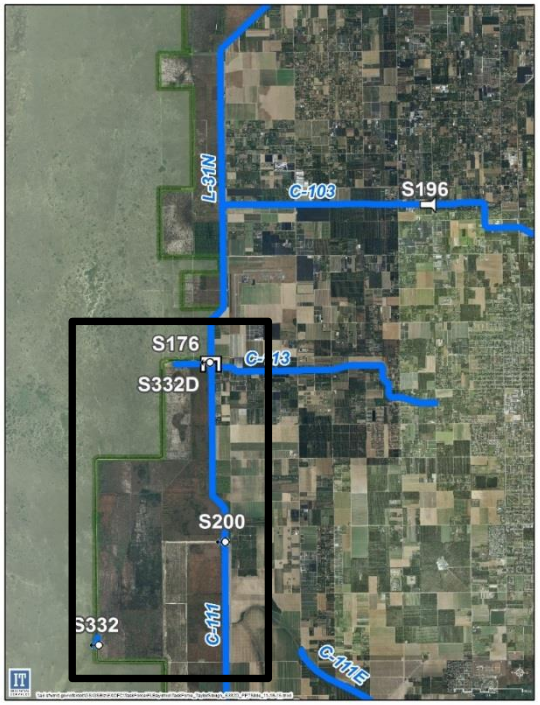
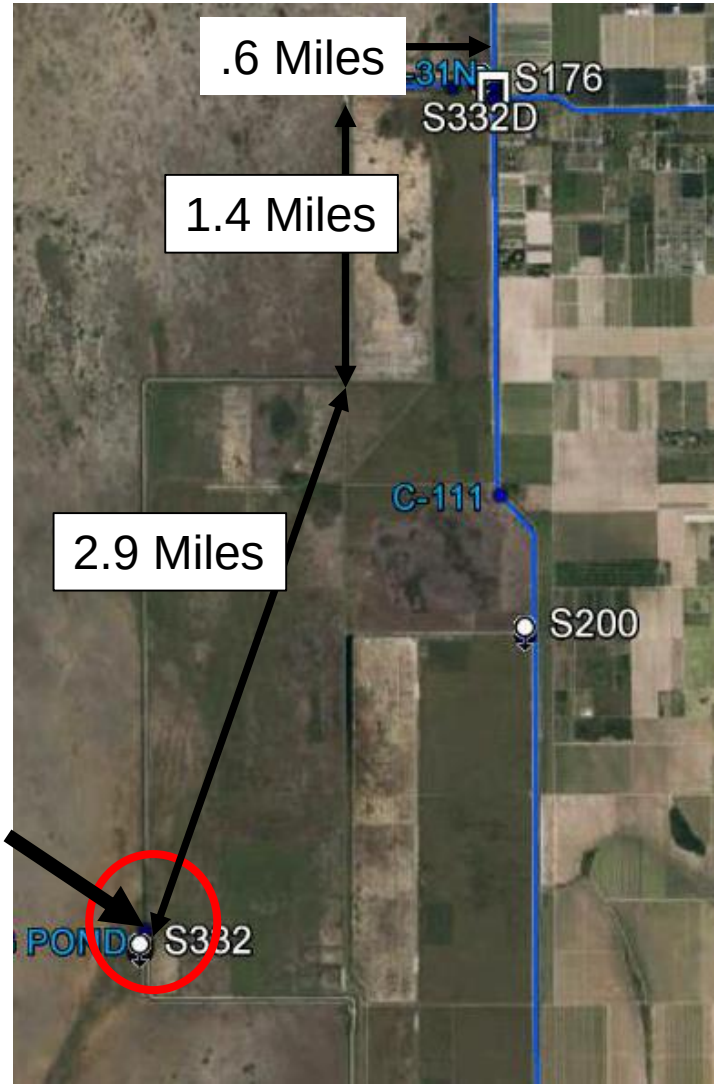
Potential Options Refinement

South Florida Water Management District
December 14, 2015





Taylor Slough

Challenges in getting water to Taylor Slough and keeping it away from agricultural areas

"Step 1" Series of Scenarios

Step 1A1 run: Increment 1 +

- S199s and S200s operated lower (Sep-Dec only) and transition to current ops Jan1-Feb15
- Send flows toward Taylor Slough (Task force FL Bay Options 2+3+4)
- S176 : add S176_2 structure with 100cfs capacity and operate (Sep-Dec) 0.2 ft lower, S176 capacity decreased by 100cfs (Sep-Dec)
- S177: revised ops for Sep-Dec by adding S177_2 structure with 200cfs capacity and operate at 3.9/3.2, S177 capacity decreased by 200cfs (Sep-Dec)

Step1A2 run: Step1A1 +

- S176_2 capacity increased to 200cfs.
- S199s and S200s operated 0.5 ft lower and transition to current ops Jan1-Feb15
- Maximize flows to TS by adding a berm on the east side at L31W gap to prevent eastward flows

Step1B run: Increment 1 +

- Rainfall Event driven special operations for September to April applied to S176_2 (design Capacity 200cfs), S177, S199s and S200s keeping existing CSSS restrictions for S199s and S200s.

"Step 2" Series of Scenarios

Step2A: Step1A+

- S332D operated at 0.5 ft lower for Aug-Dec and transition to current ops from Jan1-Feb15
- Add 125 cfs pump downstream of S178 and operate 0.1 ft higher compared to S18C
- Add contract 8 (full NDA)+ Contract 8A (Connection between 8.5 SMA and NDA) like operations
- Raise L-29 max stage from 7.5 to 8.5

Step2B run: Step1B+

- Rainfall Event driven special operations for September to April applied to S332B, C, D keeping CSSS restrictions (in addition to S176_2 S177, S199s and S200s keeping existing CSSS restrictions for S199s and S200s.)
- Add 5 cell wcd between C-111 and C-111E + 50 cfs pump to get water out to C-111E
- Add 175 (125cfs+50cfs) cfs pump downstream of S178 and operate 0.1 ft higher compared to S18C
- Raise S18C open/close by 0.4 ft (per C111SC final PIR) + Raise S197 S18C trigger criteria by 0.4 ft
- Raise S20 open/close by 0.5 ft (per C111SC final PIR)

“Step 2” & “Step 3” Series of Scenarios

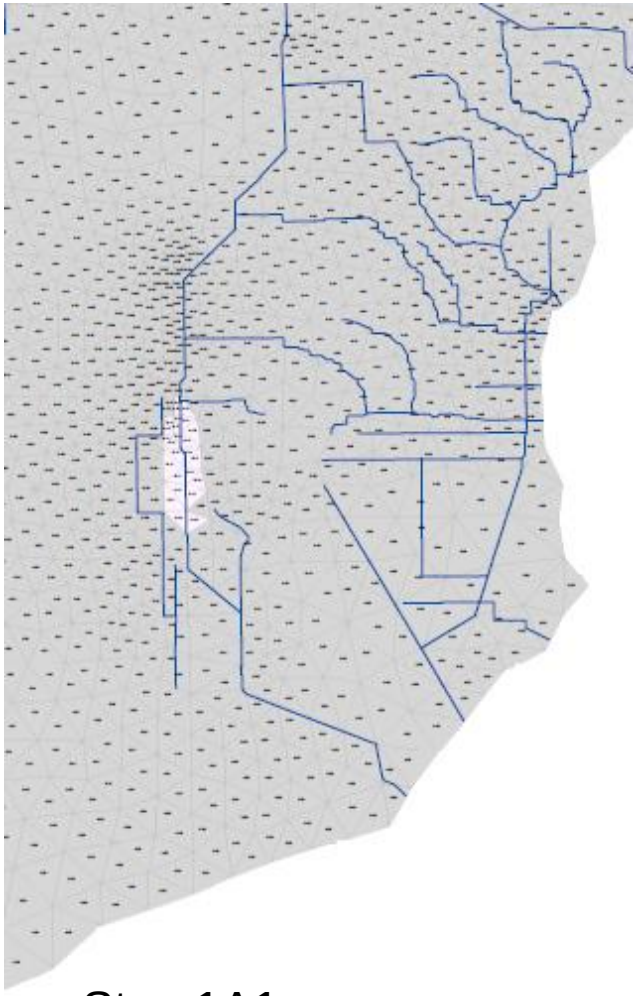
Step 2C run:

- S332 D, S199 and S200 operated 0.2 ft lower for Nov- May with no CSSS restrictions
- Send flows toward Taylor Slough (Task force FL Bay Options 2+3)
- Raise S18C 0.4 ft + Raise S197 S18C trigger criteria 0.4 ft
- Raise S20 open/close by 0.5 ft (per C111SC final PIR)
- Maximize flows to TS by adding a berm on the east side at L31W gap to prevent eastward flows
- Maximize flows to TS by blocking eastward overland flows 2 segments north of S332i

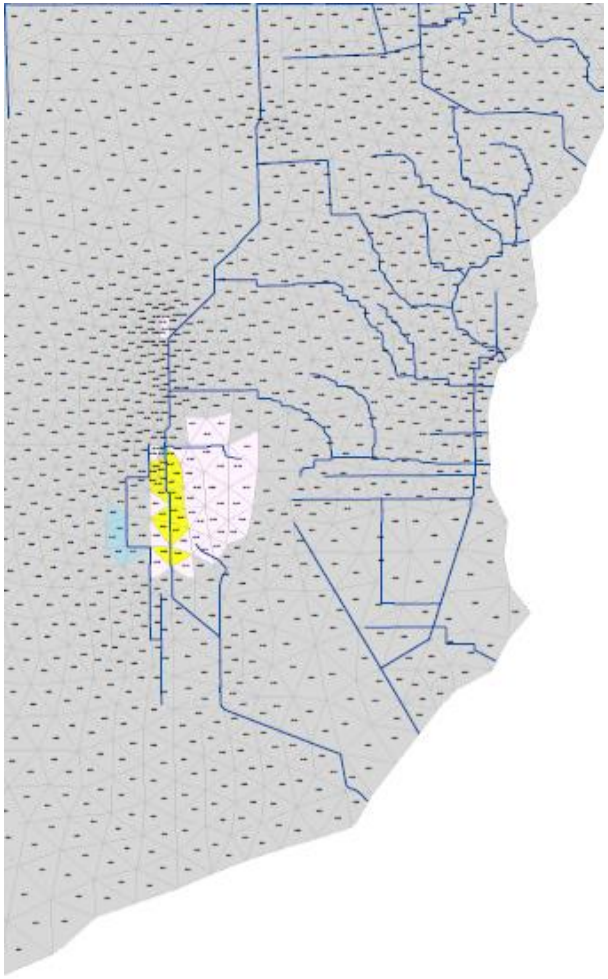
Step 3C run: Step2C +

- Seepage Barrier from S176 to S177 and one cell south of S177

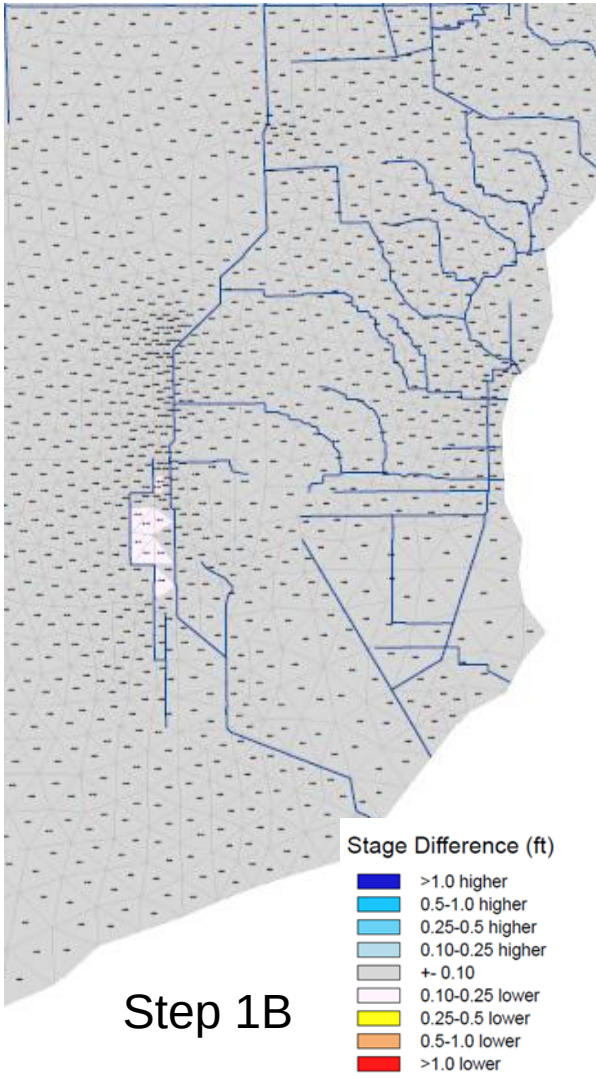
Average December "Step 1" Stage Difference Maps Compared to Increment 1



Step 1A1

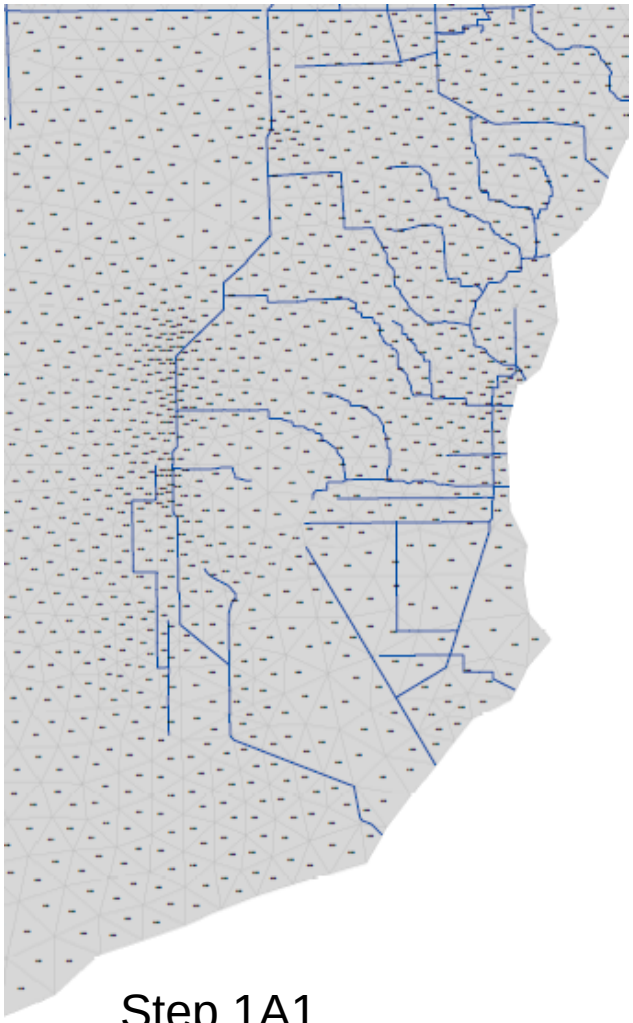


Step 1A2

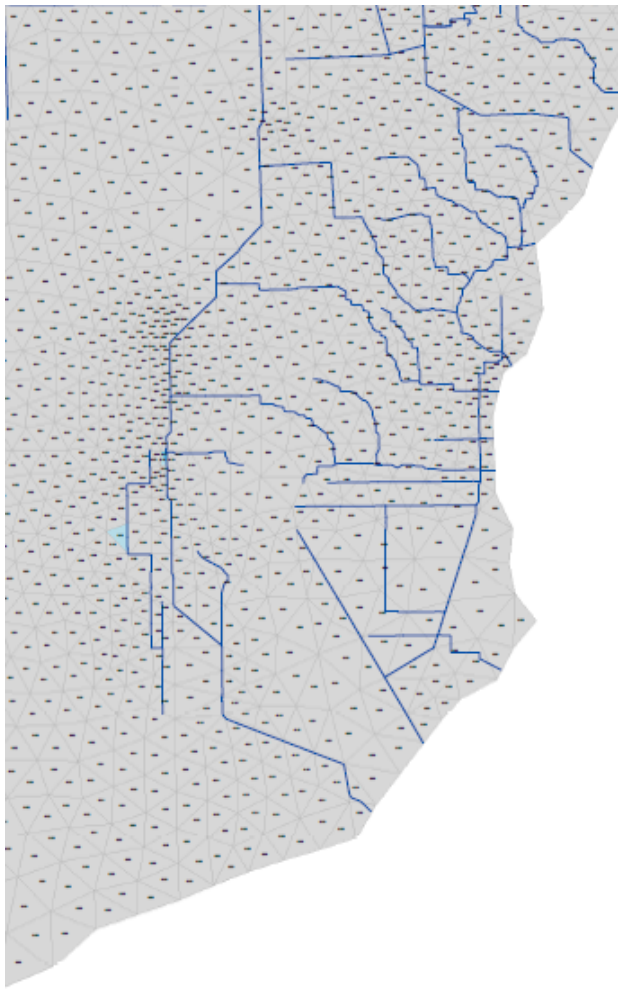


Step 1B

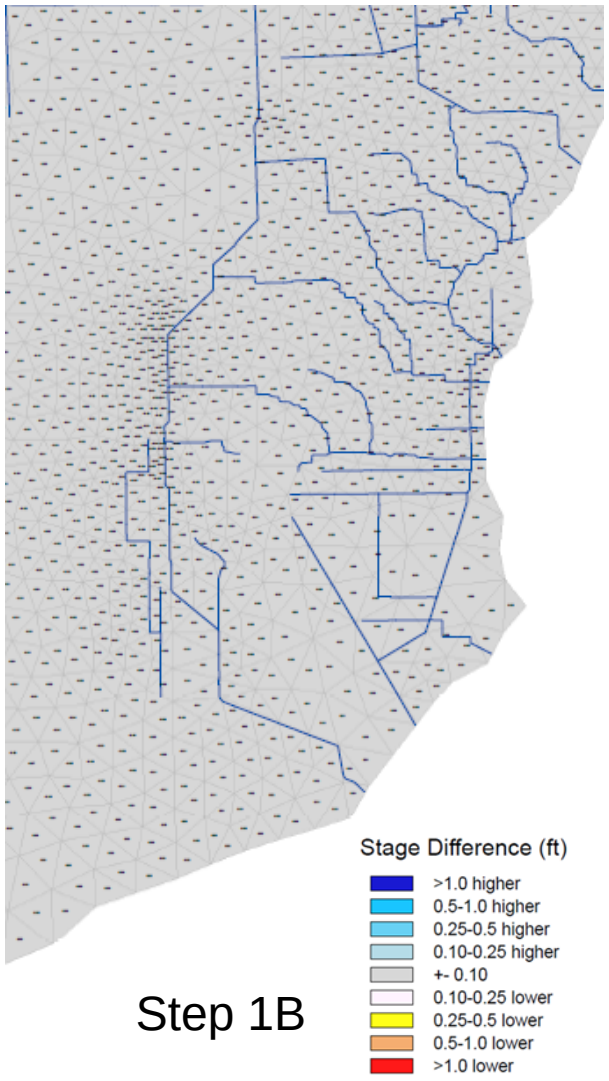
Average April "Step 1" Stage Difference Maps Compared to Increment 1



Step 1A1



Step 1A2



Step 1B

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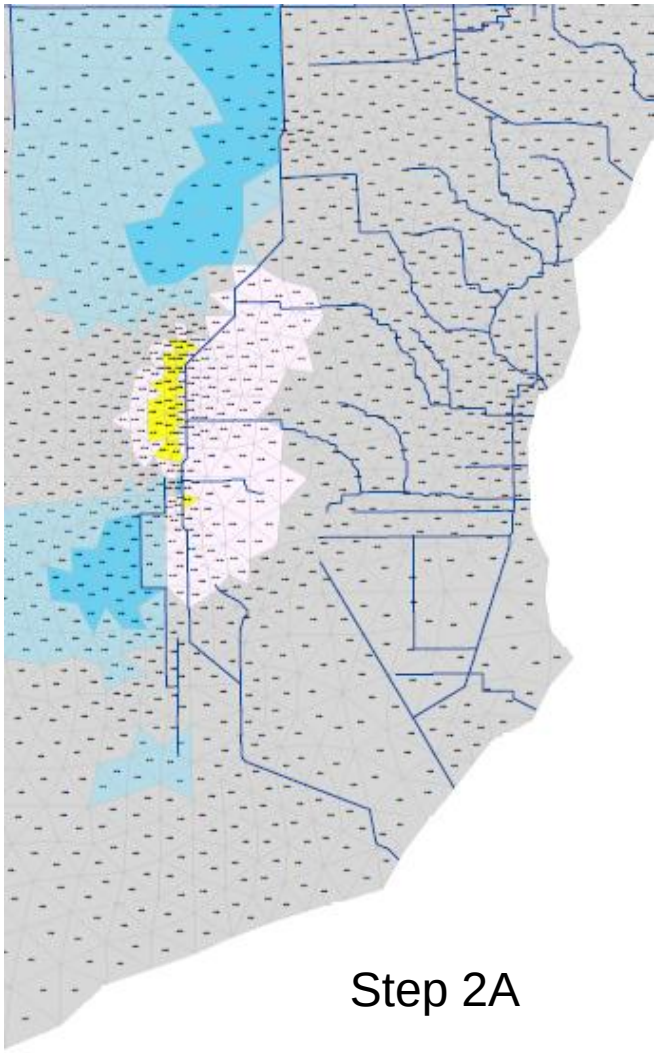
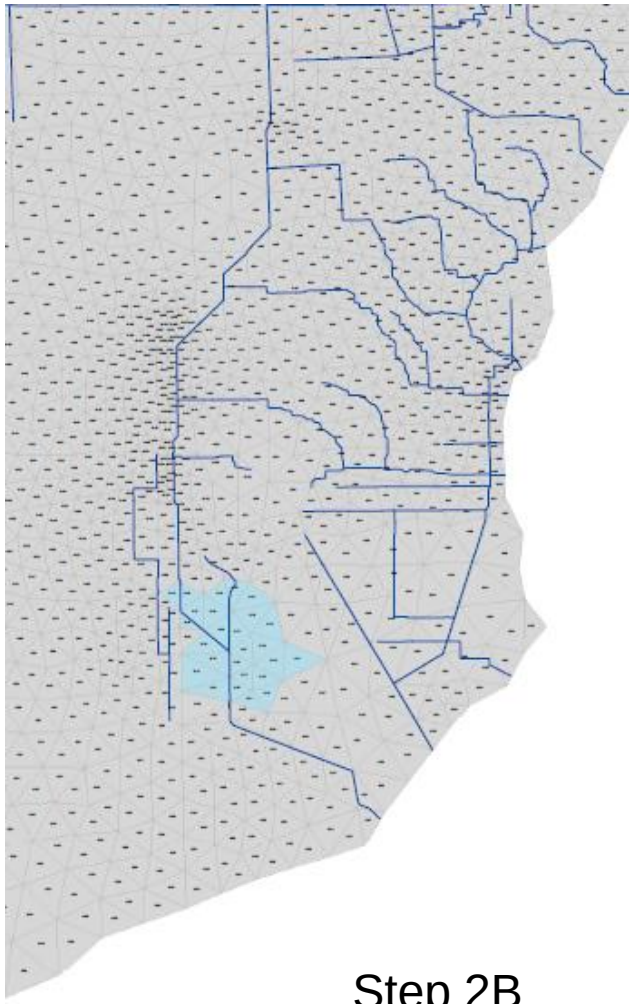
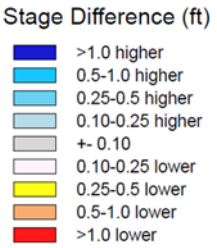


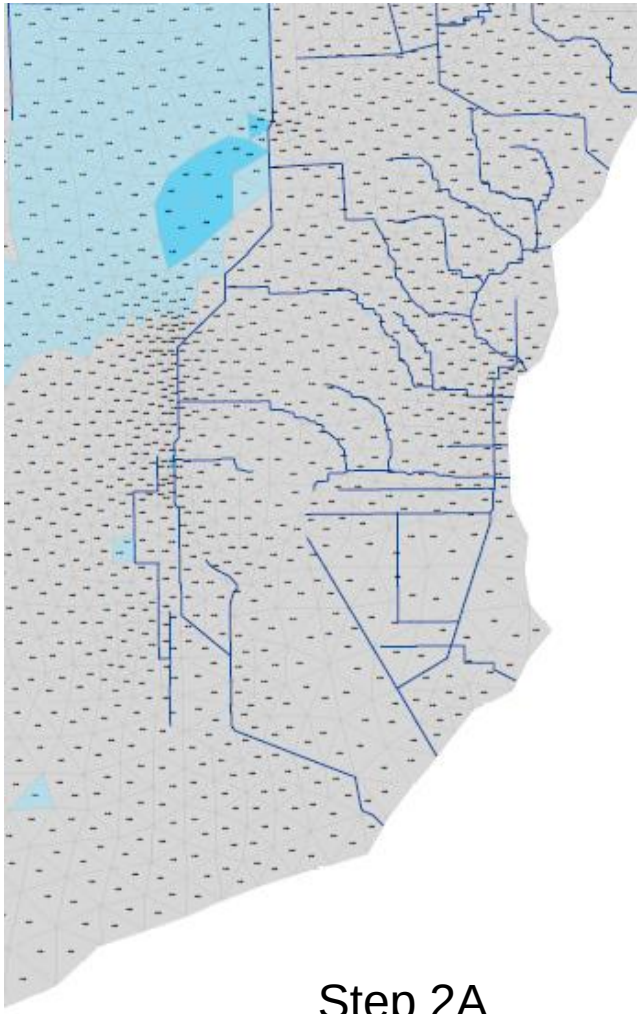
Step 2A



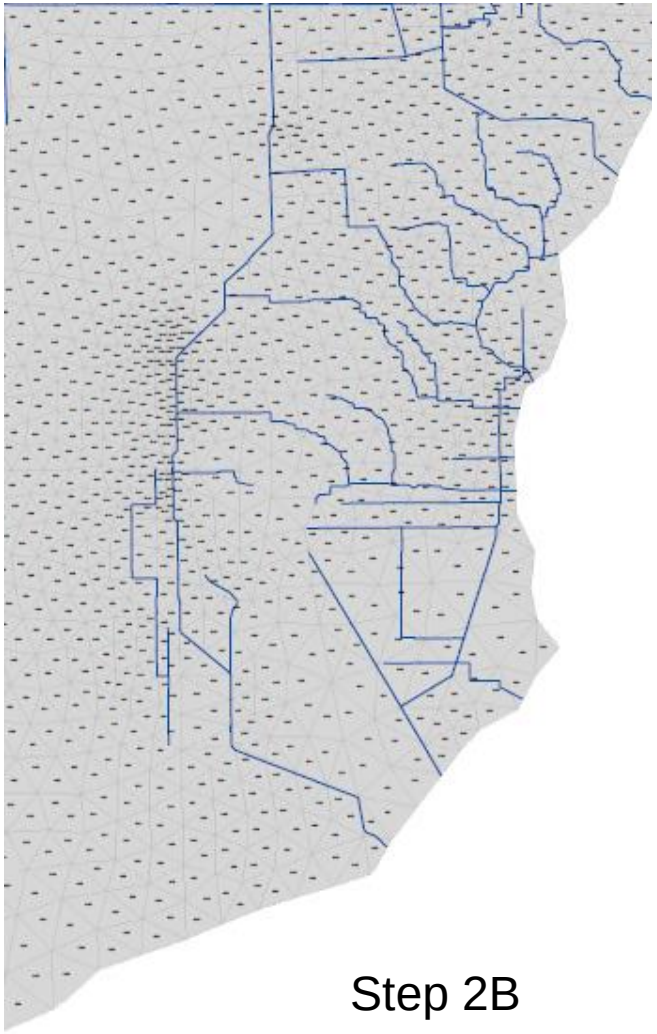
Step 2B



Average April "Step 2" Stage Difference Maps Compared to Increment 1

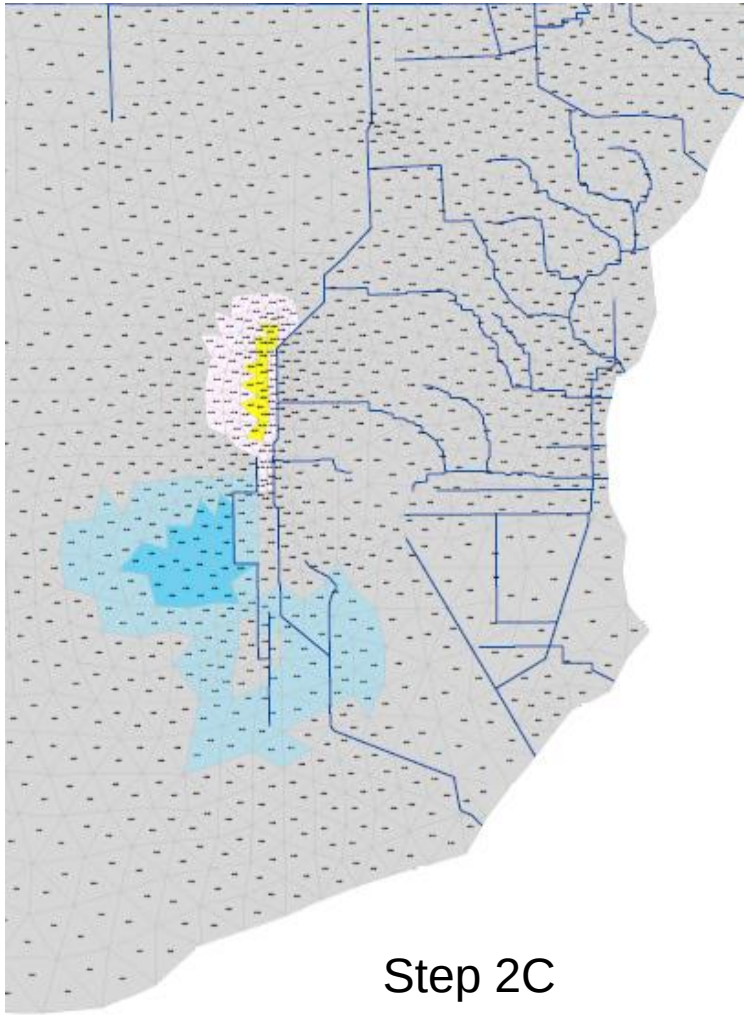


Step 2A

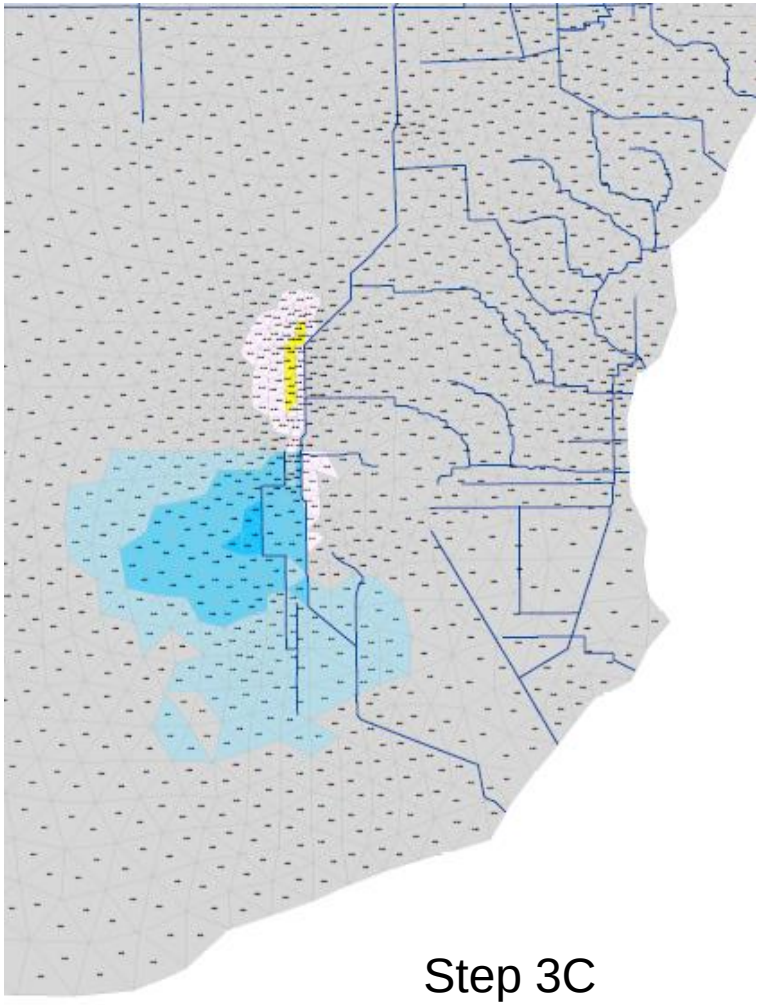


Step 2B

Average December "Step 2/3C" Stage Difference Maps Compared to Increment 1



Step 2C

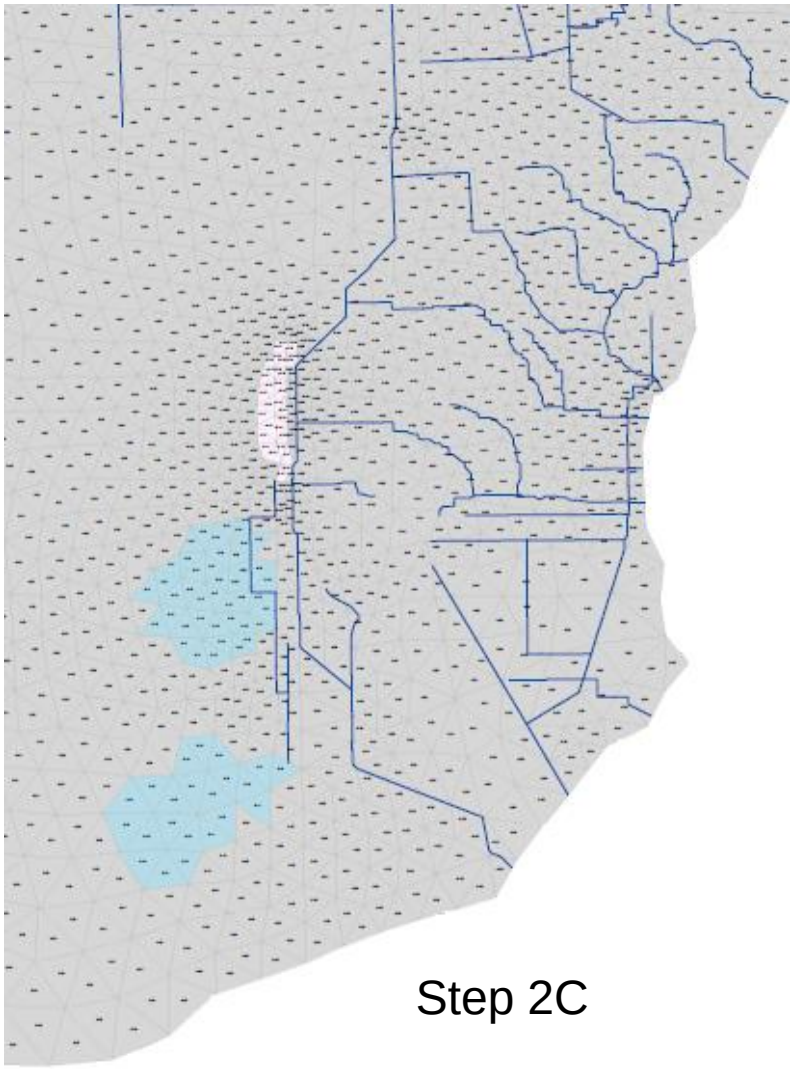


Step 3C

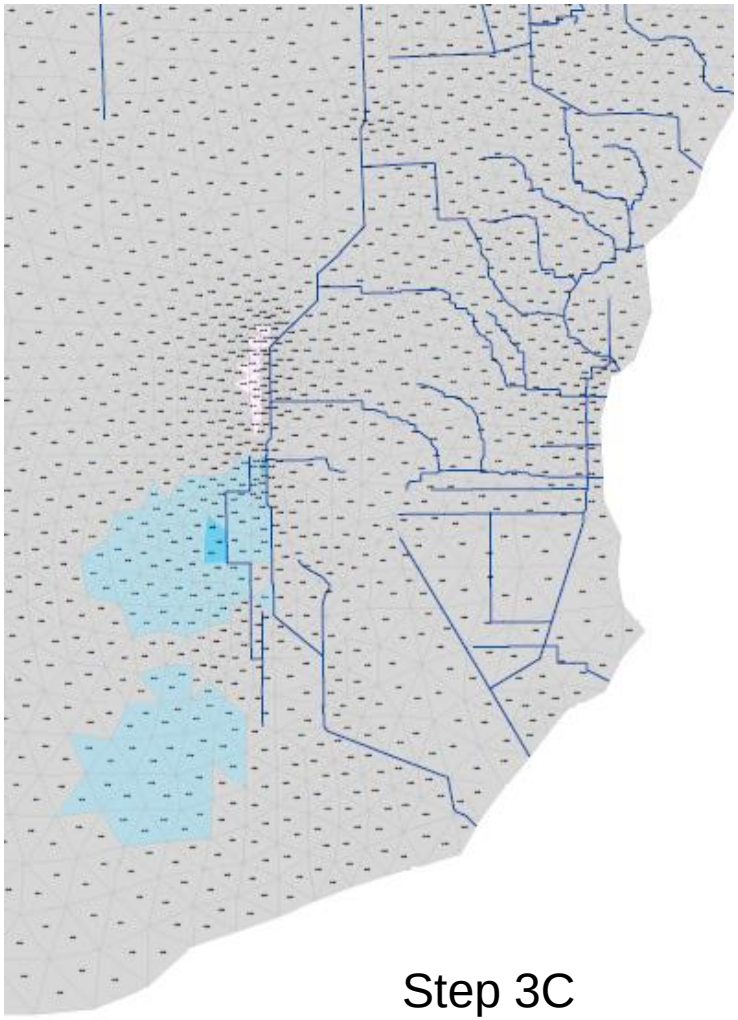
Stage Difference (ft)

- >1.0 higher
- 0.5-1.0 higher
- 0.25-0.5 higher
- 0.10-0.25 higher
- +- 0.10
- 0.10-0.25 lower
- 0.25-0.5 lower
- 0.5-1.0 lower
- >1.0 lower

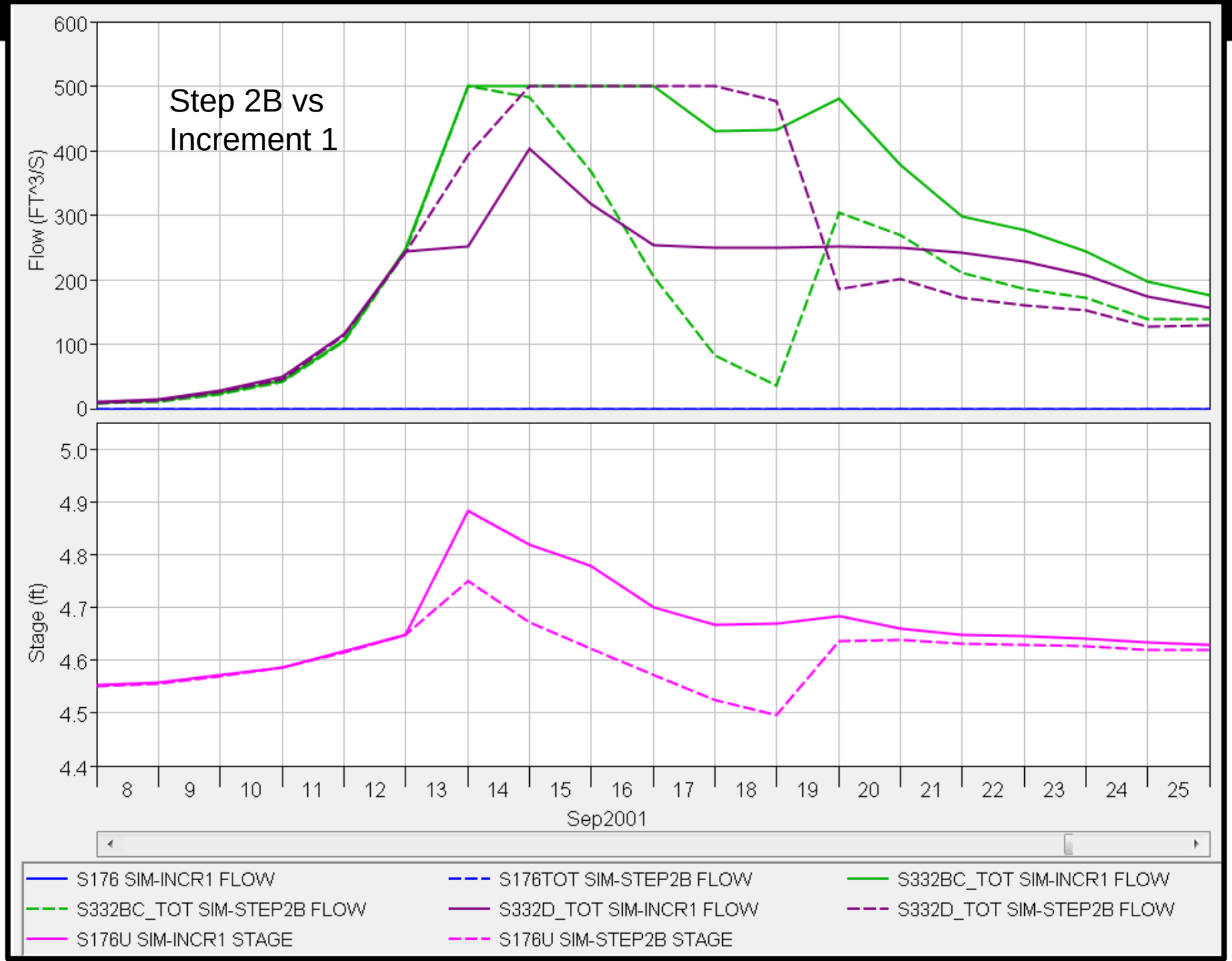
Average April "Step 2/3C" Stage Difference Maps Compared to Increment 1

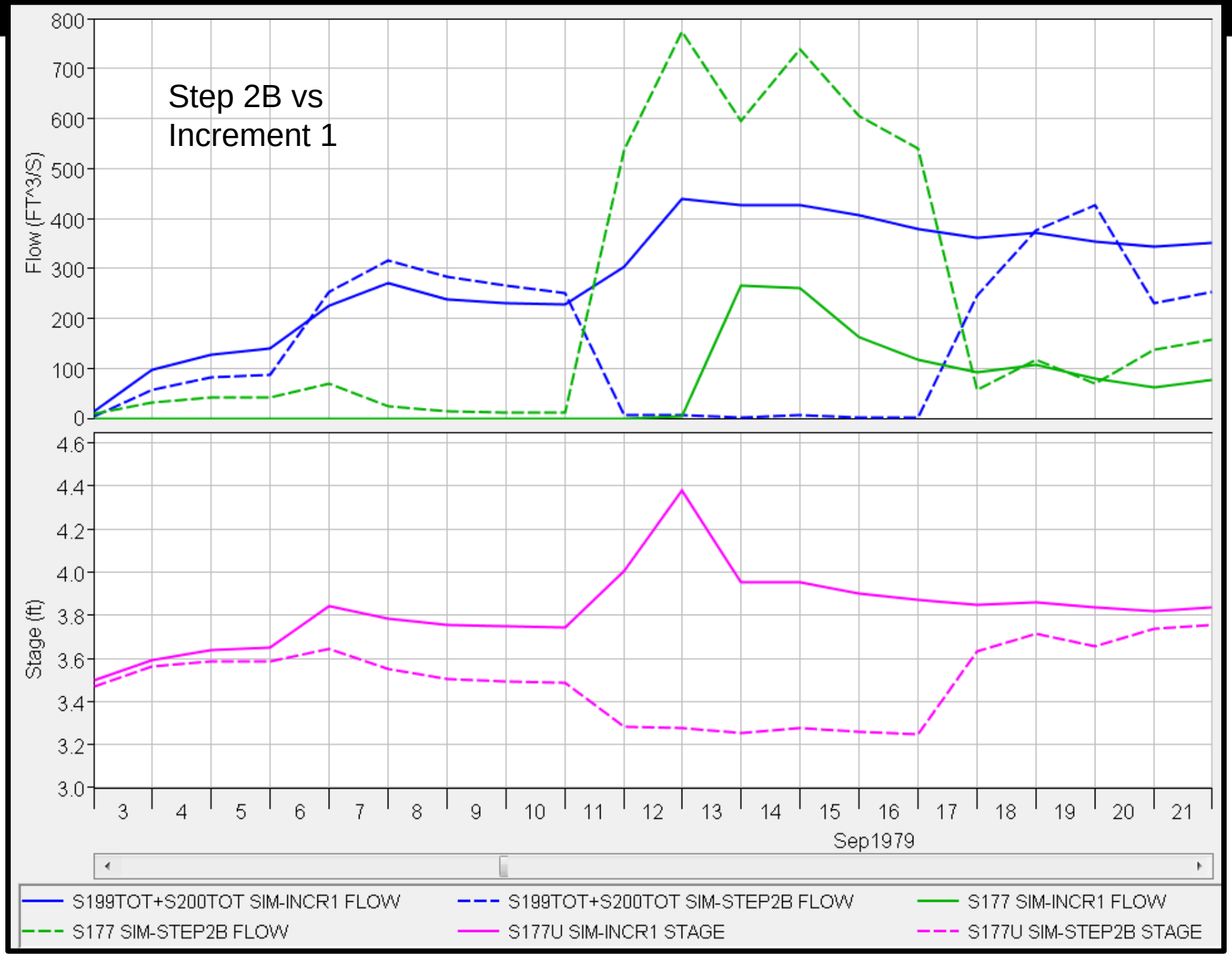


Step 2C



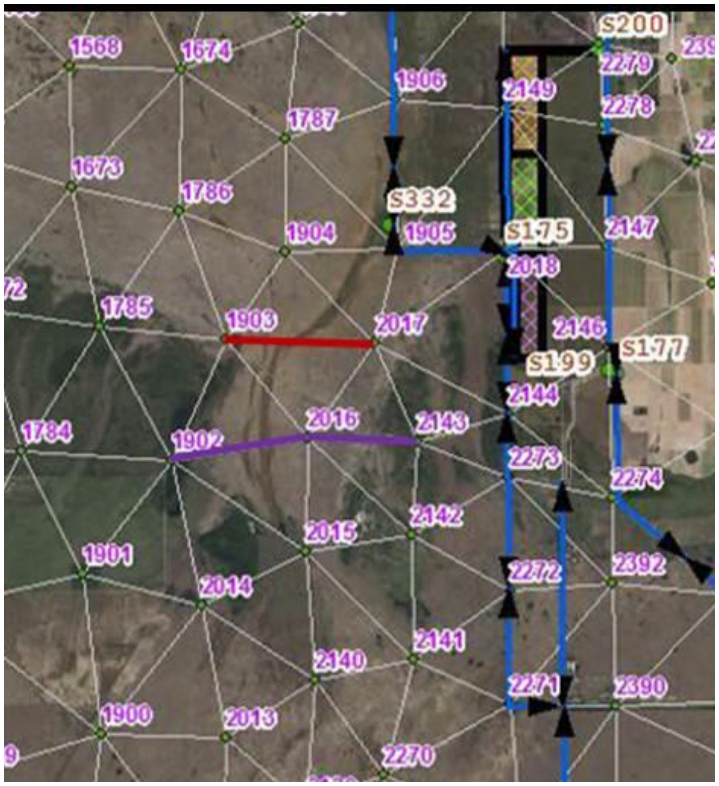
Step 3C


Step 2B vs
Increment 1
Flow (FT^3/S)
600
500
400
300
200
100
0
Stage (ft)
5.0
4.9
4.8
4.7
4.6
4.5
4.4
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24
25
Sep2001
S176 SIM-INCR1 FLOW
S176TOT SIM-STEP2B FLOW
S332BC_TOT SIM-INCR1 FLOW
S332BC_TOT SIM-STEP2B FLOW
S332D_TOT SIM-INCR1 FLOW
S332D_TOT SIM-STEP2B FLOW
S176U SIM-INCR1 STAGE
S176U SIM-STEP2B STAGE


Step 2B vs
Increment 1
Flow (FT^3/S)
800
700
600
500
400
300
200
100
0
Stage (ft)
4.6
4.4
4.2
4.0
3.8
3.6
3.4
3.2
3.0
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
Sep1979
S199TOT+S200TOT SIM-INCR1 FLOW
S199TOT+S200TOT SIM-STEP2B FLOW
S177 SIM-INCR1 FLOW
S177 SIM-STEP2B FLOW
S177U SIM-INCR1 STAGE
S177U SIM-STEP2B STAGE

Flows Toward Taylor Slough (Average Annual, kac-ft)

	TSB Transect 1	TSB Transect 2
Incr. 1	27.9	33.3
1A1	41.7	45.8
1A2	43.0	47.1
1B	25.6	30.9
2A	58.2	61.5
2B	27.0	32.4
2C	60.2	63.3
3C	75.1	77.4



Eastern Panhandle Flows