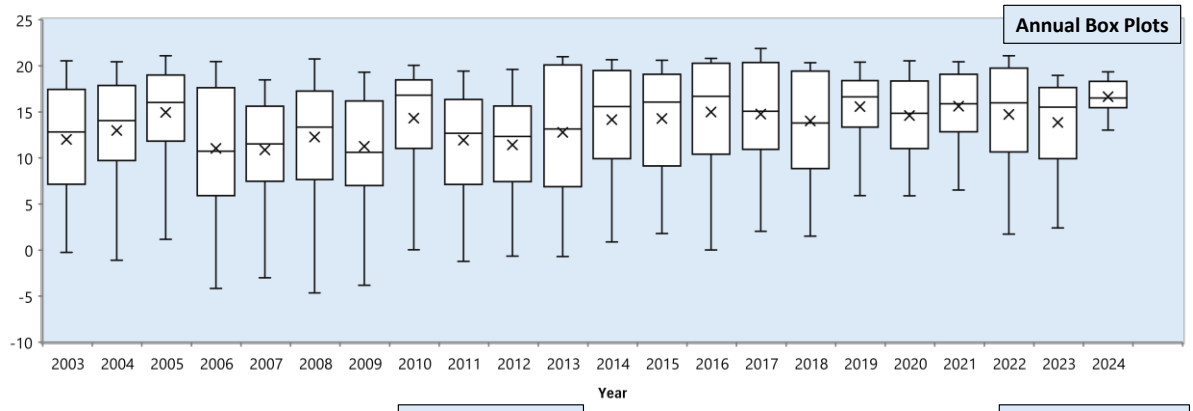
(26.3804, -81.5279)

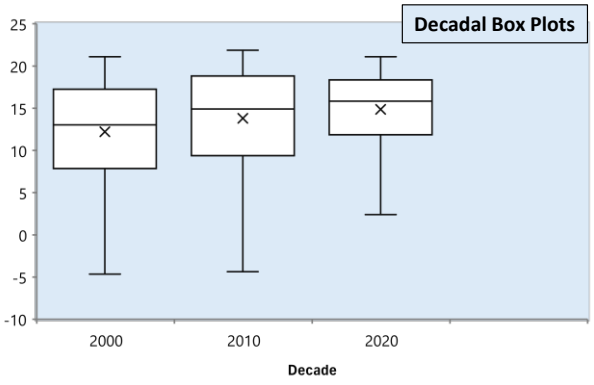


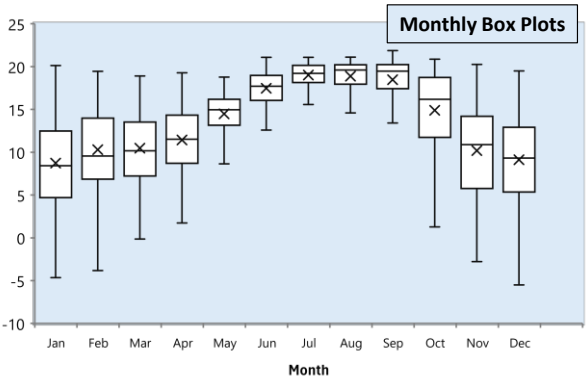
Statistics			
P100 (Max)	21.88	Average	13.53
P90	19.95	StdDev	5.45
P75	18.20	Count	7,372
P50 (Median)	14.60	SE	0.06
P25	9.53		
P10	5.57	POR	Sep-2003
P0 (Min)	-5.51		Apr-2024
Range	27.39		
IQR	8.67		
% Complete	98%		









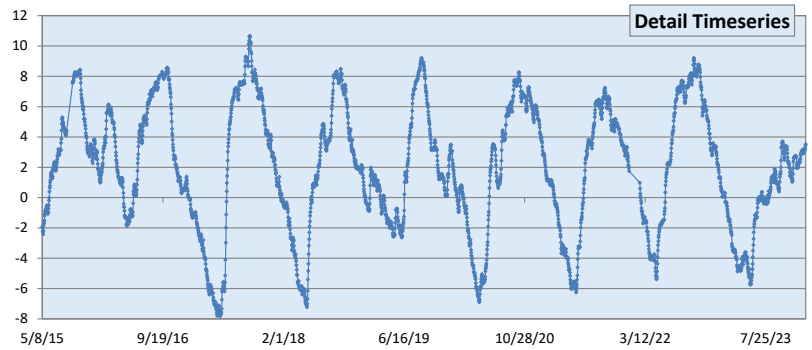


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

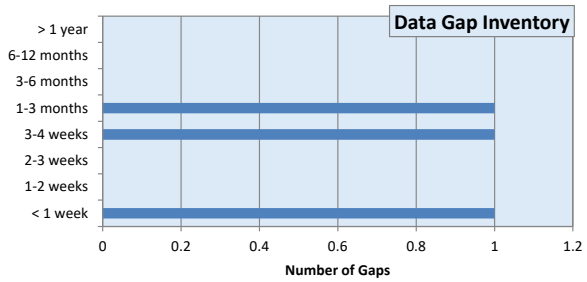
USGS-262331082383202 (2015 - 2024) : L-5673

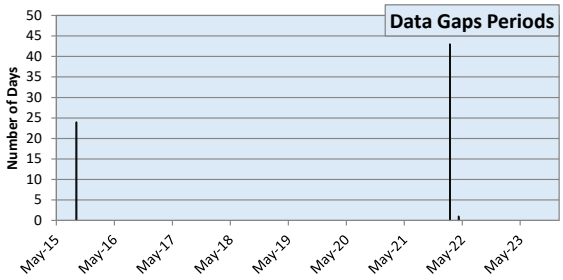
STG (Max) (ft NGVD29) - WELL

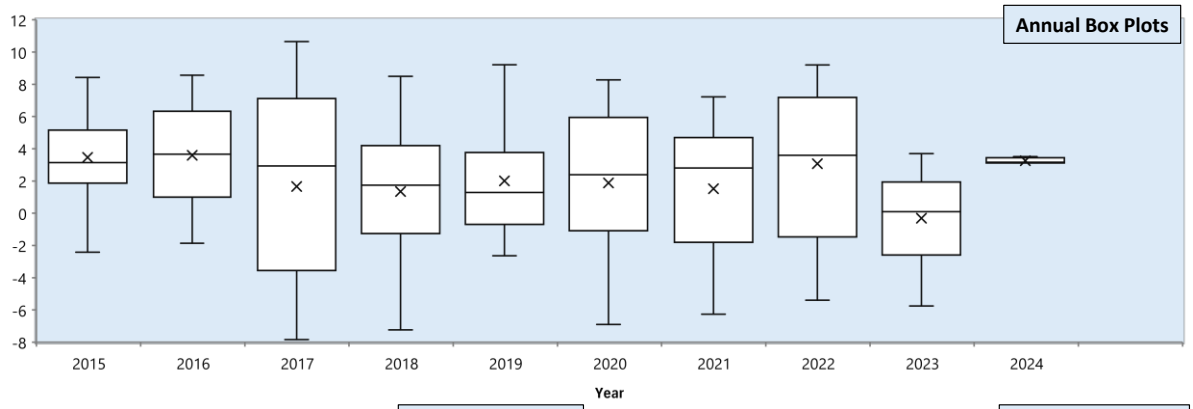
(26.3921, -81.7272)

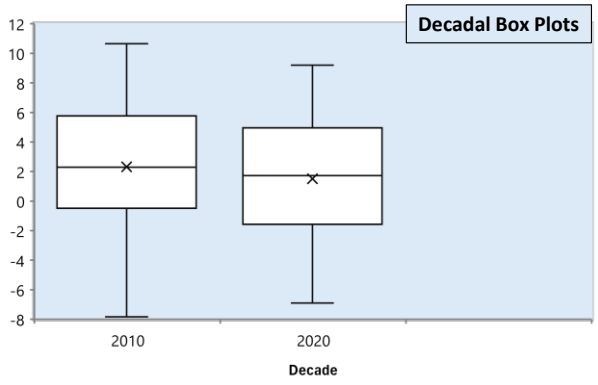


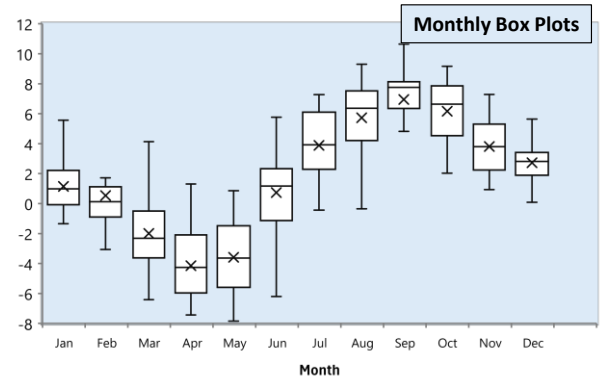
Statistics			
P100 (Max)	10.65	Average	1.95
P90	7.50	StdDev	4.15
P75	5.37	Count	3,099
P50 (Median)	2.07	SE	0.07
P25	-0.91		
P10	-4.03	POR	May-2015
P0 (Min)	-7.84		Jan-2024
Range	18.49		
IQR	6.28		
% Complete	98%		









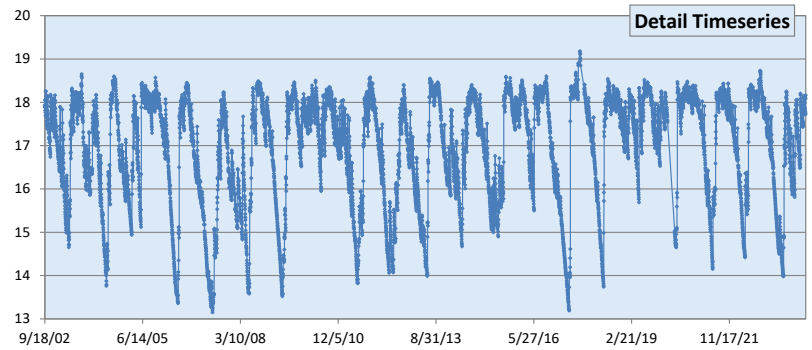


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

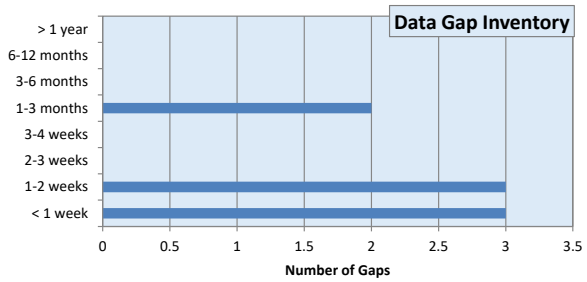
USGS-262513081432601 (2002 - 2024) : L-5667

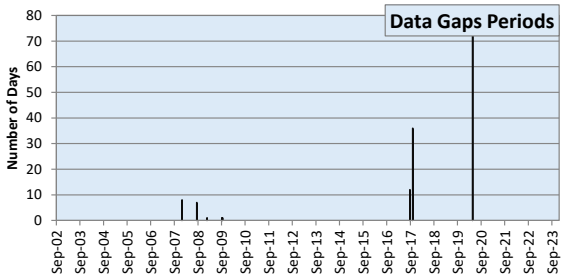
STG (Max) (ft NGVD29) - WELL

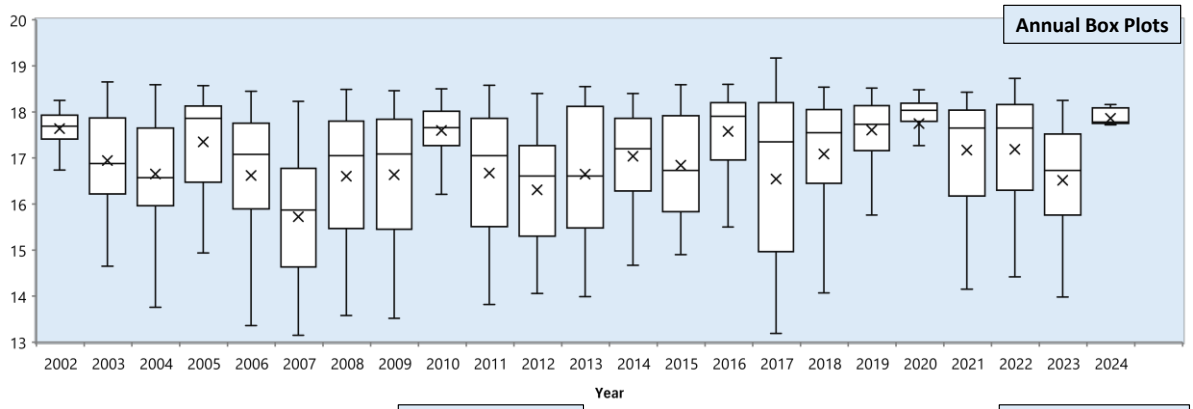
(26.4217, -81.7237)

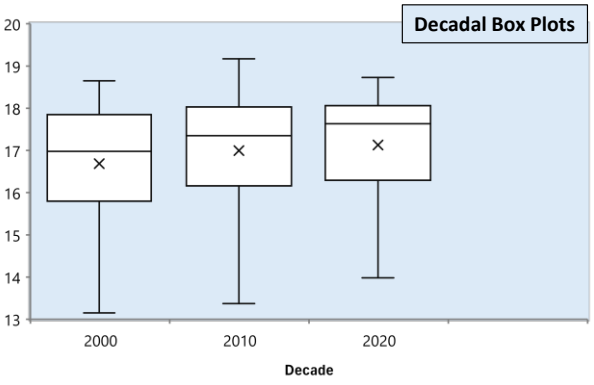


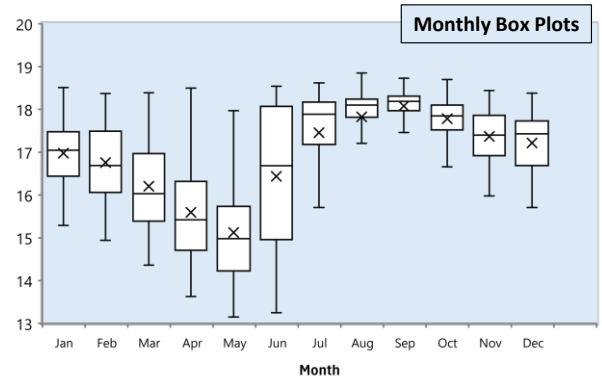
Statistics			
P100 (Max)	19.17	Average	16.91
P90	18.23	StdDev	1.27
P75	17.99	Count	7,644
P50 (Median)	17.29	SE	0.01
P25	16.04		
P10	14.96	POR	Sep-2002
P0 (Min)	13.15		Jan-2024
Range	6.02		
IQR	1.95		
% Complete	98%		









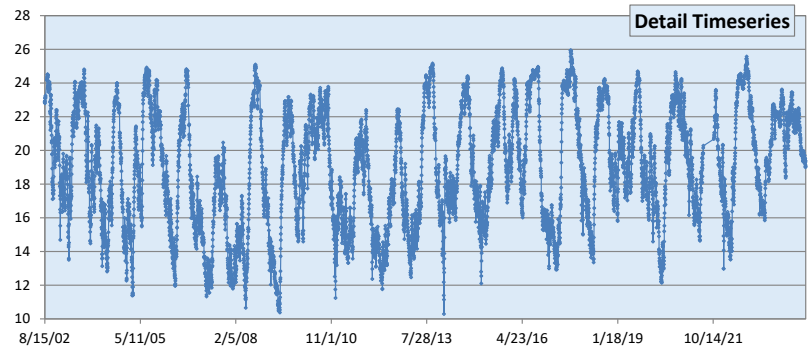


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

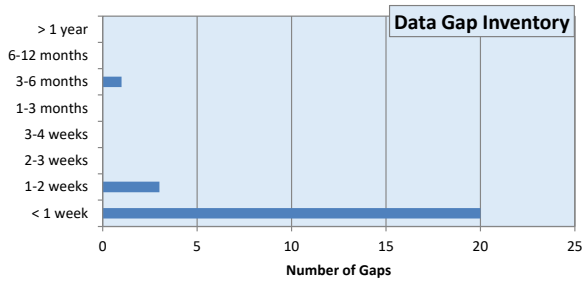
USGS-262554081283801 (2002 - 2024) : C-687

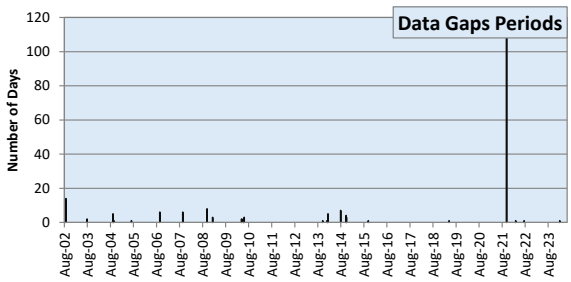
STG (Max) (ft NGVD29) - WELL

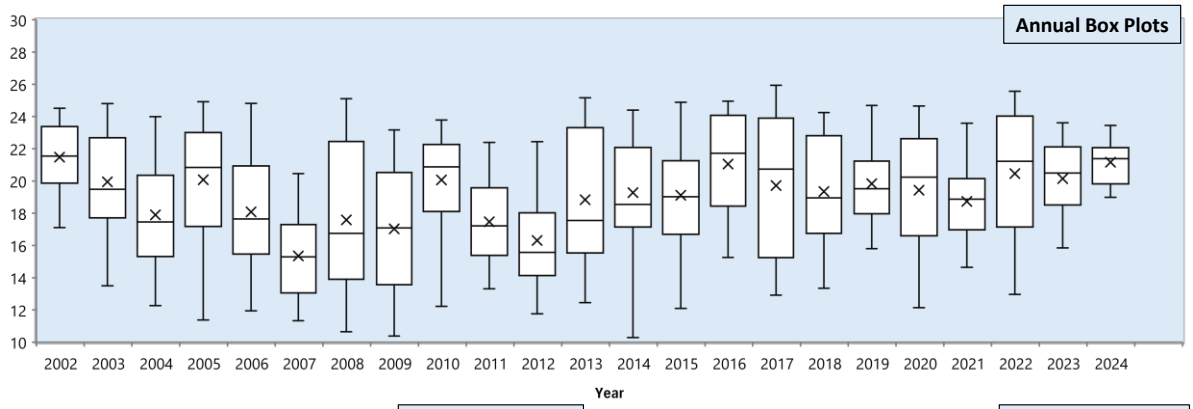
(26.432, -81.4773)

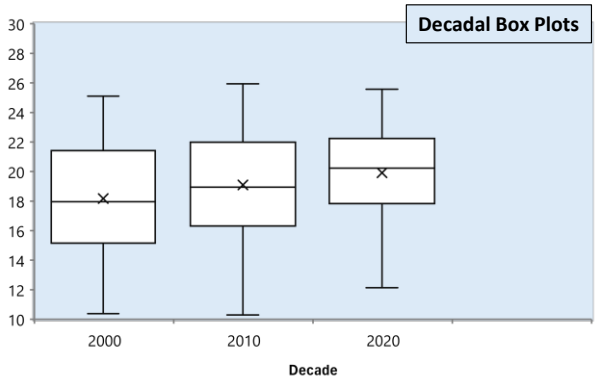


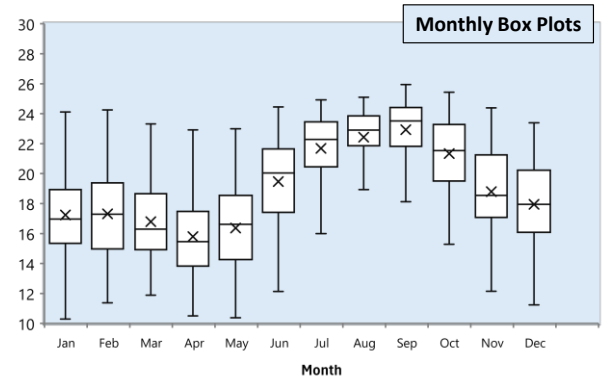
Statistics			
P100 (Max)	25.94	Average	18.94
P90	23.69	StdDev	3.48
P75	21.95	Count	7,781
P50 (Median)	18.94	SE	0.04
P25	16.23		
P10	14.23	POR	Aug-2002
P0 (Min)	10.29		Jun-2024
Range	15.65		
IQR	5.72		
% Complete	98%		









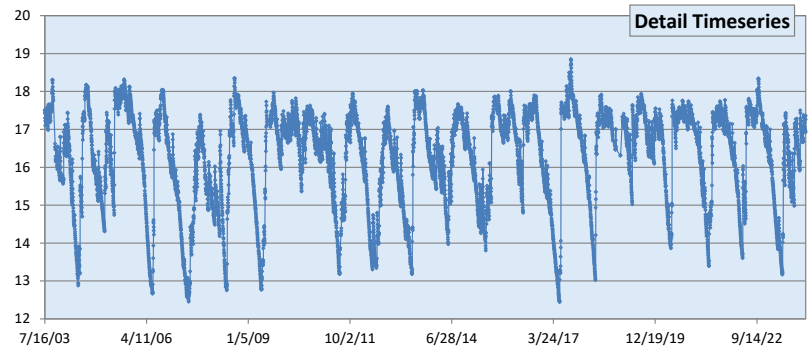


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

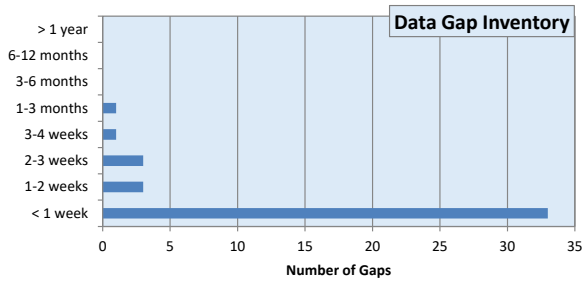
USGS-262605081425901 (2003 - 2024) : L-5874

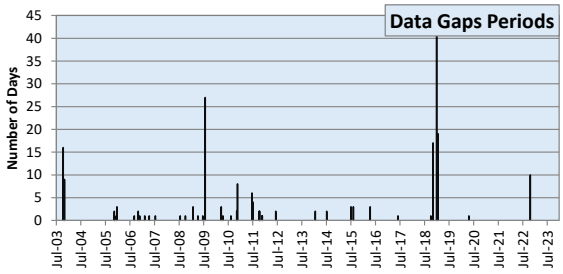
STG (Max) (ft NGVD29) - WELL

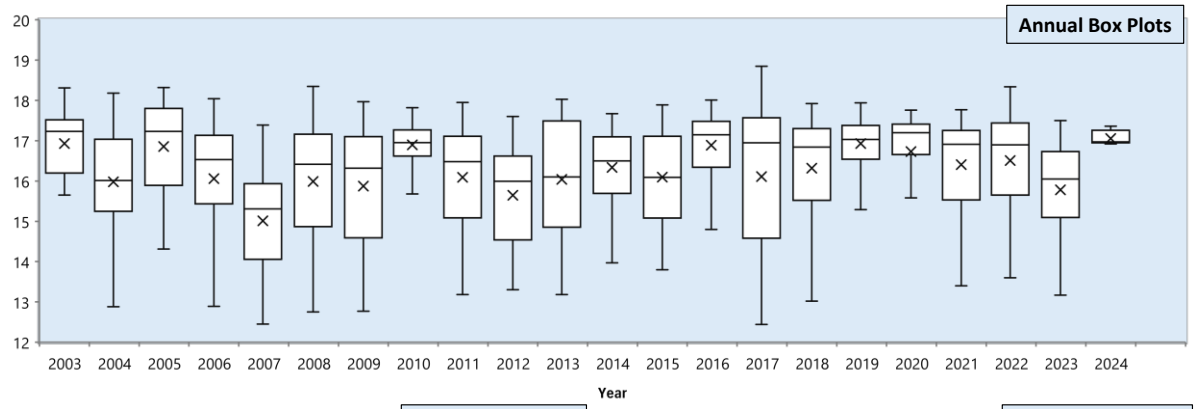
(26.4352, -81.7161)

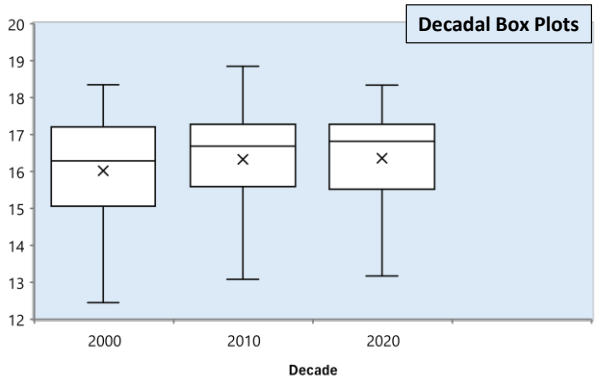


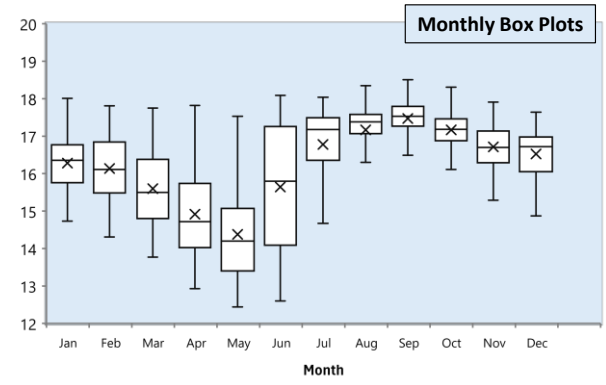
Statistics			
P100 (Max)	18.85	Average	16.24
P90	17.60	StdDev	1.30
P75	17.27	Count	7,273
P50 (Median)	16.61	SE	0.02
P25	15.40		
P10	14.25	POR	Jul-2003
P0 (Min)	12.44		Jan-2024
Range	6.41		
IQR	1.87		
% Complete	97%		









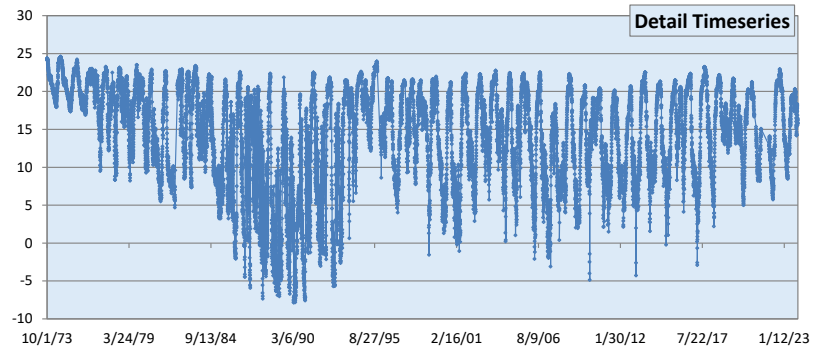


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

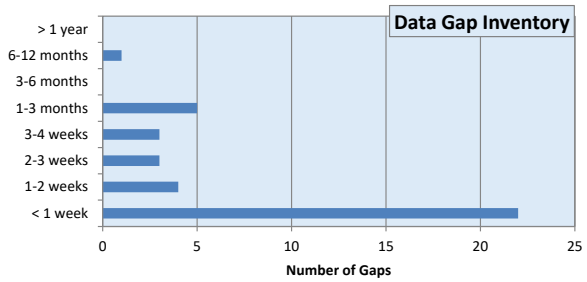
USGS-262703081340201 (1973 - 2023) : L-731

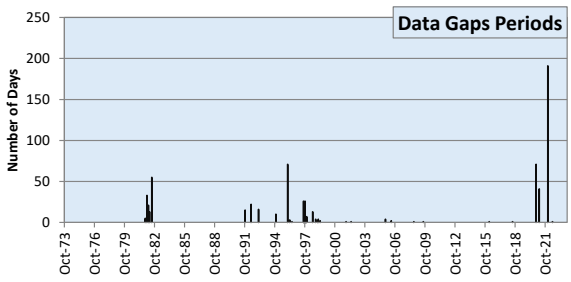
STG (Max) (ft NGVD29) - WELL

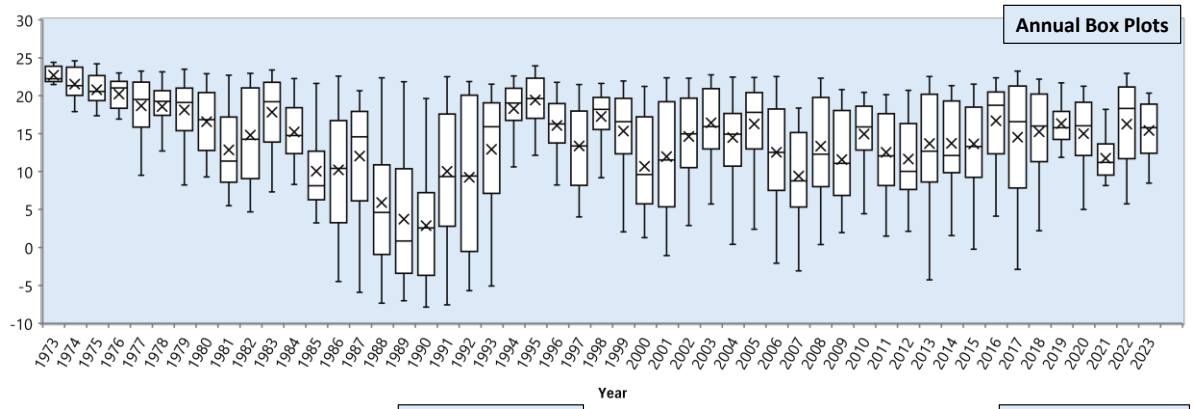
(26.4511, -81.5664)

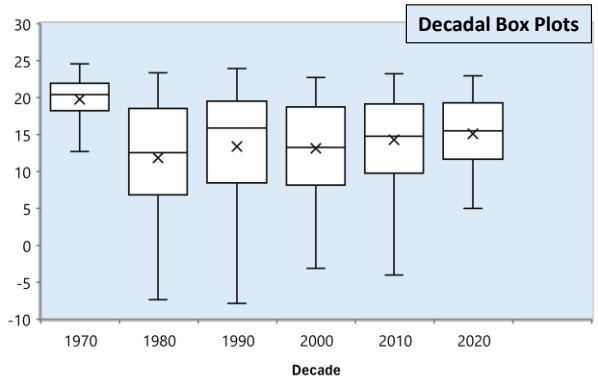


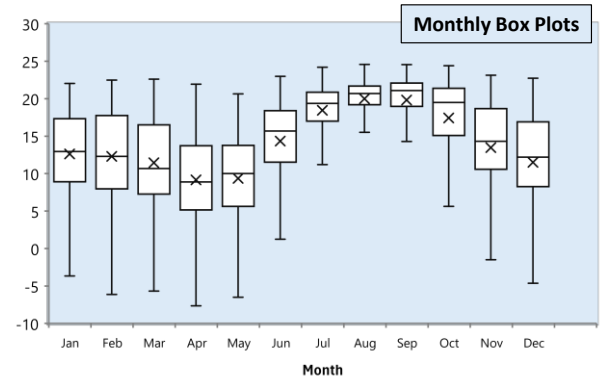
Statistics			
P100 (Max)	24.59	Average	14.15
P90	21.53	StdDev	6.69
P75	19.76	Count	17,660
P50 (Median)	15.55	SE	0.05
P25	9.57		
P10	4.95	POR	Oct-1973
P0 (Min)	-7.86		Dec-2023
Range	32.45		
IQR	10.19		
% Complete	96%		









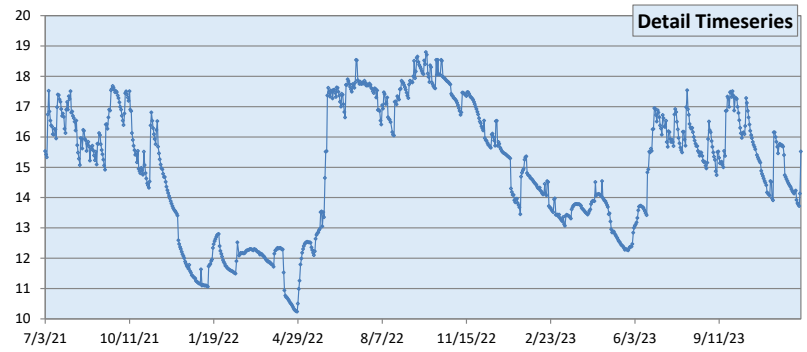


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

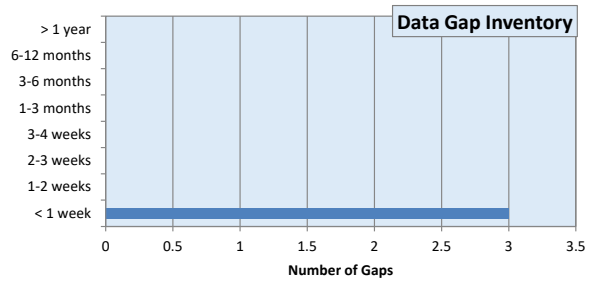
USGS-262711081413701 (2021 - 2023) : L-2550

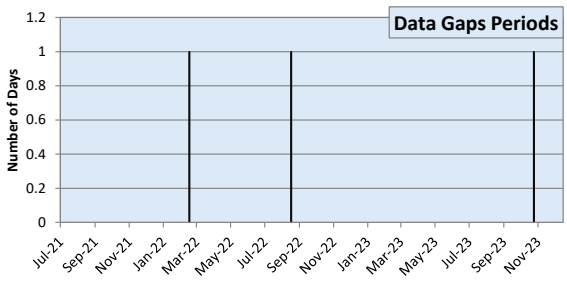
STG (Max) (ft NGVD29) - WELL

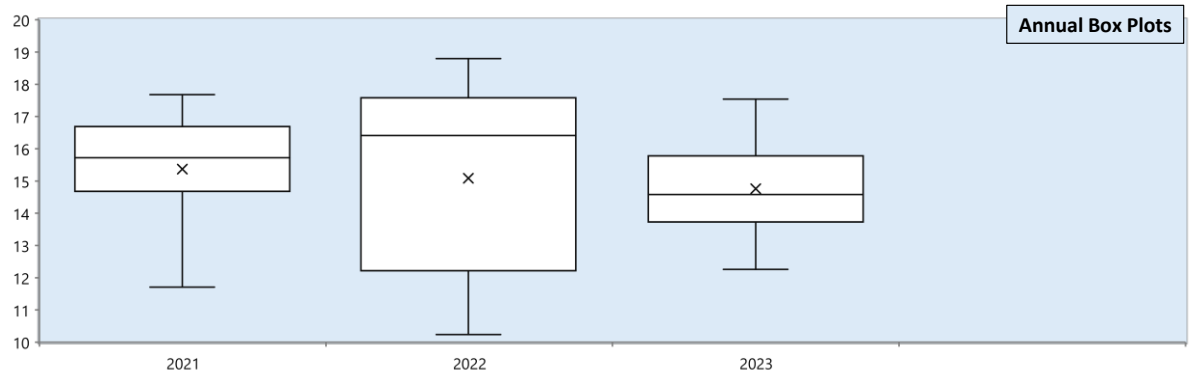
(26.4537, -81.6934)

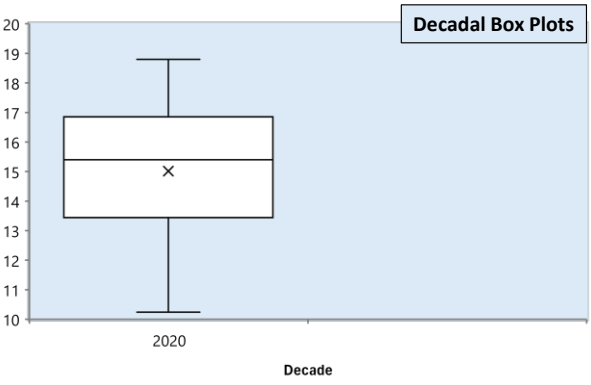


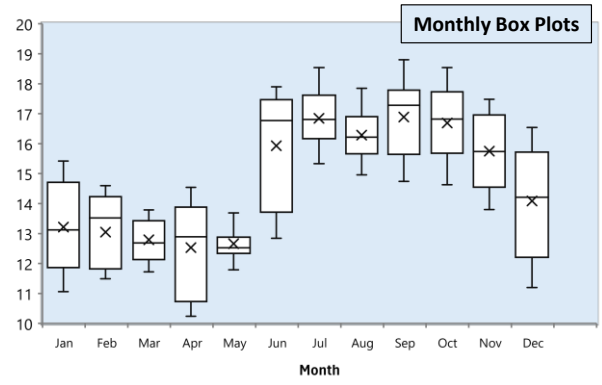
Statistics			
P100 (Max)	18.80	Average	15.02
P90	17.60	StdDev	2.10
P75	16.85	Count	895
P50 (Median)	15.40	SE	0.07
P25	13.44		
P10	12.10	POR	Jul-2021
P0 (Min)	10.24		Dec-2023
Range	8.56		
IQR	3.41		
% Complete	100%		









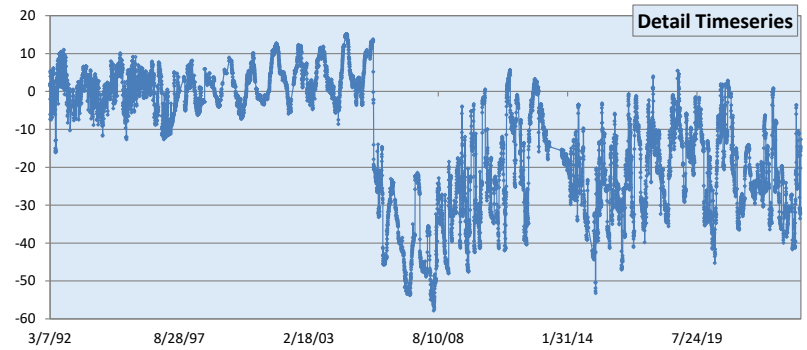


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

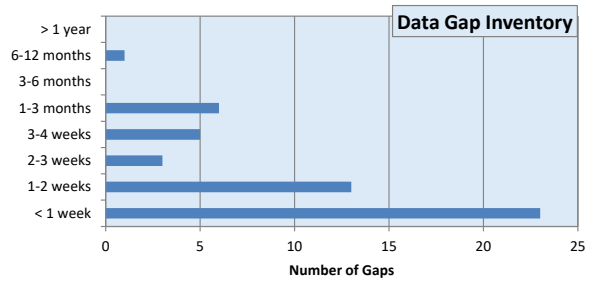
USGS-262713081414401 (1992 - 2023) : L-2193

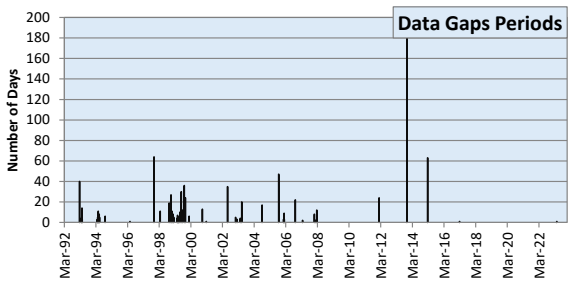
STG (Max) (ft NGVD29) - WELL

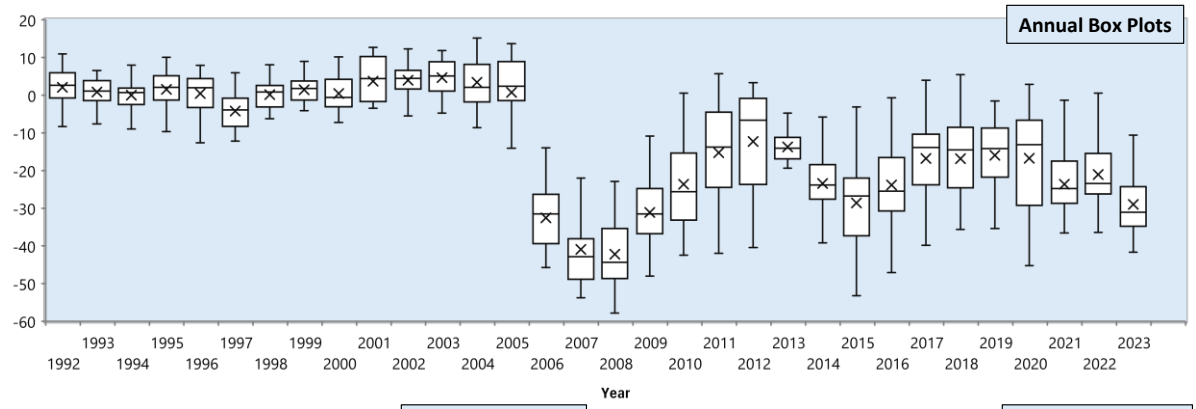
(26.4535, -81.6951)

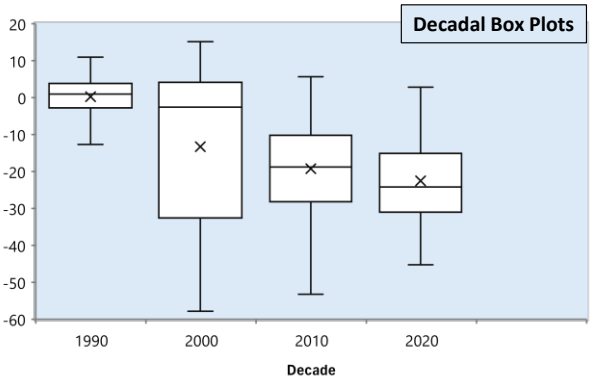


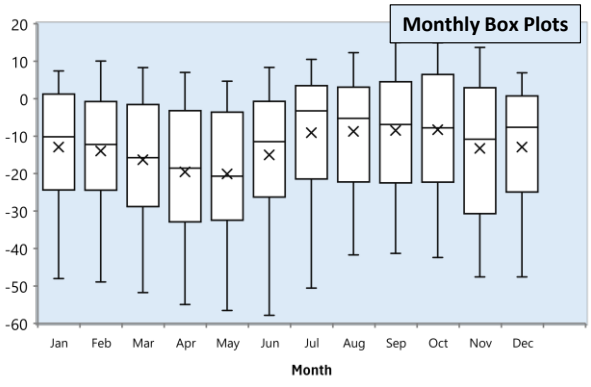
Statistics			
P100 (Max)	15.16	Average	-13.25
P90	5.18	StdDev	16.40
P75	0.82	Count	10,742
P50 (Median)	-9.77	SE	0.16
P25	-26.23		
P10	-36.17	POR	Mar-1992
P0 (Min)	-57.84		Dec-2023
Range	73.00		
IQR	27.05		
% Complete	93%		









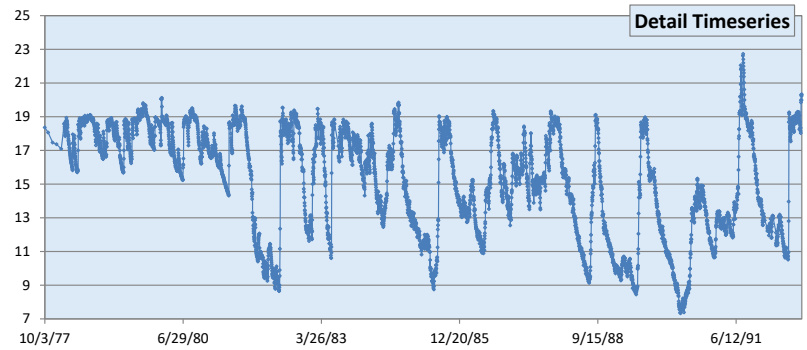


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

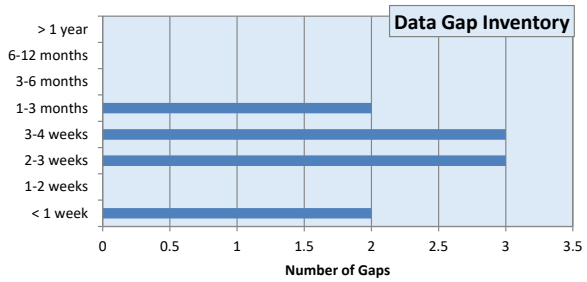
USGS-262713081414701 (1977 - 1992) : L-1985

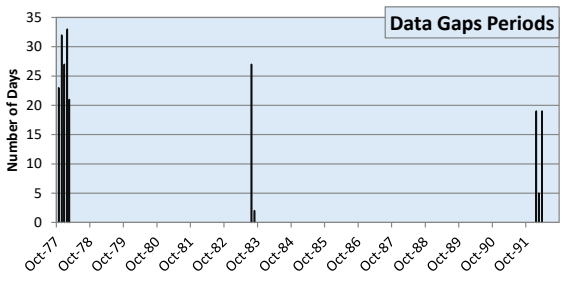
STG (Max) (ft NGVD29) - WELL

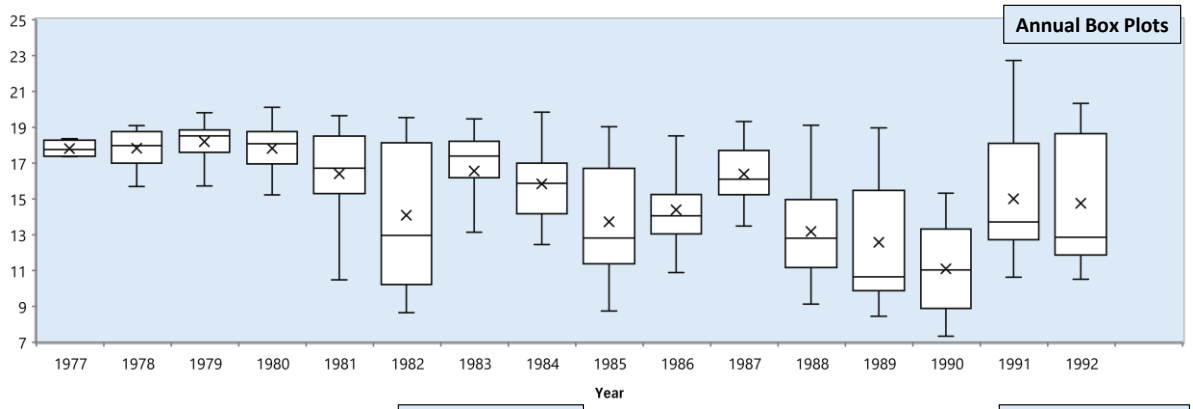
(26.4537, -81.6948)

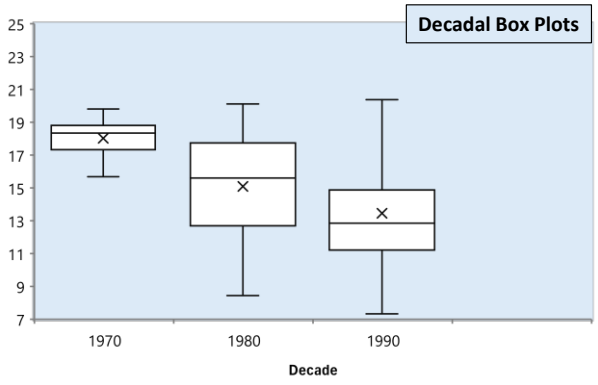


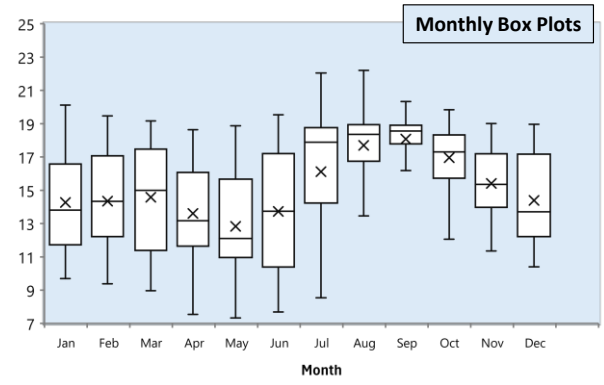
Statistics			
P100 (Max)	22.73	Average	15.17
P90	18.81	StdDev	3.16
P75	18.09	Count	5,268
P50 (Median)	15.75	SE	0.04
P25	12.59		
P10	10.54	POR	Oct-1977
P0 (Min)	7.33		Sep-1992
Range	15.40		
IQR	5.50		
% Complete	96%		









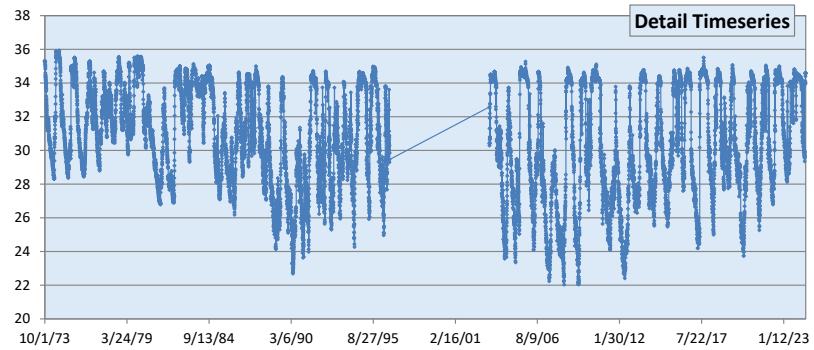


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

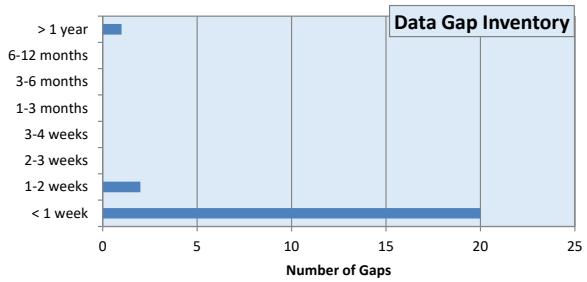
USGS-262724081260701 (1973 - 2024) : C-462

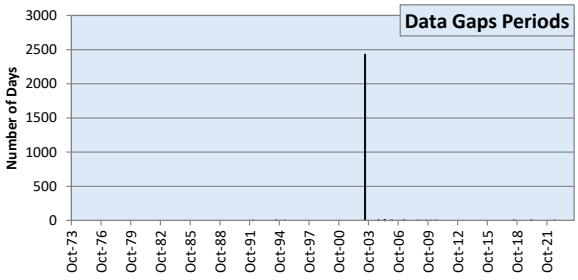
STG (Max) (ft NGVD29) - WELL

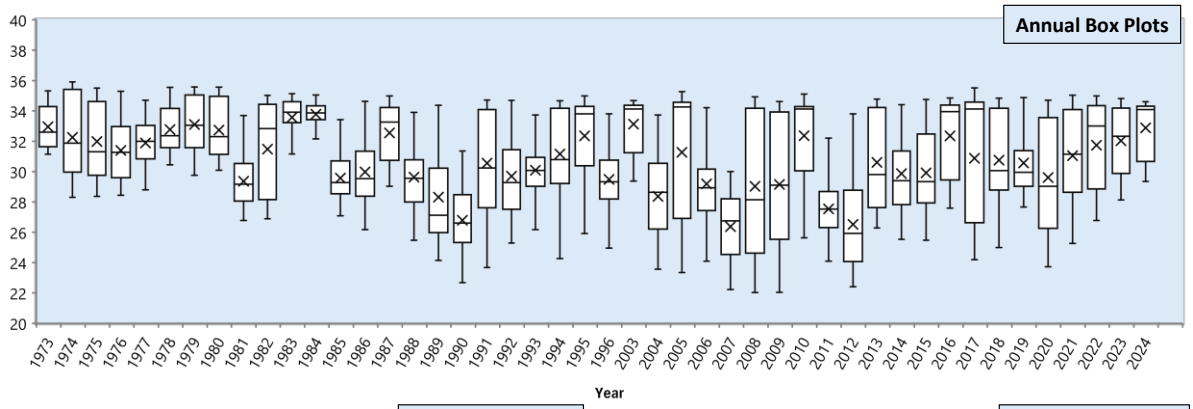
(26.4576, -81.4365)

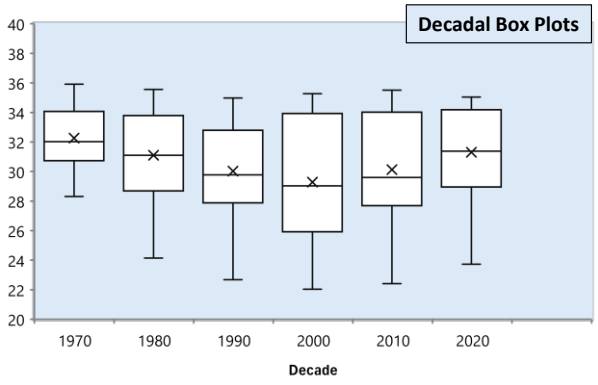


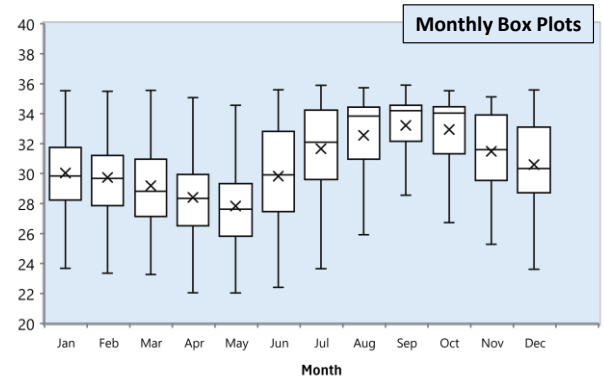
Statistics			
P100 (Max)	35.91	Average	30.64
P90	34.51	StdDev	3.16
P75	33.94	Count	16,039
P50 (Median)	30.55	SE	0.02
P25	28.37		
P10	26.29	POR	Oct-1973
P0 (Min)	22.03		Jul-2024
Range	13.88		
IQR	5.57		
% Complete	87%		









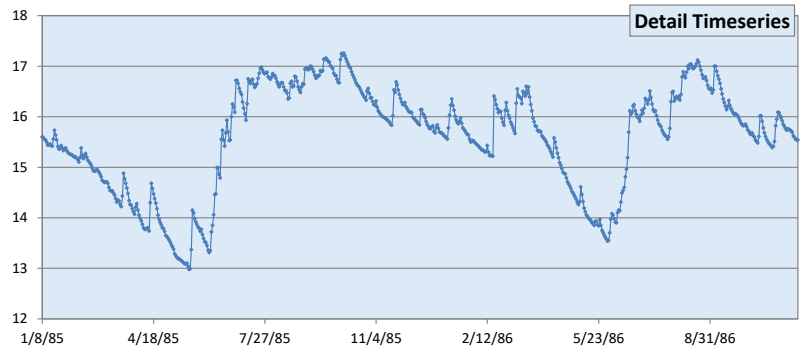


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

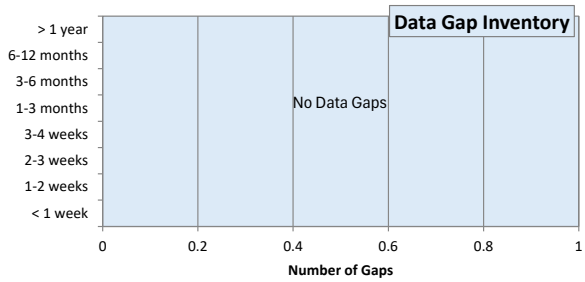
CORK.HQ (1985 - 1986) : CORKSCREW SWAMP AT SANCTUARY HEADQUARTERS

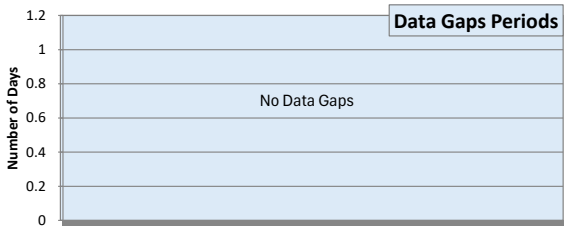
STG (ft NAVD88) - WELL

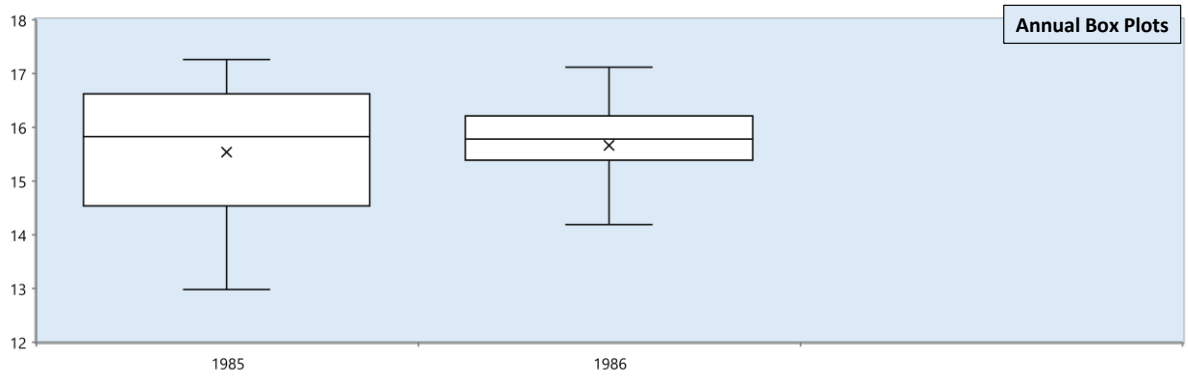
(26.38361, -81.58306)

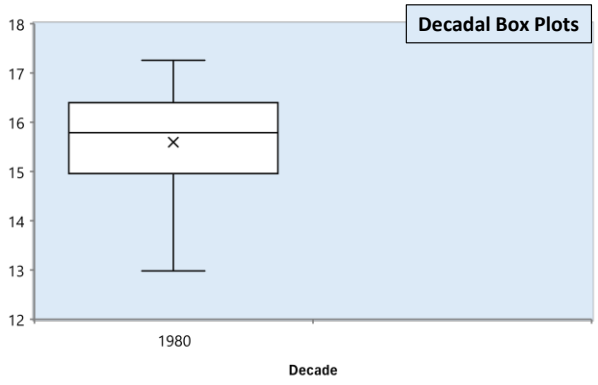


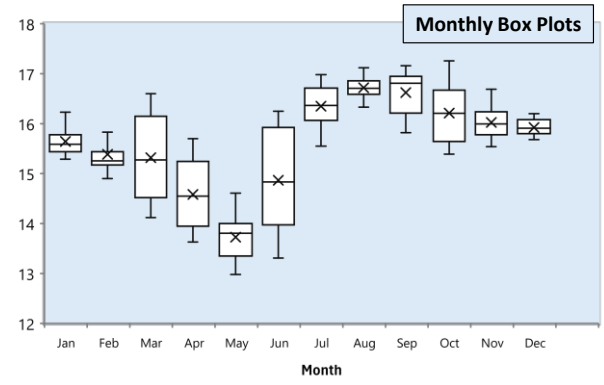
Statistics			
P100 (Max)	17.26	Average	15.60
P90	16.81	StdDev	1.04
P75	16.39	Count	680
P50 (Median)	15.79	SE	0.04
P25	14.96		
P10	13.93	POR	Jan-1985
P0 (Min)	12.98		Nov-1986
Range	4.28		
IQR	1.43		
% Complete	100%		









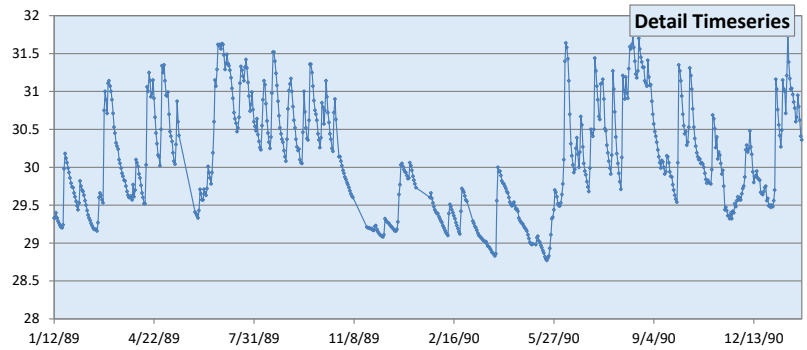


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

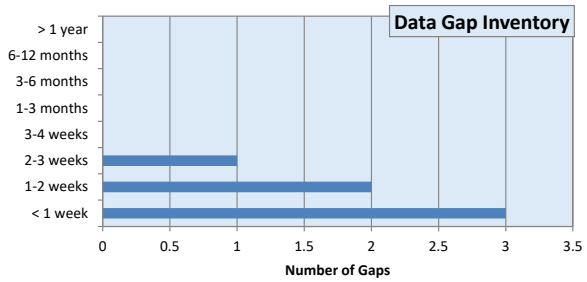
GATORS.W2 (1989 - 1991) : GATOR SLOUGH CITRUS STUDY - WELLS (WELL 2)

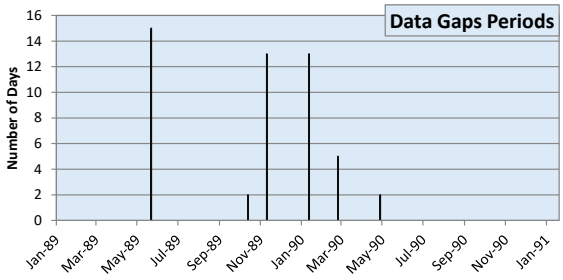
STG (ft NAVD88) - WELL

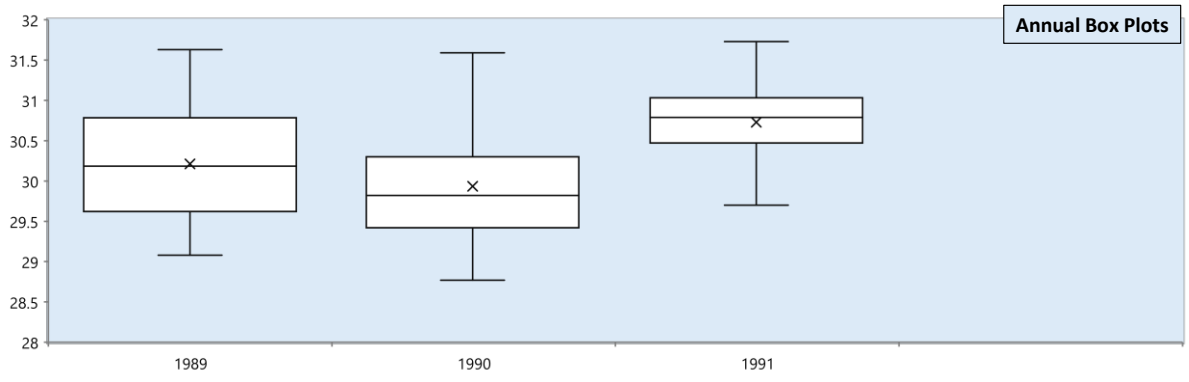
(26.55028, -81.50222)

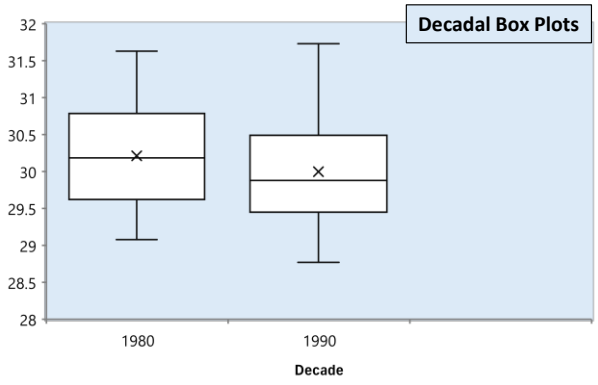


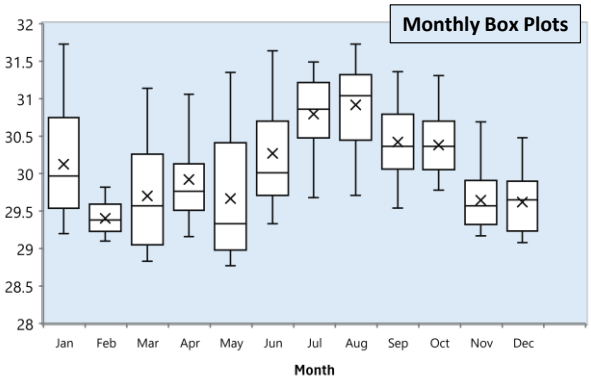
Statistics			
P100 (Max)	31.73	Average	30.10
P90	31.15	StdDev	0.73
P75	30.66	Count	699
P50 (Median)	30.00	SE	0.03
P25	29.52		
P10	29.19	POR	Jan-1989
P0 (Min)	28.77		Jan-1991
Range	2.96		
IQR	1.14		
% Complete	93%		









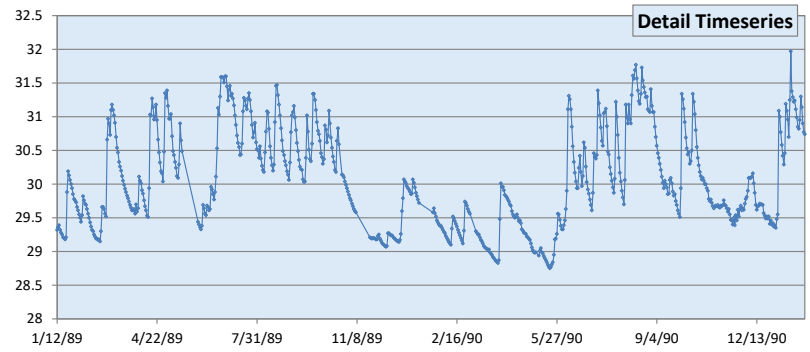


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

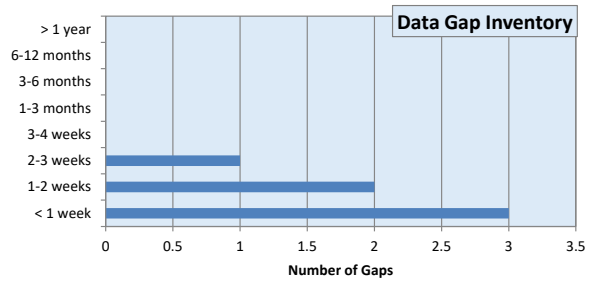
GATORS.W3 (1989 - 1991) : GATOR SLOUGH CITRUS STUDY - WELLS (WELL 3)

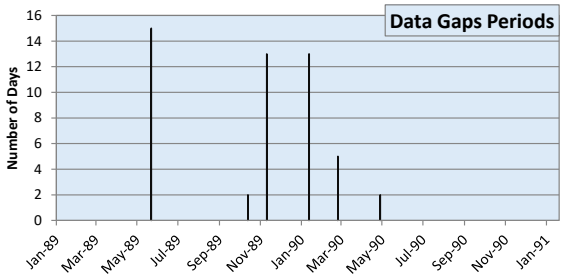
STG (ft NAVD88) - WELL

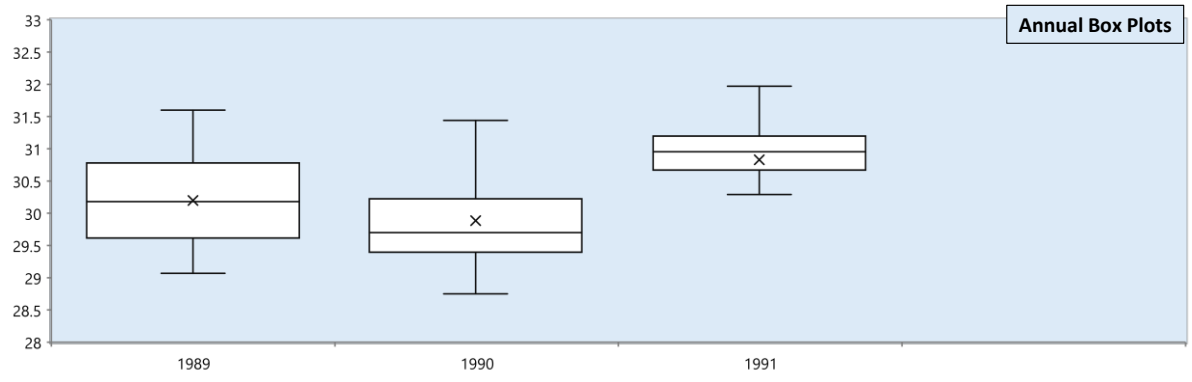
(26.54667, -81.50222)

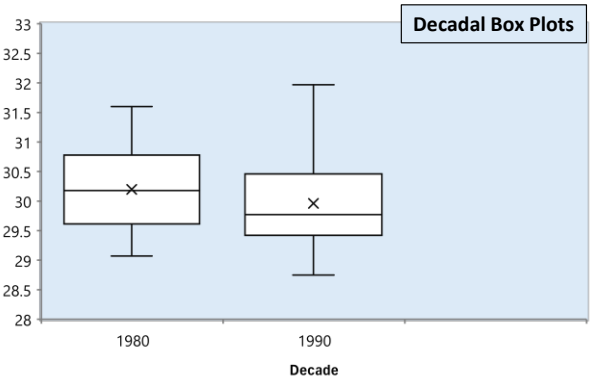


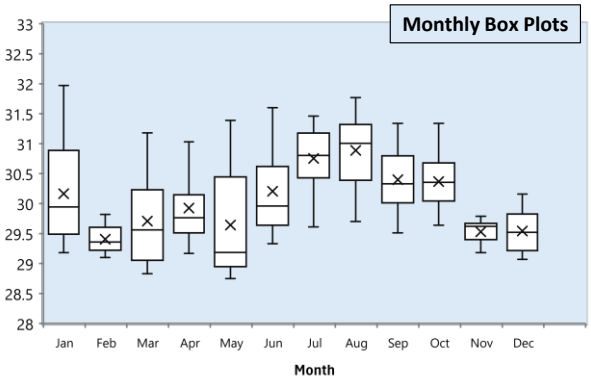
Statistics			
P100 (Max)	31.97	Average	30.07
P90	31.16	StdDev	0.73
P75	30.65	Count	699
P50 (Median)	29.94	SE	0.03
P25	29.51		
P10	29.19	POR	Jan-1989
P0 (Min)	28.75		Jan-1991
Range	3.22		
IQR	1.14		
% Complete	93%		









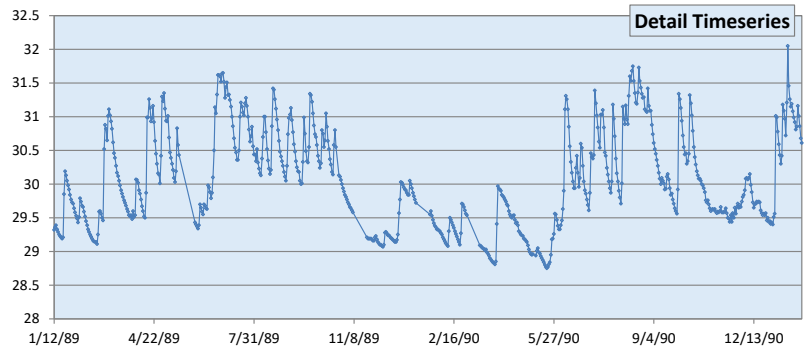


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

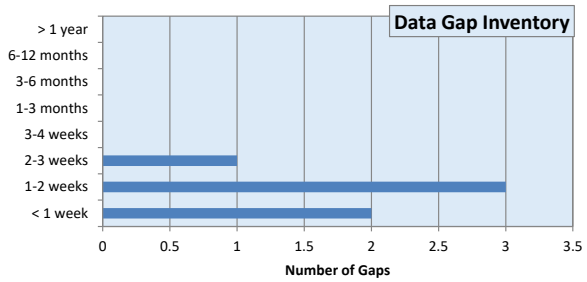
GATORS.W4 (1989 - 1991) : GATOR SLOUGH CITRUS STUDY - WELLS (WELL 4)

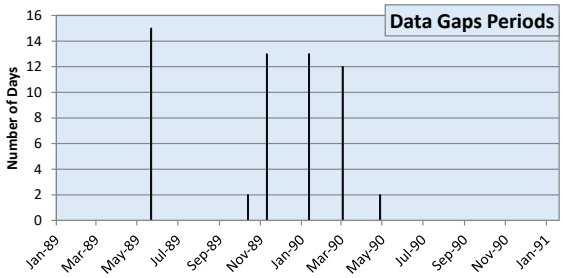
STG (ft NAVD88) - WELL

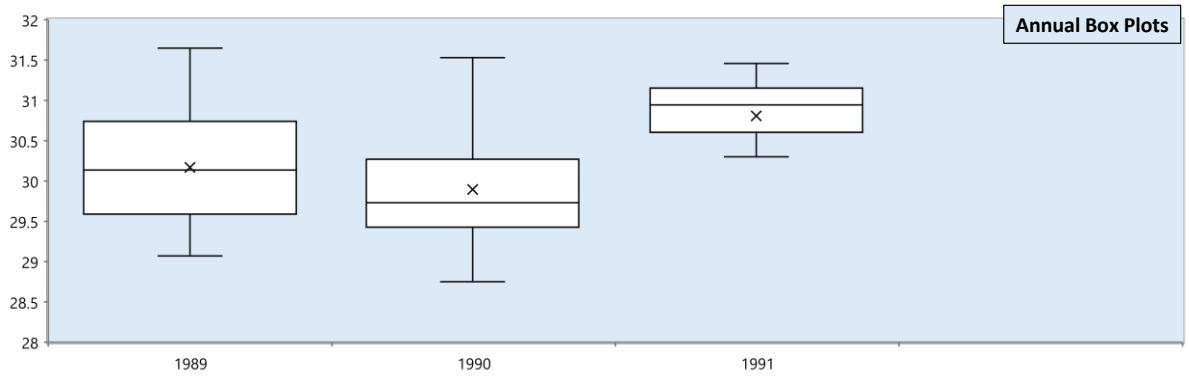
(26.54306, -81.5025)

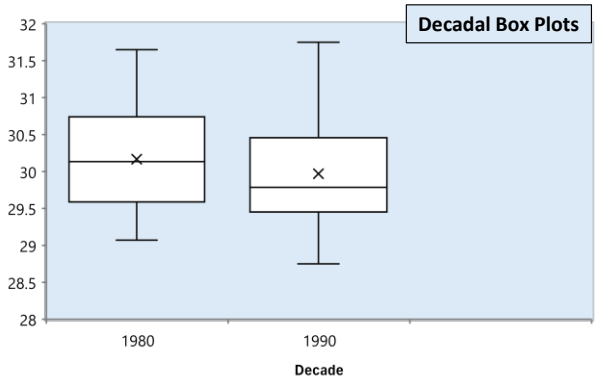


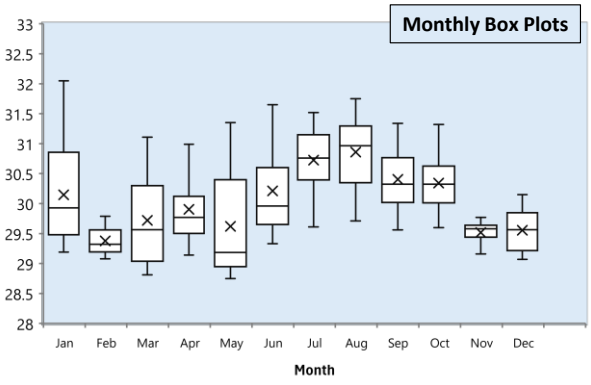
Statistics			
P100 (Max)	32.05	Average	30.06
P90	31.13	StdDev	0.72
P75	30.61	Count	692
P50 (Median)	29.94	SE	0.03
P25	29.52		
P10	29.18	POR	Jan-1989
P0 (Min)	28.75		Jan-1991
Range	3.30		
IQR	1.10		
% Complete	93%		









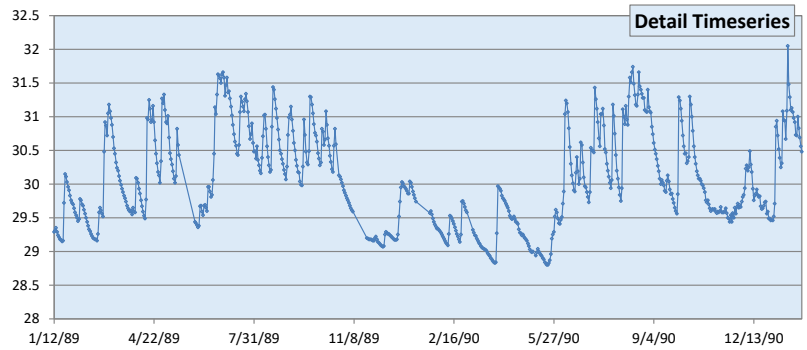


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

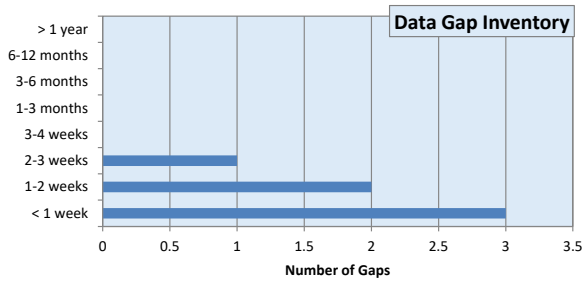
GATORS.W5 (1989 - 1991) : GATOR SLOUGH CITRUS STUDY - WELLS (WELL 5)

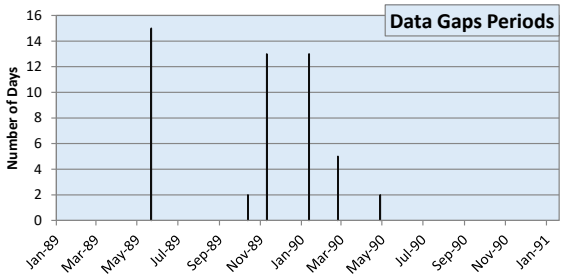
STG (ft NAVD88) - WELL

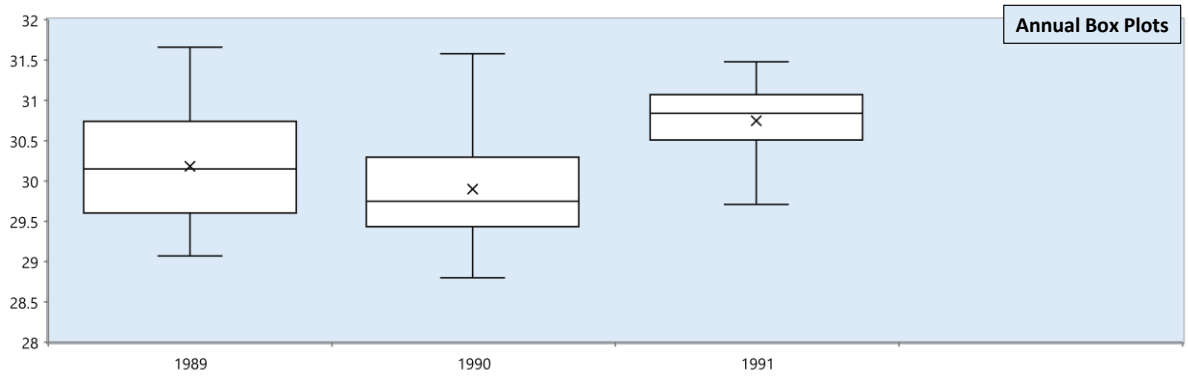
(26.54333, -81.49861)

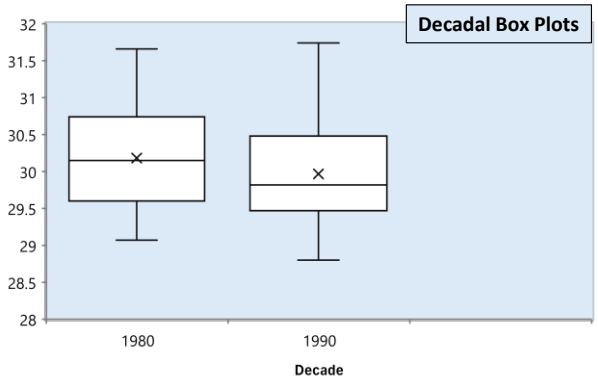


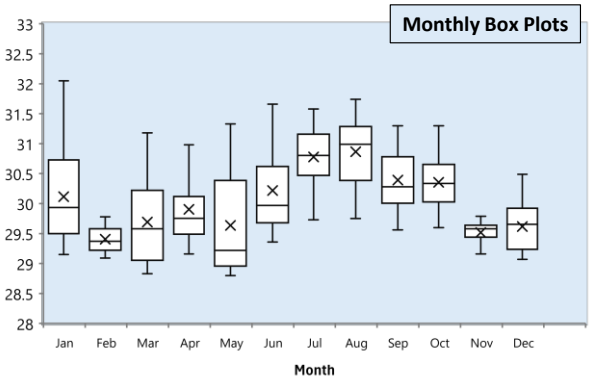
Statistics			
P100 (Max)	32.05	Average	30.07
P90	31.12	StdDev	0.72
P75	30.62	Count	699
P50 (Median)	29.95	SE	0.03
P25	29.52		
P10	29.18	POR	Jan-1989
P0 (Min)	28.80		Jan-1991
Range	3.25		
IQR	1.10		
% Complete	93%		









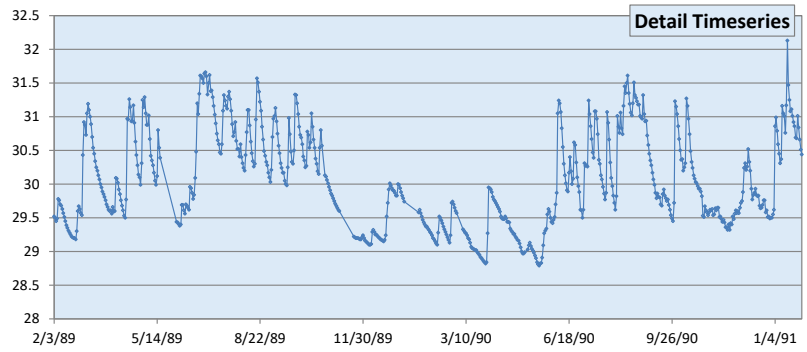


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

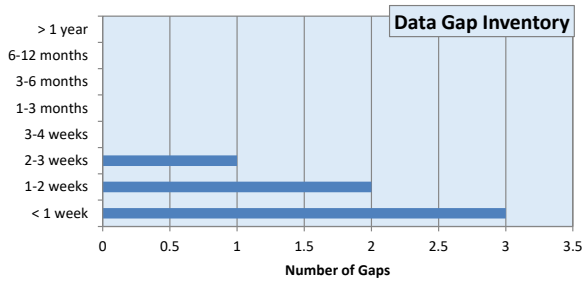
GATORS.W6 (1989 - 1991) : GATOR SLOUGH CITRUS STUDY - WELLS (WELL 6)

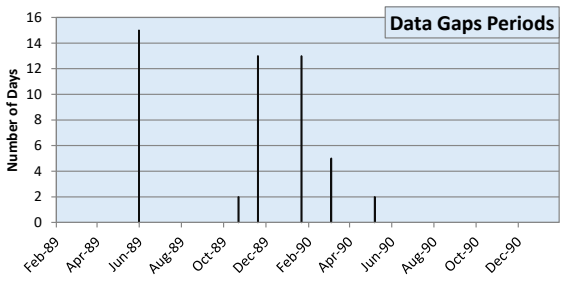
STG (ft NAVD88) - WELL

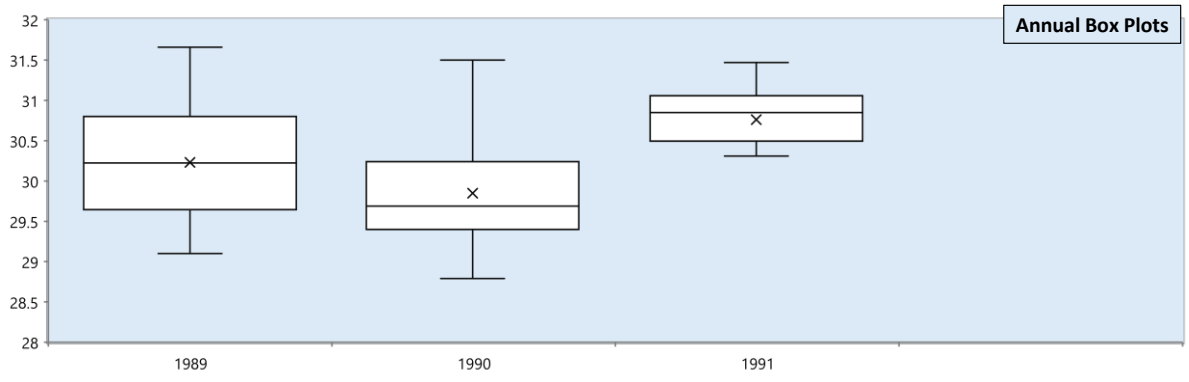
(26.55694, -81.50278)

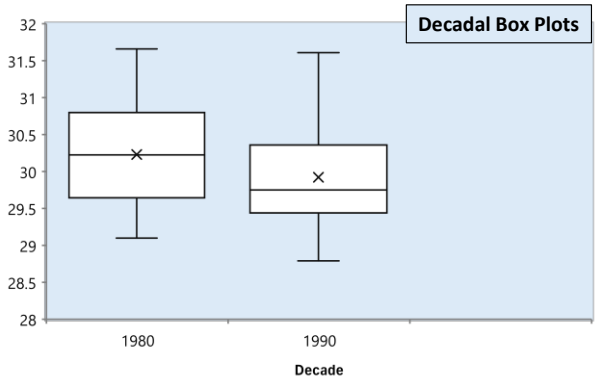


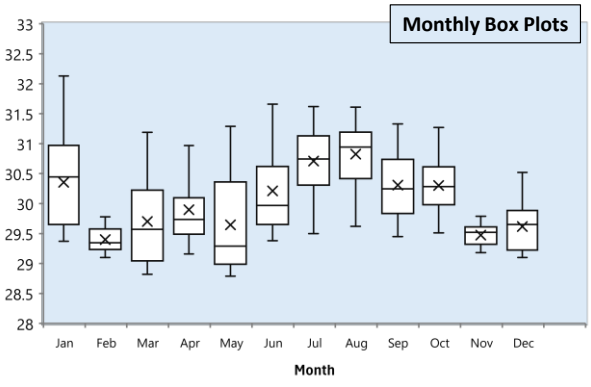
Statistics			
P100 (Max)	32.13	Average	30.06
P90	31.10	StdDev	0.71
P75	30.64	Count	677
P50 (Median)	29.92	SE	0.03
P25	29.51		
P10	29.20	POR	Feb-1989
P0 (Min)	28.79		Jan-1991
Range	3.34		
IQR	1.13		
% Complete	93%		









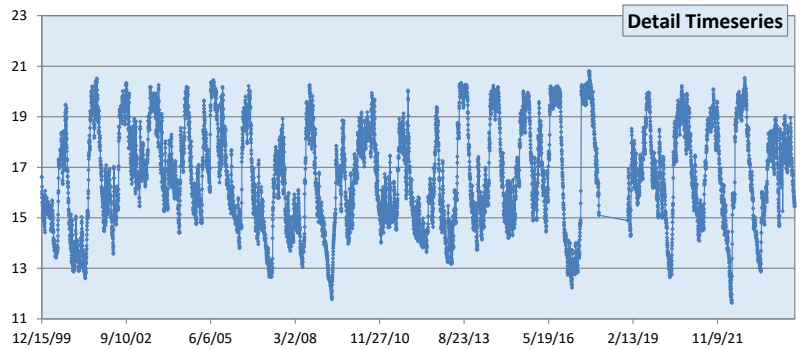


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

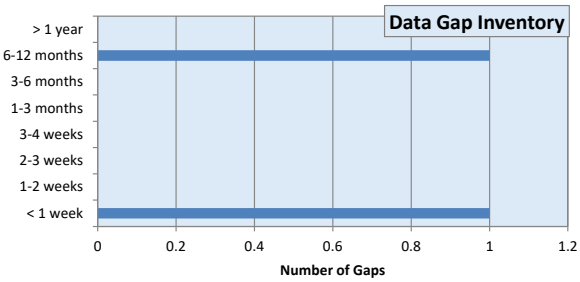
HF1 (1999 - 2024) : ISOLATED WETLANDS - HOGAN FARMS - SITE 1 GROUNDWATER

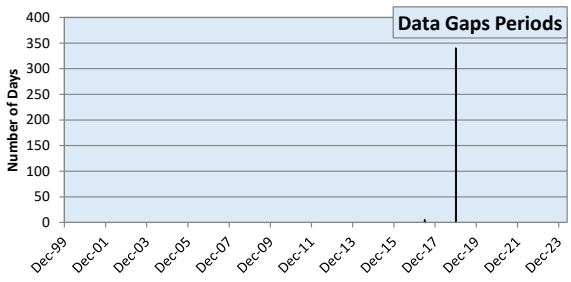
STG (ft NAVD88) - WELL

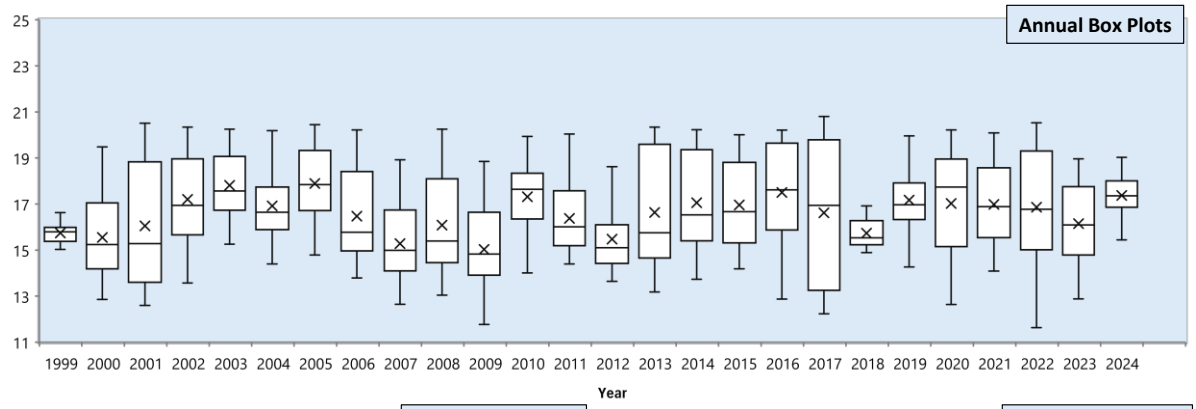
(26.39611, -81.52667)

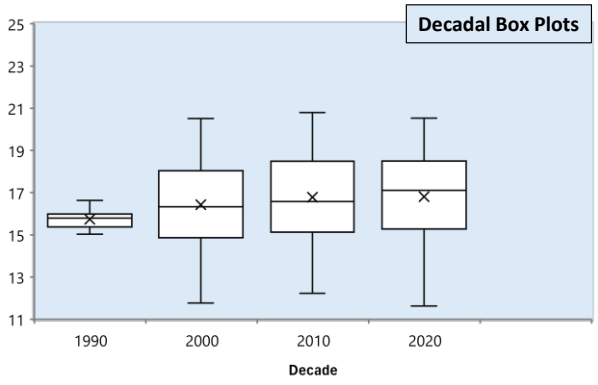


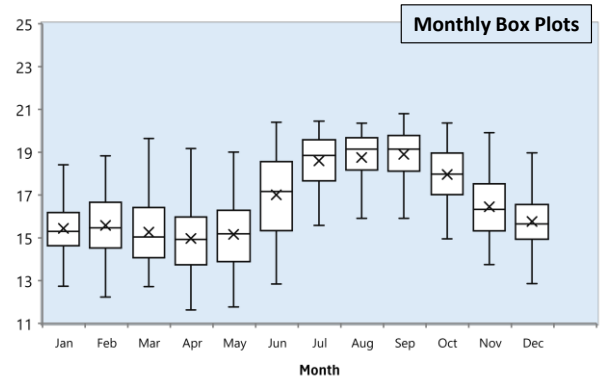
Statistics			
P100 (Max)	20.80	Average	16.63
P90	19.52	StdDev	2.02
P75	18.33	Count	8,571
P50 (Median)	16.52	SE	0.02
P25	15.05		
P10	14.01	POR	Dec-1999
P0 (Min)	11.63		May-2024
Range	9.17		
IQR	3.28		
% Complete	96%		









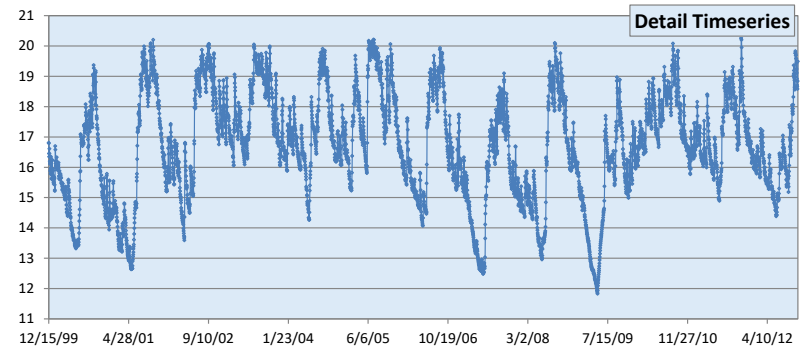


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

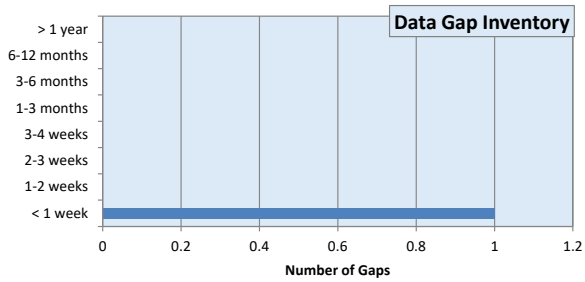
HF2 (1999 - 2012) : ISOLATED WETLANDS - HOGAN FARMS - SITE 2 GROUNDWATER

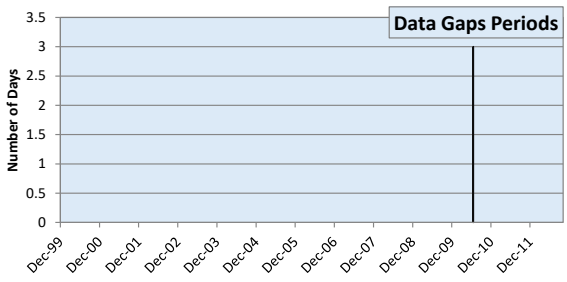
STG (ft NAVD88) - WELL

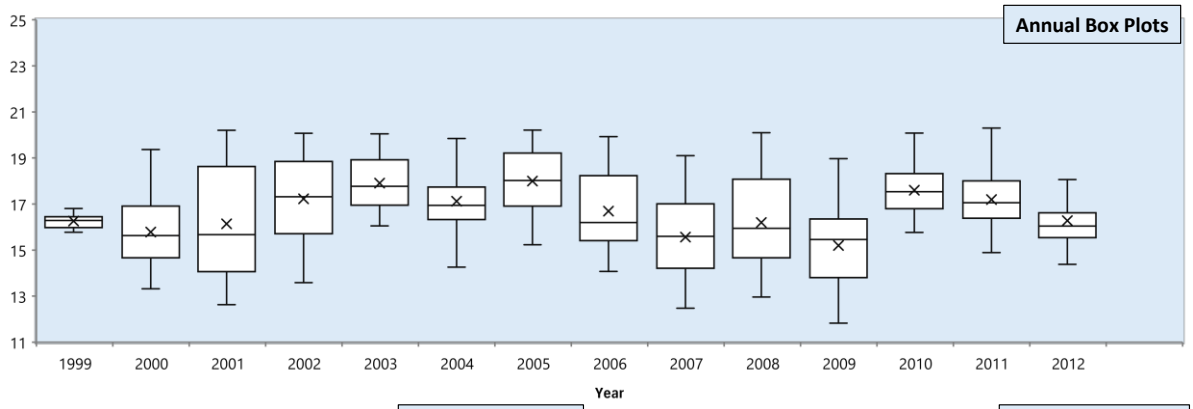
(26.39639, -81.52556)

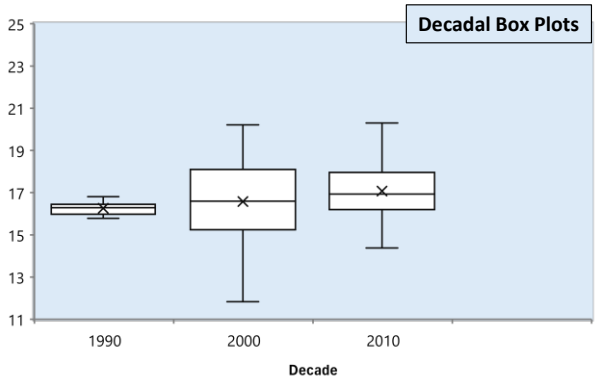


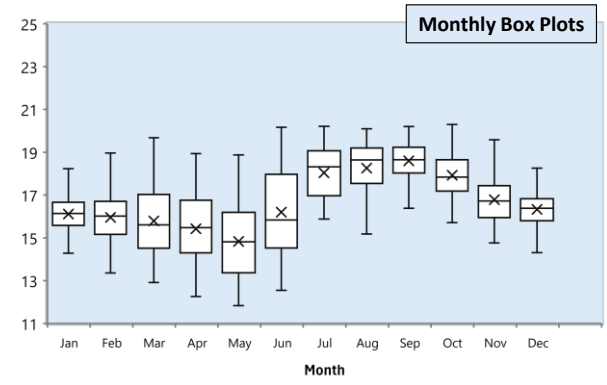
Statistics			
P100 (Max)	20.30	Average	16.69
P90	19.07	StdDev	1.77
P75	18.05	Count	4,689
P50 (Median)	16.70	SE	0.03
P25	15.53		
P10	14.34	POR	Dec-1999
P0 (Min)	11.83		Oct-2012
Range	8.47		
IQR	2.52		
% Complete	100%		









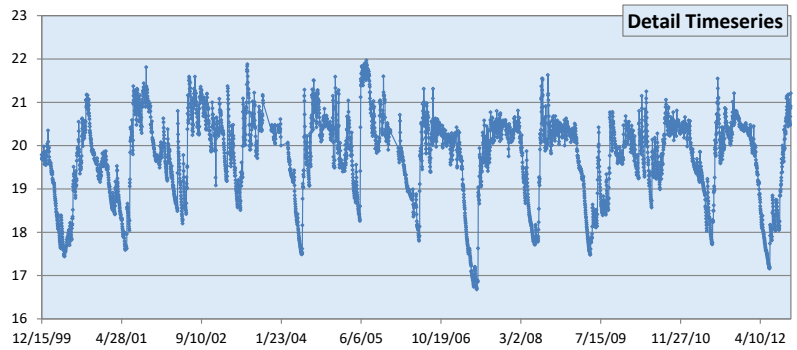


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

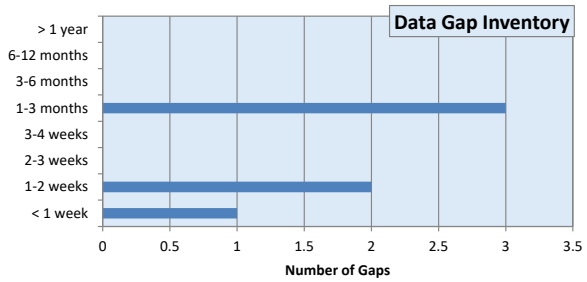
HF3 (1999 - 2012) : ISOLATED WETLANDS - HOGAN FARMS - SITE 3 GROUNDWATER

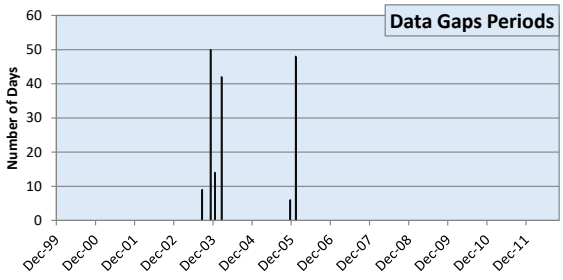
STG (ft NAVD88) - WELL

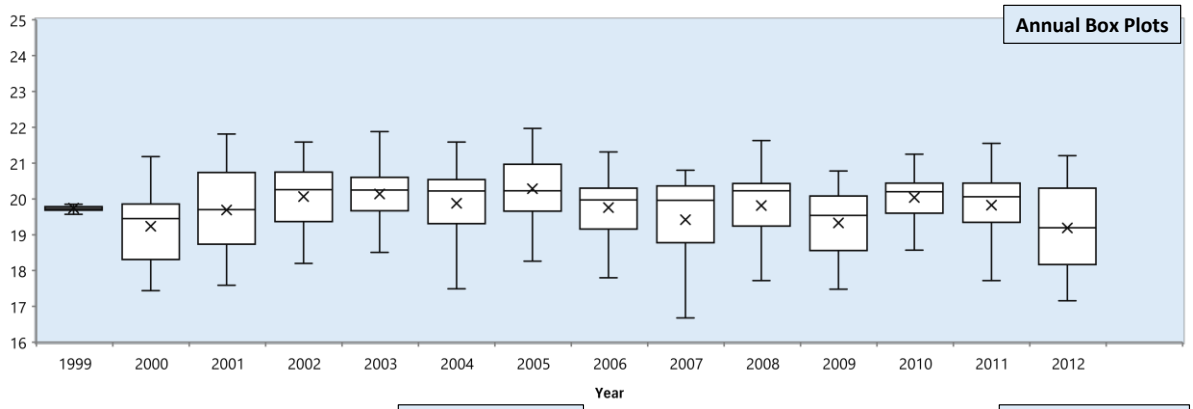
(26.38056, -81.52944)

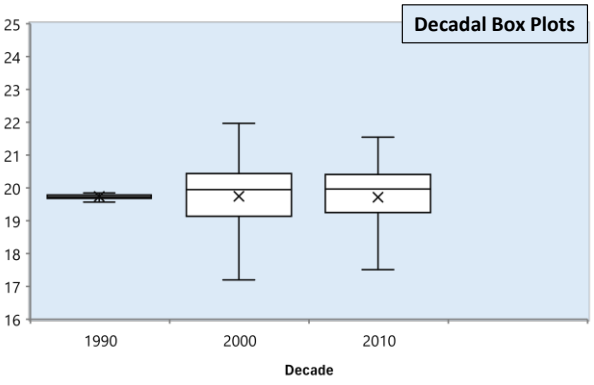


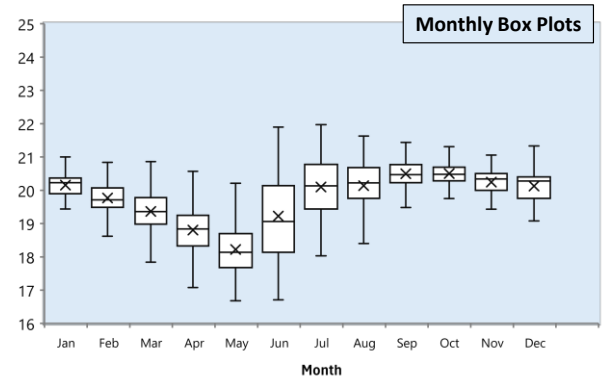
Statistics			
P100 (Max)	21.97	Average	19.74
P90	20.79	StdDev	0.98
P75	20.43	Count	4,523
P50 (Median)	19.95	SE	0.01
P25	19.17		
P10	18.24	POR	Dec-1999
P0 (Min)	16.68		Oct-2012
Range	5.29		
IQR	1.27		
% Complete	96%		









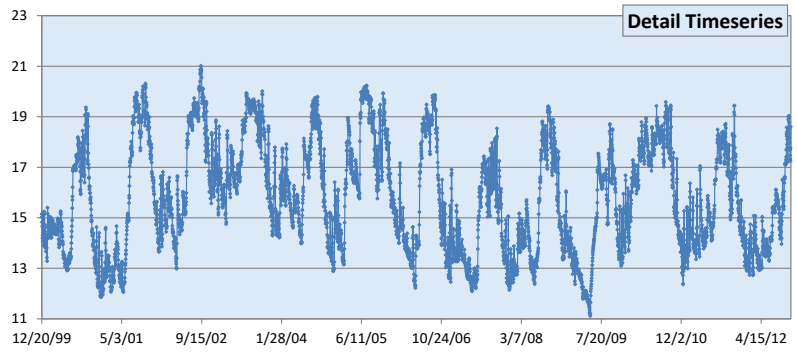


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

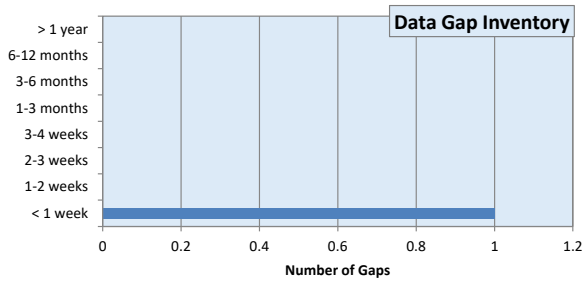
HF4 (1999 - 2012) : ISOLATED WETLANDS - HOGAN FARMS - SITE 4 GROUNDWATER

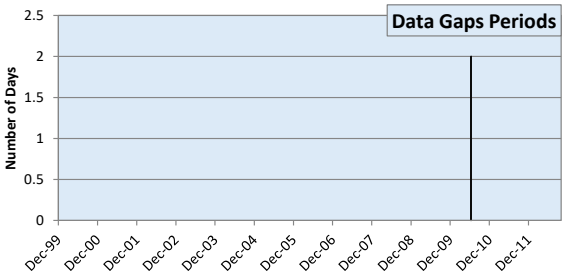
STG (ft NAVD88) - WELL

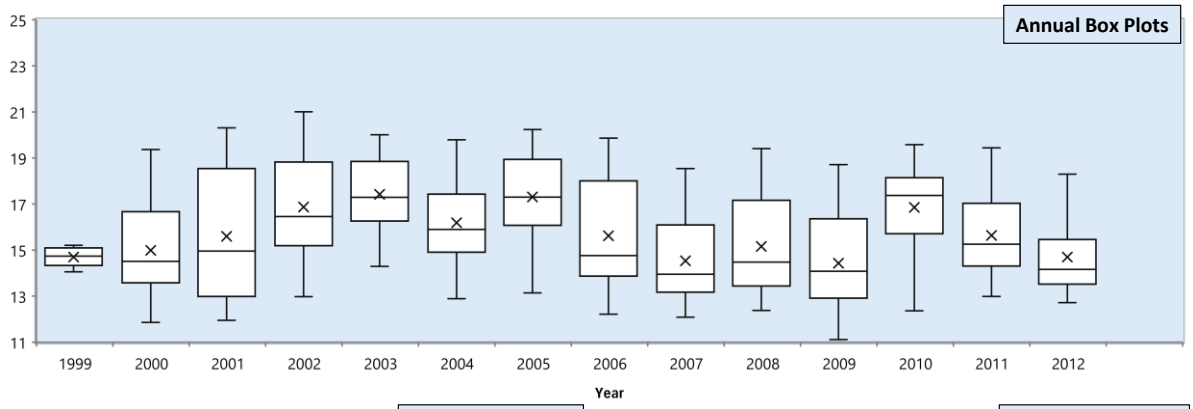
(26.39722, -81.52583)

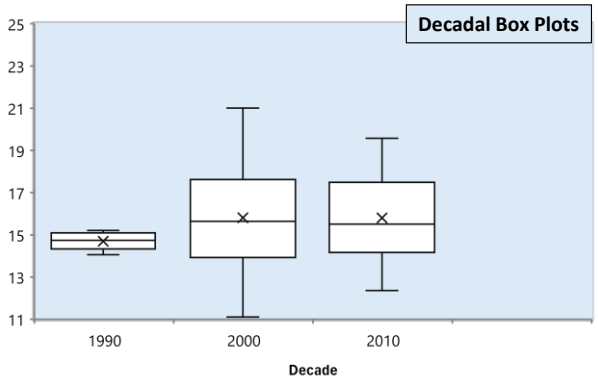


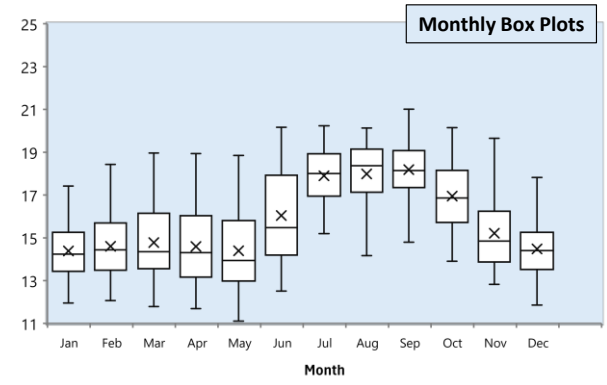
Statistics			
P100 (Max)	21.01	Average	15.81
P90	18.89	StdDev	2.15
P75	17.57	Count	4,685
P50 (Median)	15.61	SE	0.03
P25	14.01		
P10	13.11	POR	Dec-1999
P0 (Min)	11.11		Oct-2012
Range	9.90		
IQR	3.56		
% Complete	100%		









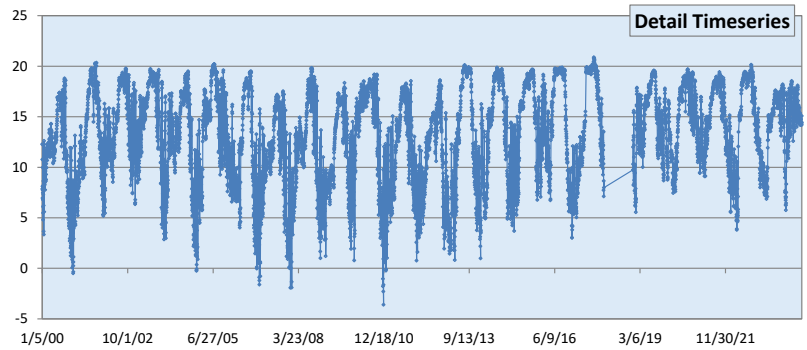


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

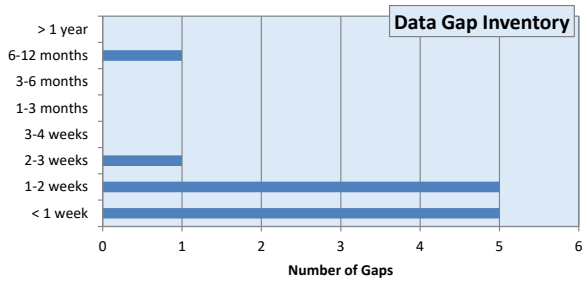
HF6 (2000 - 2024) : HOGAN ISLAND FARMS ISOLATED WETLANDS STUDY, DEEP WELL

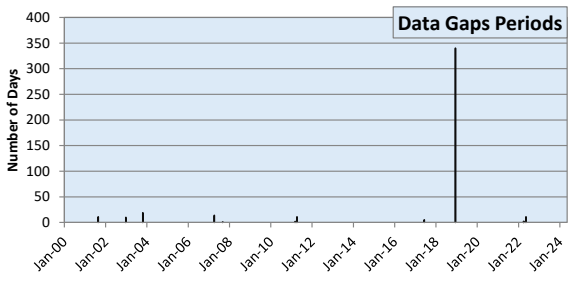
STG (ft NAVD88) - WELL

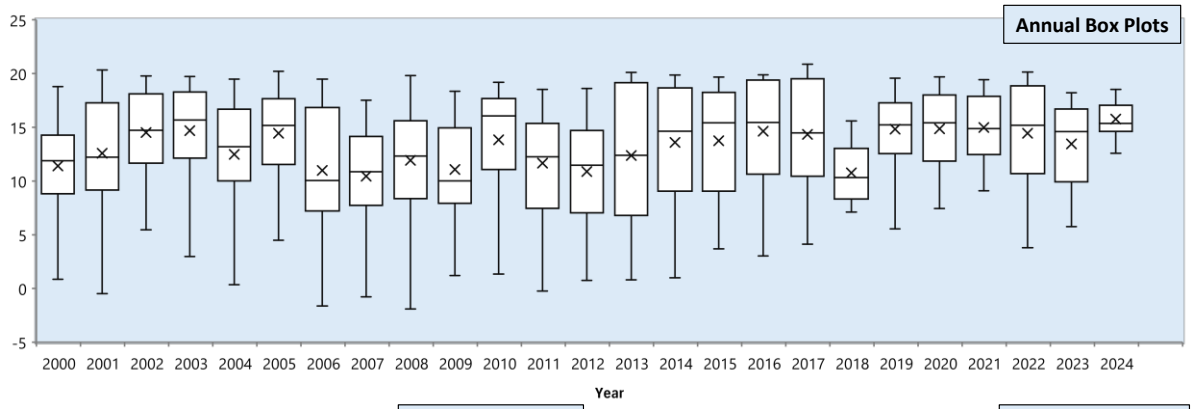
(26.39611, -81.52639)

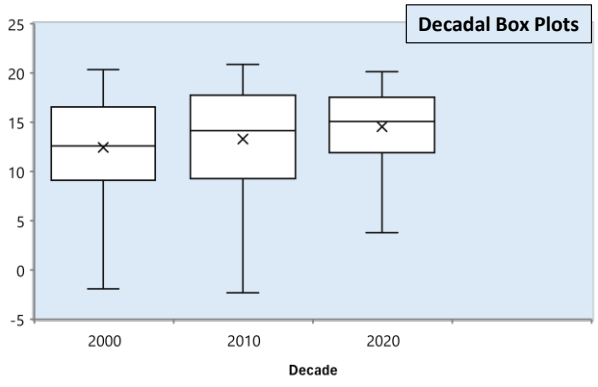


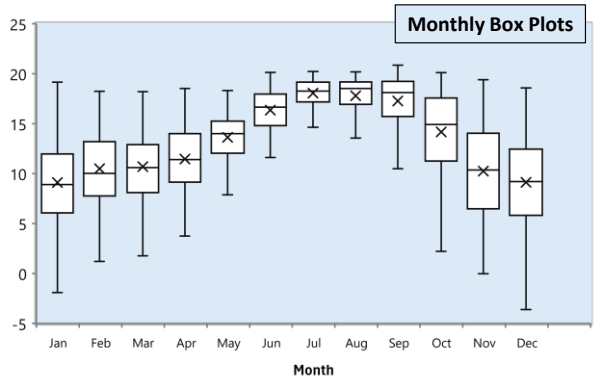
Statistics			
P100 (Max)	20.87	Average	13.17
P90	18.93	StdDev	4.67
P75	17.19	Count	8,467
P50 (Median)	13.82	SE	0.05
P25	9.72		
P10	6.50	POR	Jan-2000
P0 (Min)	-3.61		May-2024
Range	24.48		
IQR	7.48		
% Complete	95%		









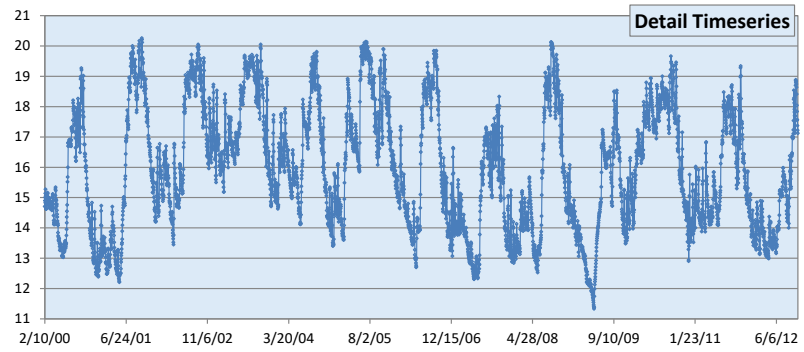


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

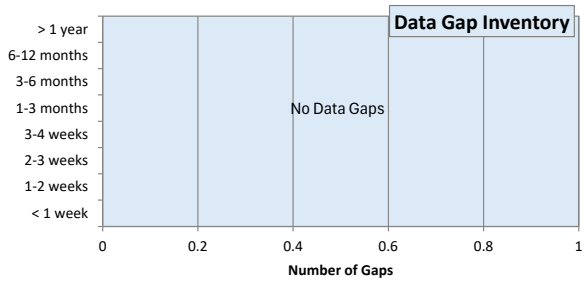
HF7 (2000 - 2012) : ISOLATED WETLANDS - HOGAN FARMS - SITE 7 GROUNDWATER

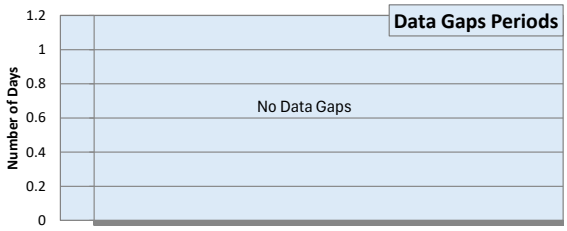
STG (ft NAVD88) - WELL

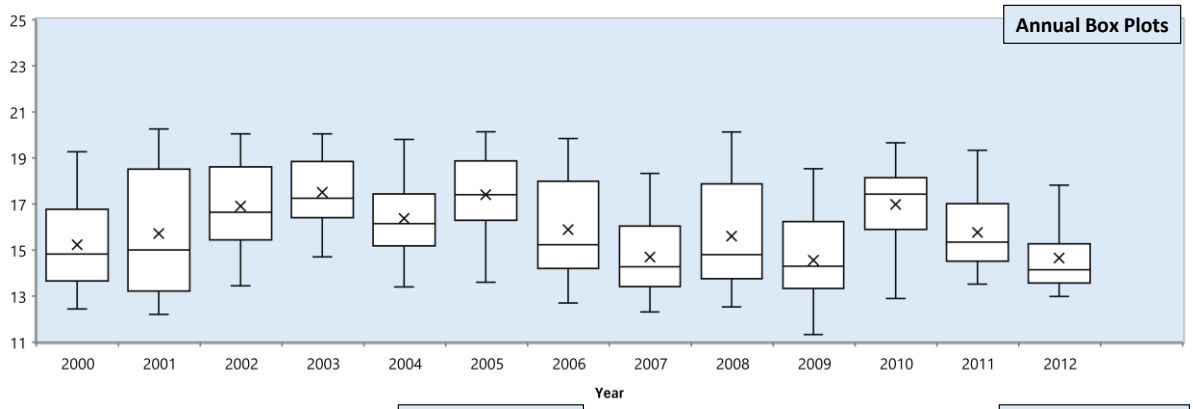
(26.3975, -81.52639)

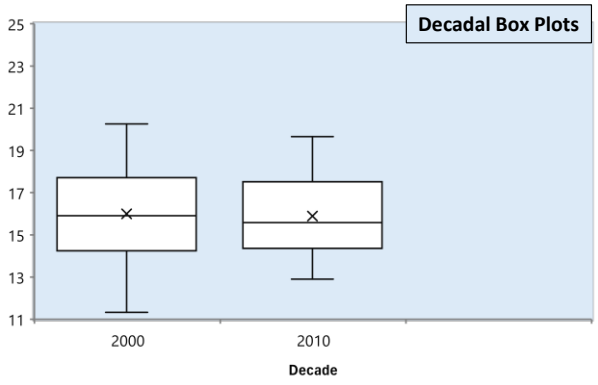


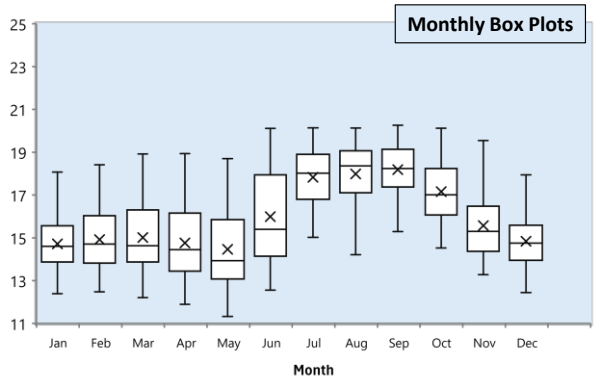
Statistics			
P100 (Max)	20.26	Average	15.97
P90	18.87	StdDev	2.03
P75	17.65	Count	4,633
P50 (Median)	15.84	SE	0.03
P25	14.29		
P10	13.37	POR	Feb-2000
P0 (Min)	11.33		Oct-2012
Range	8.93		
IQR	3.36		
% Complete	100%		









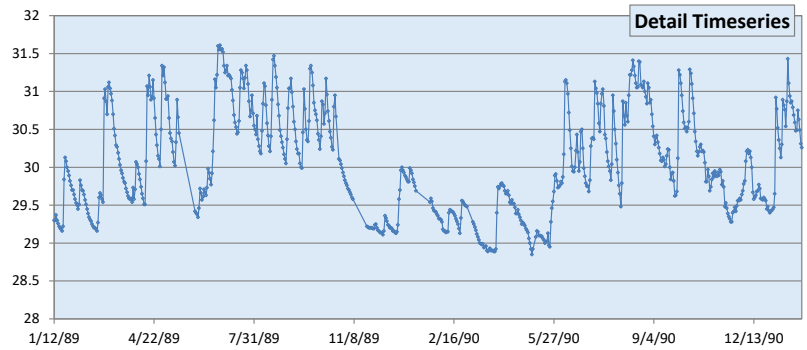


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

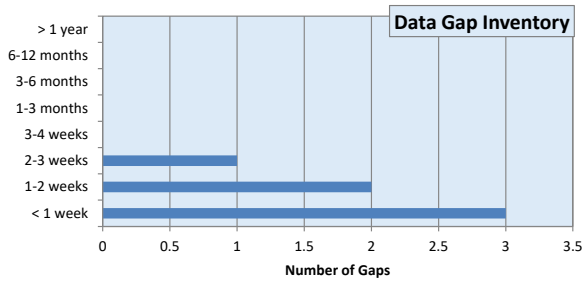
GATORS.W1 (1989 - 1991) : GATOR SLOUGH CITRUS STUDY - WELLS (WELL 1)

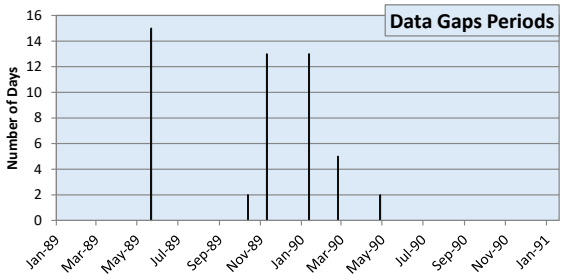
STG (ft NAVD88) - WELL

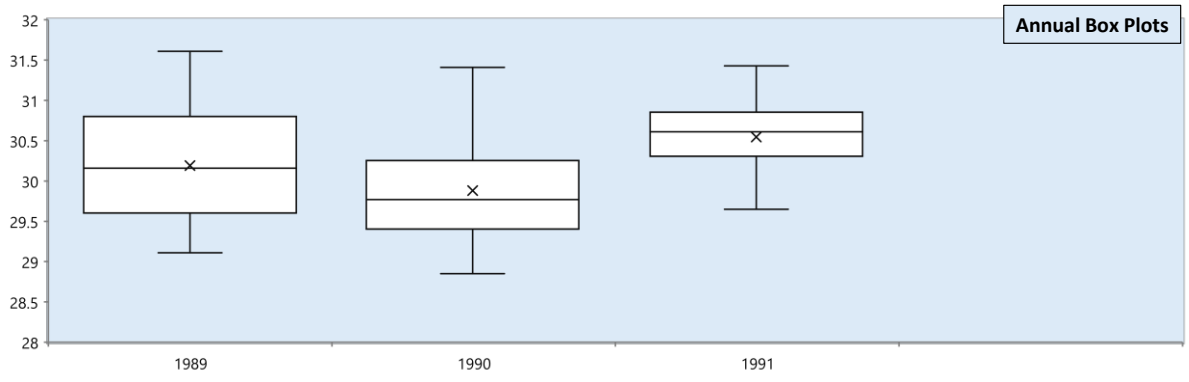
(26.55417, -81.50222)

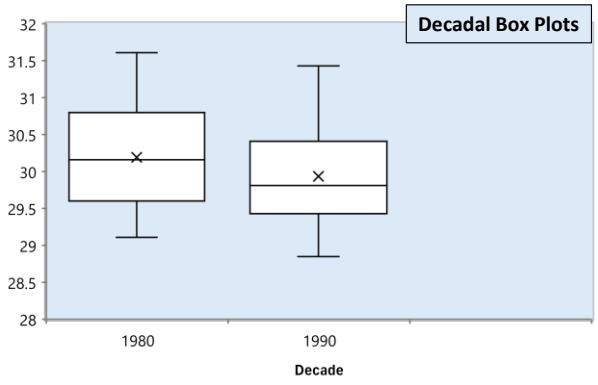


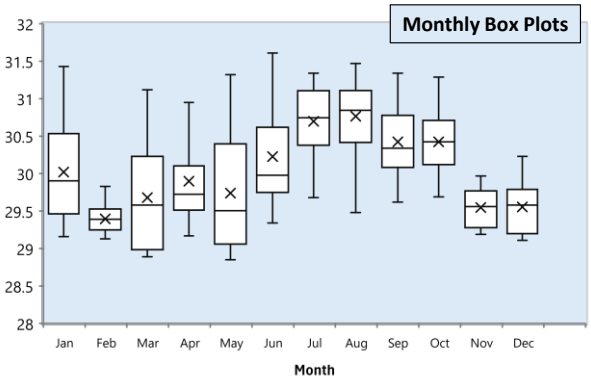
Statistics			
P100 (Max)	31.61	Average	30.05
P90	31.06	StdDev	0.69
P75	30.60	Count	699
P50 (Median)	29.95	SE	0.03
P25	29.51		
P10	29.19	POR	Jan-1989
P0 (Min)	28.85		Jan-1991
Range	2.76		
IQR	1.10		
% Complete	93%		









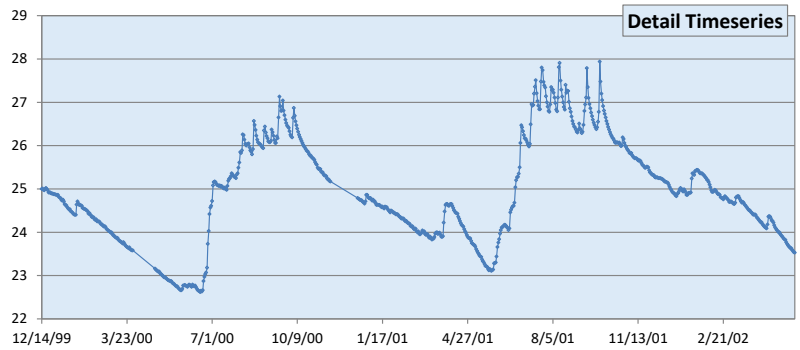


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

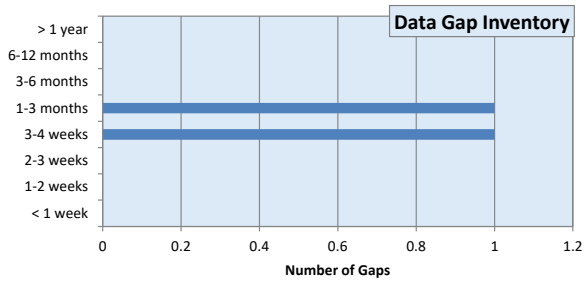
WF1 (1999 - 2002) : ISOLATED WETLANDS - WILDCAT FARMS - SITE 1 GROUNDWATER

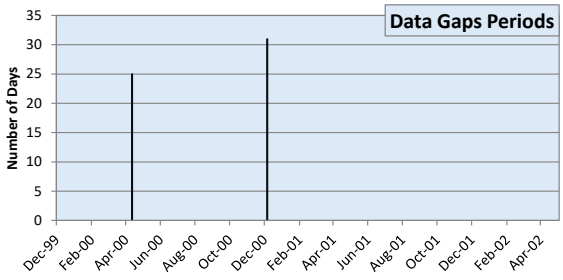
STG (ft NAVD88) - WELL

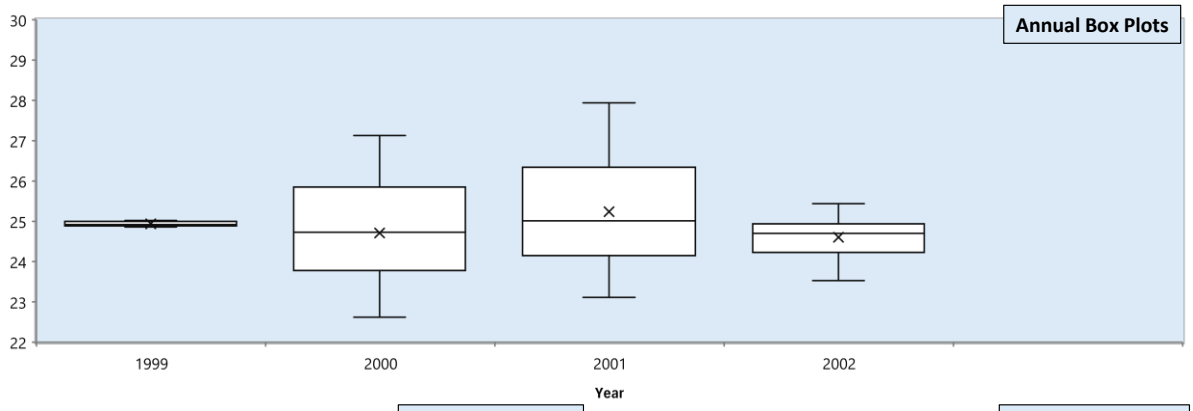
(26.51833, -81.58056)

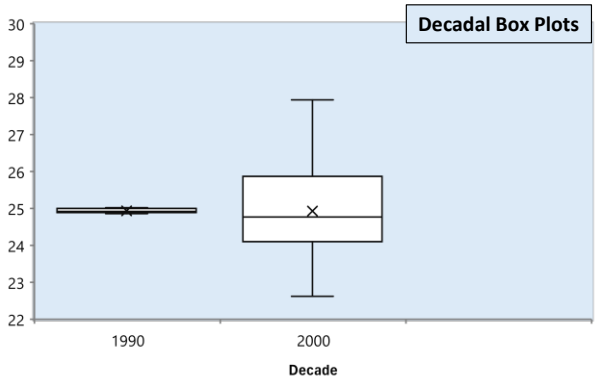


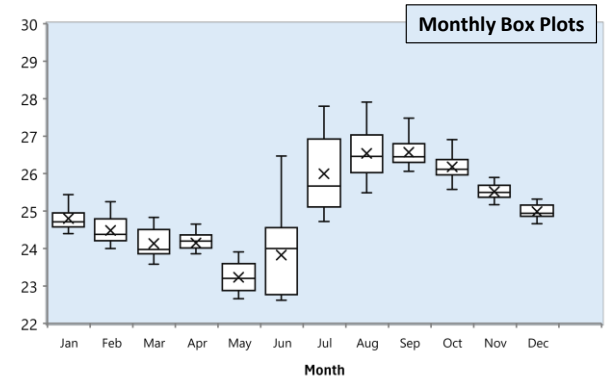
Statistics			
P100 (Max)	27.94	Average	24.93
P90	26.56	StdDev	1.17
P75	25.83	Count	829
P50 (Median)	24.79	SE	0.04
P25	24.12		
P10	23.49	POR	Dec-1999
P0 (Min)	22.62		May-2002
Range	5.32		
IQR	1.71		
% Complete	94%		









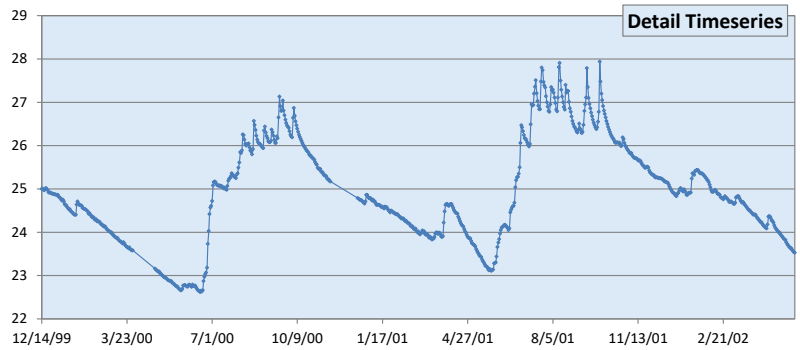


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

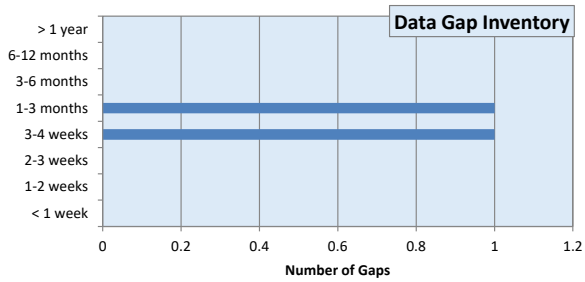
WF1 (1999 - 2002) : ISOLATED WETLANDS - WILDCAT FARMS - SITE 1 GROUNDWATER

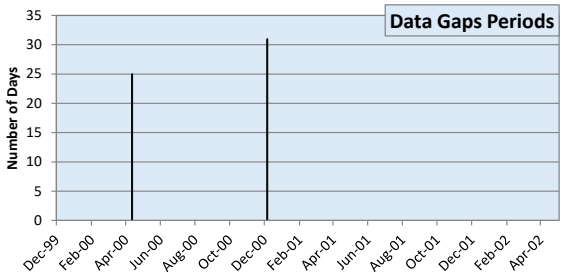
STG (ft NAVD88) - WELL

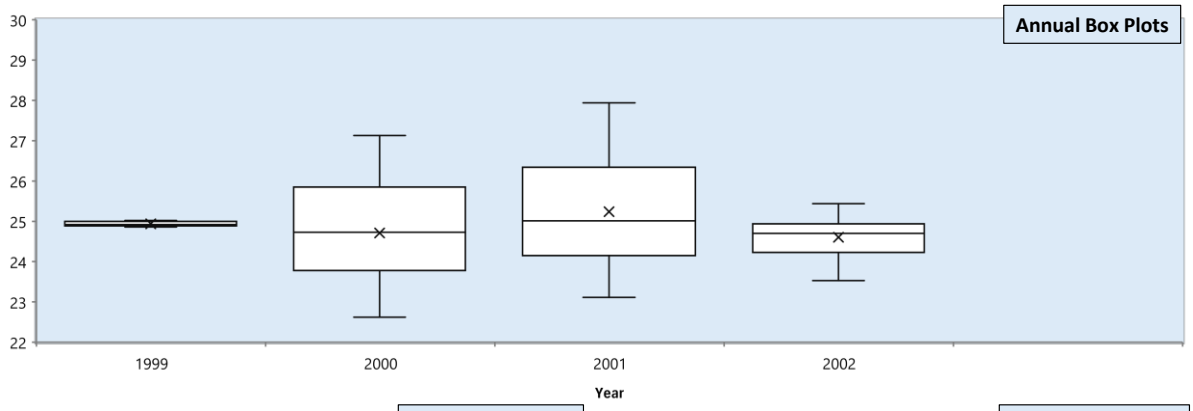
(26.51833, -81.58056)

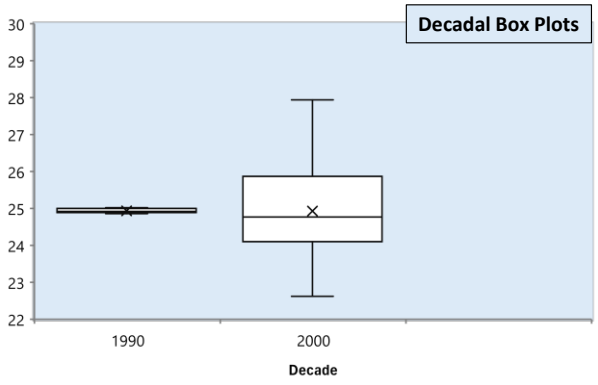


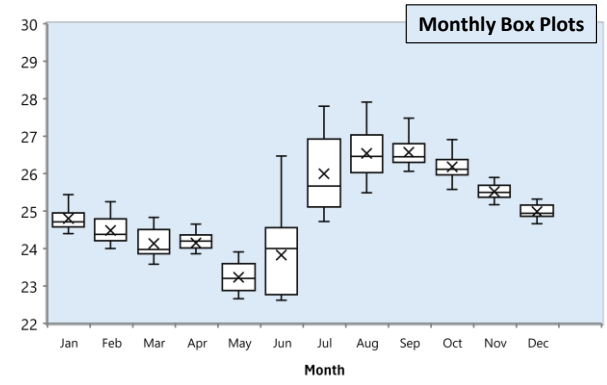
Statistics			
P100 (Max)	27.94	Average	24.93
P90	26.56	StdDev	1.17
P75	25.83	Count	829
P50 (Median)	24.79	SE	0.04
P25	24.12		
P10	23.49	POR	Dec-1999
P0 (Min)	22.62		May-2002
Range	5.32		
IQR	1.71		
% Complete	94%		









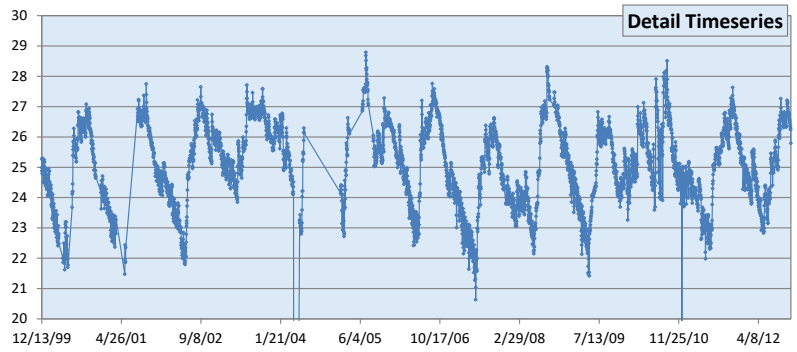


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

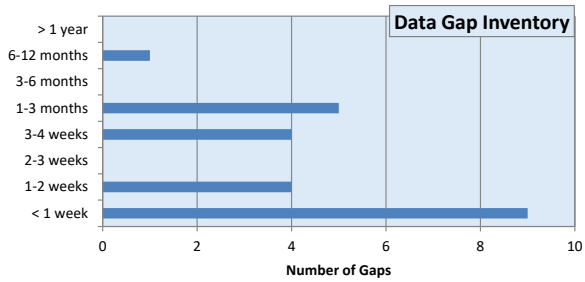
WF10 (1999 - 2012) : ISOLATED WETLANDS - WILDCAT FARMS - SITE 7 DEEP WELL

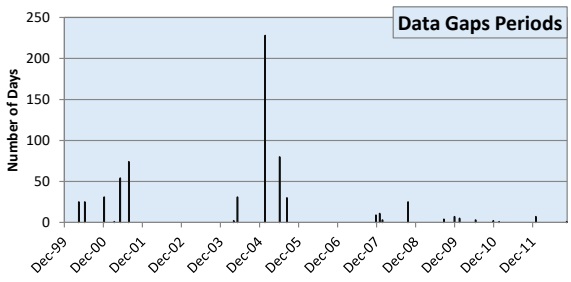
STG (ft NAVD88) - WELL

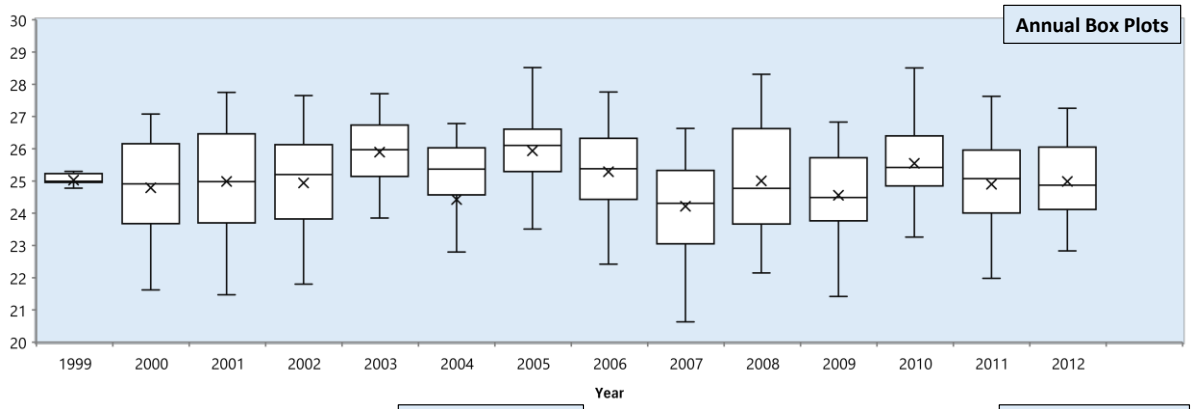
(26.47944, -81.59806)

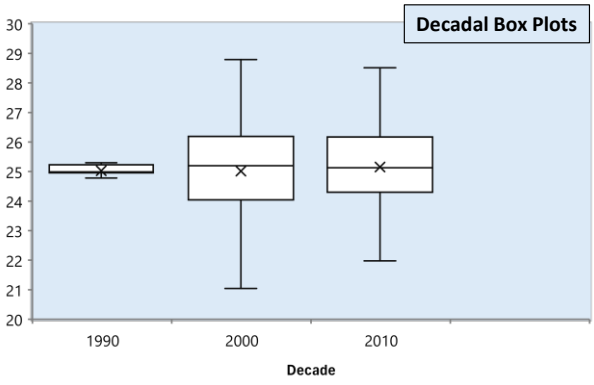


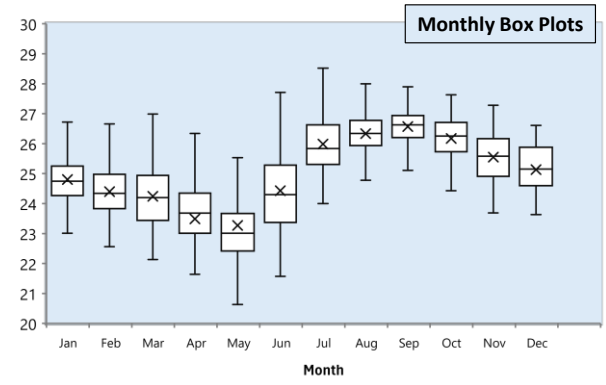
Statistics			
P100 (Max)	28.79	Average	25.05
P90	26.77	StdDev	1.63
P75	26.17	Count	4,046
P50 (Median)	25.18	SE	0.03
P25	24.13		
P10	23.12	POR	Dec-1999
P0 (Min)	-1.28		Oct-2012
Range	30.07		
IQR	2.04		
% Complete	86%		









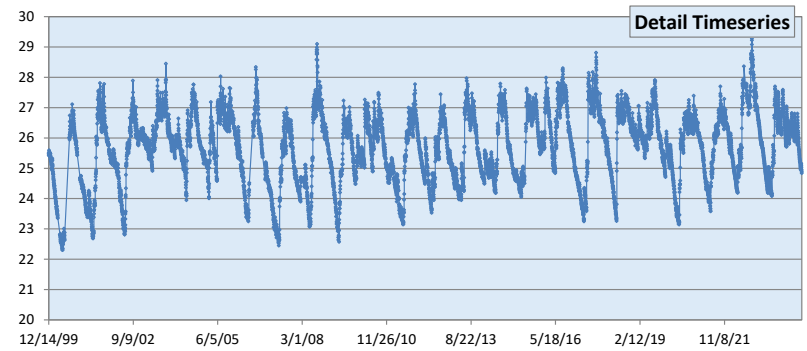


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

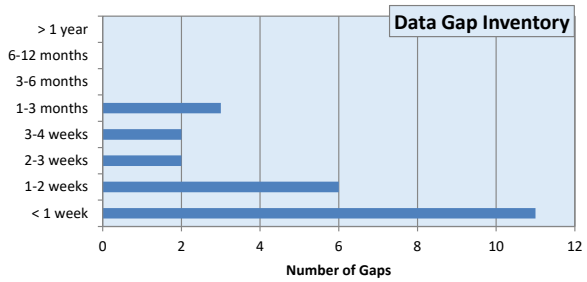
WF2 (1999 - 2024) : ISOLATED WETLANDS - WILDCAT FARMS - SITE 2 GROUNDWATER

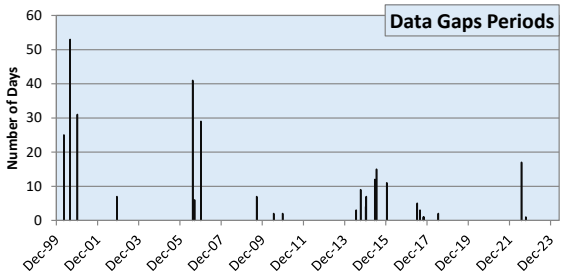
STG (ft NAVD88) - WELL

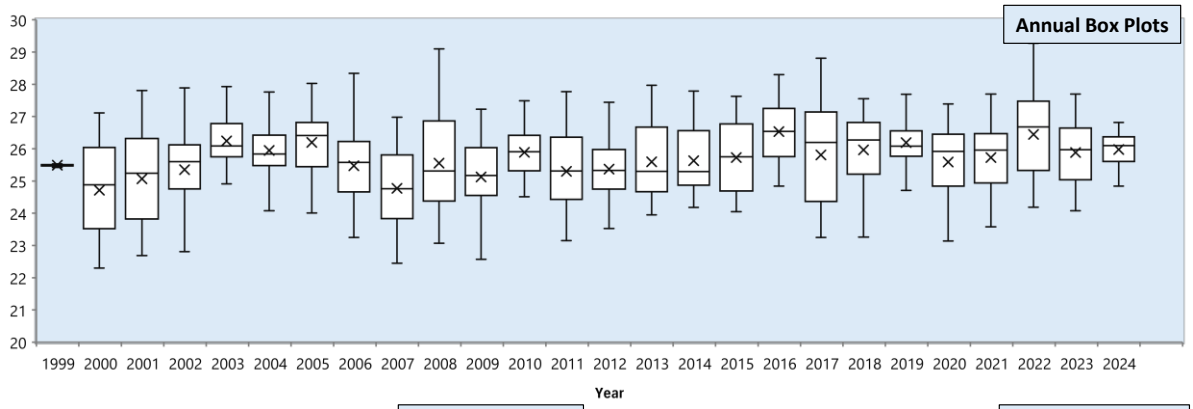
(26.50167, -81.59)

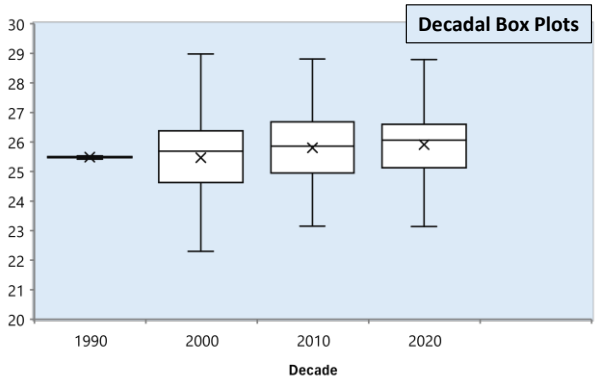


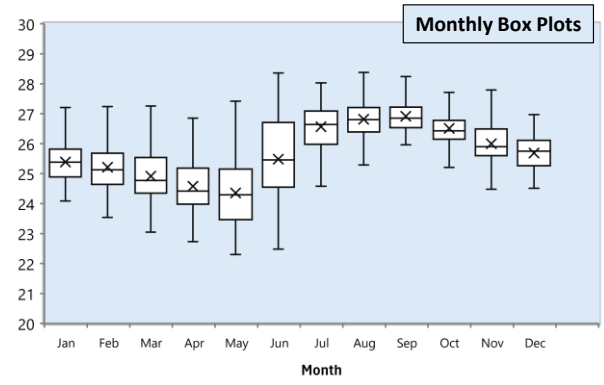
Statistics			
P100 (Max)	29.28	Average	25.69
P90	27.10	StdDev	1.16
P75	26.55	Count	8,623
P50 (Median)	25.81	SE	0.01
P25	24.88		
P10	24.12	POR	Dec-1999
P0 (Min)	22.30		May-2024
Range	6.98		
IQR	1.67		
% Complete	97%		









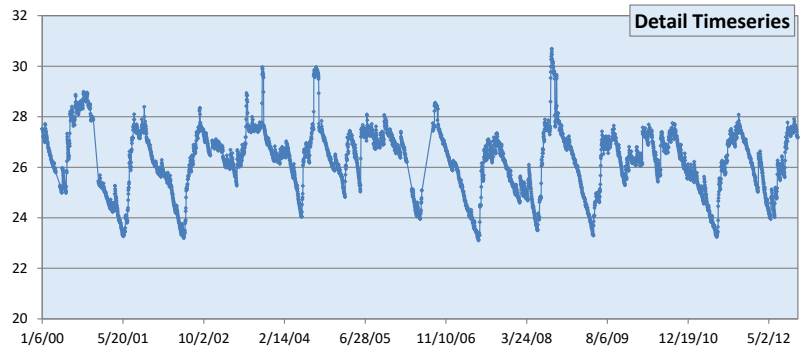


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

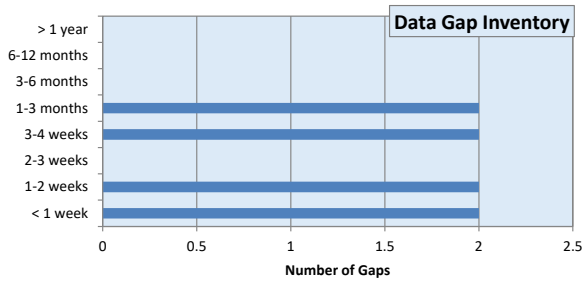
WF4 (2000 - 2012) : ISOLATED WETLANDS - WILDCAT FARMS - SITE 4 GROUNDWATER

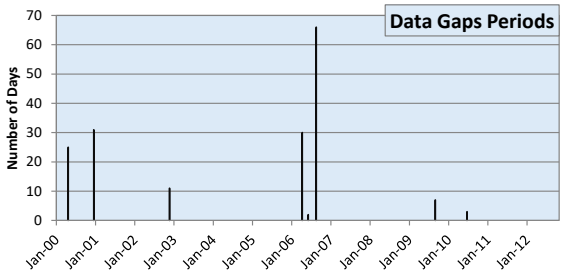
STG (ft NAVD88) - WELL

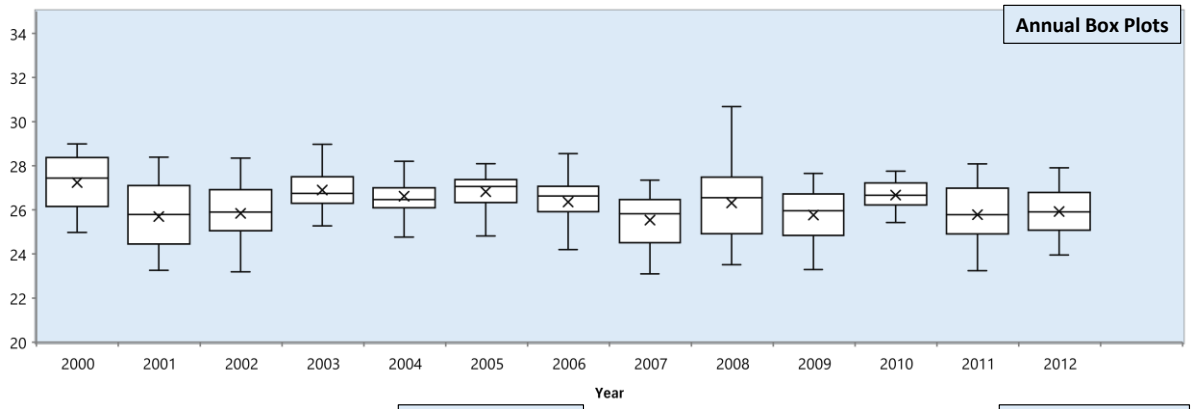
(26.4775, -81.61139)

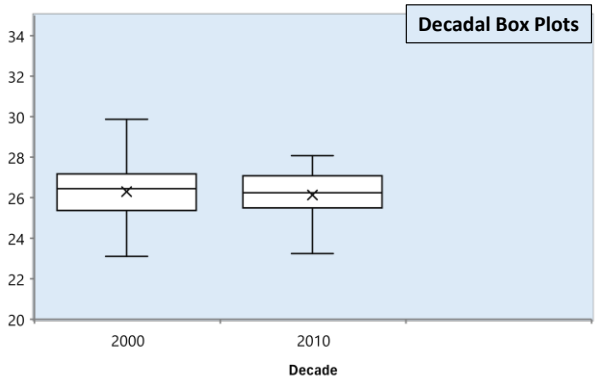


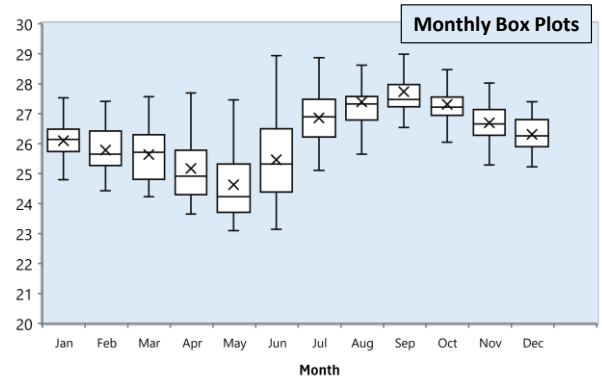
Statistics			
P100 (Max)	30.68	Average	26.26
P90	27.58	StdDev	1.28
P75	27.16	Count	4,506
P50 (Median)	26.40	SE	0.02
P25	25.41		
P10	24.40	POR	Jan-2000
P0 (Min)	23.10		Oct-2012
Range	7.58		
IQR	1.75		
% Complete	96%		









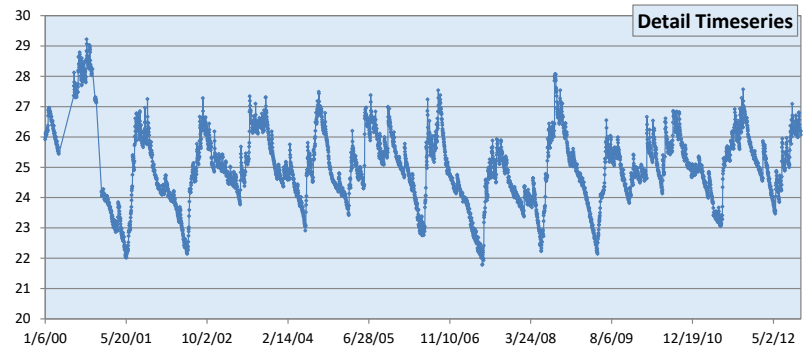


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

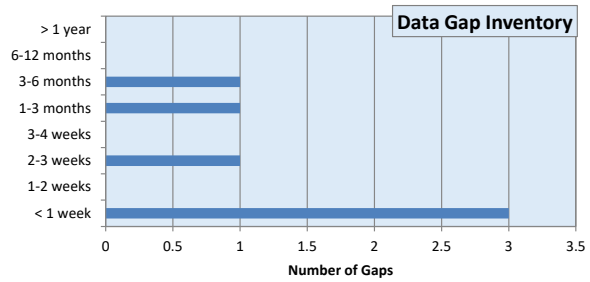
WF5 (2000 - 2012) : ISOLATED WETLANDS - WILDCAT FARMS - SITE 5 GROUNDWATER

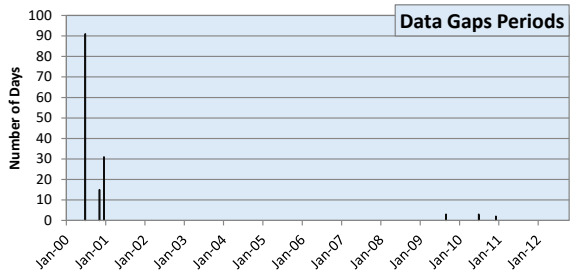
STG (ft NAVD88) - WELL

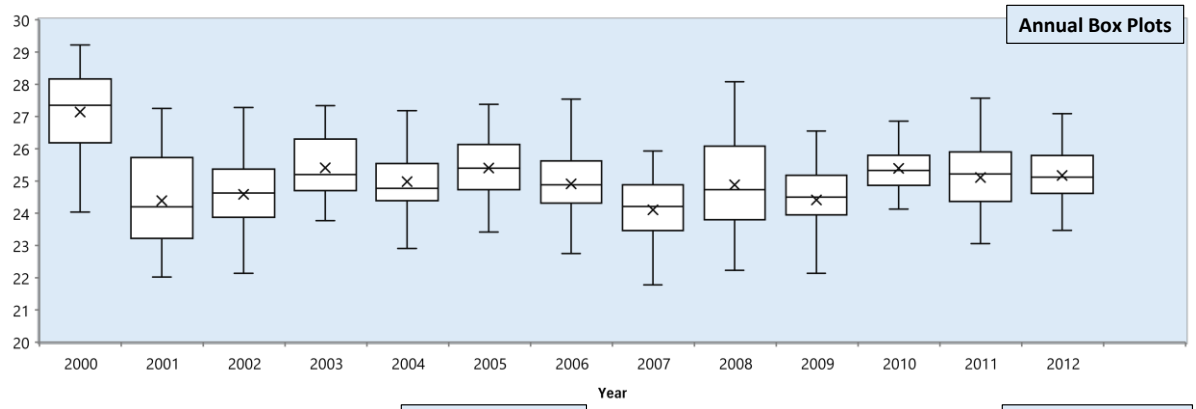
(26.48556, -81.59778)

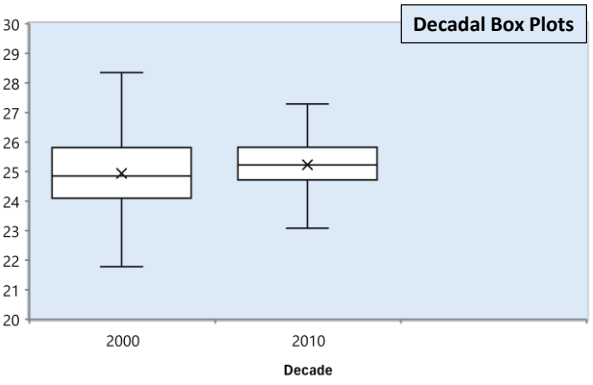


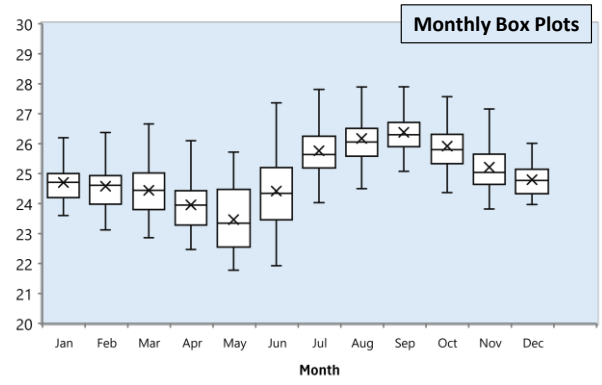
Statistics			
P100 (Max)	29.22	Average	25.00
P90	26.51	StdDev	1.22
P75	25.81	Count	4,526
P50 (Median)	24.97	SE	0.02
P25	24.21		
P10	23.41	POR	Jan-2000
P0 (Min)	21.78		Oct-2012
Range	7.44		
IQR	1.60		
% Complete	97%		









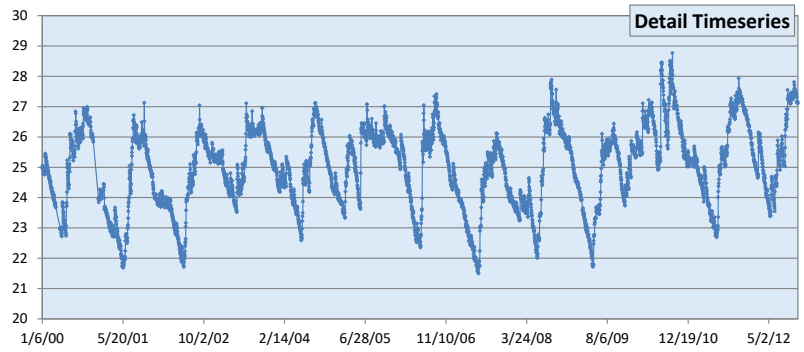


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

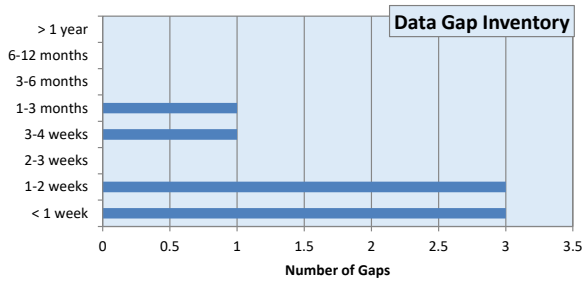
WF6 (2000 - 2012) : ISOLATED WETLANDS - WILDCAT FARMS - SITE 6 GROUNDWATER

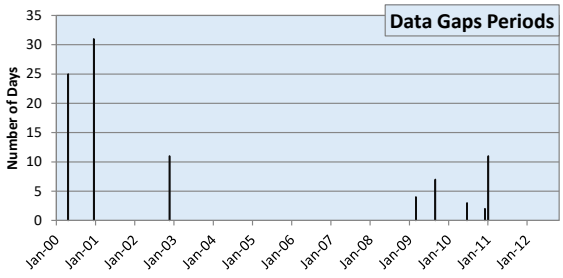
STG (ft NAVD88) - WELL

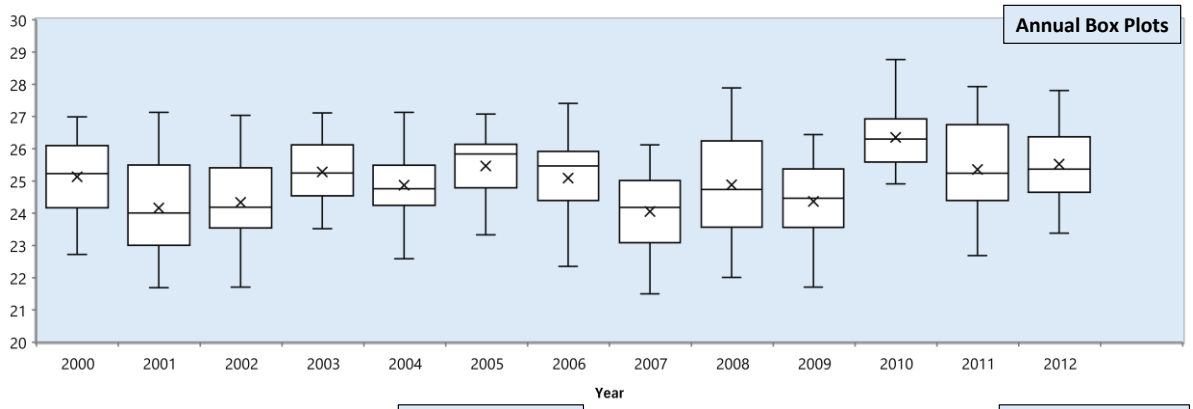
(26.47833, -81.605)

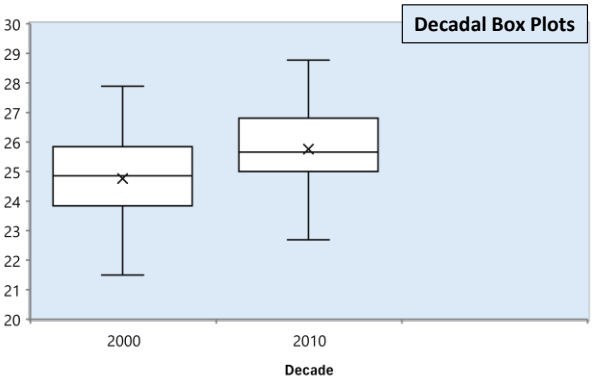


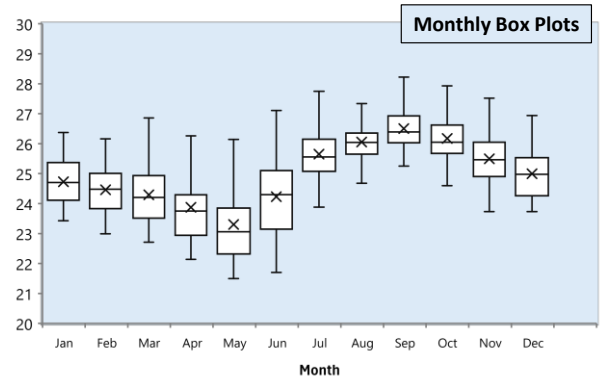
Statistics			
P100 (Max)	28.77	Average	24.98
P90	26.63	StdDev	1.34
P75	26.00	Count	4,587
P50 (Median)	25.12	SE	0.02
P25	23.99		
P10	23.08	POR	Jan-2000
P0 (Min)	21.50		Oct-2012
Range	7.27		
IQR	2.01		
% Complete	98%		









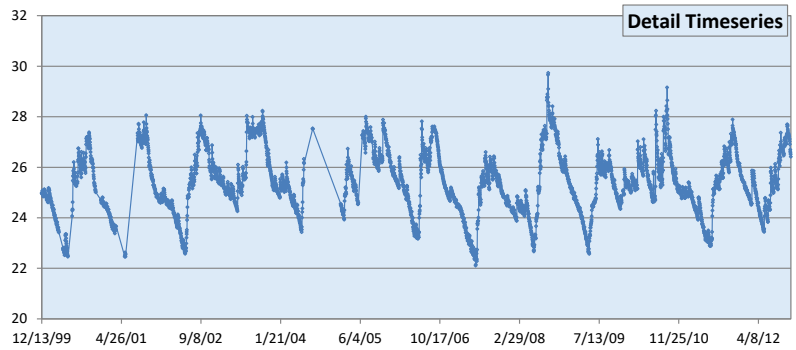


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

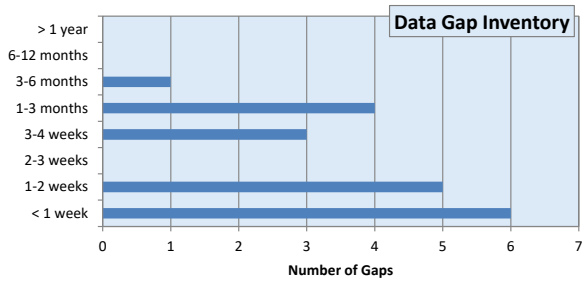
WF7 (1999 - 2012) : ISOLATED WETLANDS - WILDCAT FARMS - SITE 7 SHALLOW WELL

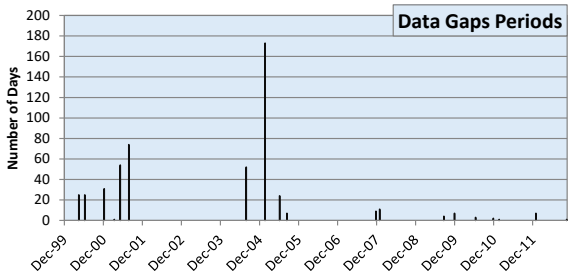
STG (ft NAVD88) - WELL

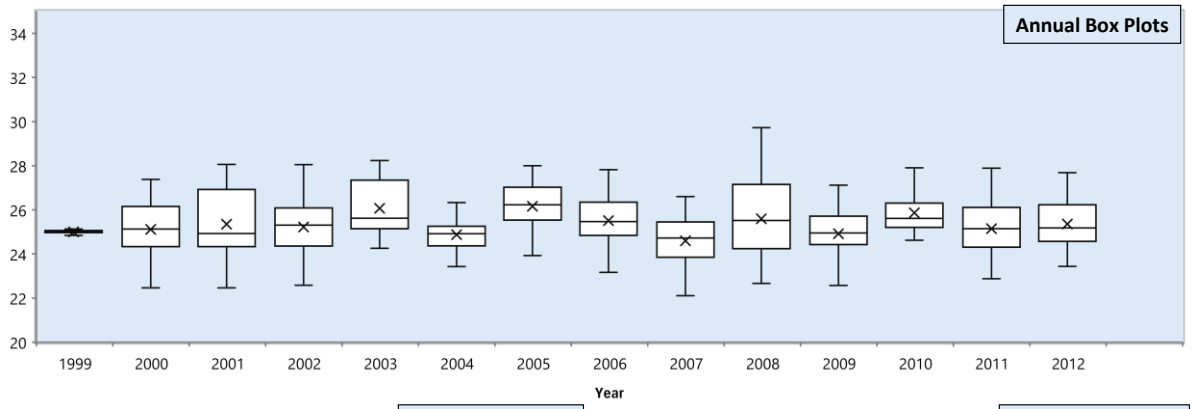
(26.47944, -81.59806)

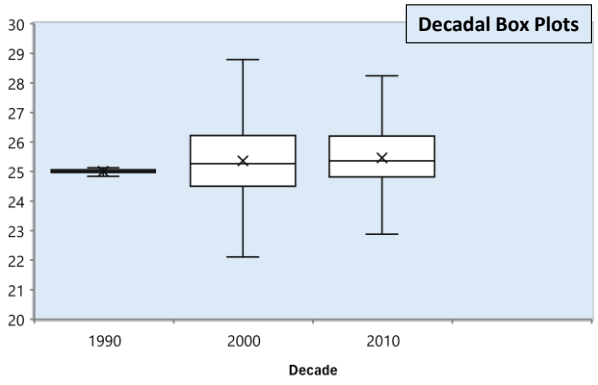


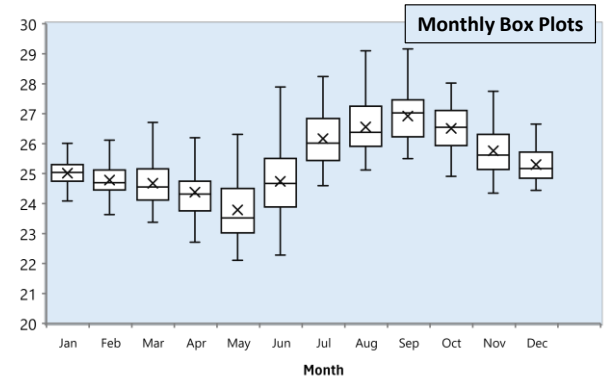
Statistics			
P100 (Max)	29.73	Average	25.38
P90	27.21	StdDev	1.25
P75	26.21	Count	4,194
P50 (Median)	25.30	SE	0.02
P25	24.57		
P10	23.74	POR	Dec-1999
P0 (Min)	22.11		Oct-2012
Range	7.62		
IQR	1.64		
% Complete	89%		









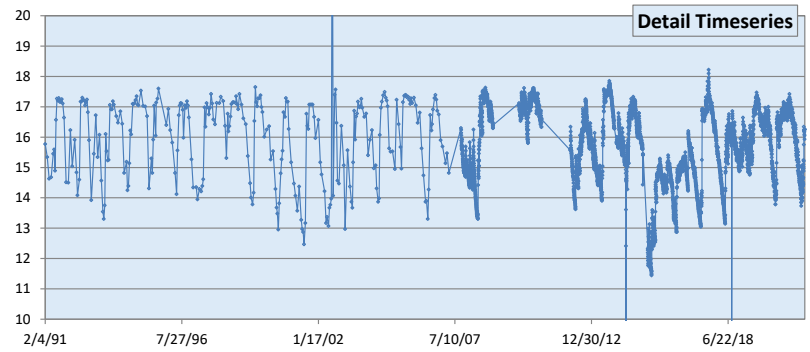


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

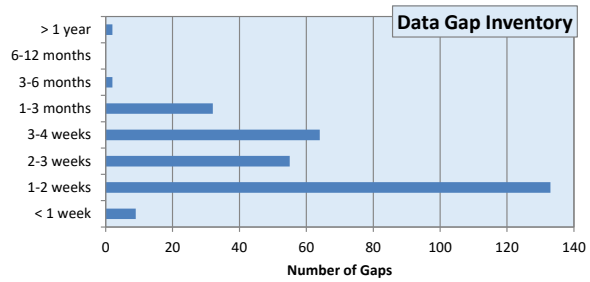
47A-GW1 (1991 - 2021) : 47A-GW1 (Grnd Elev: 17.49)

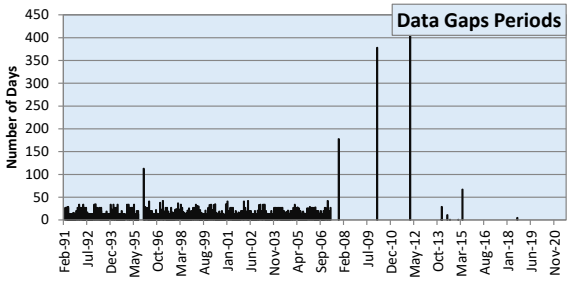
STG (ft NAVD88) - WELL

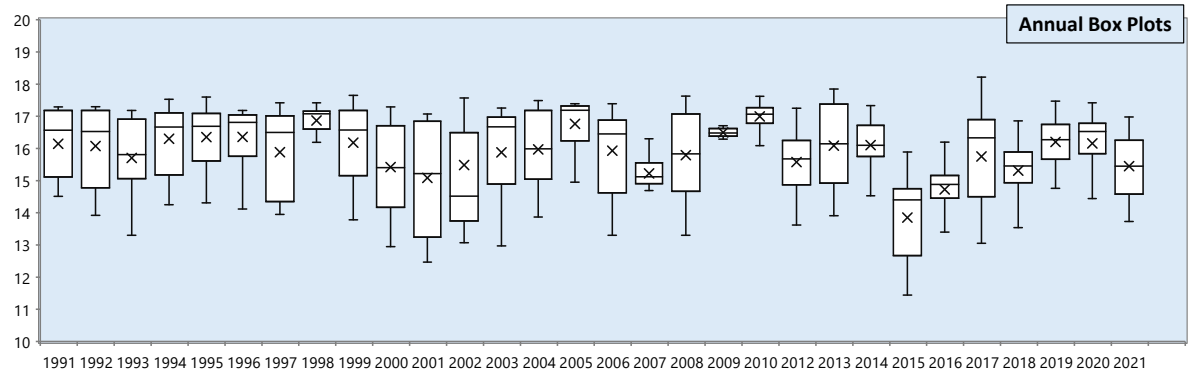
(26.45091, -81.73974)

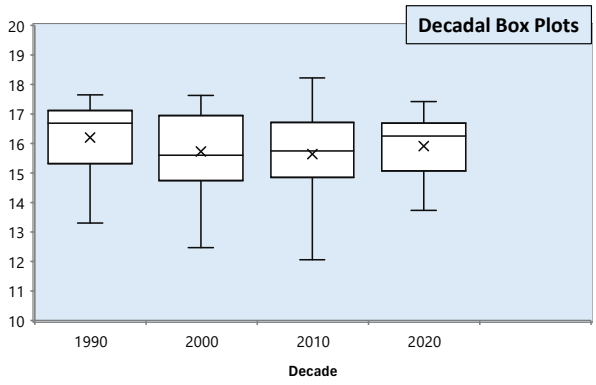


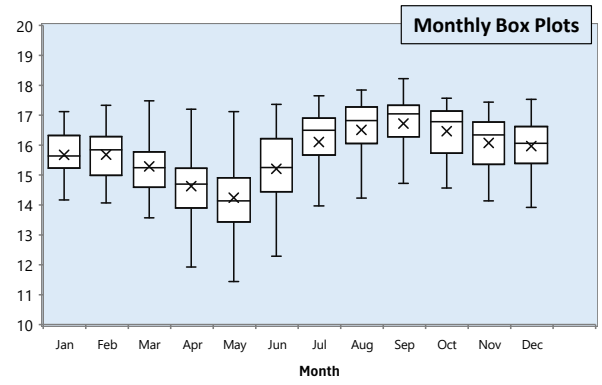
Statistics			
P100 (Max)	26.03	Average	15.71
P90	17.18	StdDev	1.25
P75	16.76	Count	4,407
P50 (Median)	15.83	SE	0.02
P25	14.85		
P10	14.14	POR	Feb-1991
P0 (Min)	7.93		Jul-2021
Range	18.10		
IQR	1.91		
% Complete	40%		









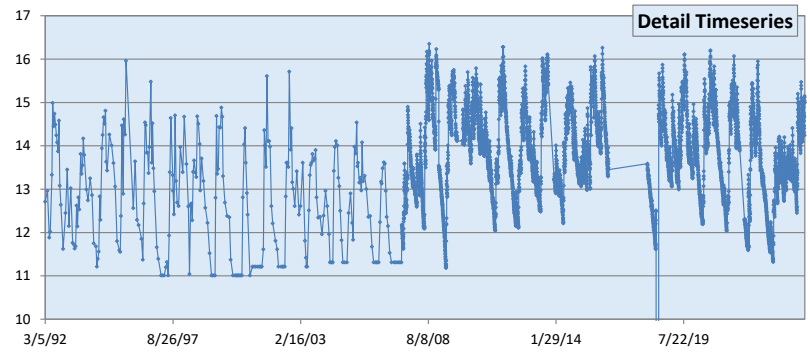


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

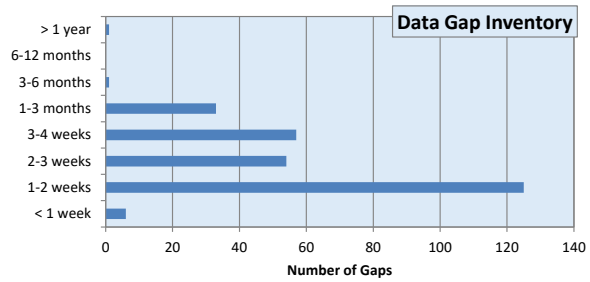
47A-GW6 (1992 - 2024) : 47A-GW6 (Grnd Elev: 15.93)

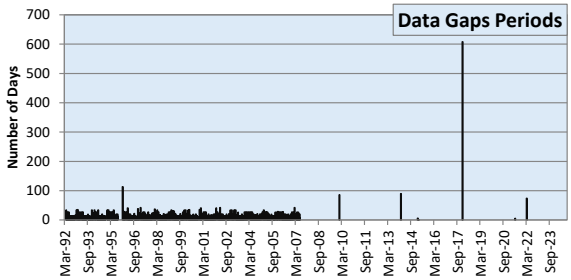
STG (ft NAVD88) - WELL

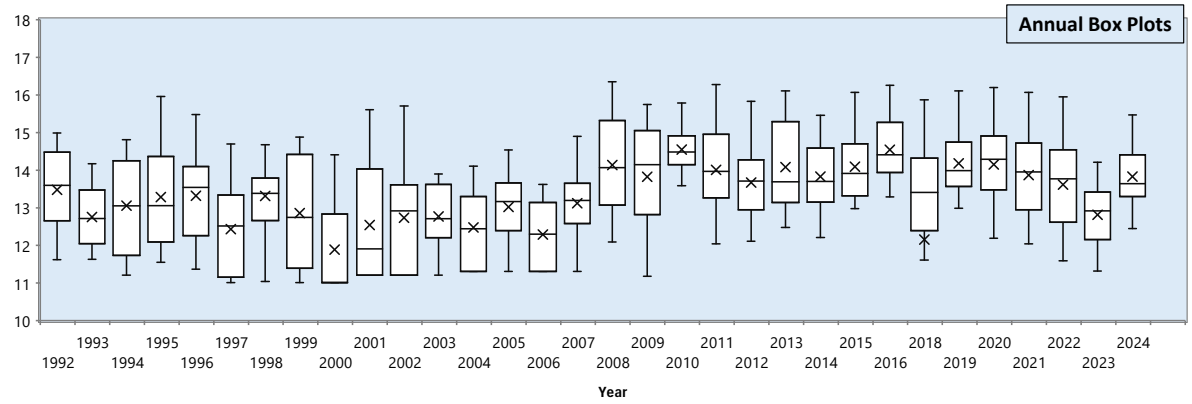
(26.43144, -81.77944)

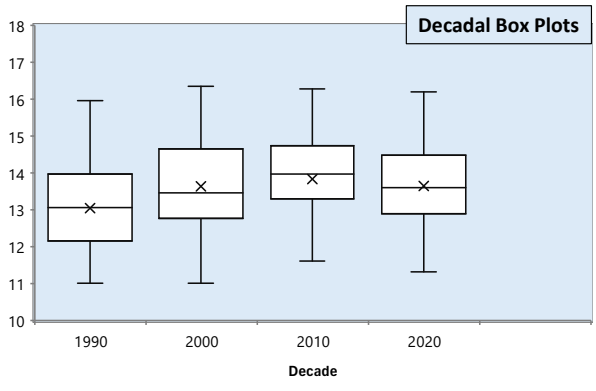


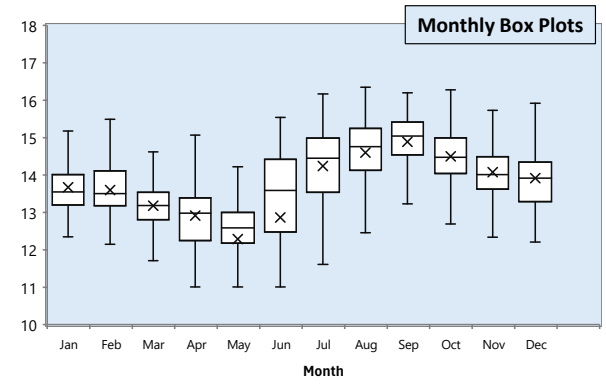
Statistics			
P100 (Max)	16.35	Average	13.73
P90	15.27	StdDev	1.54
P75	14.62	Count	5,712
P50 (Median)	13.80	SE	0.02
P25	13.10		
P10	12.38	POR	Mar-1992
P0 (Min)	0.00		Oct-2024
Range	16.35		
IQR	1.52		
% Complete	48%		









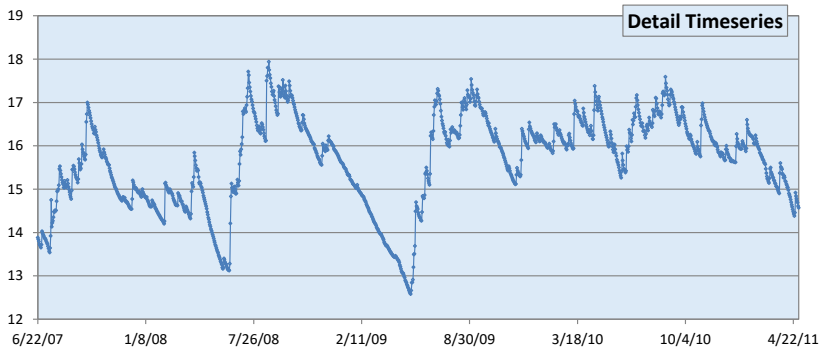


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

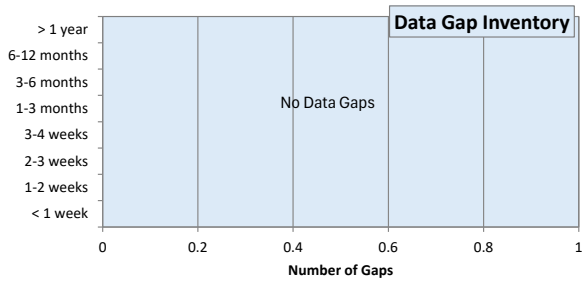
47A-GW15 (2007 - 2011) : 47A-GW15

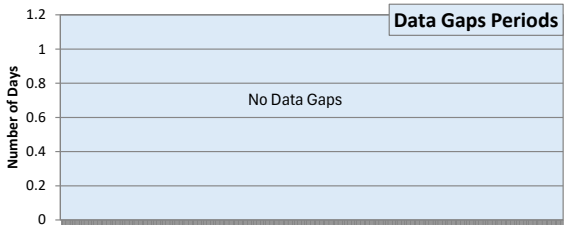
STG (ft NAVD88) - WELL

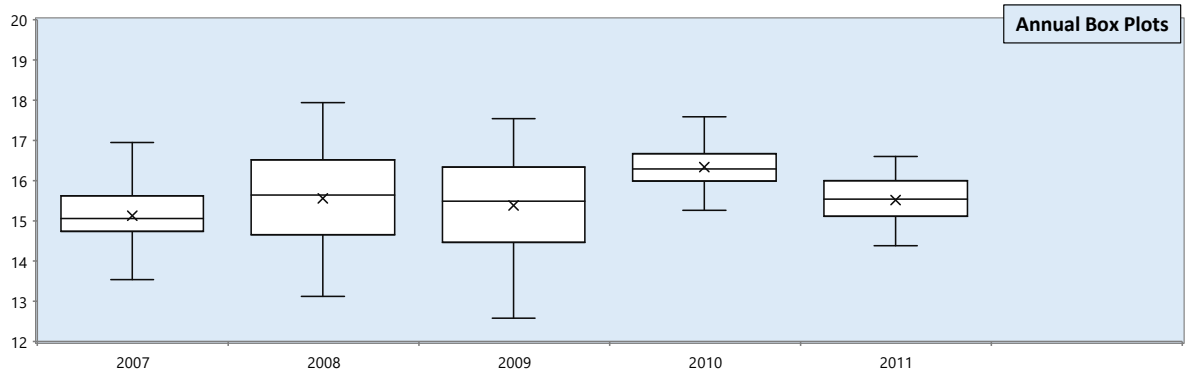
(26.442, -81.7575)

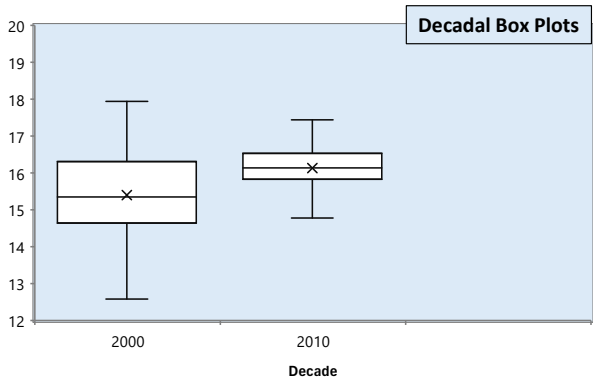


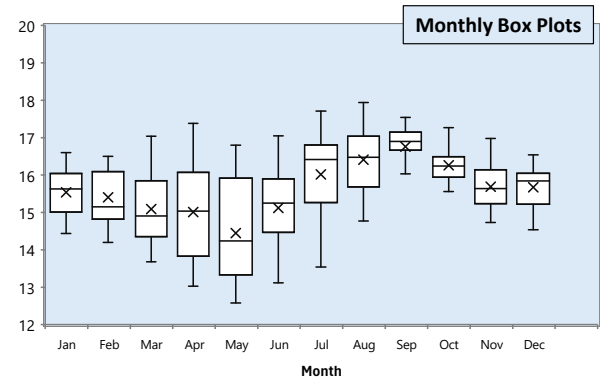
Statistics			
P100 (Max)	17.94	Average	15.65
P90	16.94	StdDev	1.06
P75	16.40	Count	1,411
P50 (Median)	15.87	SE	0.03
P25	14.93		
P10	14.22	POR	Jun-2007
P0 (Min)	12.58		May-2011
Range	5.36		
IQR	1.47		
% Complete	100%		









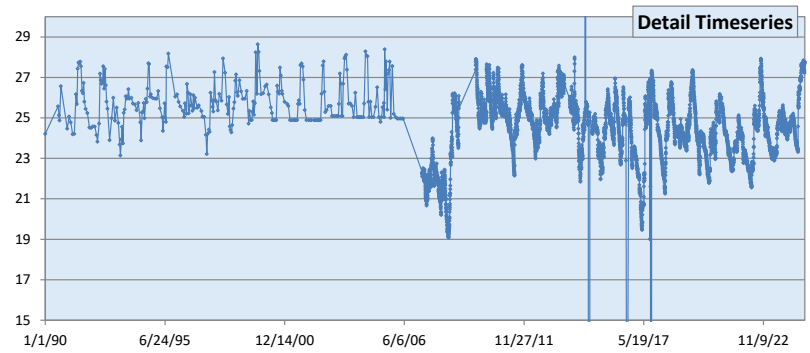


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

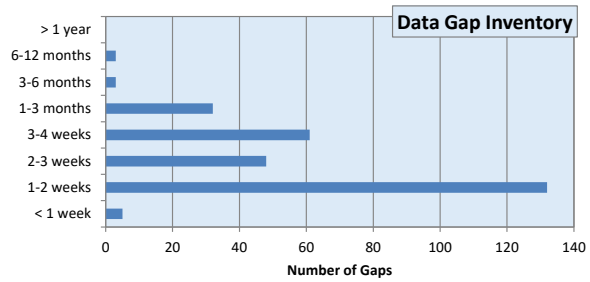
49-GW2 (1990 - 2024) : 49-GW2 (Grnd Elev: 28.31)

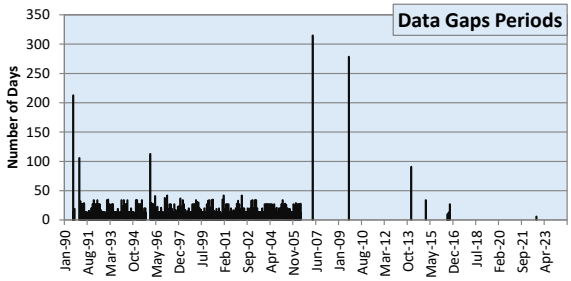
STG (ft NAVD88) - WELL

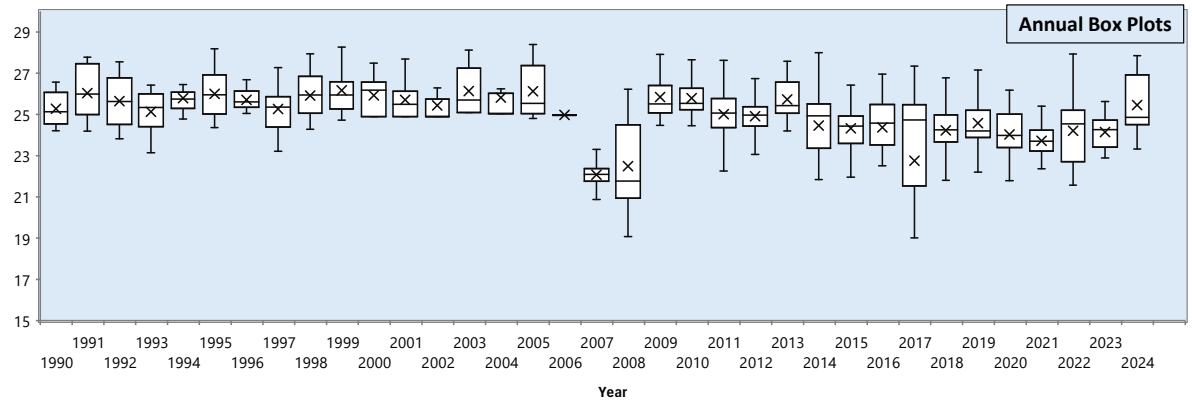
(26.51191, -81.66231)

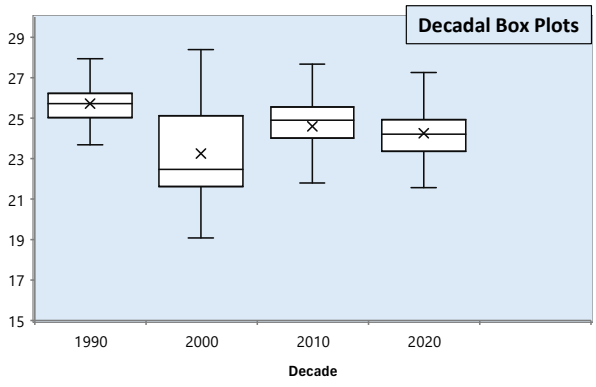


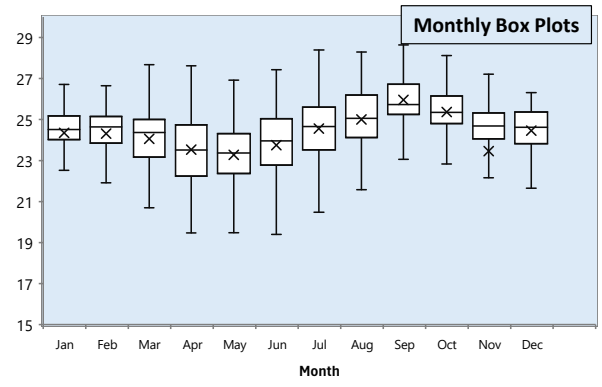
Statistics			
P100 (Max)	75.38	Average	24.34
P90	26.28	StdDev	3.21
P75	25.42	Count	6,211
P50 (Median)	24.62	SE	0.04
P25	23.44		
P10	22.20	POR	Jan-1990
P0 (Min)	-0.64		Oct-2024
Range	76.02		
IQR	1.98		
% Complete	49%		









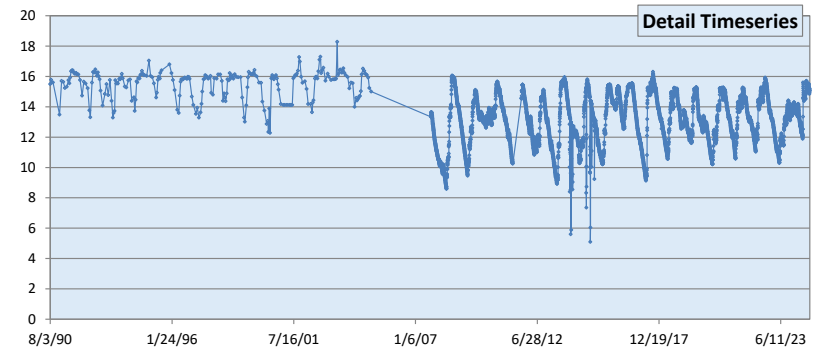


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

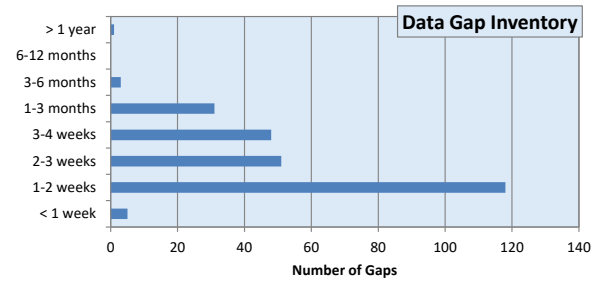
49-GW8 (1990 - 2024) : 49-GW8 (Grnd Elev: 16.25)

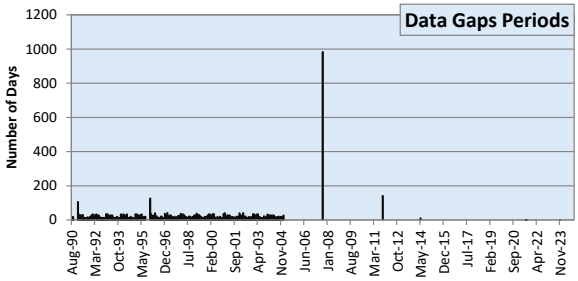
STG (ft NAVD88) - WELL

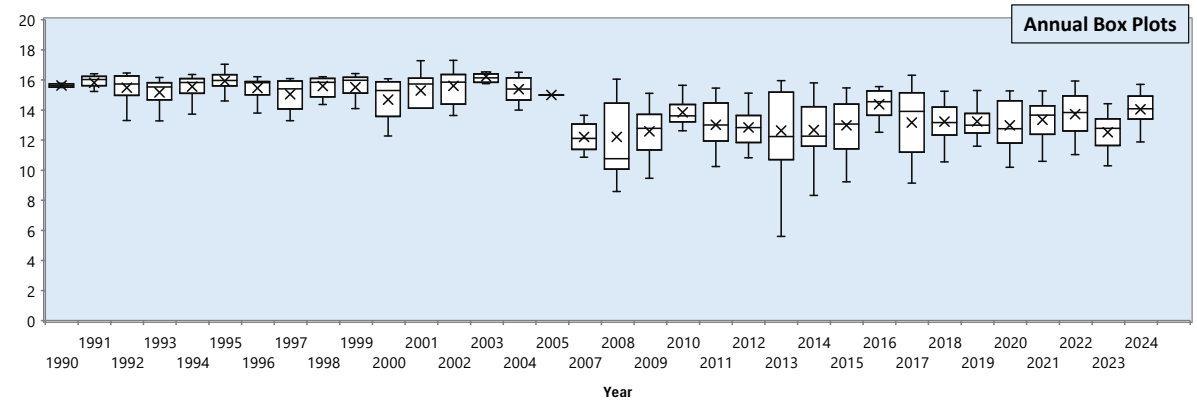
(26.33589, -81.67429)

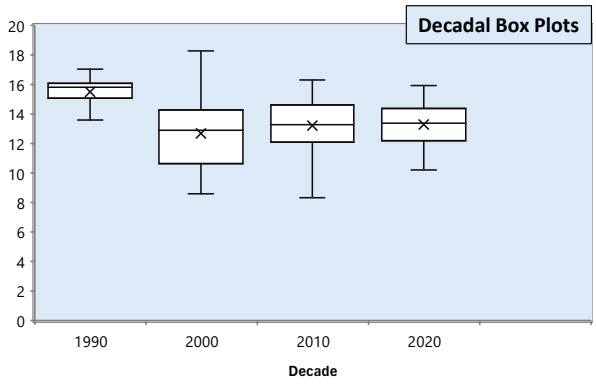


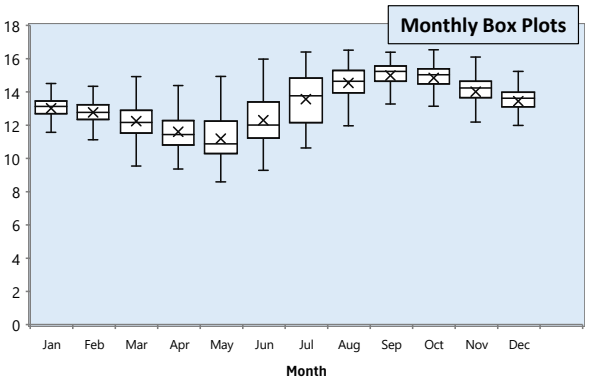
Statistics			
P100 (Max)	18.28	Average	13.21
P90	15.31	StdDev	1.68
P75	14.57	Count	6,318
P50 (Median)	13.33	SE	0.02
P25	12.03		
P10	10.82	POR	Aug-1990
P0 (Min)	5.09		Oct-2024
Range	13.19		
IQR	2.54		
% Complete	51%		









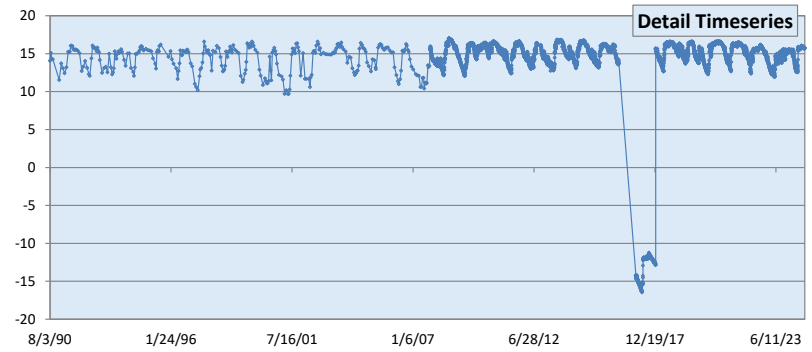


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

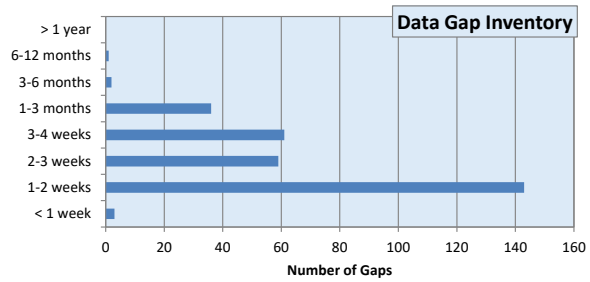
49-GW9 (1990 - 2024) : 49-GW9 (Grnd Elev: 16.35)

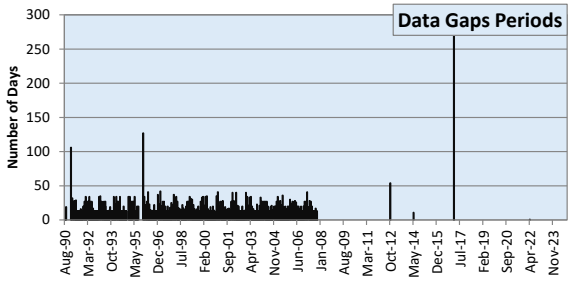
STG (ft NAVD88) - WELL

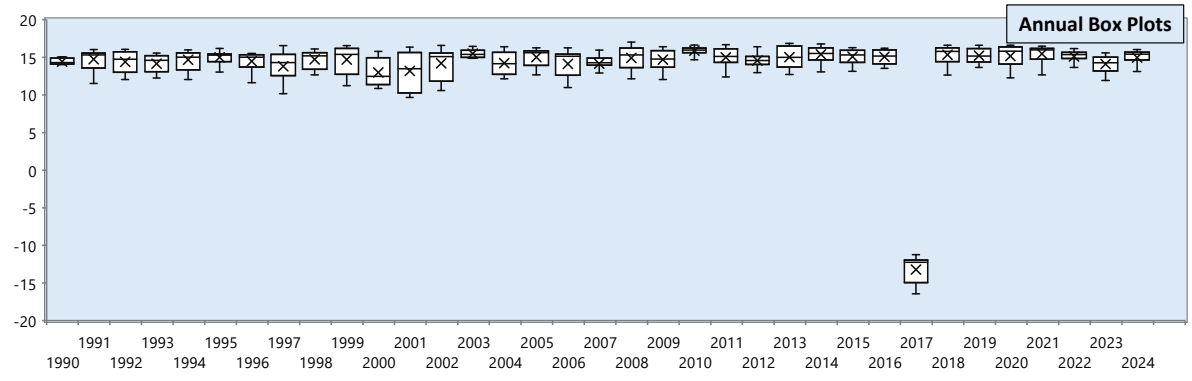
(26.35992, -81.67507)

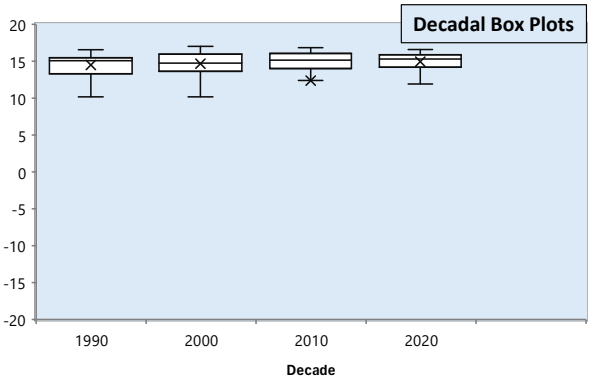


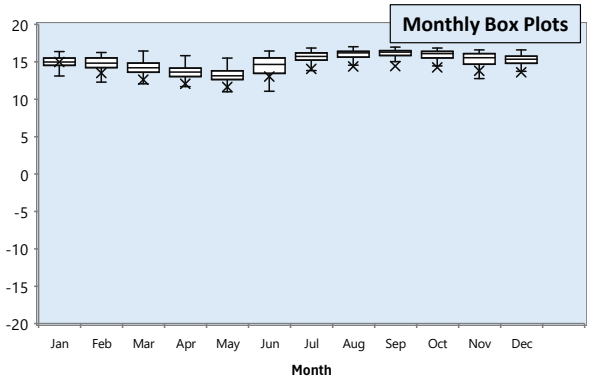
Statistics			
P100 (Max)	17.03	Average	13.52
P90	16.37	StdDev	6.47
P75	16.01	Count	6,152
P50 (Median)	15.18	SE	0.08
P25	13.97		
P10	12.79	POR	Aug-1990
P0 (Min)	-16.44		Oct-2024
Range	33.47		
IQR	2.04		
% Complete	49%		









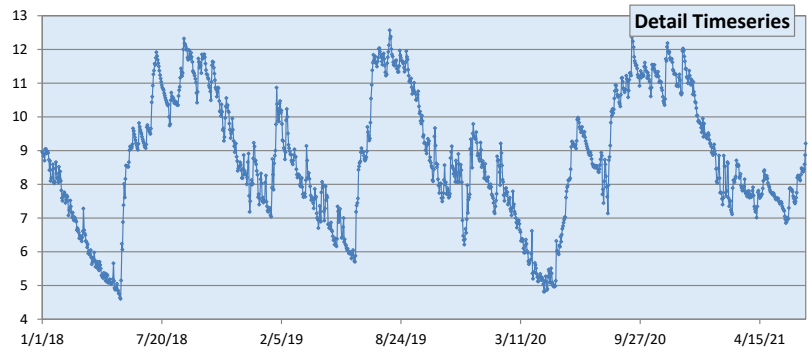


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

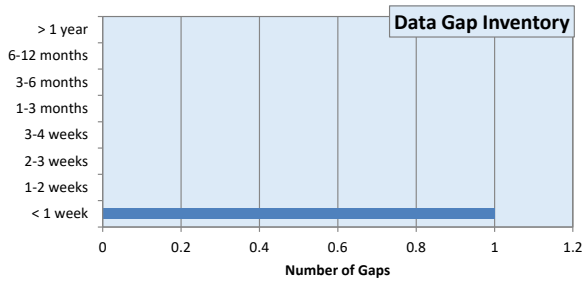
49L-GW3 (2018 - 2021) : 49L-GW3 (Grnd Elev: 13.01)

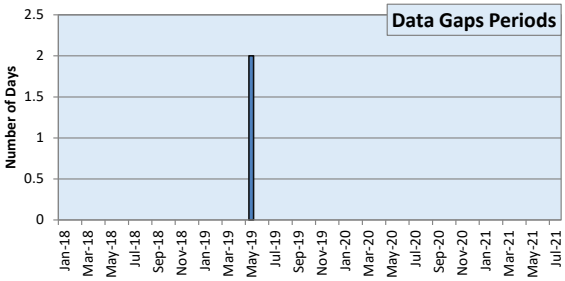
STG (ft NAVD88) - WELL

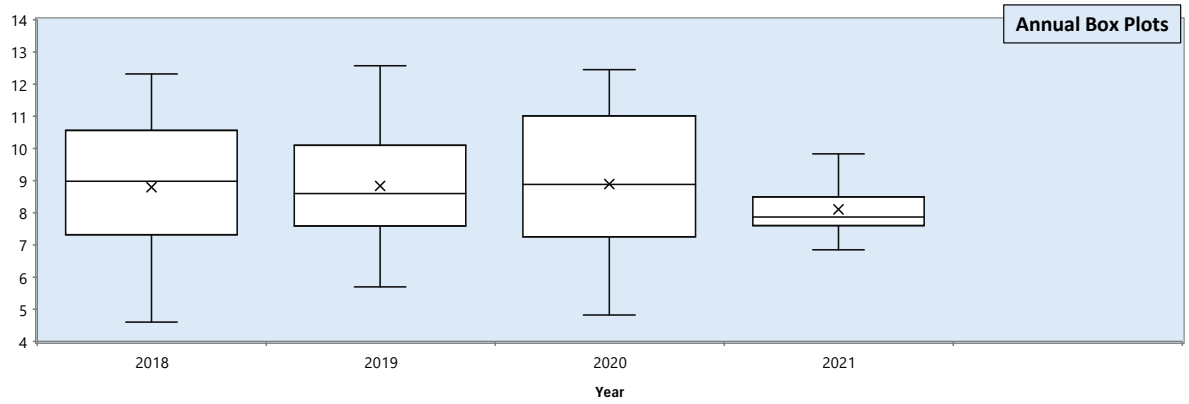
(26.35404, -81.7508)

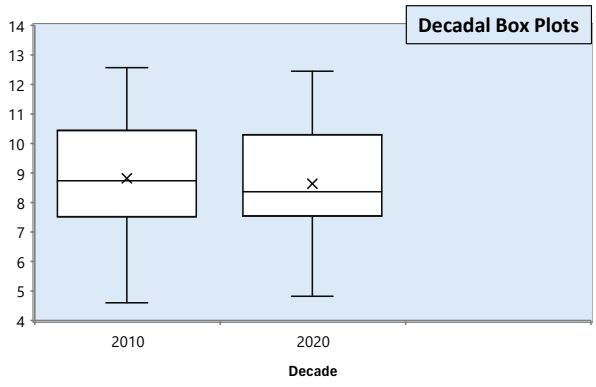


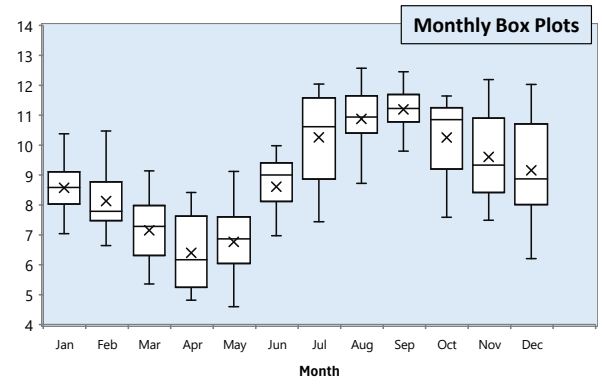
Statistics			
P100 (Max)	12.57	Average	8.74
P90	11.43	StdDev	1.90
P75	10.41	Count	1,276
P50 (Median)	8.57	SE	0.05
P25	7.53		
P10	6.12	POR	Jan-2018
P0 (Min)	4.60		Jul-2021
Range	7.97		
IQR	2.89		
% Complete	100%		









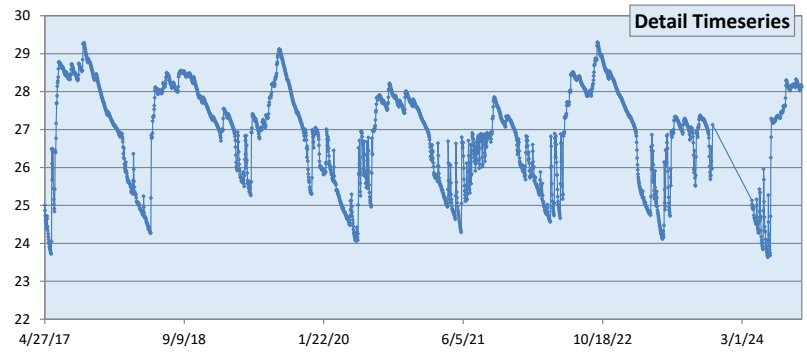


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

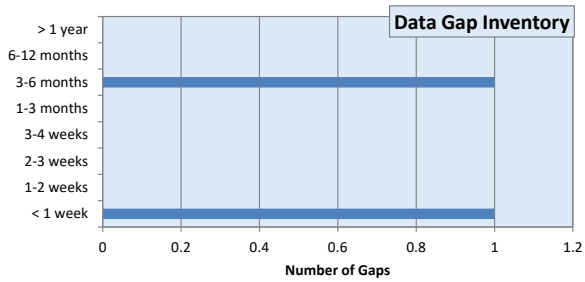
JE1158 (2017 - 2024) : JE1158 (Grnd Elev: 27)

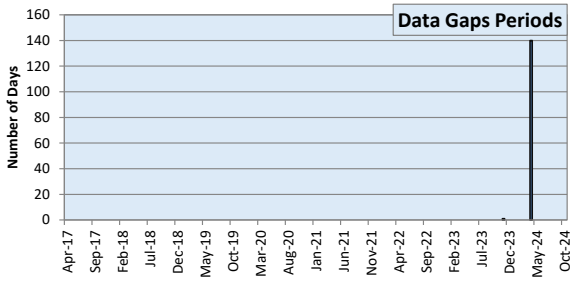
STG (ft NAVD88) - WELL

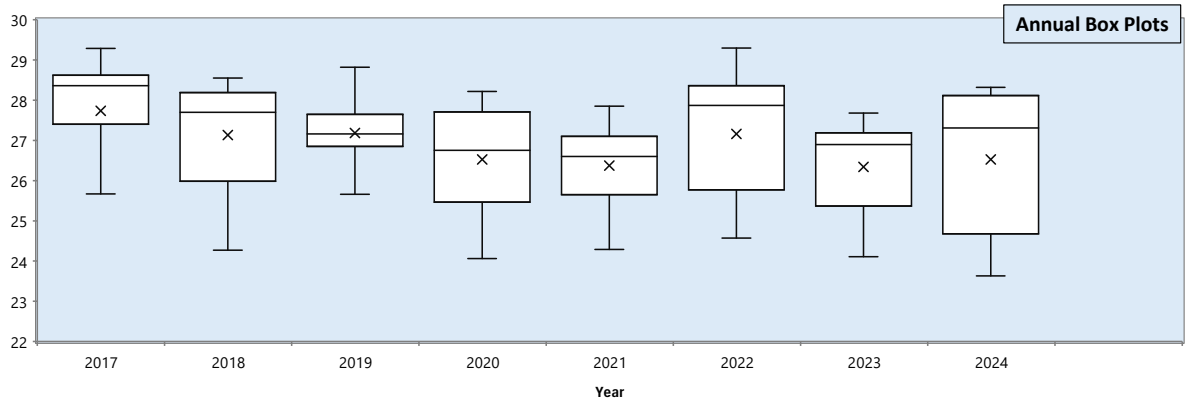
(26.50125, -81.61417)

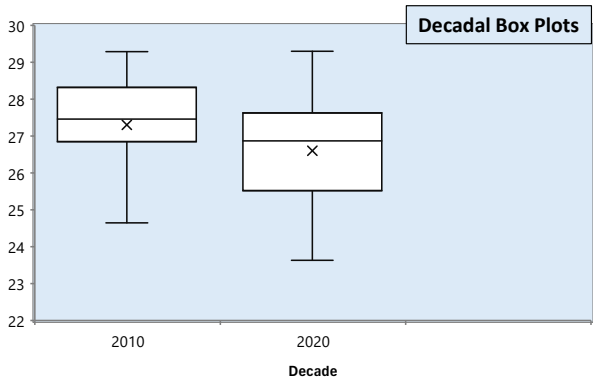


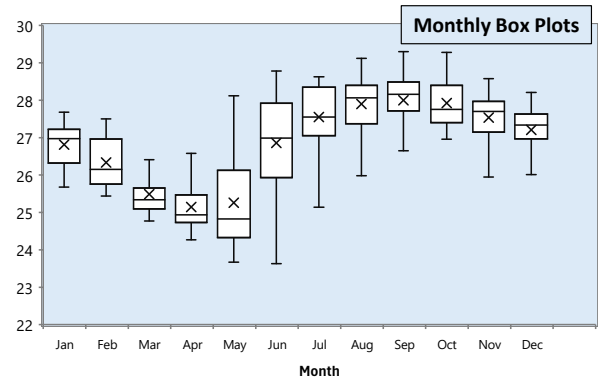
Statistics			
P100 (Max)	29.30	Average	26.87
P90	28.42	StdDev	1.30
P75	27.91	Count	2,574
P50 (Median)	27.13	SE	0.03
P25	25.80		
P10	24.90	POR	Apr-2017
P0 (Min)	23.63		Oct-2024
Range	5.67		
IQR	2.11		
% Complete	95%		









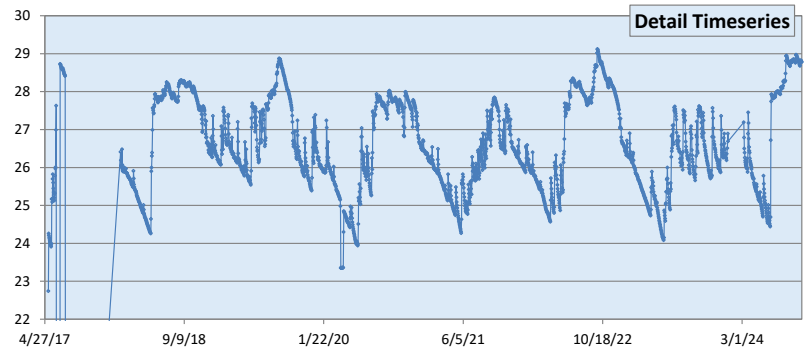


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

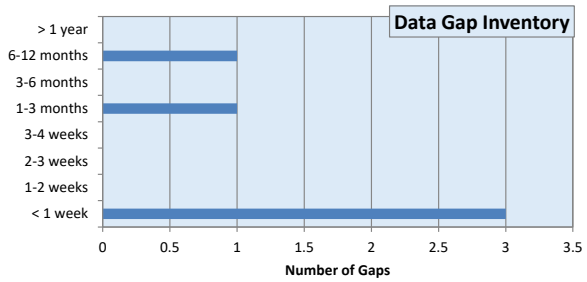
JE1159 (2017 - 2024) : JE1159 (Grnd Elev: 27.5)

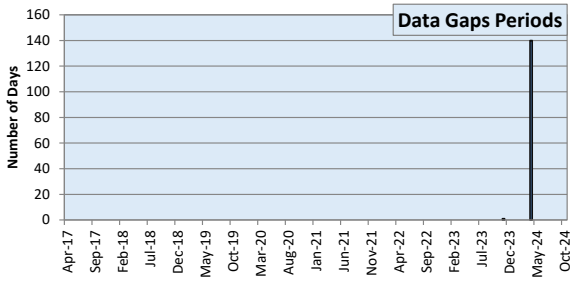
STG (ft NAVD88) - WELL

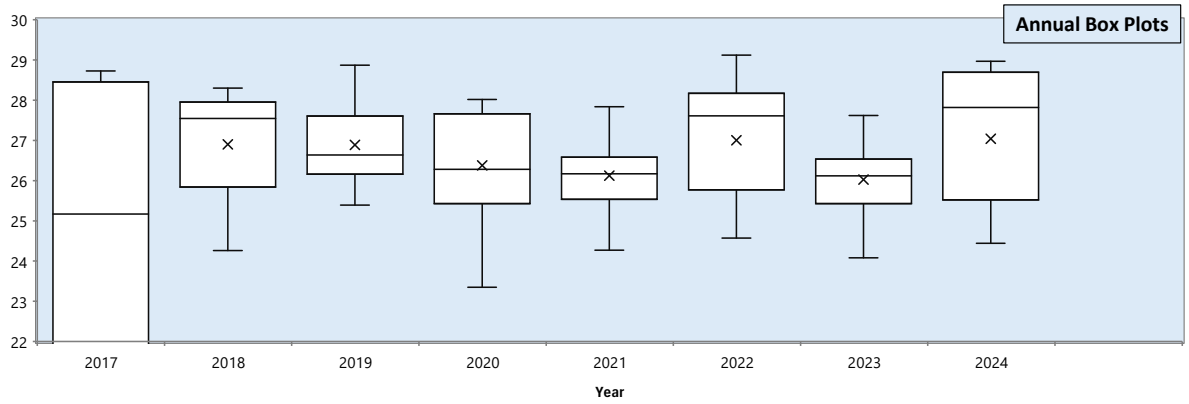
(26.49567, -81.61317)

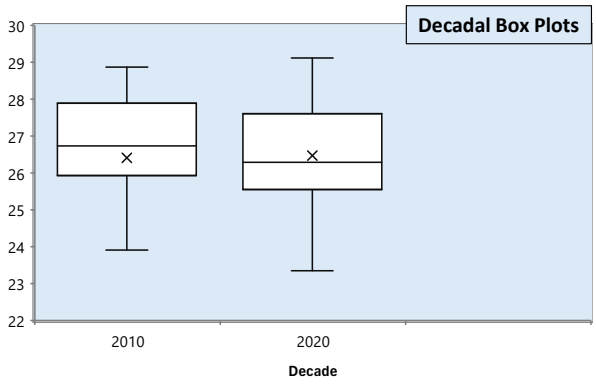


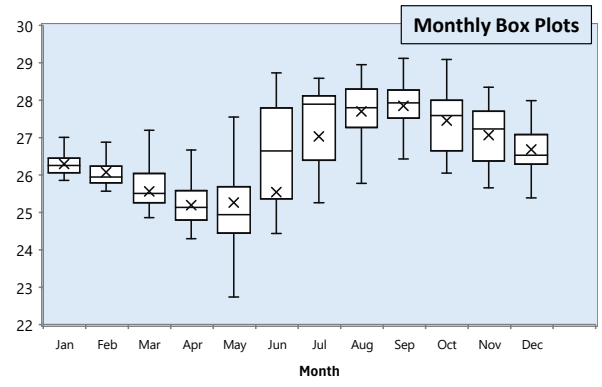
Statistics			
P100 (Max)	29.12	Average	26.45
P90	28.18	StdDev	2.10
P75	27.71	Count	2,450
P50 (Median)	26.42	SE	0.04
P25	25.70		
P10	24.93	POR	May-2017
P0 (Min)	4.39		Oct-2024
Range	24.73		
IQR	2.01		
% Complete	91%		









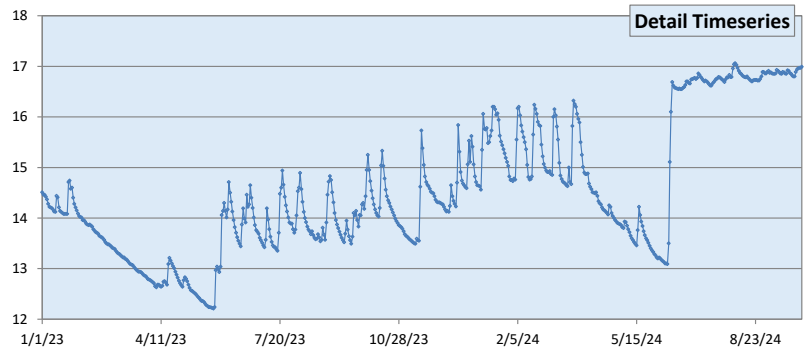


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

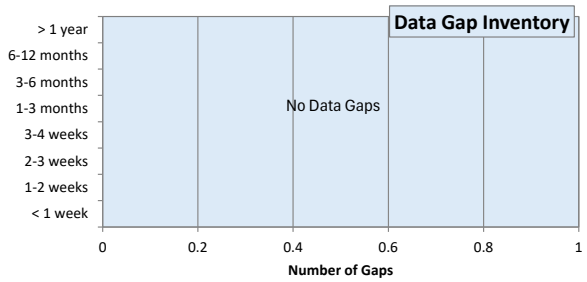
KIKER-GW1 (2023 - 2024) : KIKER-GW1 (Grnd Elev: 14.77)

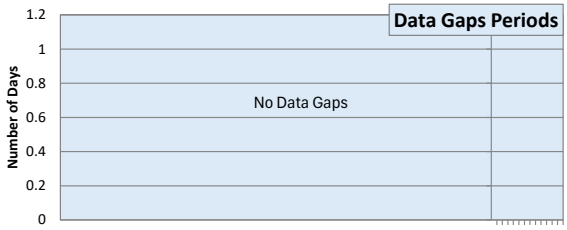
STG (ft NAVD88) - WELL

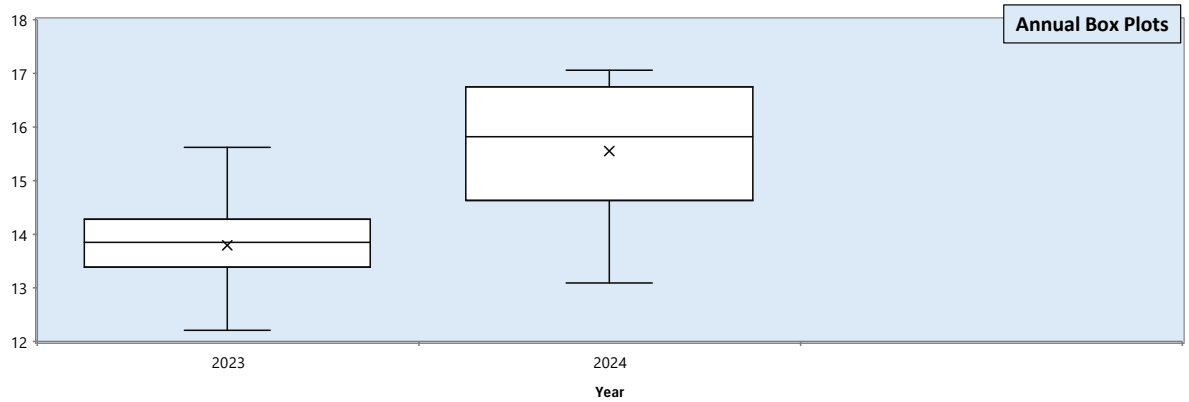
(26.39343, -81.73811)

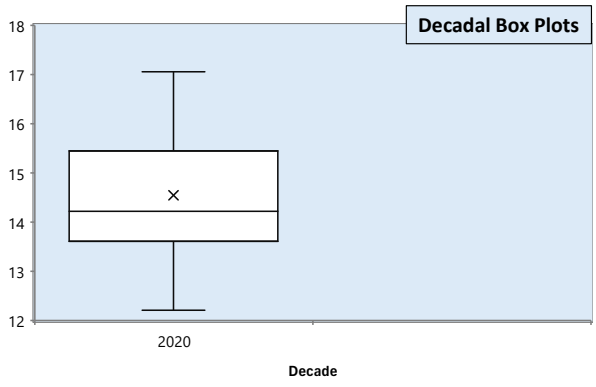


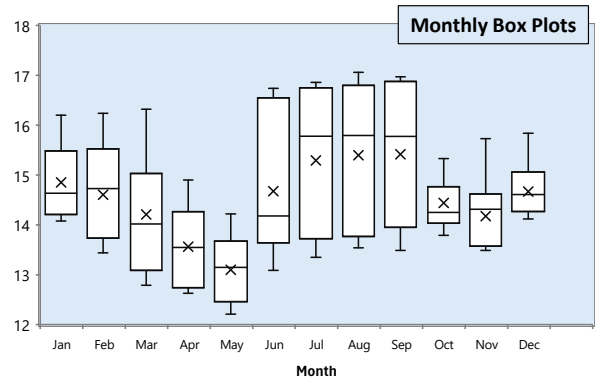
Statistics			
P100 (Max)	17.06	Average	14.55
P90	16.76	StdDev	1.31
P75	15.44	Count	640
P50 (Median)	14.22	SE	0.05
P25	13.61		
P10	13.01	POR	Jan-2023
P0 (Min)	12.21		Oct-2024
Range	4.85		
IQR	1.83		
% Complete	100%		









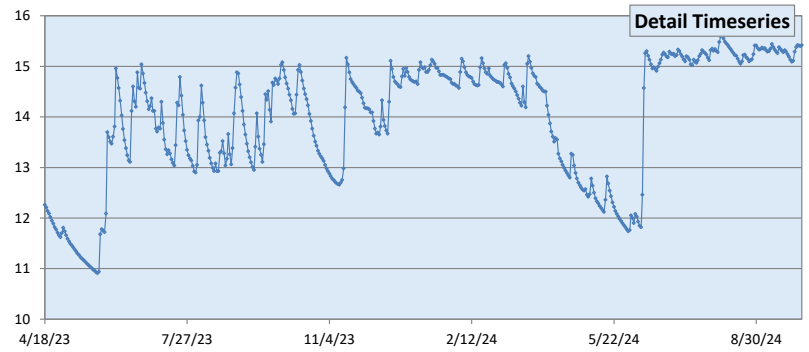


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

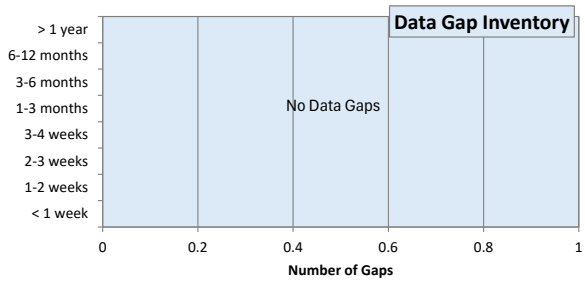
KIKER-GW2 (2023 - 2024) : KIKER-GW2 (Grnd Elev: 12.5)

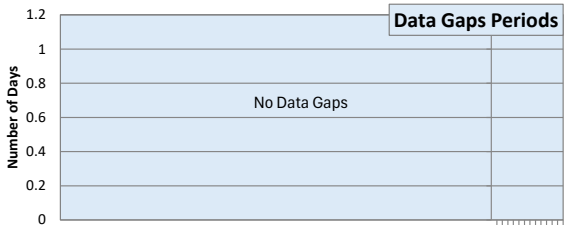
STG (ft NAVD88) - WELL

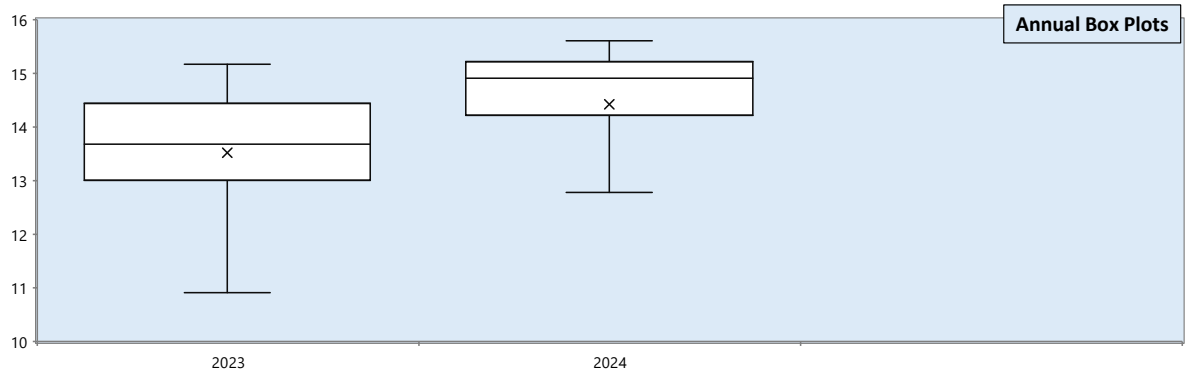
(26.40553, -81.74954)

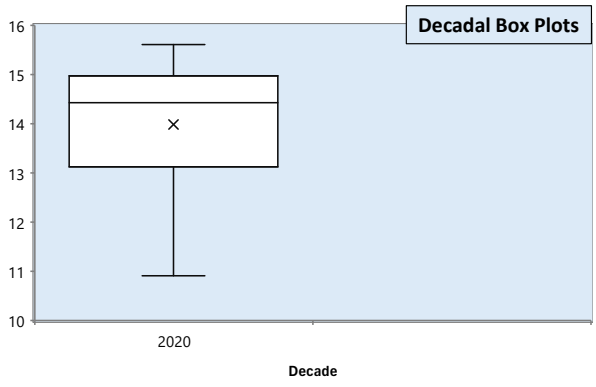


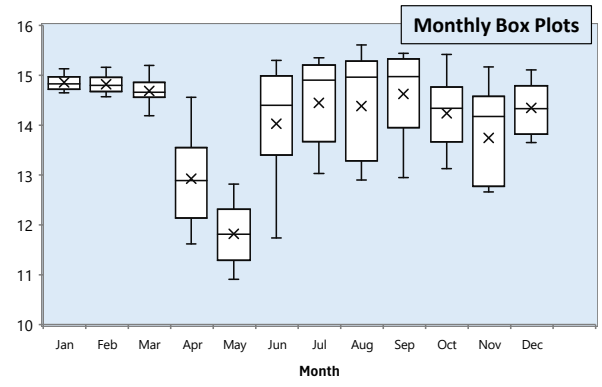
Statistics			
P100 (Max)	15.61	Average	13.99
P90	15.26	StdDev	1.21
P75	14.97	Count	533
P50 (Median)	14.43	SE	0.05
P25	13.13		
P10	12.03	POR	Apr-2023
P0 (Min)	10.91		Oct-2024
Range	4.70		
IQR	1.84		
% Complete	100%		









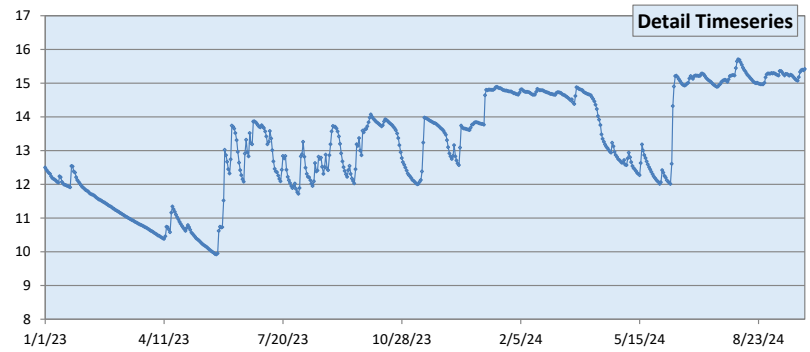


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

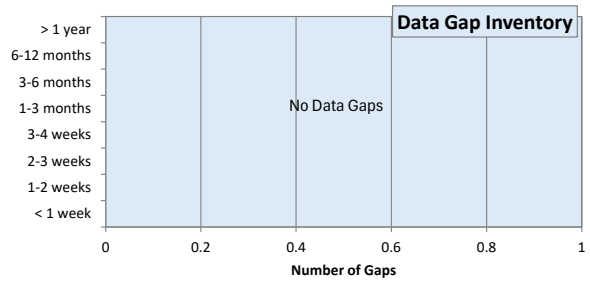
KIKER-GW3 (2023 - 2024) : KIKER-GW3 (Grnd Elev: 13.89)

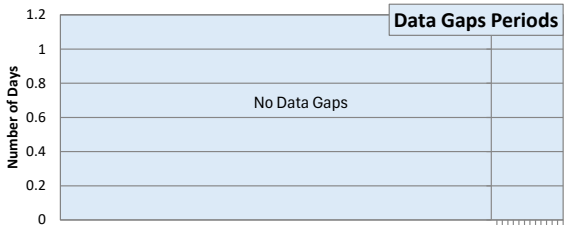
STG (ft NAVD88) - WELL

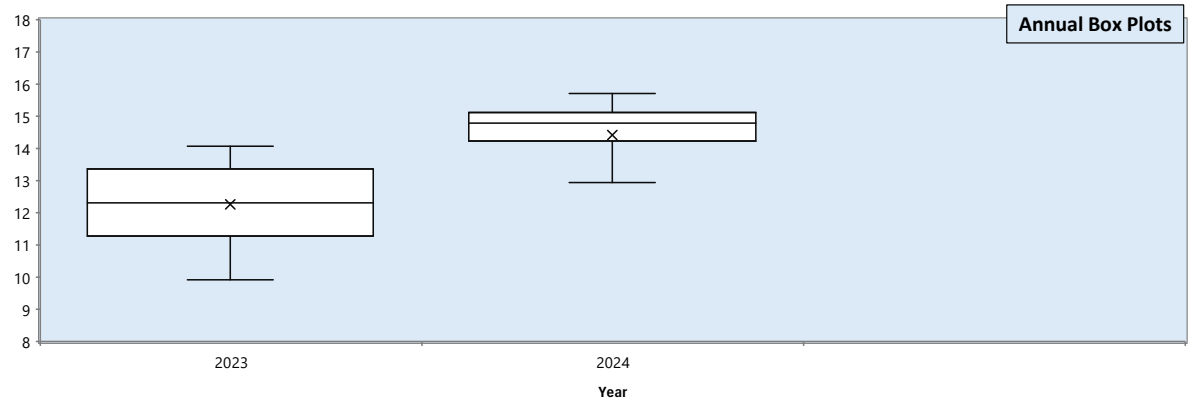
(26.39817, -81.76146)

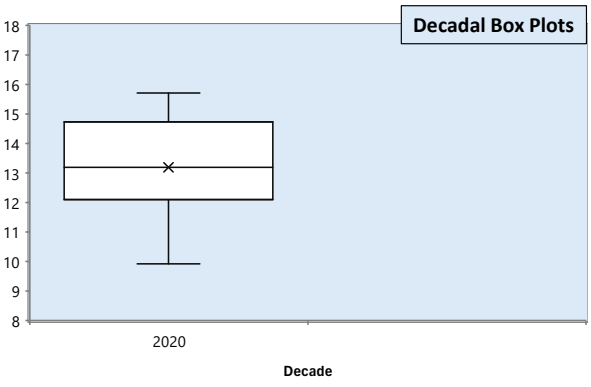


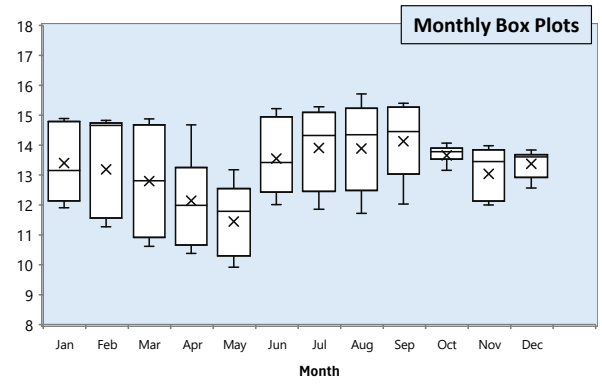
Statistics			
P100 (Max)	15.71	Average	13.19
P90	15.16	StdDev	1.53
P75	14.73	Count	640
P50 (Median)	13.19	SE	0.06
P25	12.10		
P10	10.86	POR	Jan-2023
P0 (Min)	9.92		Oct-2024
Range	5.79		
IQR	2.63		
% Complete	100%		









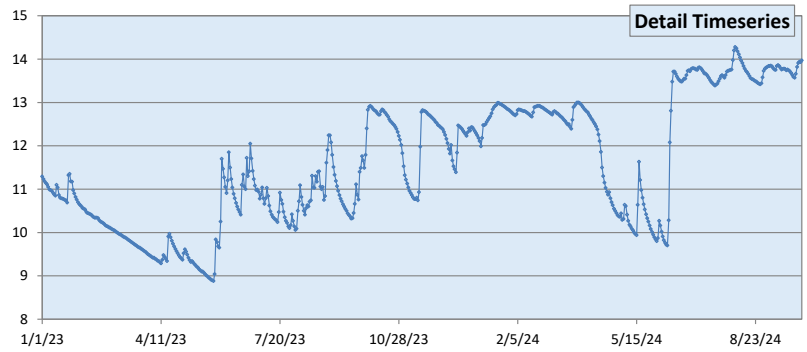


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

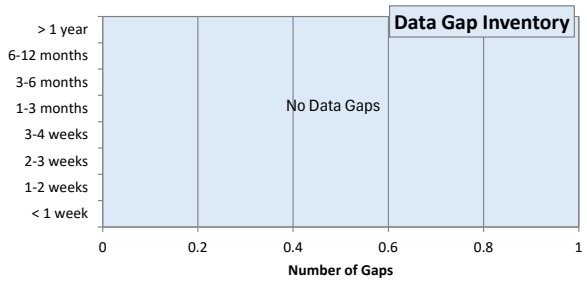
KIKER-GW5 (2023 - 2024) : KIKER-GW5 (Grnd Elev: 12.5)

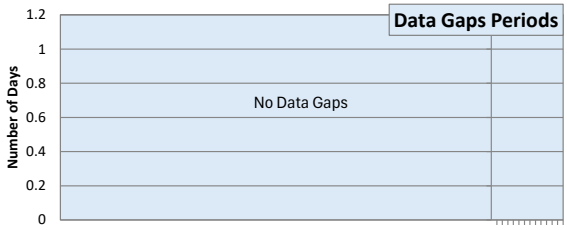
STG (ft NAVD88) - WELL

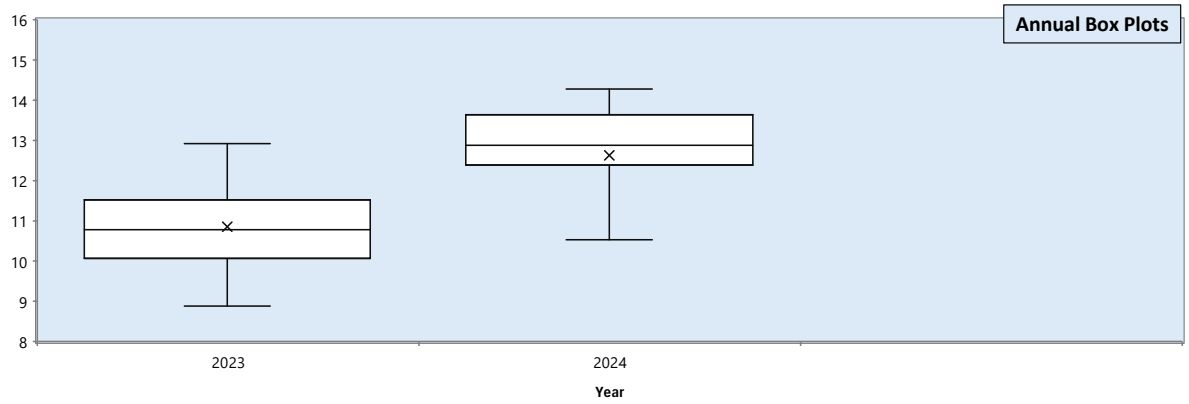
(26.41985, -81.76787)

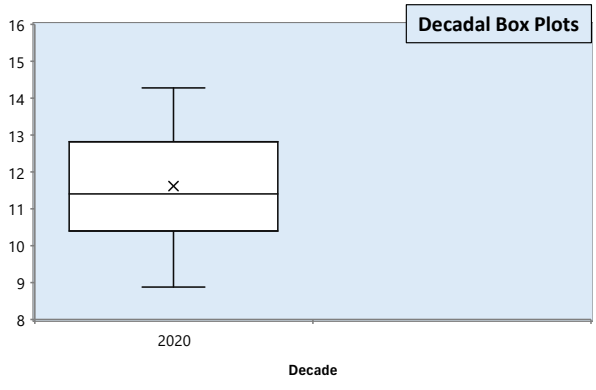


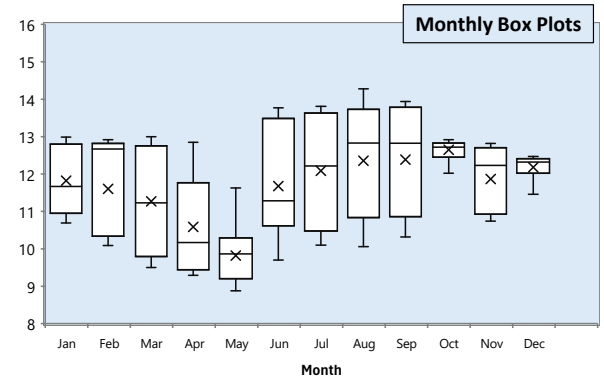
Statistics			
P100 (Max)	14.28	Average	11.62
P90	13.67	StdDev	1.45
P75	12.81	Count	640
P50 (Median)	11.41	SE	0.06
P25	10.41		
P10	9.70	POR	Jan-2023
P0 (Min)	8.88		Oct-2024
Range	5.40		
IQR	2.41		
% Complete	100%		









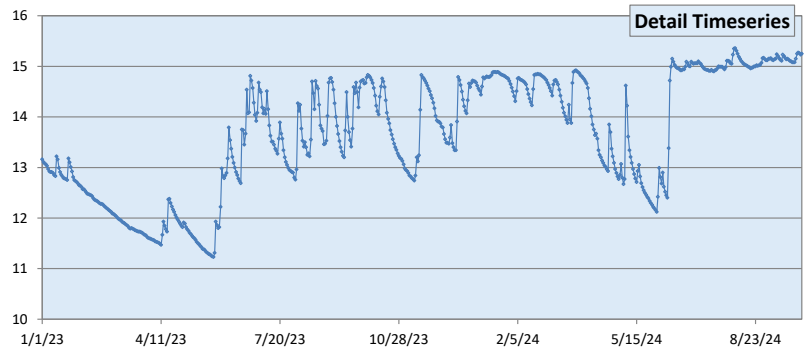


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

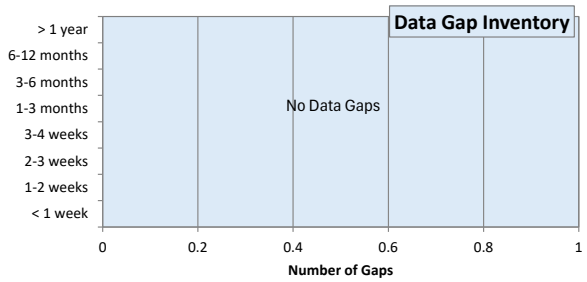
KIKER-GW9 (2023 - 2024) : KIKER-GW9 (Grnd Elev: 14.35)

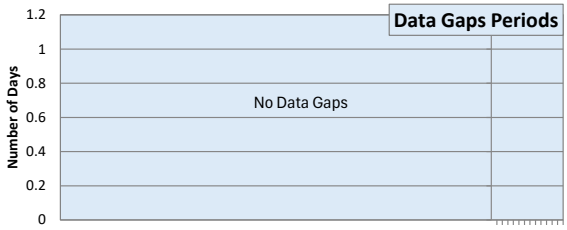
STG (ft NAVD88) - WELL

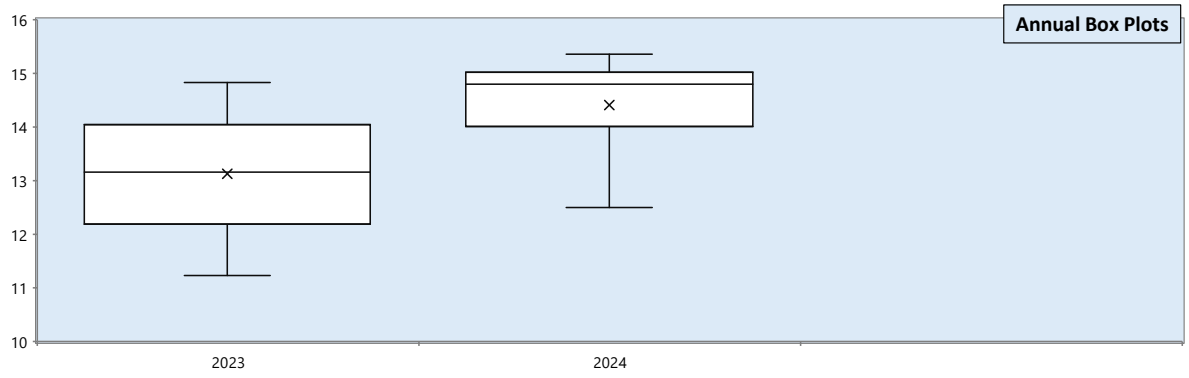
(26.41985, -81.76787)

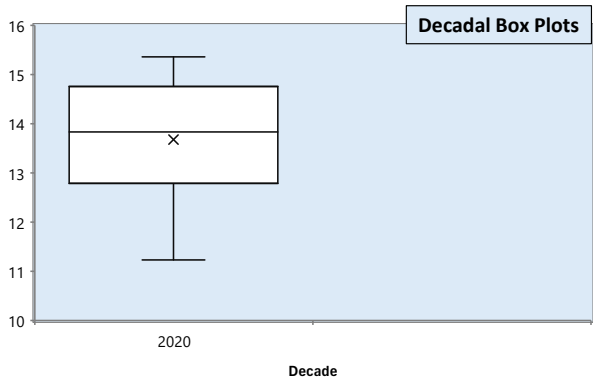


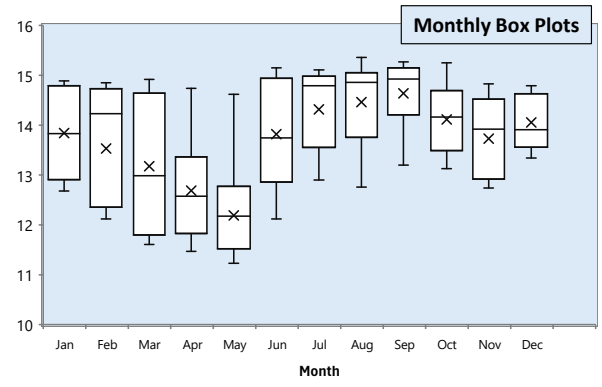
Statistics			
P100 (Max)	15.36	Average	13.68
P90	15.03	StdDev	1.17
P75	14.76	Count	640
P50 (Median)	13.84	SE	0.05
P25	12.79		
P10	11.88	POR	Jan-2023
P0 (Min)	11.23		Oct-2024
Range	4.13		
IQR	1.97		
% Complete	100%		









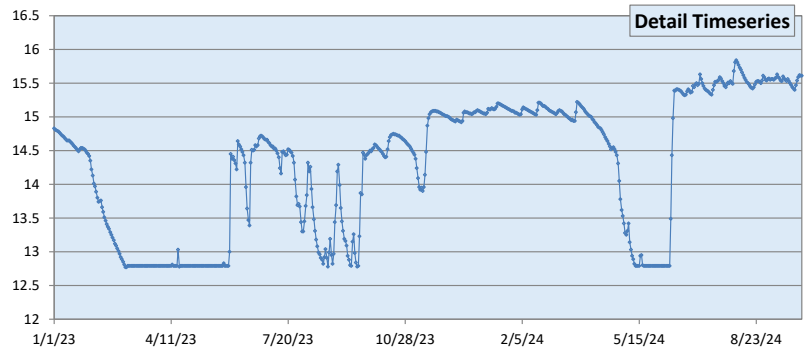


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

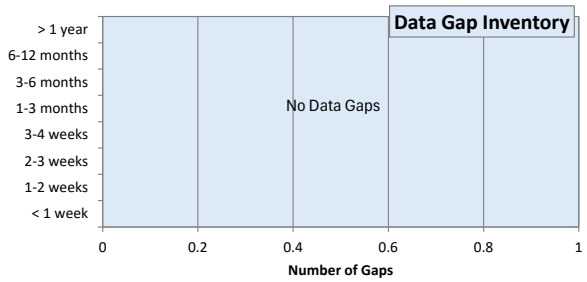
KIKER-GW14 (2023 - 2024) : KIKER-GW14 (Grnd Elev: 14.55)

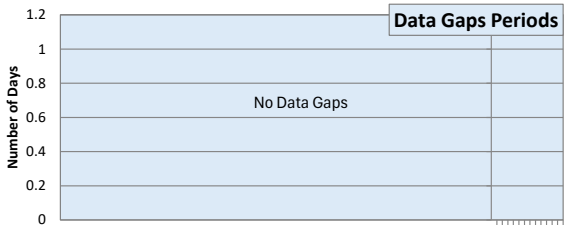
STG (ft NAVD88) - WELL

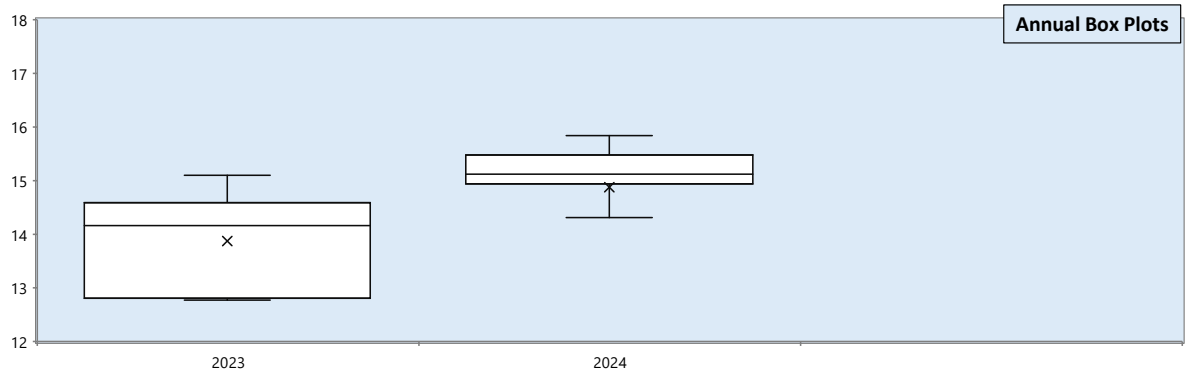
(26.41589, -81.72435)

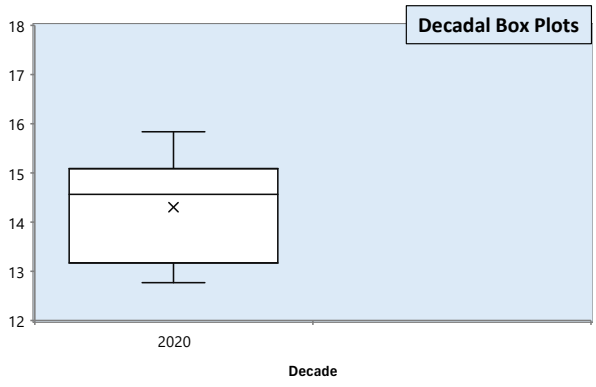


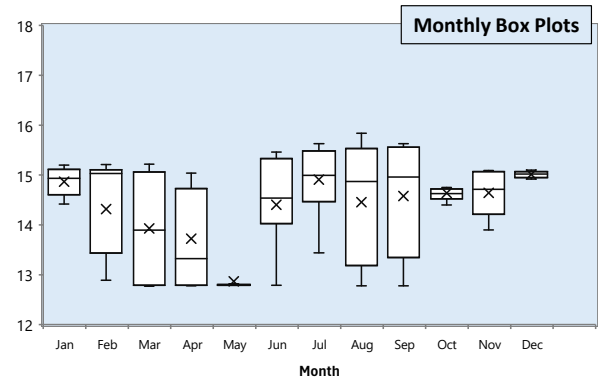
Statistics			
P100 (Max)	15.84	Average	14.31
P90	15.49	StdDev	1.00
P75	15.09	Count	640
P50 (Median)	14.57	SE	0.04
P25	13.18		
P10	12.79	POR	Jan-2023
P0 (Min)	12.77		Oct-2024
Range	3.07		
IQR	1.91		
% Complete	100%		









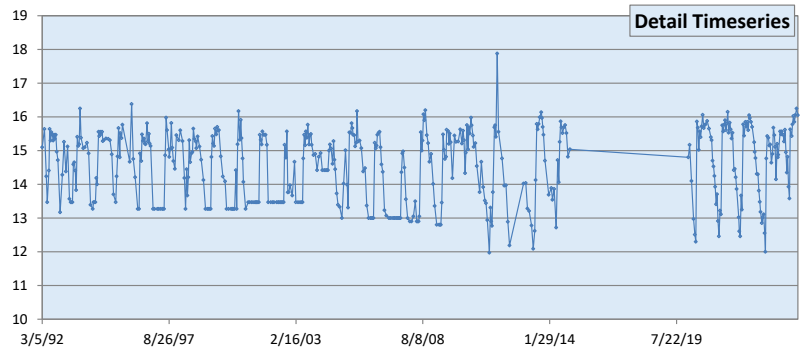


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

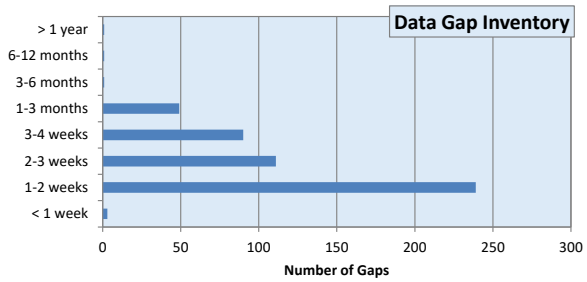
47A-GW3 (1992 - 2024) : 47A-GW3 (Grnd Elev: 17.02)

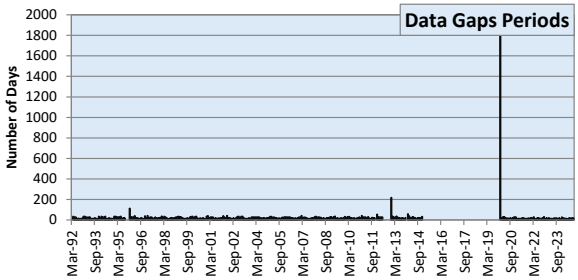
STG (ft NAVD88) - WELL

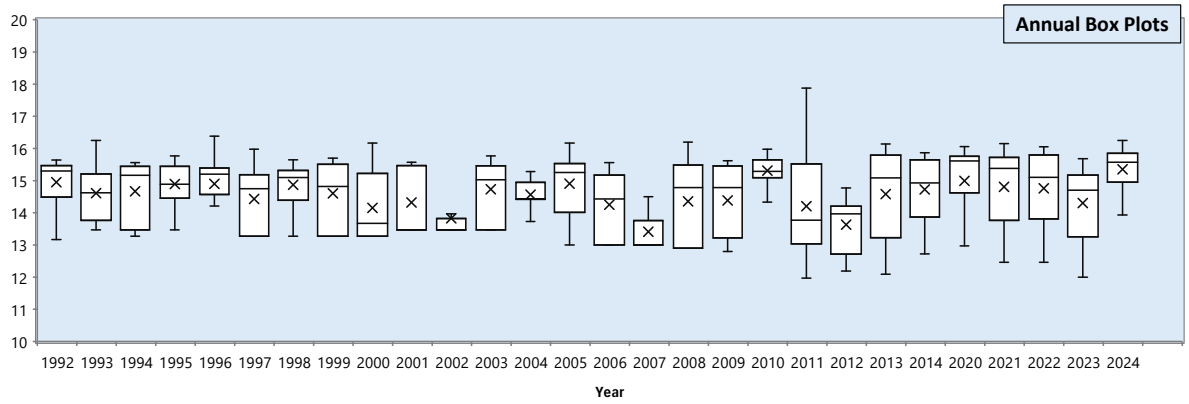
(26.43137, -81.75556)

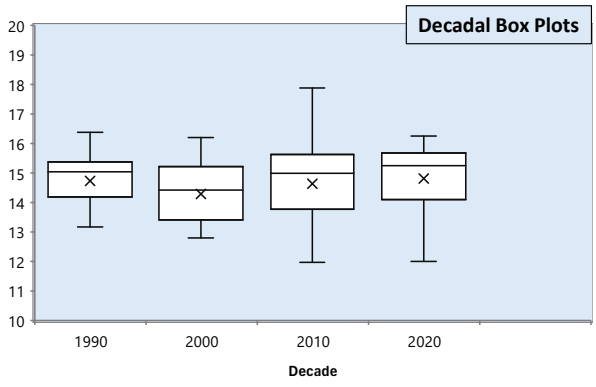


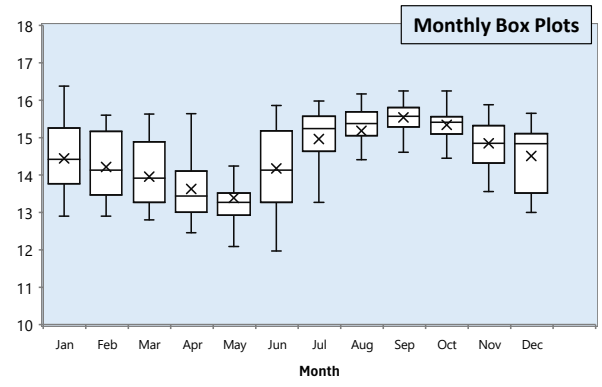
Statistics			
P100 (Max)	17.88	Average	14.58
P90	15.72	StdDev	1.04
P75	15.47	Count	496
P50 (Median)	14.85	SE	0.05
P25	13.47		
P10	13.05	POR	Mar-1992
P0 (Min)	11.97		Oct-2024
Range	5.91		
IQR	2.00		
% Complete	4%		









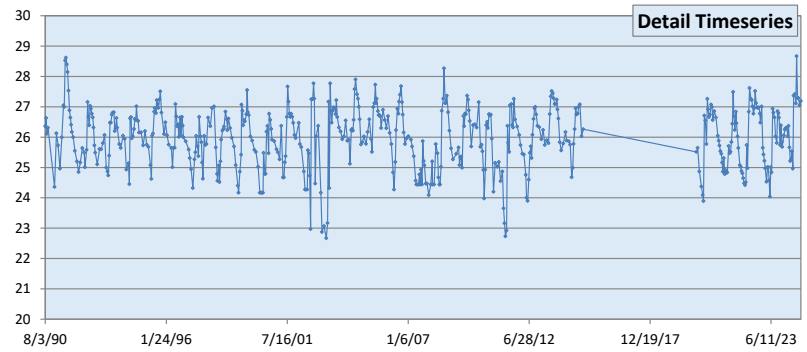


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

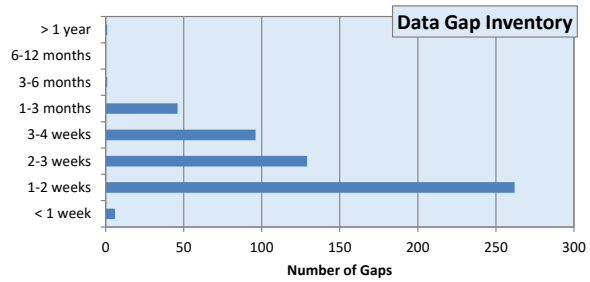
49-GW1 (1990 - 2024) : 49-GW1 (Grnd Elev: 29.7)

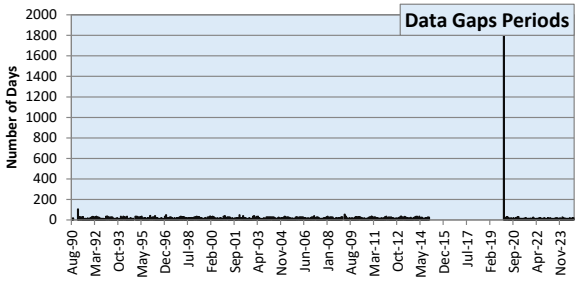
STG (ft NAVD88) - WELL

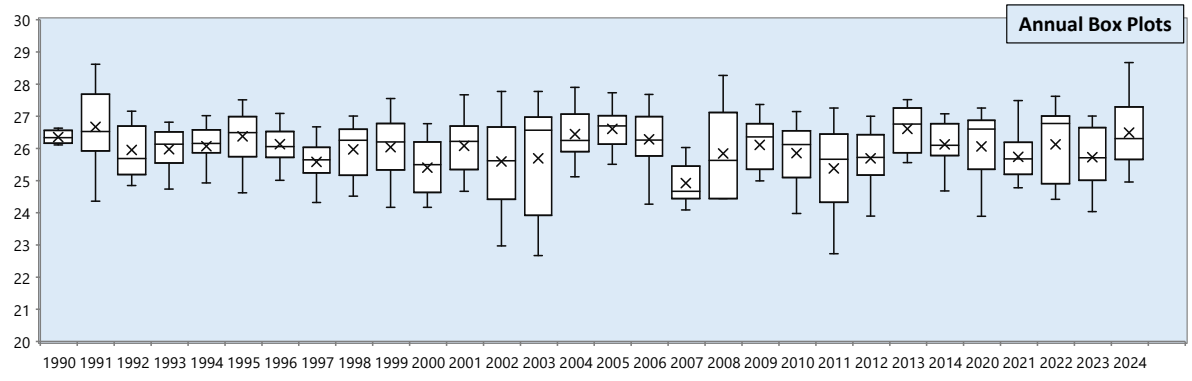
(26.53136, -81.61651)

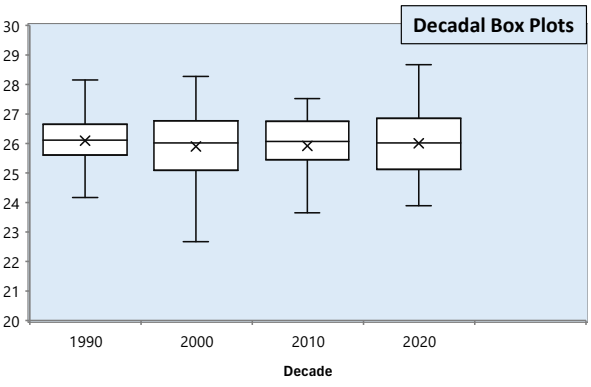


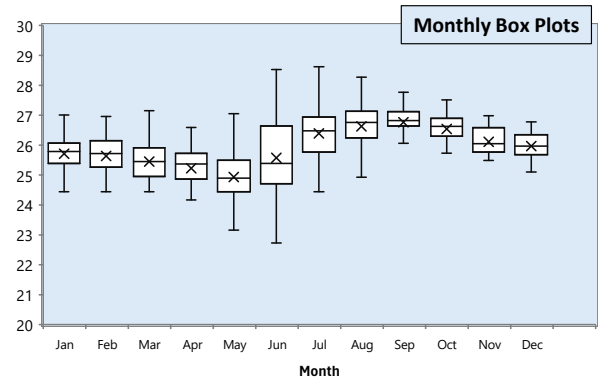
Statistics			
P100 (Max)	28.67	Average	25.98
P90	27.12	StdDev	1.00
P75	26.74	Count	542
P50 (Median)	26.06	SE	0.04
P25	25.35		
P10	24.58	POR	Aug-1990
P0 (Min)	22.67		Oct-2024
Range	6.00		
IQR	1.40		
% Complete	4%		









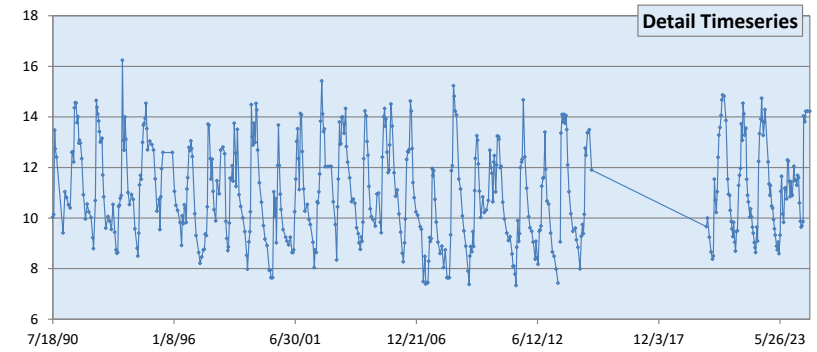


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

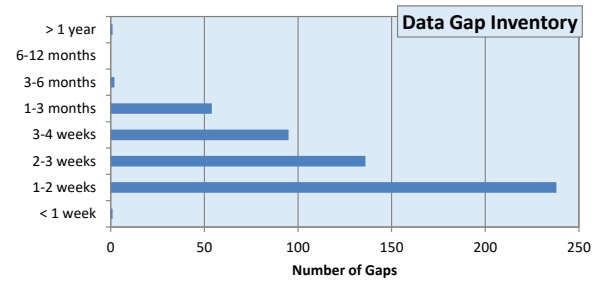
49-GW10 (1990 - 2024) : 49-GW10 (Grnd Elev: 12.85)

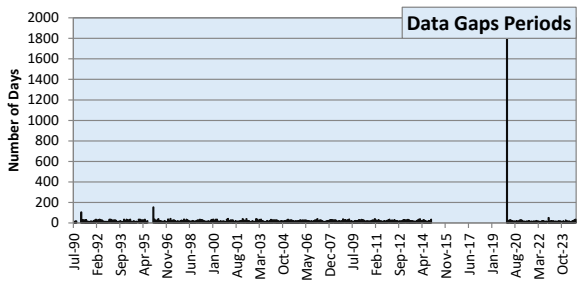
STG (ft NAVD88) - WELL

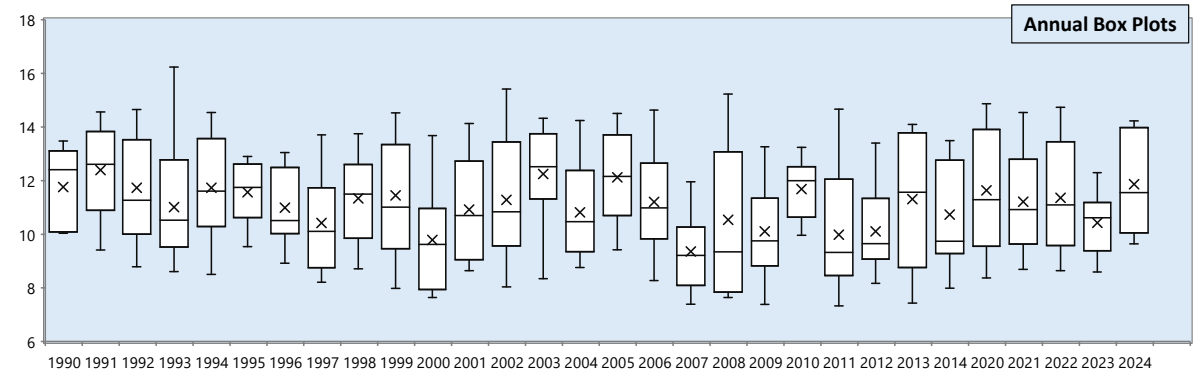
(26.33608, -81.70621)

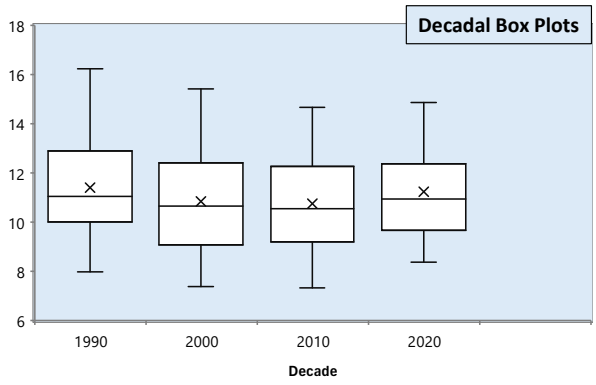


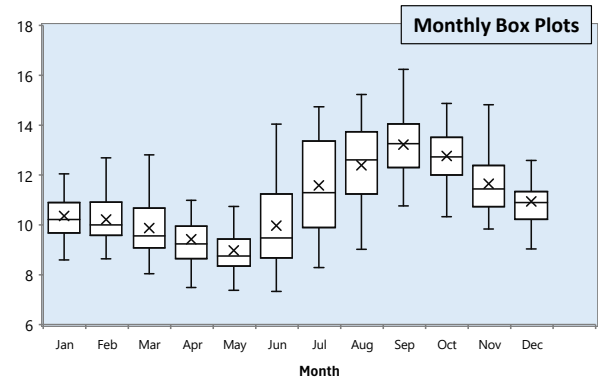
Statistics			
P100 (Max)	16.24	Average	11.08
P90	13.83	StdDev	1.93
P75	12.65	Count	527
P50 (Median)	10.89	SE	0.08
P25	9.48		
P10	8.67	POR	Jul-1990
P0 (Min)	7.33		Sep-2024
Range	8.91		
IQR	3.17		
% Complete	4%		









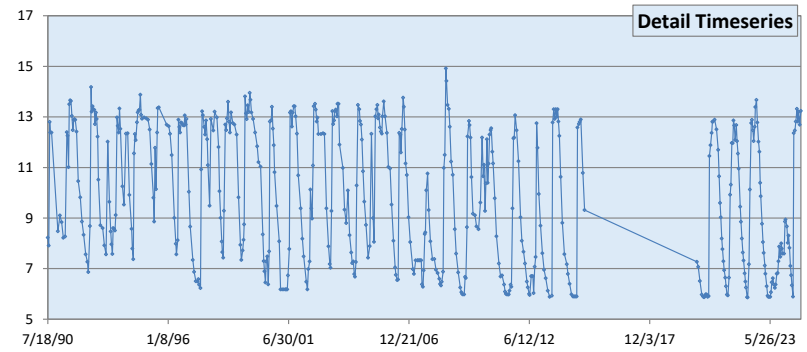


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

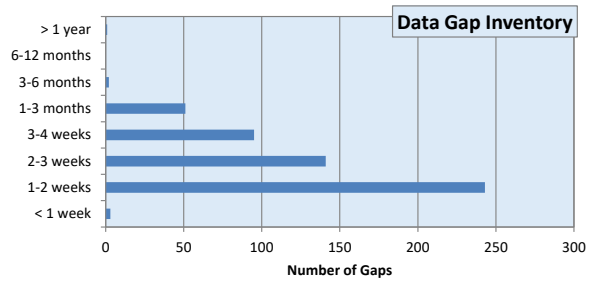
49-GW11 (1990 - 2024) : 49-GW11 (Grnd Elev: 11.85)

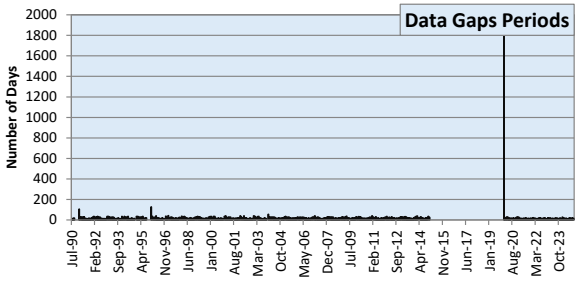
STG (ft NAVD88) - WELL

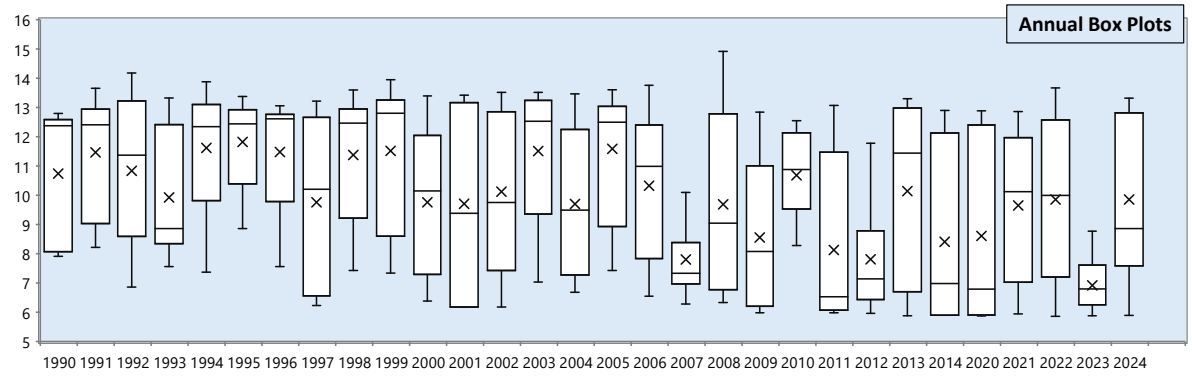
(26.34278, -81.73827)

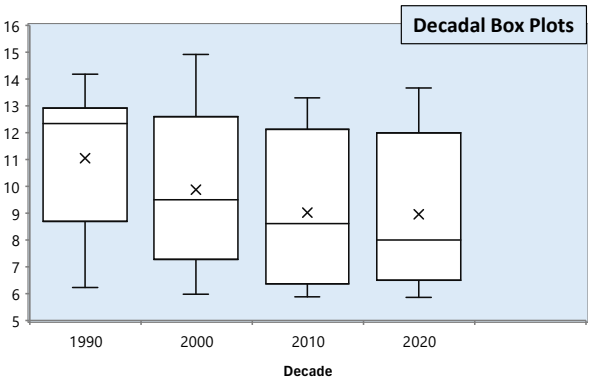


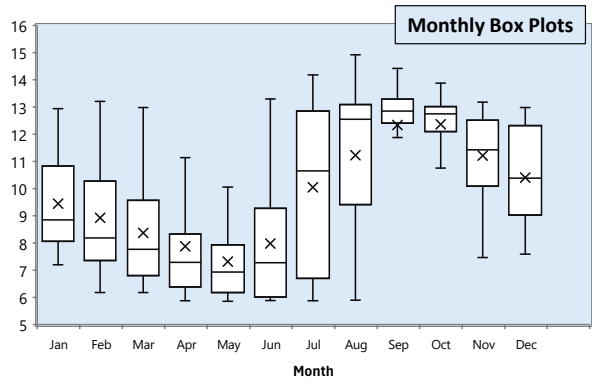
Statistics			
P100 (Max)	14.92	Average	9.91
P90	13.19	StdDev	2.70
P75	12.64	Count	536
P50 (Median)	9.84	SE	0.12
P25	7.30		
P10	6.29	POR	Jul-1990
P0 (Min)	5.86		Oct-2024
Range	9.06		
IQR	5.34		
% Complete	4%		









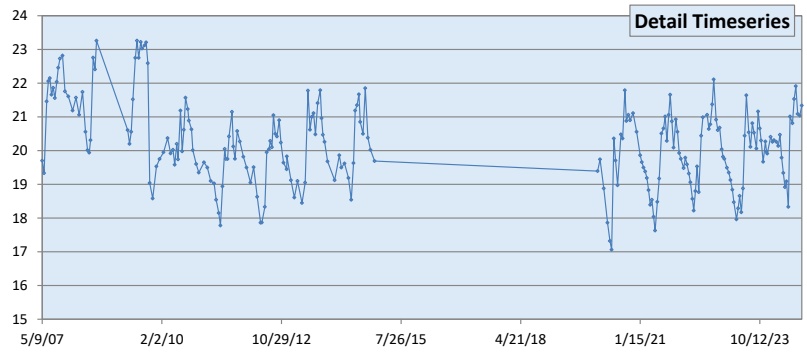


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

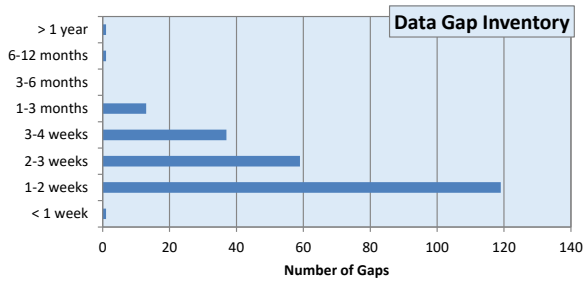
49-GW21 (2007 - 2024) : 49-GW21 (Grnd Elev: 24.7)

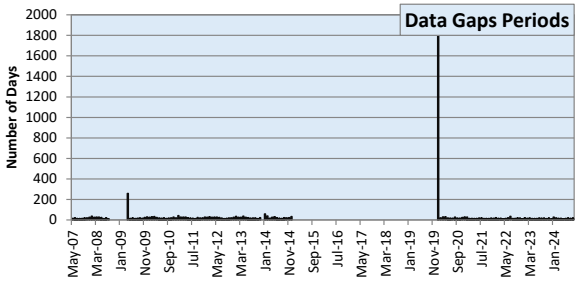
STG (ft NAVD88) - WELL

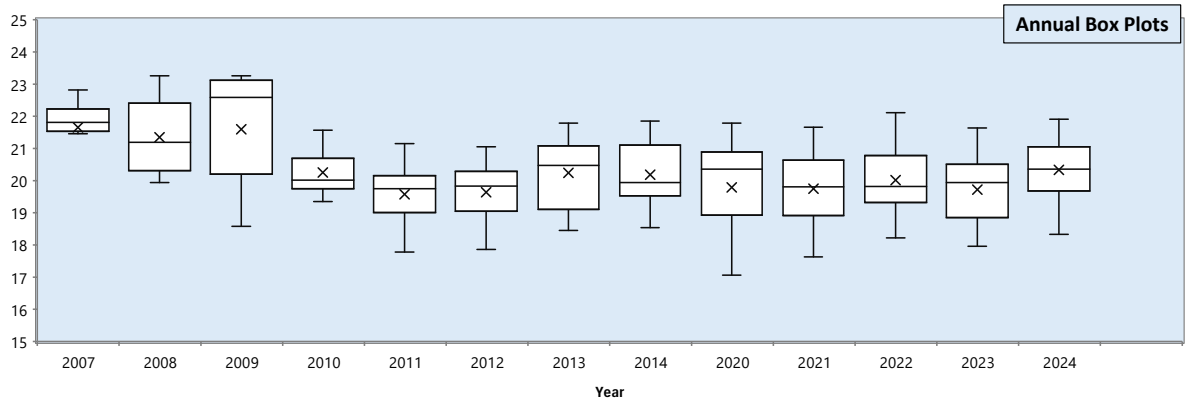
(26.45137, -81.56267)

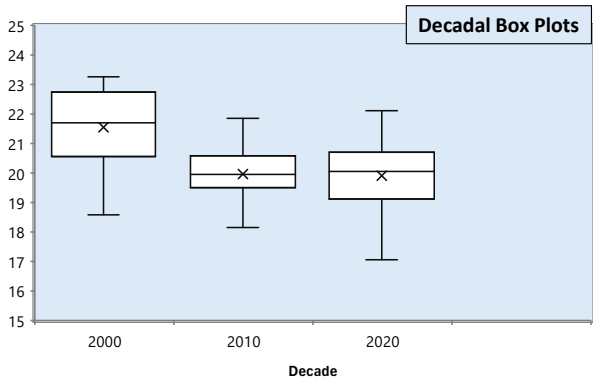


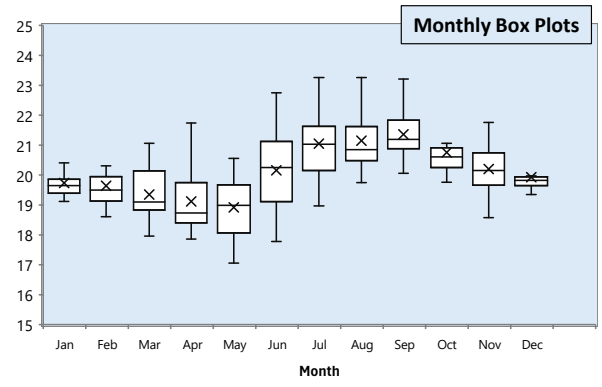
Statistics			
P100 (Max)	23.26	Average	20.21
P90	21.78	StdDev	1.23
P75	21.00	Count	233
P50 (Median)	20.20	SE	0.08
P25	19.48		
P10	18.59	POR	May-2007
P0 (Min)	17.06		Sep-2024
Range	6.20		
IQR	1.52		
% Complete	4%		









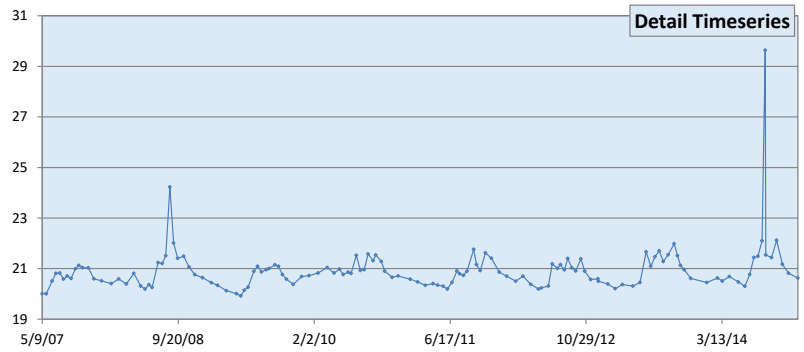


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

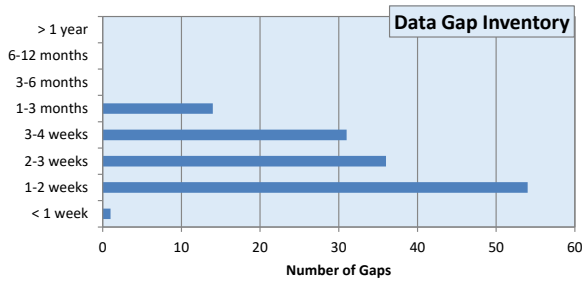
49-GW22 (2007 - 2014) : 49-GW22 (Grnd Elev: 26.18)

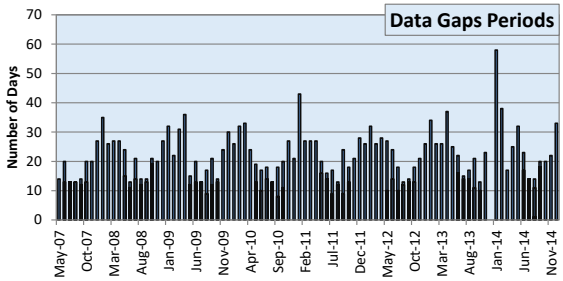
STG (ft NAVD88) - WELL

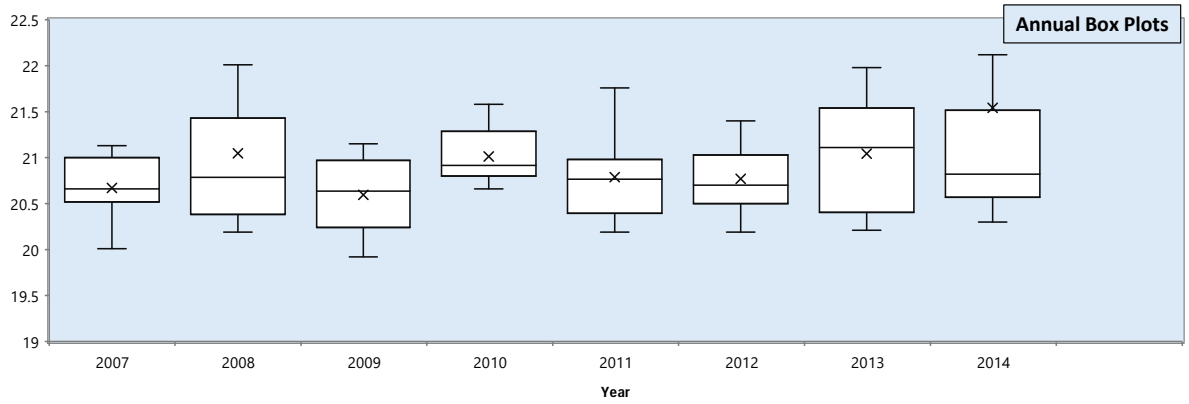
(26.45124, -81.57916)

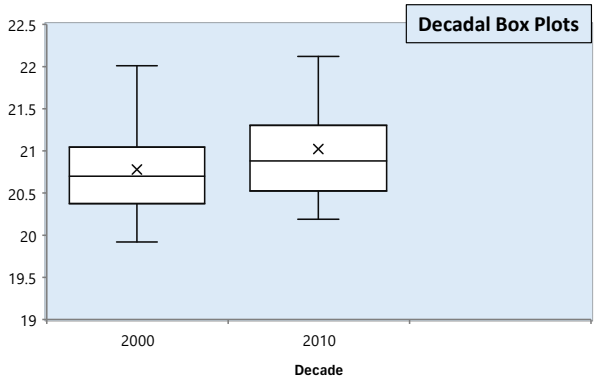


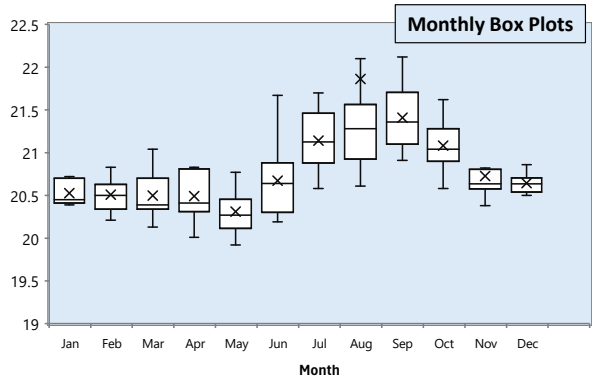
Statistics			
P100 (Max)	29.64	Average	20.93
P90	21.53	StdDev	0.93
P75	21.16	Count	138
P50 (Median)	20.82	SE	0.08
P25	20.48		
P10	20.30	POR	May-2007
P0 (Min)	19.92		Dec-2014
Range	9.72		
IQR	0.68		
% Complete	5%		









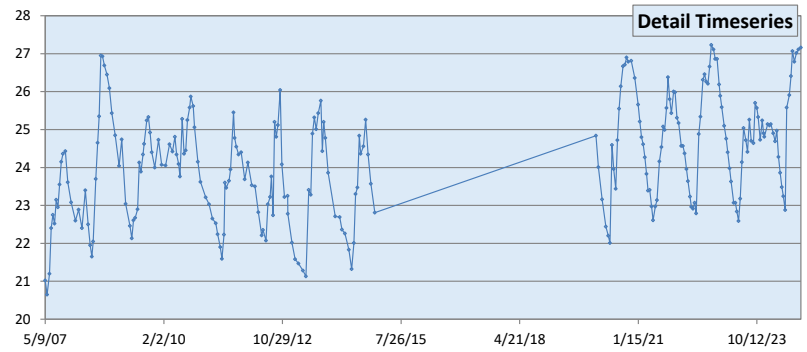


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

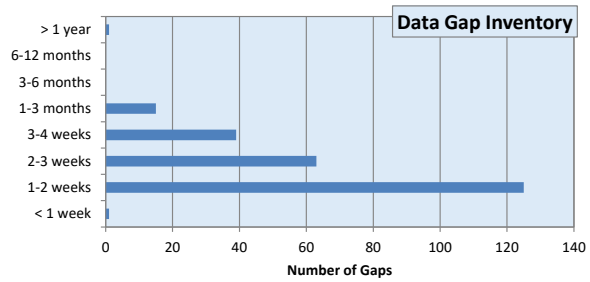
49-GW23 (2007 - 2024) : 49-GW23 (Grnd Elev: 28.51)

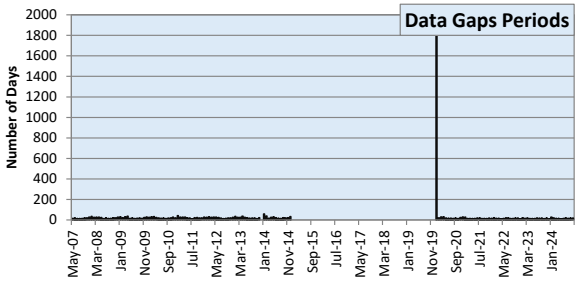
STG (ft NAVD88) - WELL

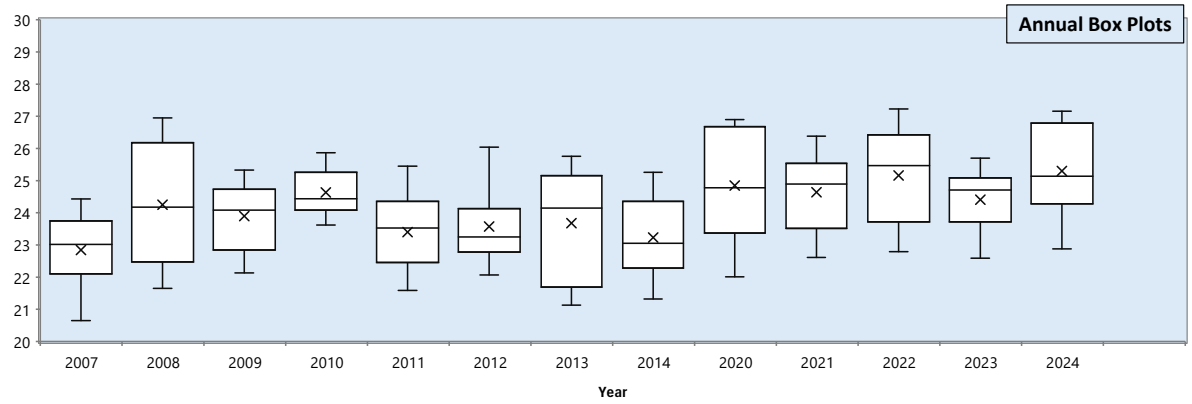
(26.45092, -81.60232)

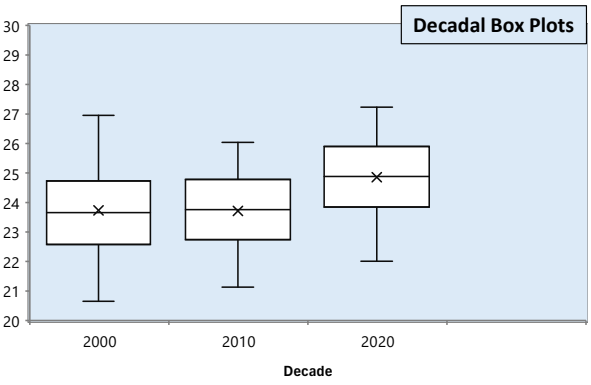


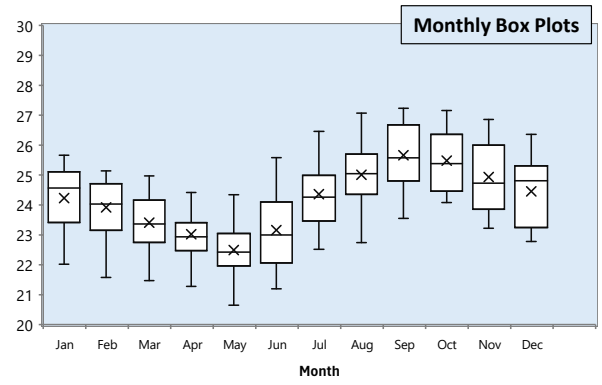
Statistics			
P100 (Max)	27.23	Average	24.22
P90	26.24	StdDev	1.46
P75	25.23	Count	246
P50 (Median)	24.34	SE	0.09
P25	23.07		
P10	22.36	POR	May-2007
P0 (Min)	20.65		Oct-2024
Range	6.58		
IQR	2.16		
% Complete	4%		









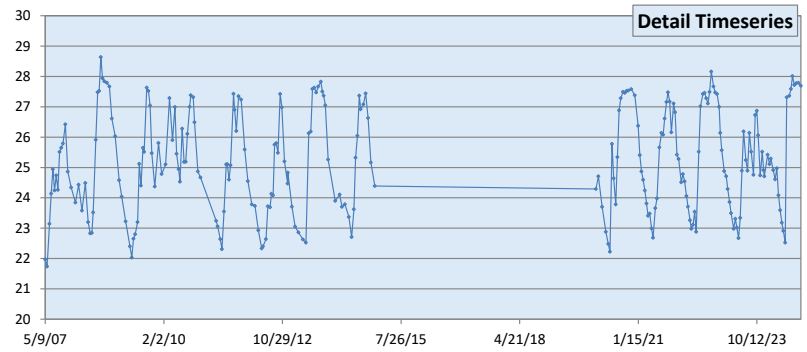


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

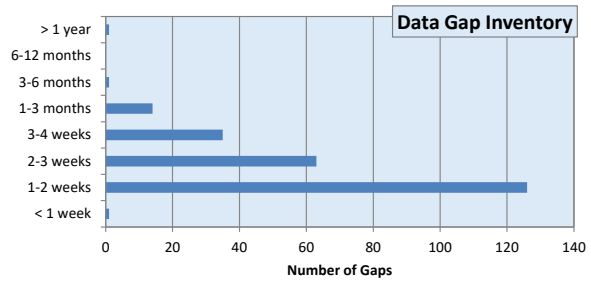
49-GW24 (2007 - 2024) : 49-GW24 (Grnd Elev: 27.77)

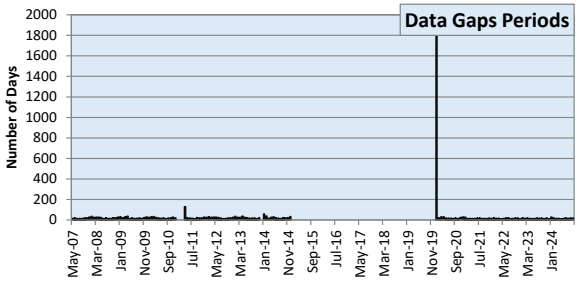
STG (ft NAVD88) - WELL

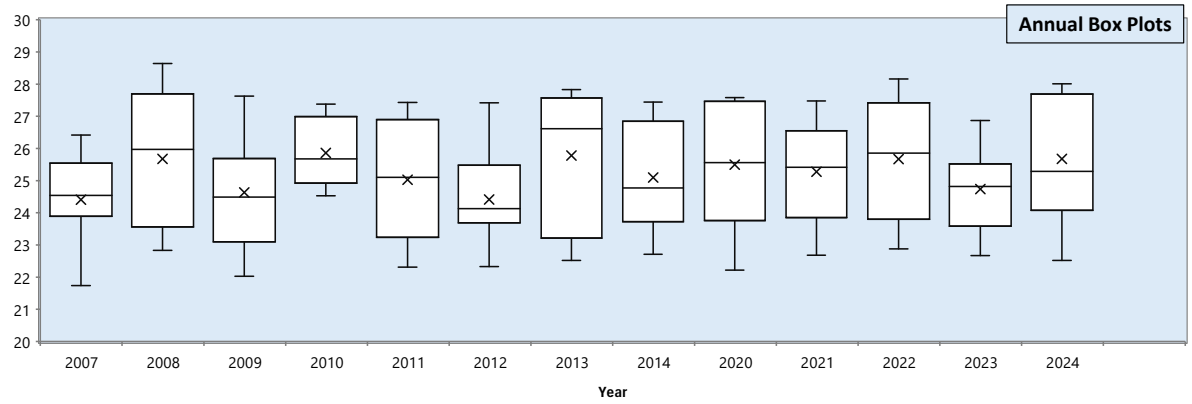
(26.45079, -81.62061)

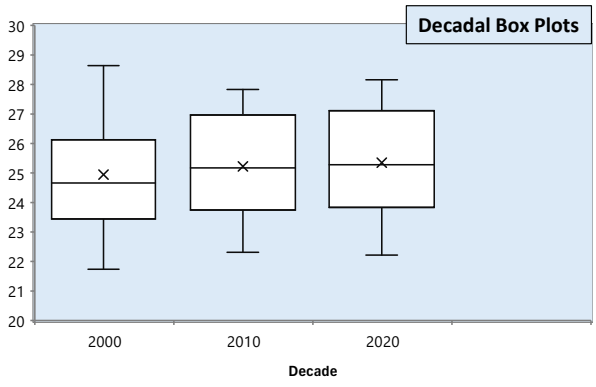


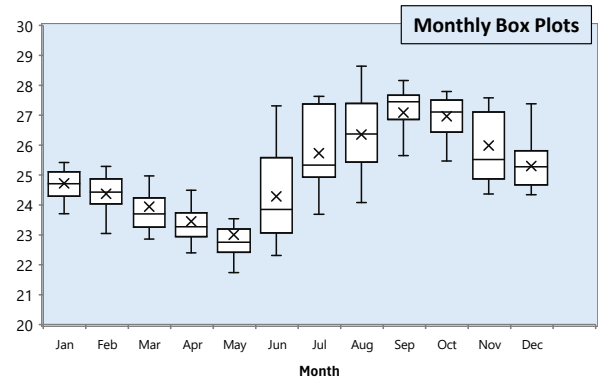
Statistics			
P100 (Max)	28.64	Average	25.22
P90	27.49	StdDev	1.70
P75	26.95	Count	243
P50 (Median)	25.11	SE	0.11
P25	23.78		
P10	22.91	POR	May-2007
P0 (Min)	21.74		Oct-2024
Range	6.90		
IQR	3.17		
% Complete	4%		









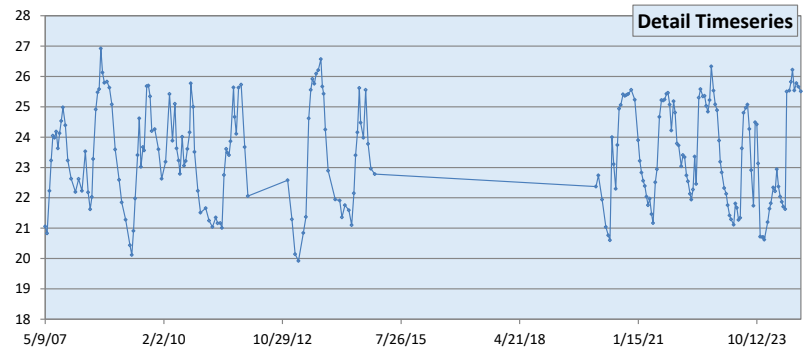


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

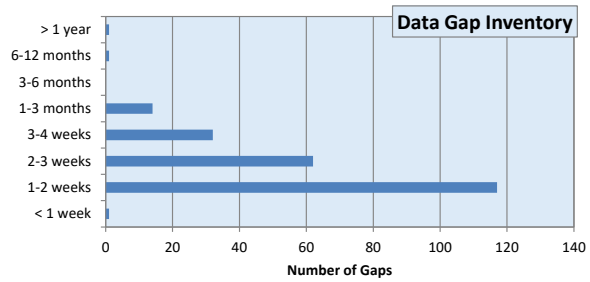
49-GW25 (2007 - 2024) : 49-GW25 (Grnd Elev: 26.67)

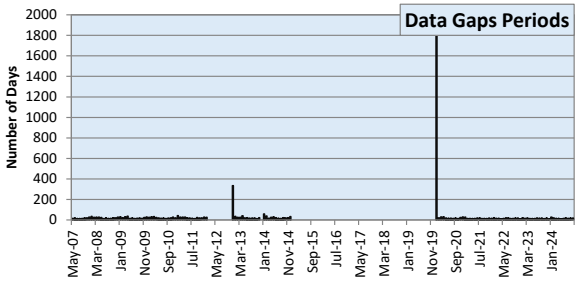
STG (ft NAVD88) - WELL

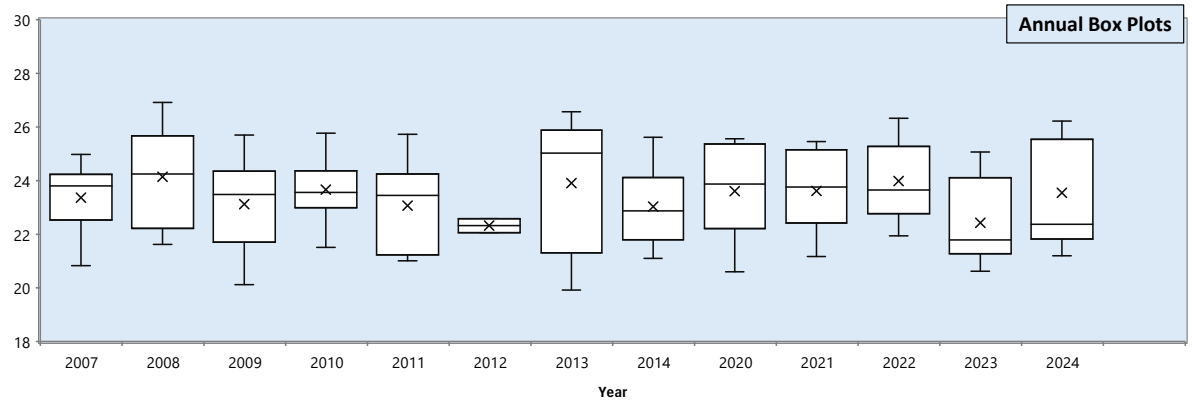
(26.45068, -81.63998)

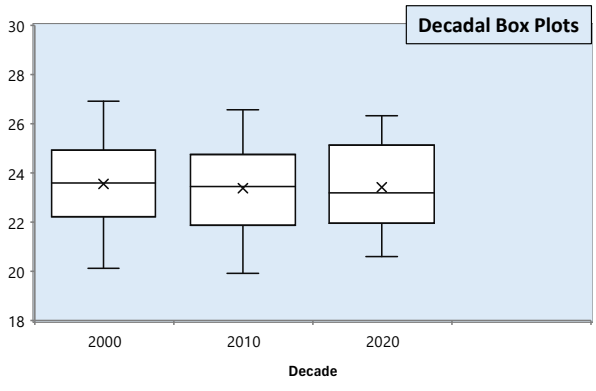


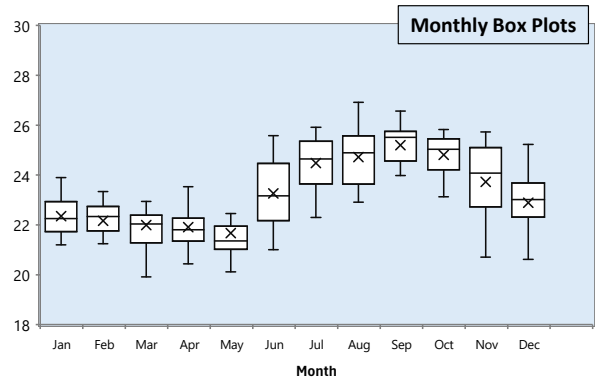
Statistics			
P100 (Max)	26.92	Average	23.44
P90	25.59	StdDev	1.66
P75	25.06	Count	229
P50 (Median)	23.41	SE	0.11
P25	22.04		
P10	21.24	POR	May-2007
P0 (Min)	19.92		Oct-2024
Range	7.00		
IQR	3.02		
% Complete	4%		









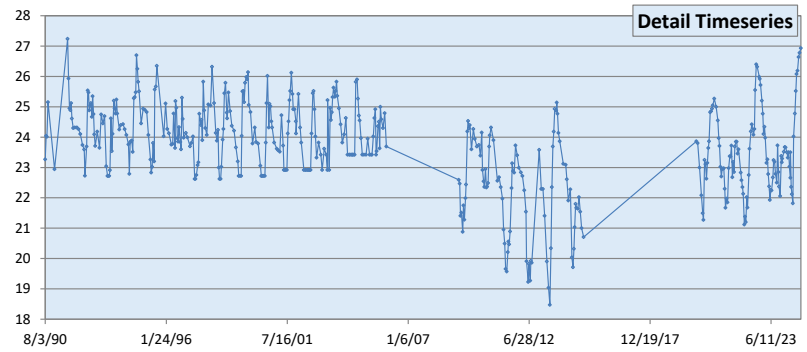


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

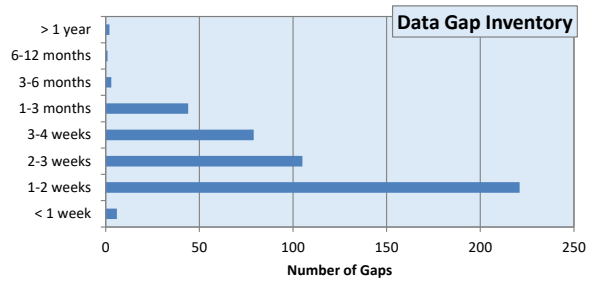
49-GW3 (1990 - 2024) : 49-GW3 (Grnd Elev: 26.67)

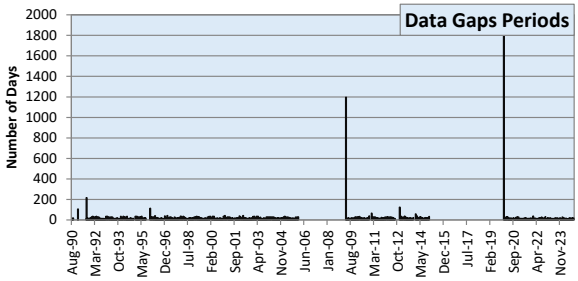
STG (ft NAVD88) - WELL

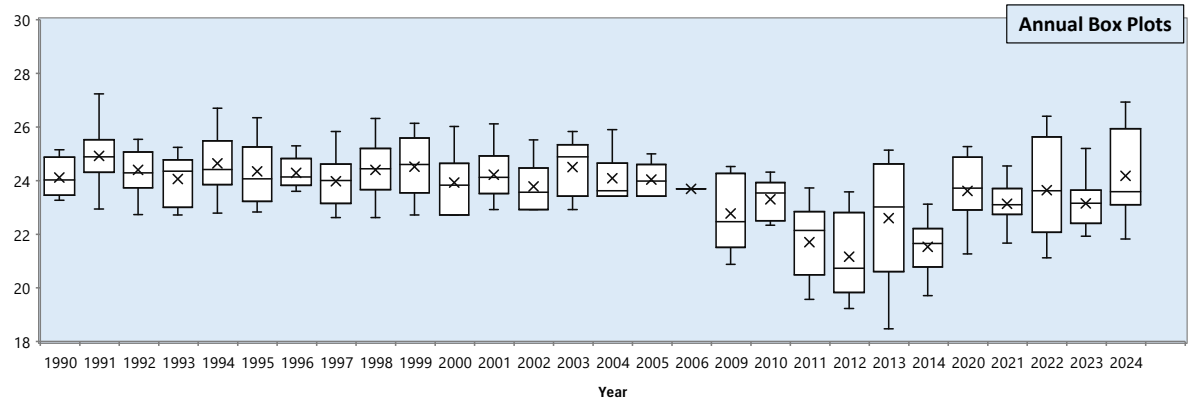
(26.49259, -81.67669)

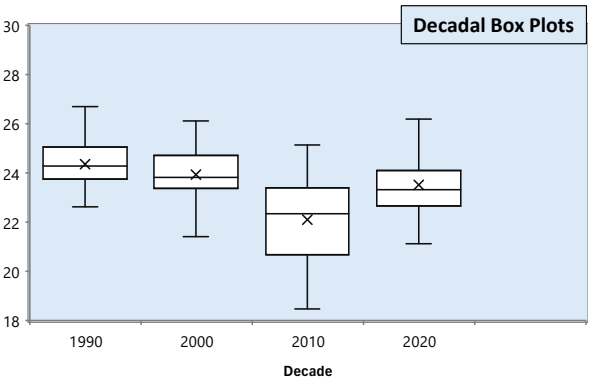


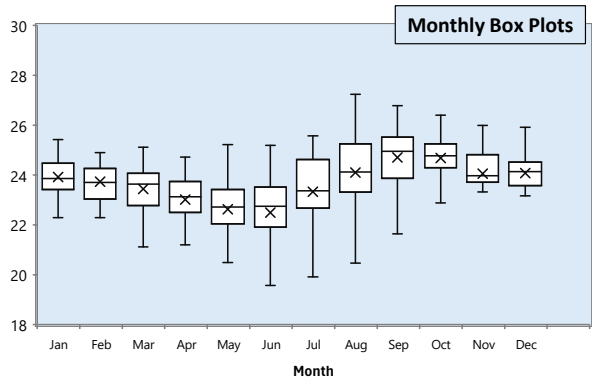
Statistics			
P100 (Max)	27.24	Average	23.67
P90	25.41	StdDev	1.43
P75	24.69	Count	462
P50 (Median)	23.75	SE	0.07
P25	22.89		
P10	21.97	POR	Aug-1990
P0 (Min)	18.47		Oct-2024
Range	8.77		
IQR	1.80		
% Complete	4%		









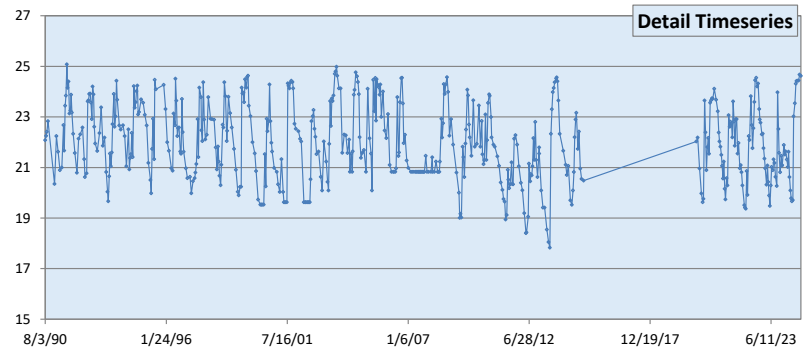


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

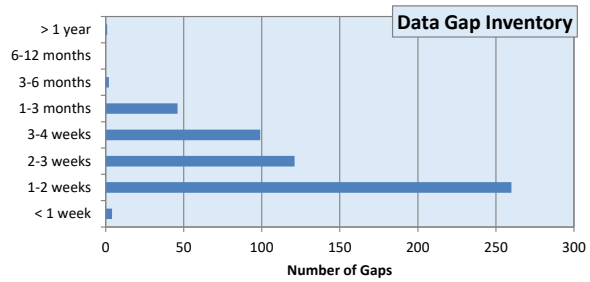
49-GW4 (1990 - 2024) : 49-GW4 (Grnd Elev: 24.24)

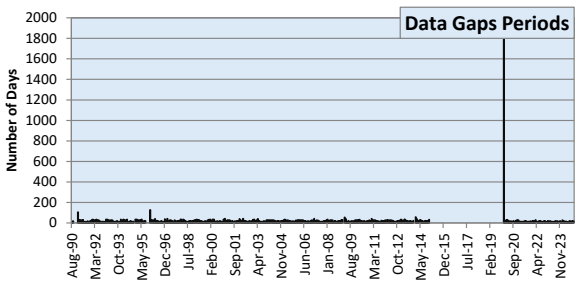
STG (ft NAVD88) - WELL

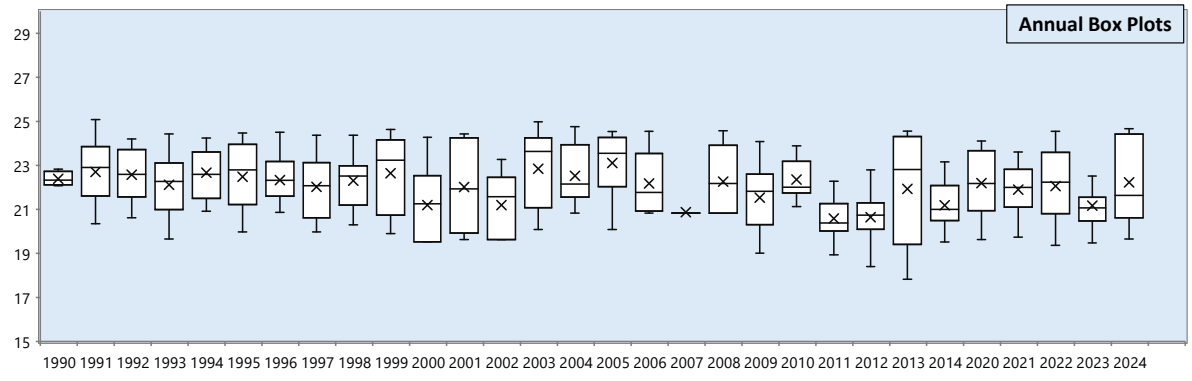
(26.49003, -81.70108)

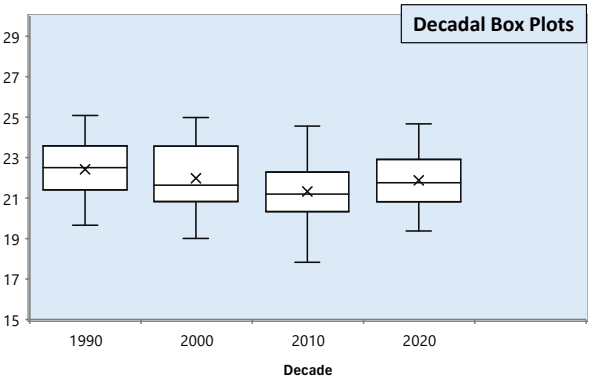


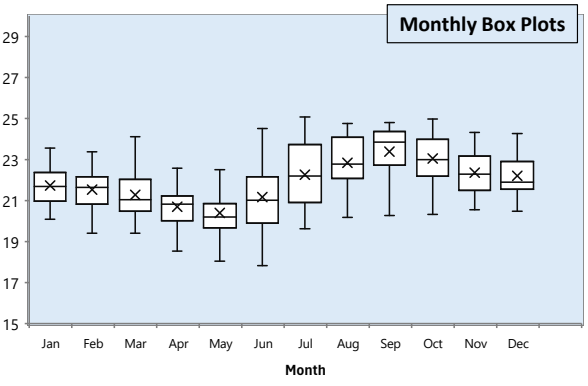
Statistics			
P100 (Max)	25.08	Average	21.99
P90	24.16	StdDev	1.52
P75	23.17	Count	535
P50 (Median)	21.90	SE	0.07
P25	20.83		
P10	20.03	POR	Aug-1990
P0 (Min)	17.83		Oct-2024
Range	7.25		
IQR	2.34		
% Complete	4%		









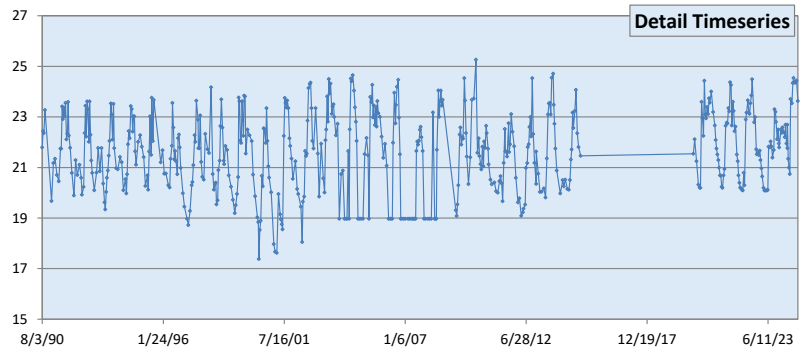


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

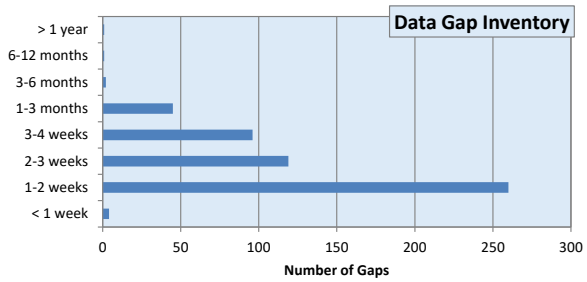
49-GW5 (1990 - 2024) : 49-GW5 (Grnd Elev: 24.53)

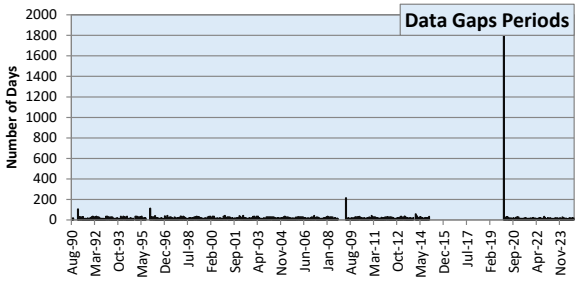
STG (ft NAVD88) - WELL

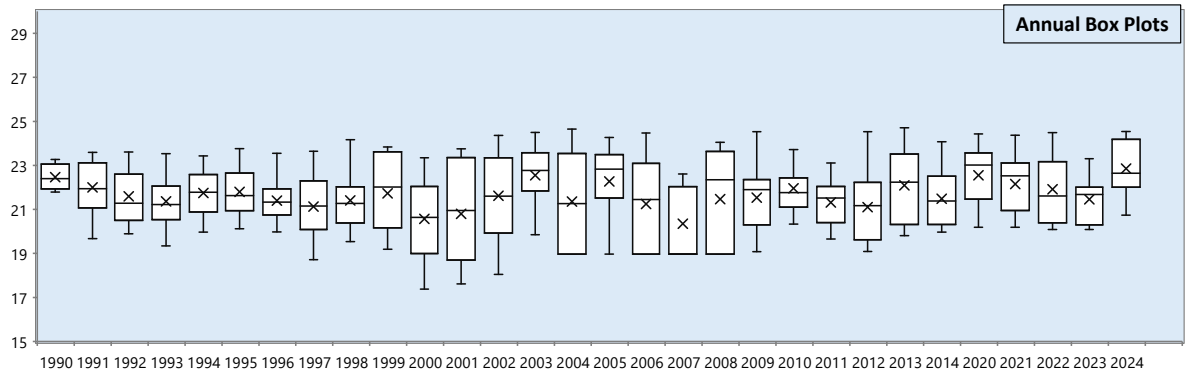
(26.44884, -81.66573)

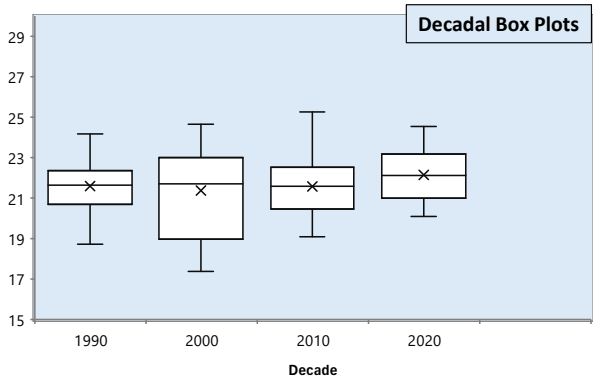


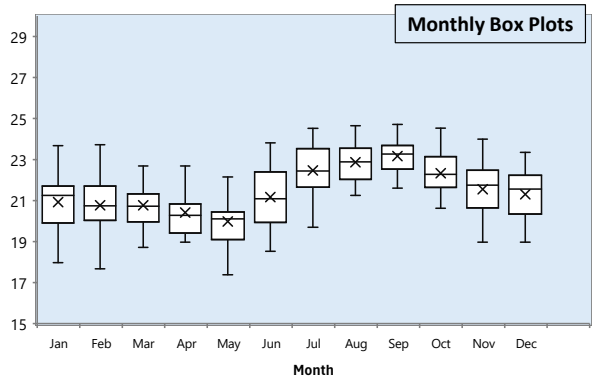
Statistics			
P100 (Max)	25.26	Average	21.63
P90	23.63	StdDev	1.57
P75	22.81	Count	530
P50 (Median)	21.74	SE	0.07
P25	20.45		
P10	19.31	POR	Aug-1990
P0 (Min)	17.38		Oct-2024
Range	7.88		
IQR	2.36		
% Complete	4%		









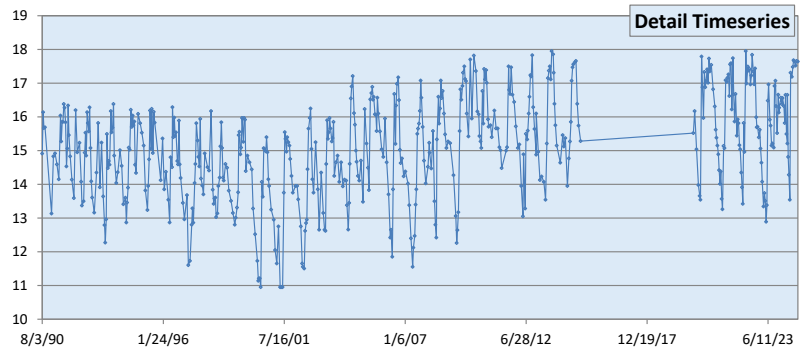


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

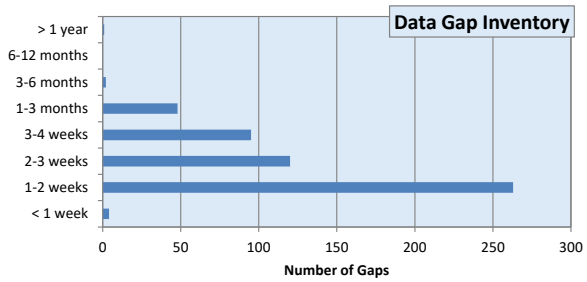
49-GW6 (1990 - 2024) : 49-GW6 (Grnd Elev: 17.4)

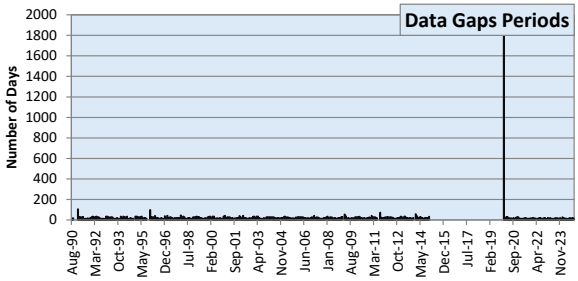
STG (ft NAVD88) - WELL

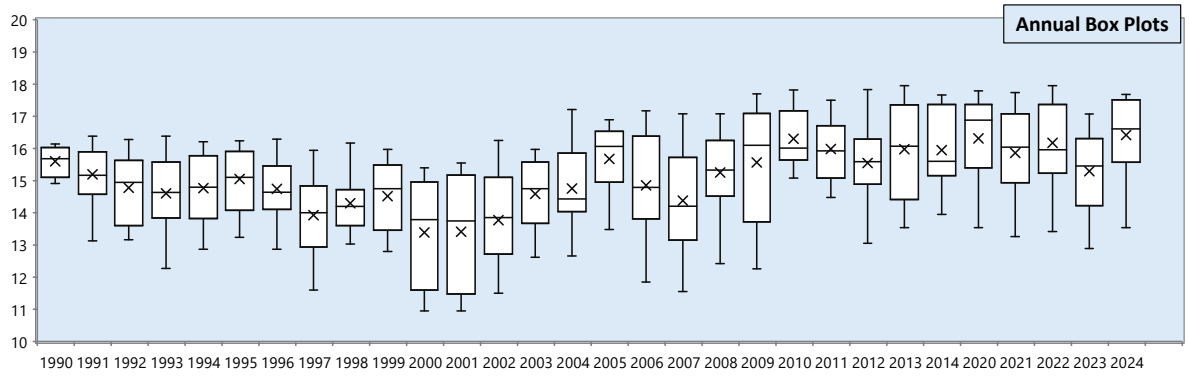
(26.42143, -81.696)

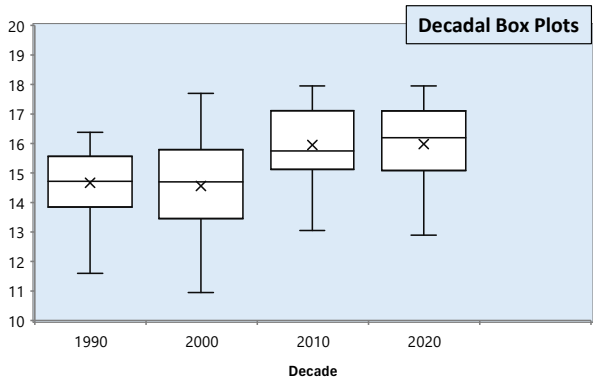


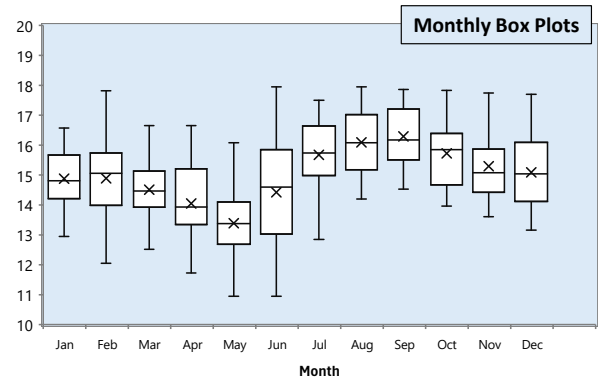
Statistics			
P100 (Max)	17.95	Average	15.10
P90	17.10	StdDev	1.50
P75	16.16	Count	535
P50 (Median)	15.18	SE	0.06
P25	14.08		
P10	13.14	POR	Aug-1990
P0 (Min)	10.95		Oct-2024
Range	7.00		
IQR	2.08		
% Complete	4%		









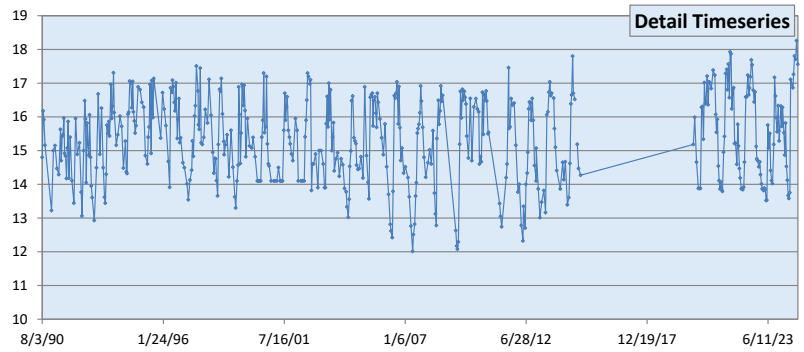


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

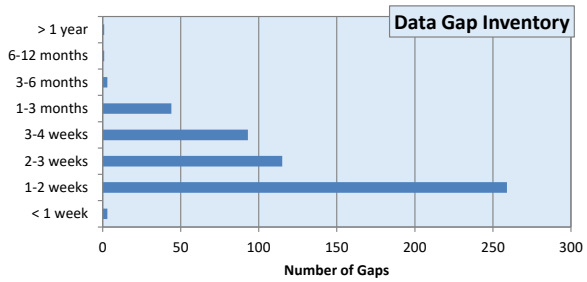
49-GW7 (1990 - 2024) : 49-GW7 (Grnd Elev: 18.2)

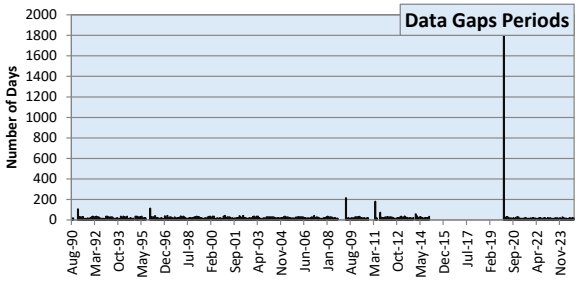
STG (ft NAVD88) - WELL

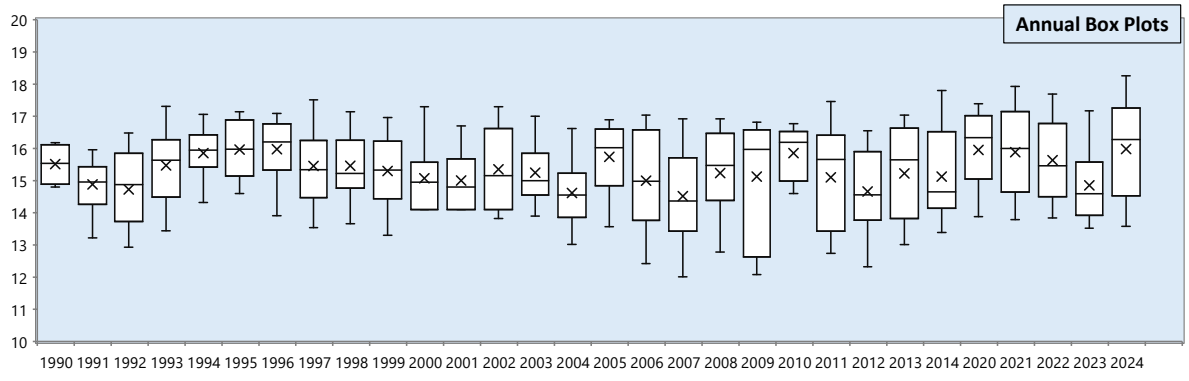
(26.4036, -81.6747)

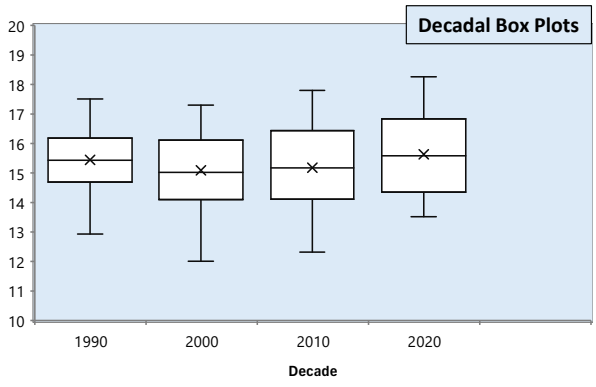


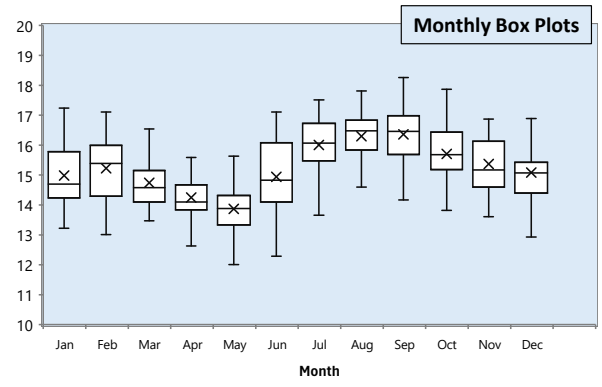
Statistics			
P100 (Max)	18.26	Average	15.32
P90	16.90	StdDev	1.25
P75	16.39	Count	519
P50 (Median)	15.38	SE	0.05
P25	14.35		
P10	13.79	POR	Aug-1990
P0 (Min)	12.01		Oct-2024
Range	6.25		
IQR	2.04		
% Complete	4%		









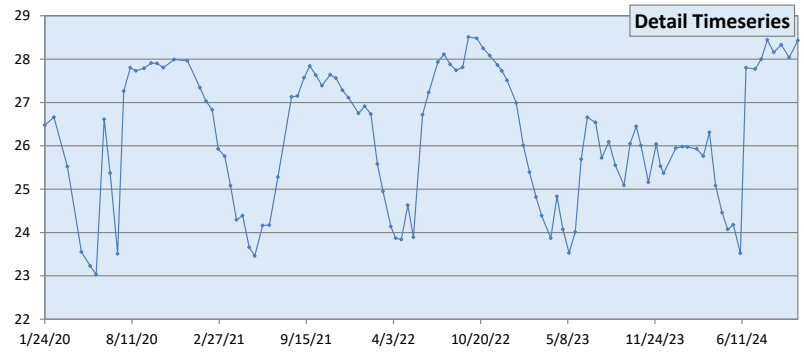


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

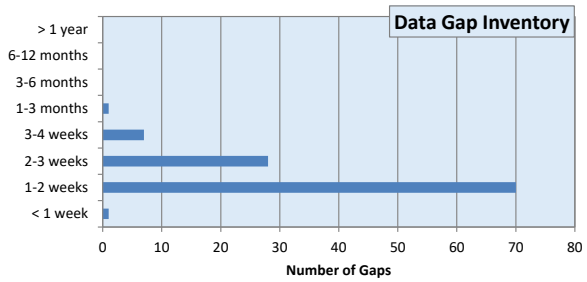
JE1161 (2020 - 2024) : JE1161

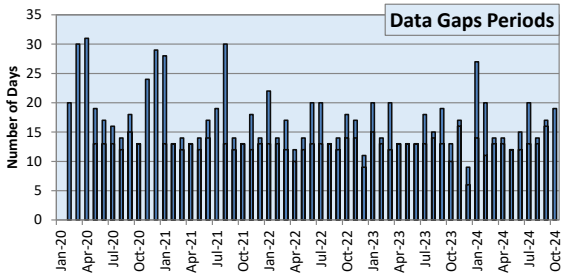
STG (ft NAVD88) - WELL

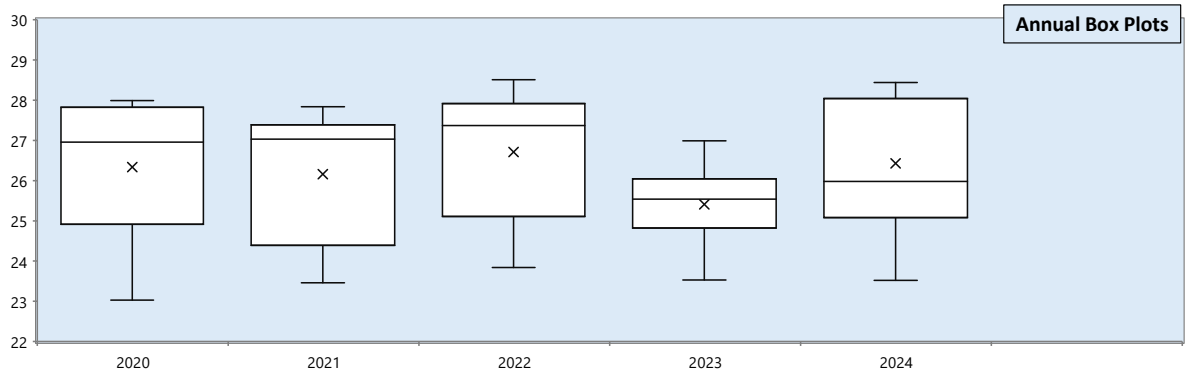
(26.47693, -81.61194)

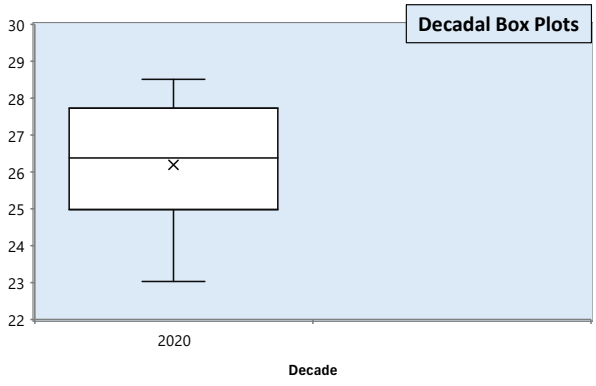


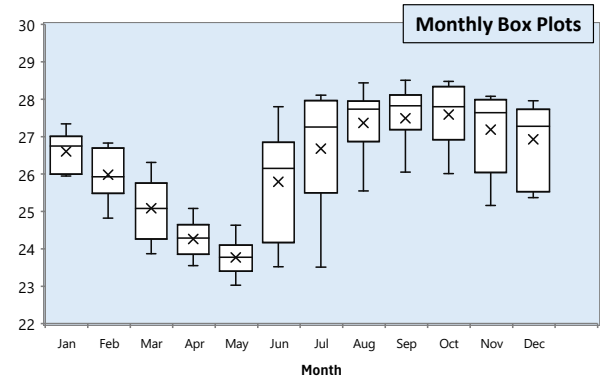
Statistics			
P100 (Max)	28.51	Average	26.19
P90	27.99	StdDev	1.56
P75	27.73	Count	108
P50 (Median)	26.38	SE	0.15
P25	25.05		
P10	23.88	POR	Jan-2020
P0 (Min)	23.03		Oct-2024
Range	5.48		
IQR	2.68		
% Complete	6%		









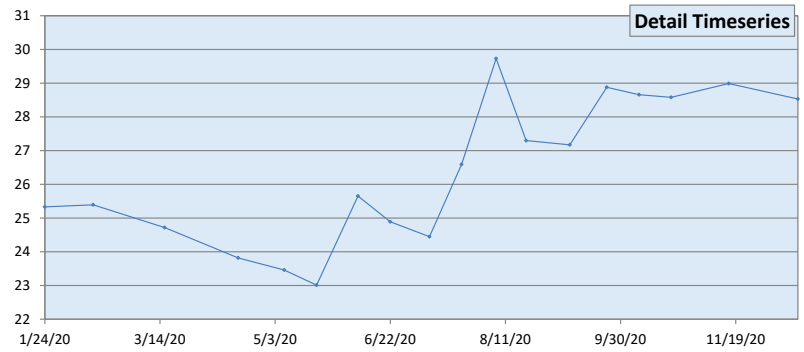


CORKSCREW WATERSHED INITIATIVE - DATA DISCOVERY

JE1160 (2020 - 2020) : JE1160

STG (ft NAVD88) - WELL

(26.49264, -81.61407)



Statistics			
P100 (Max)	29.73	Average	26.40
P90	28.91	StdDev	2.14
P75	28.57	Count	18
P50 (Median)	26.12	SE	0.51
P25	24.76		
P10	23.71	POR	Jan-2020
P0 (Min)	23.01		Dec-2020
Range	6.72		
IQR	3.81		
% Complete	6%