BARATARIA BASIN: RMA2 STATUS
24 APRIL 2008

OUTLINE

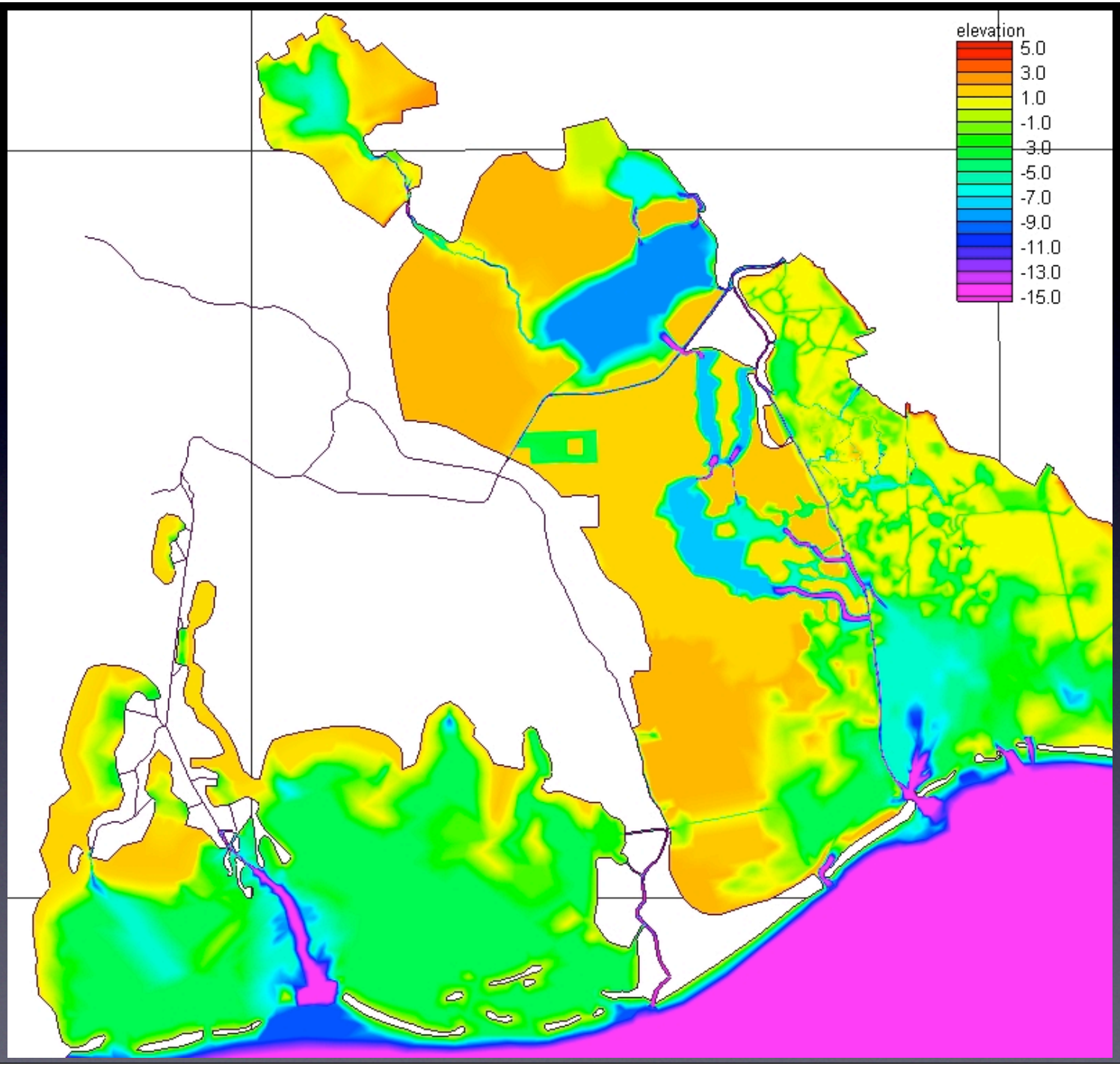
MODEL OBJECTIVES

MODEL MESH DEVELOPMENT

SIMULATION PERIODS AND BOUNDARY CONDITIONS

MODEL OBJECTIVES

- EXPANDED HYDRODYNAMIC MESH TO INCLUDE MOST OF BARATARIA BASIN
- MATCH THE EXTENT OF HEC-RAS MODEL AND USE HMS BASIN MODEL TO OBTAIN BOUNDARIES
- REFINE TOOL FOR QUANTITATIVE ASSESSMENT OF (4) PROJECT LEVEE ALIGNMENTS AND COASTAL RESTORATION MEASURES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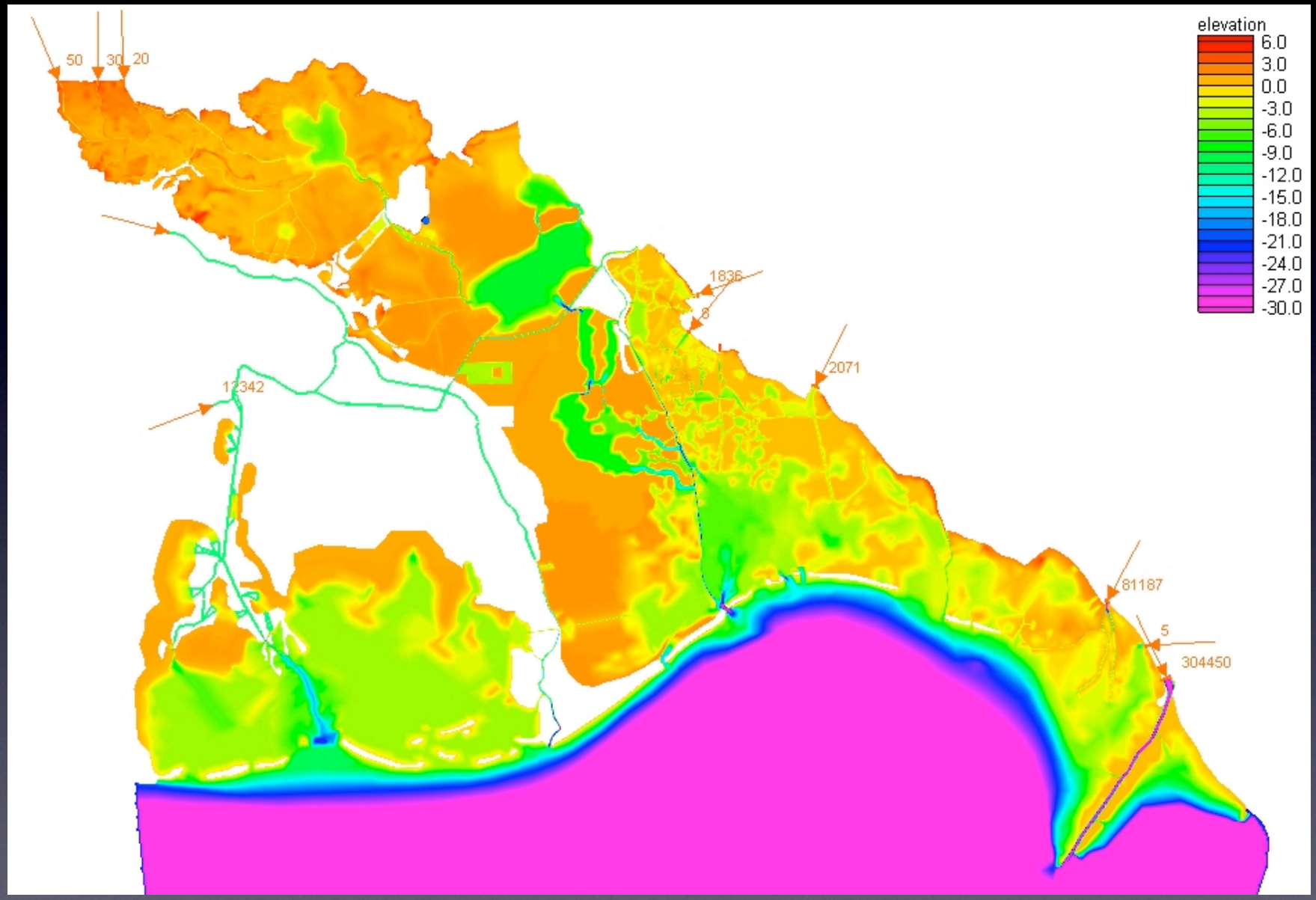
-15.0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20
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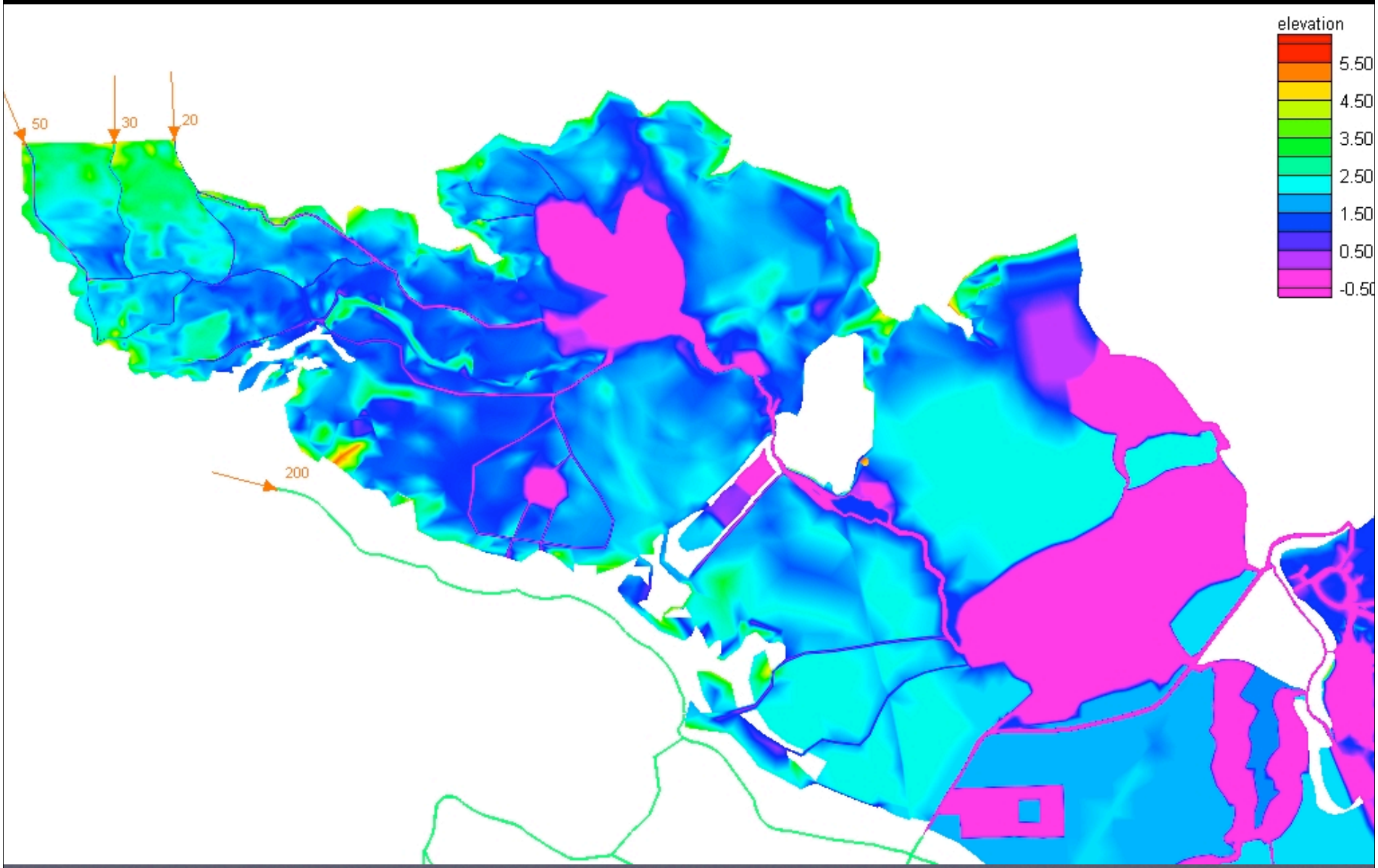
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50
30
20
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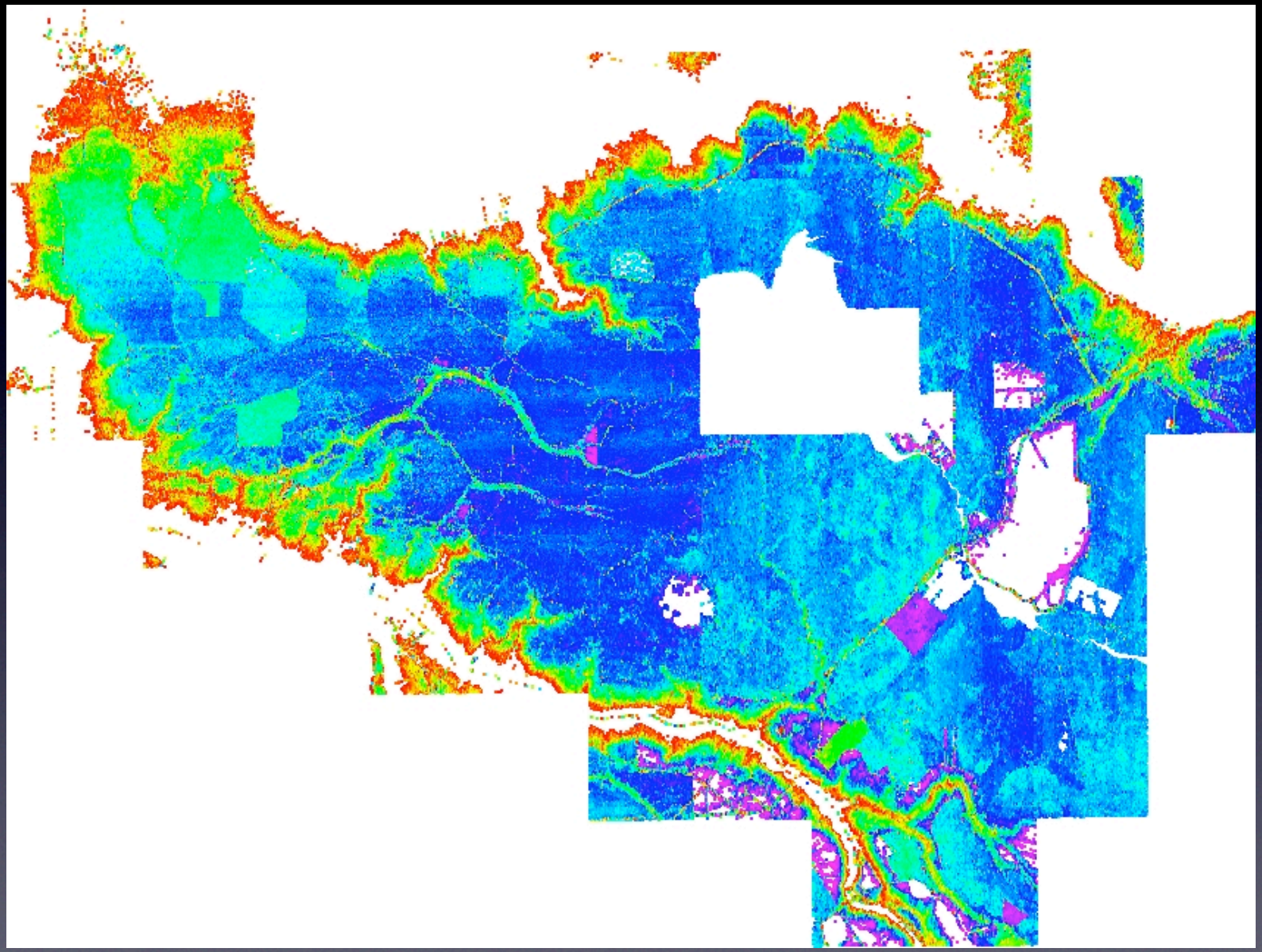
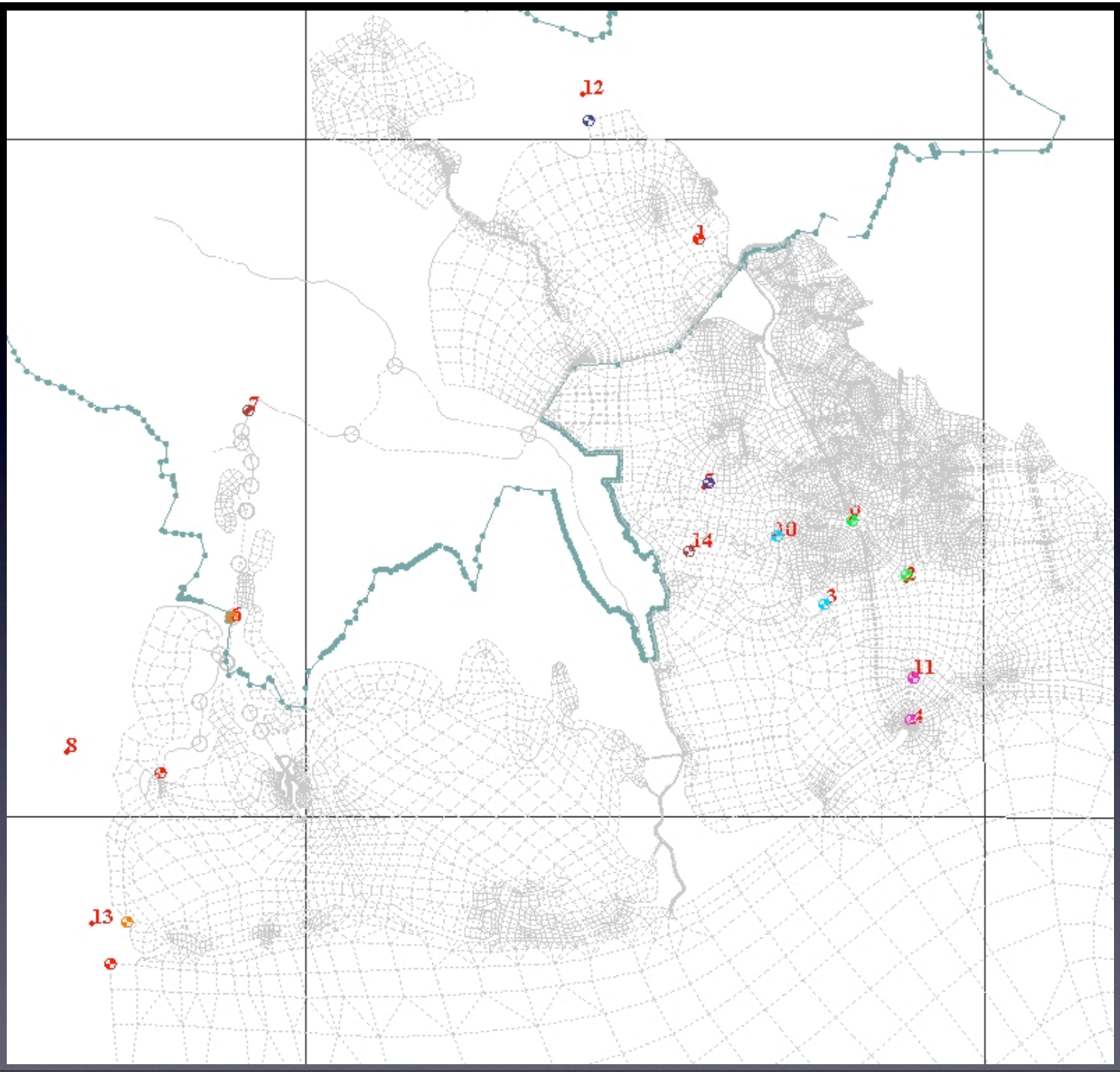



12
1
7
5
9
10
14
2
3
6
11
4
8
13

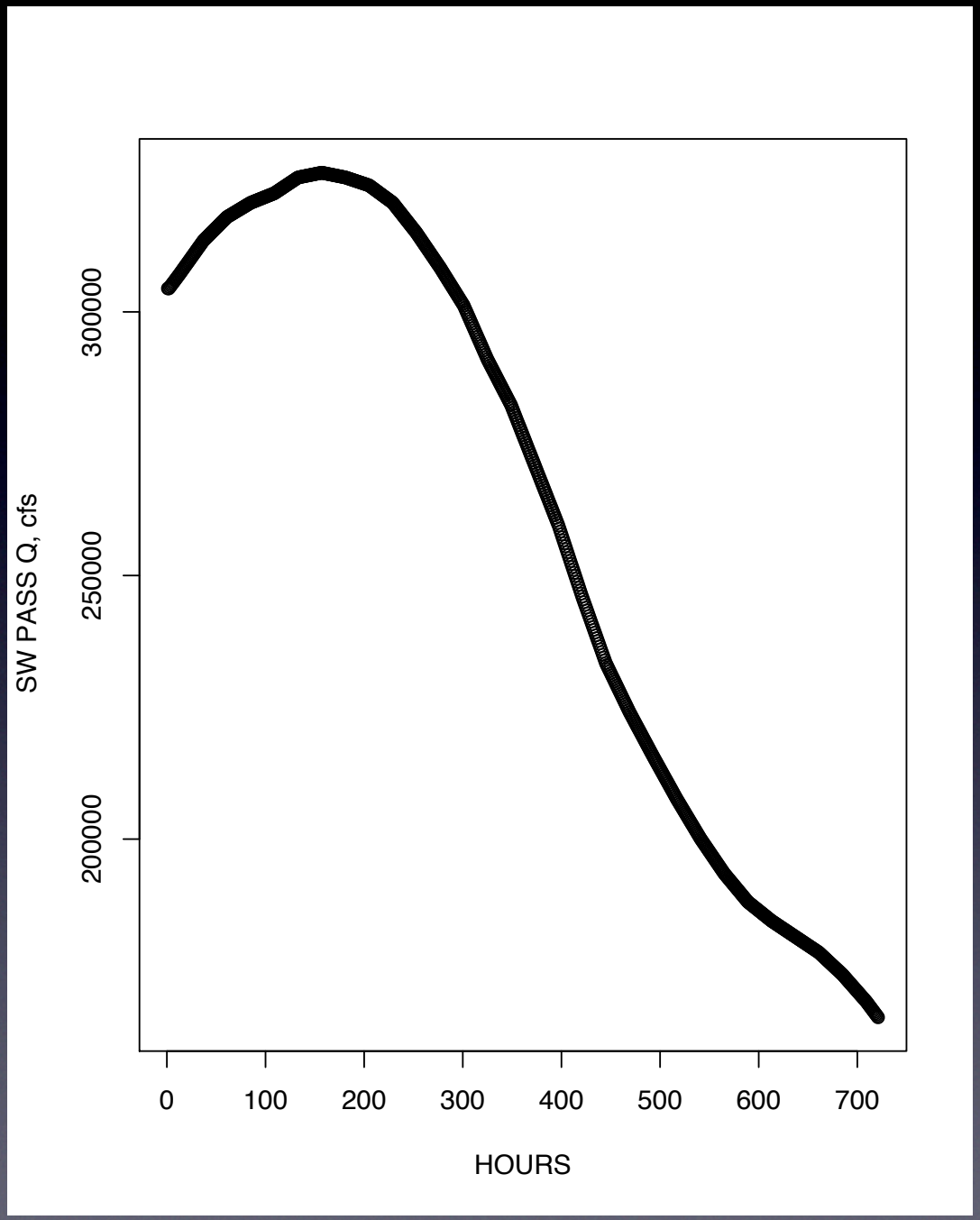
Old (Nov 2006) and New (Feb 2008) Field Stage Data								
	Tide Range				Peak Lag from Coastline, hr			
Station	Old, ft	New, ft	/ Sta 4	/Sta 4	Old HW	New HW	Old LW	New LW
1	0.23	0.26	0.14	0.18	10.1	11..2	9.9	12.2
2	1.59	1.59	0.98	1.09	0	0	0	0
3	1.41	1.29	0.87	0.88	0	1.2	0	1.3
4	1.63	1.46	1.0	1.0	0		0	
5	0.74	0.69	0.45	0.47	3.9	5.0	4.2	4.4
14	NA	0.60	NA	0.41	NA	7.6	NA	6.9
18	NA	~0	NA	NA	NA	NA	NA	NA
19	NA	0.14	NA	0.10	NA	14.1	NA	13.7
20a	NA	0.15	NA	0.10	NA	13.9	NA	13.5
20b	NA	0.18	NA	0.12	NA	13.6	NA	13.2

Old (Bp05e) and New (B21f) Model Stage Data								
	Tide Range				Peak Lag from Station 4, hr			
Station	Old, ft	New, ft	/ Sta 4	/Sta 4	Old HW	New HW	Old LW	New LW
1	0.17	0.16	0.13	0.12	9.4	10.1	10.9	10.7
2	1.17	1.17	0.85	0.85	1.3	1.3	2.2	2.2
3	0.98	0.98	0.71	0.72	1.9	1.9	3.3	3..2
4	1.38	1.37	1.0	1.0	0	0	0	0
5	0.66	0.66	0.48	0.48	4.0	4.0	5.7	5.3
14	NA	0.31	NA	0.23	NA	7.8	NA	8.9
18	NA	0.43	NA	0.31	NA	7.0	NA	8.1
19	NA	0.4	NA	0.29	NA	9.3	NA	9.6
20a & b	NA	0.06	NA	0.04	NA	17.7	NA	17.0

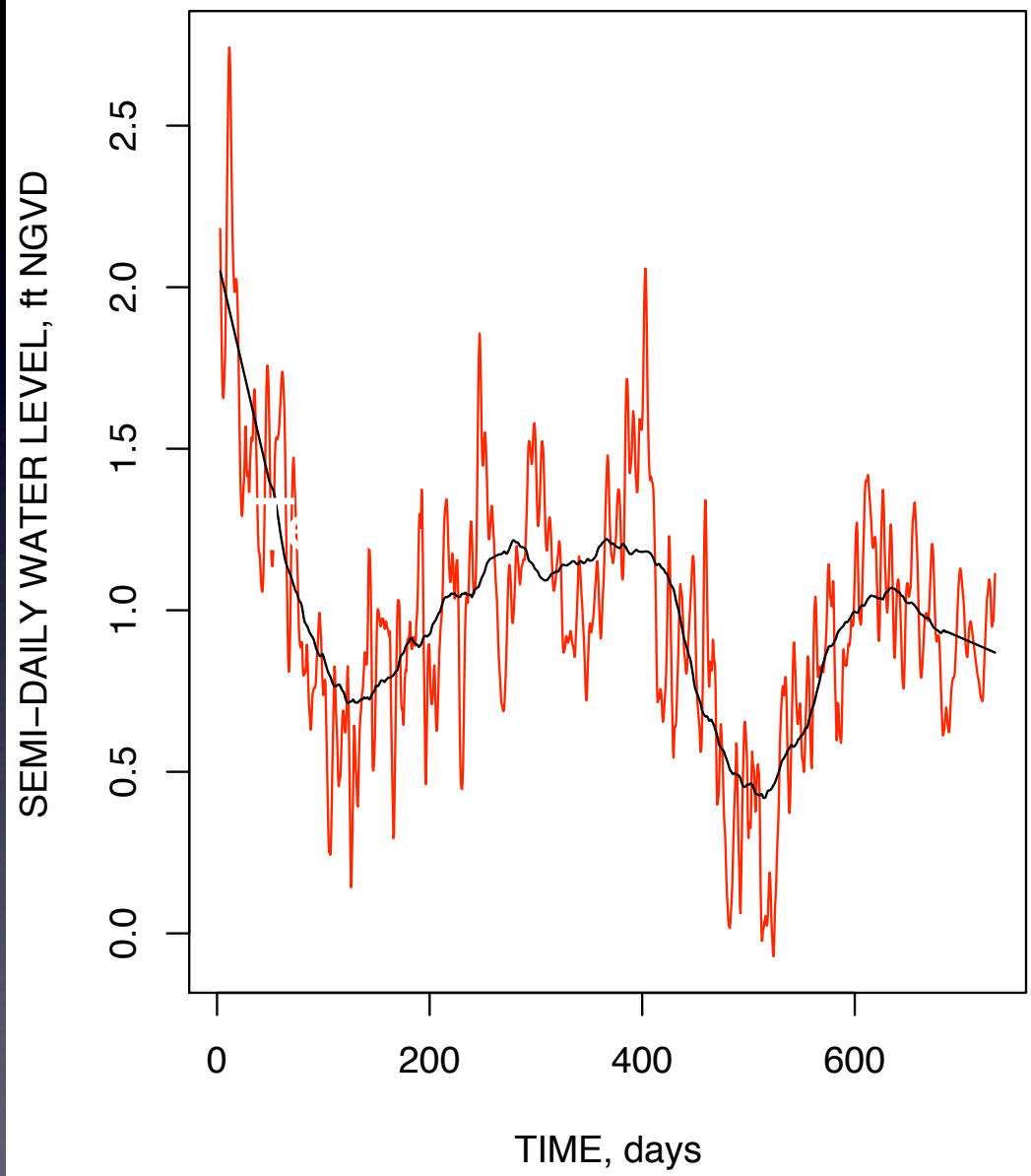
Old (Nov 2006) and New (Feb 2008) Field Stage Data								
	Tide Range				Peak Lag from Coastline, hr			
Station	Old, ft	New, ft	/ Sta 4	/Sta 4	Old HW	New HW	Old LW	New LW
1	0.23	0.26	0.14	0.18	10.1	11..2	9.9	12.2
2	1.59	1.59	0.98	1.09	0	0	0	0
3	1.41	1.29	0.87	0.88	0	1.2	0	1.3
4	1.63	1.46	1.0	1.0	0	NA	0	NA
5	0.74	0.69	0.45	0.47	3.9	5.0	4.2	4.4
6	0.93	NA	0.57	NA	4.5	NA	4.3	NA
7	0.39	NA	0.24	NA	7.3	NA	6.1	NA
8	1.80	NA	1.10	NA	0	NA	0	NA
9	1.16	NA	0.71	NA	NA	NA	NA	NA
10	0.78	NA	0.48	NA	3.9	NA	4.2	NA
11	1.57	NA	0.96	NA	0	NA	0	NA

Old (Bp05e) and New (B21f) Model Stage Data								
	Tide Range				Peak Lag from Station 4, hr			
Station	Old, ft	New, ft	/ Sta 4	/Sta 4	Old HW	New HW	Old LW	New LW
1	0.17	0.16	0.13	0.12	9.4	10.1	10.9	10.7
2	1.17	1.17	0.85	0.85	1.3	1.3	2.2	2.2
3	0.98	0.98	0.71	0.72	1.9	1.9	3.3	3..2
4	1.38	1.37	1.0	1.0	0	0	0	0
5	0.66	0.66	0.48	0.48	4.0	4.0	5.7	5.3
6	0.88	0.86	0.64	0.63	4.0	4.0	5.7	5.7
7	0.52	0.51	0.38	0.37	6.4	7.4	8.4	8.2
8	0.91	0.89	0.66	0.65	2.1	2.1	3.4	3.4
9	0.84	0.84	0.61	0.61	2.5	2.4	3.7	3.7
10	0.69	0.69	0.50	0.50	3.5	3.4	4.7	4.7
11	1.31	1.31	0.95	0.95	0.4	0.42	0.7	0.7

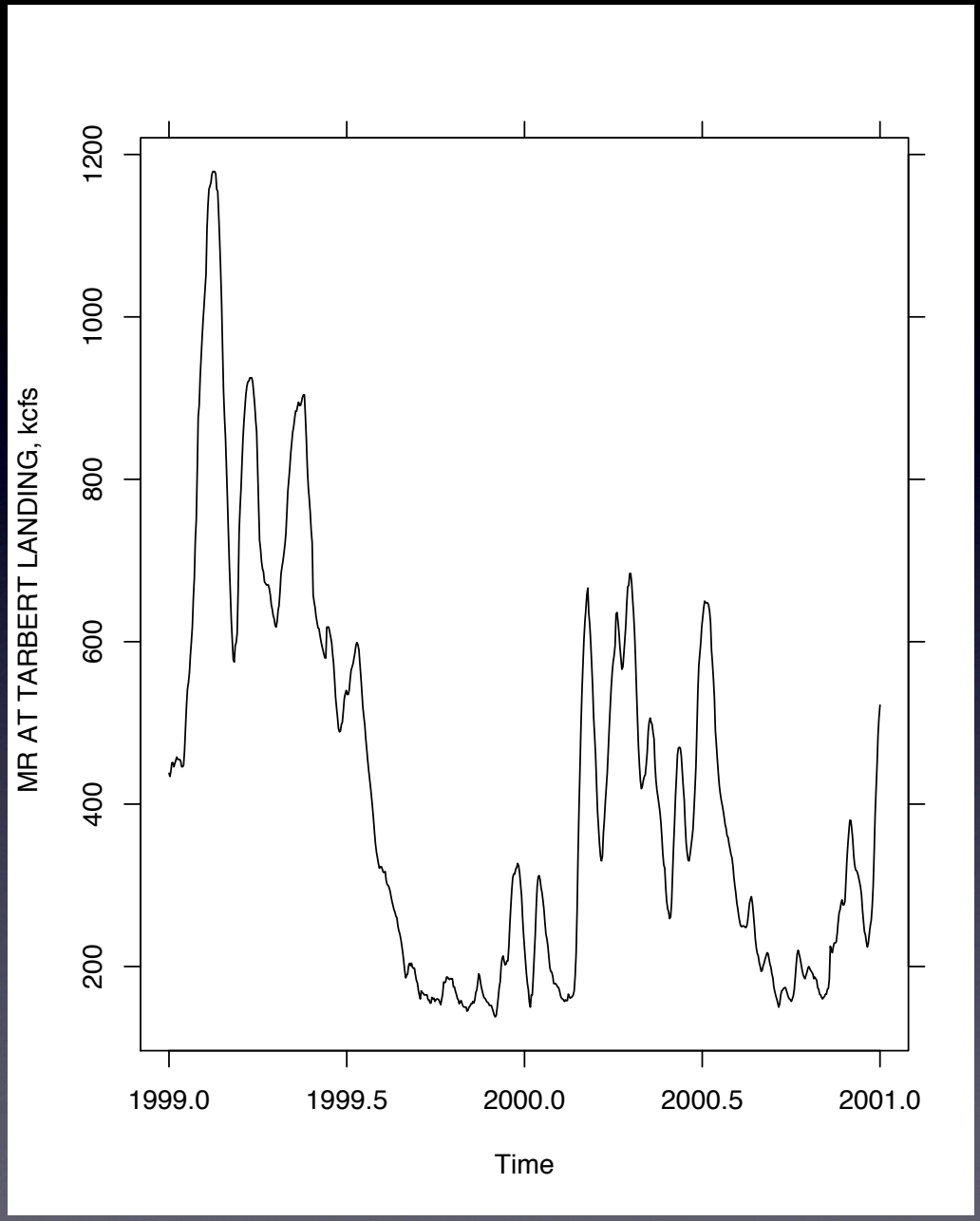
Jun ’02 SW Pass flow boundary condition



’99 model water level boundary



Mississippi R discharges used as boundary conditions



Swenson compiled information on the '99-'00 drought

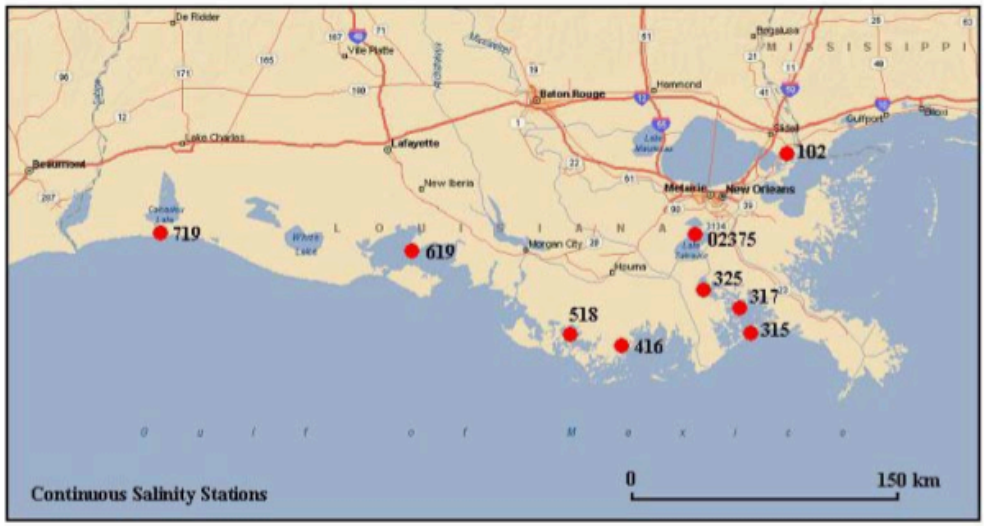


Figure 5. Map showing the LDWF-USGS continuous salinity stations.

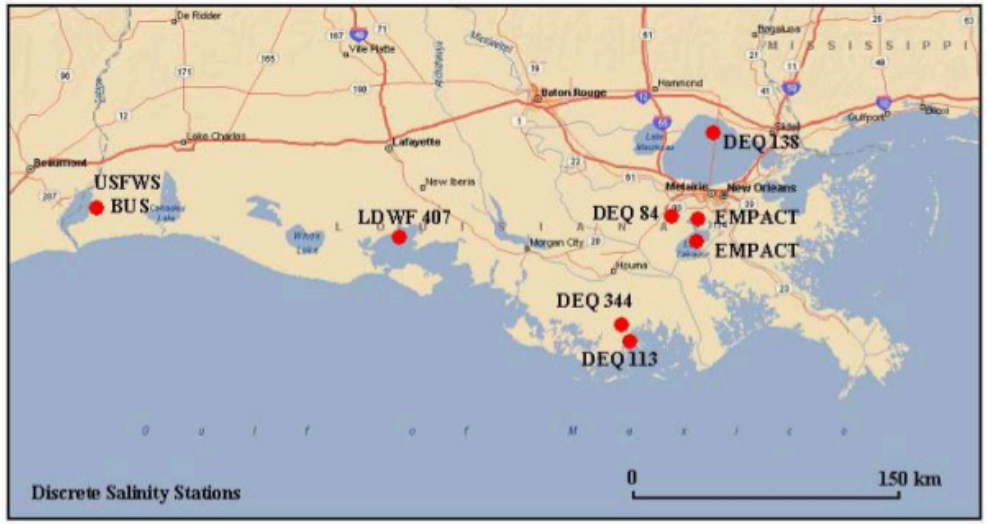


Figure 6. Map showing discrete salinity stations.

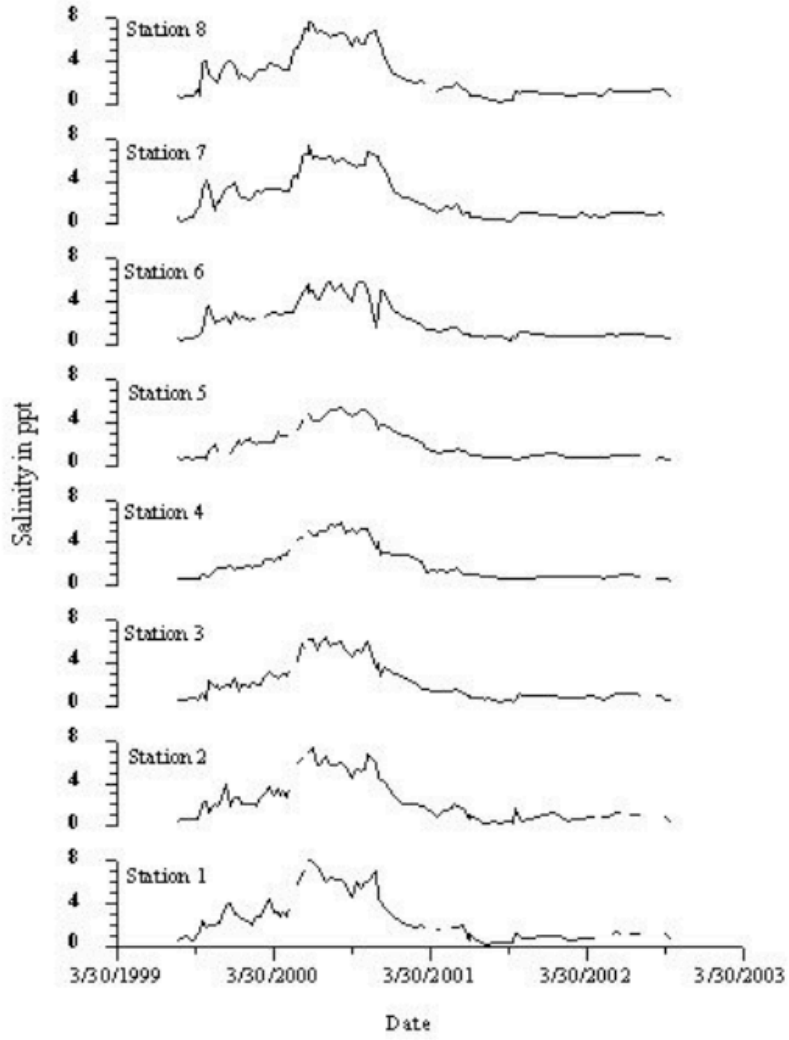
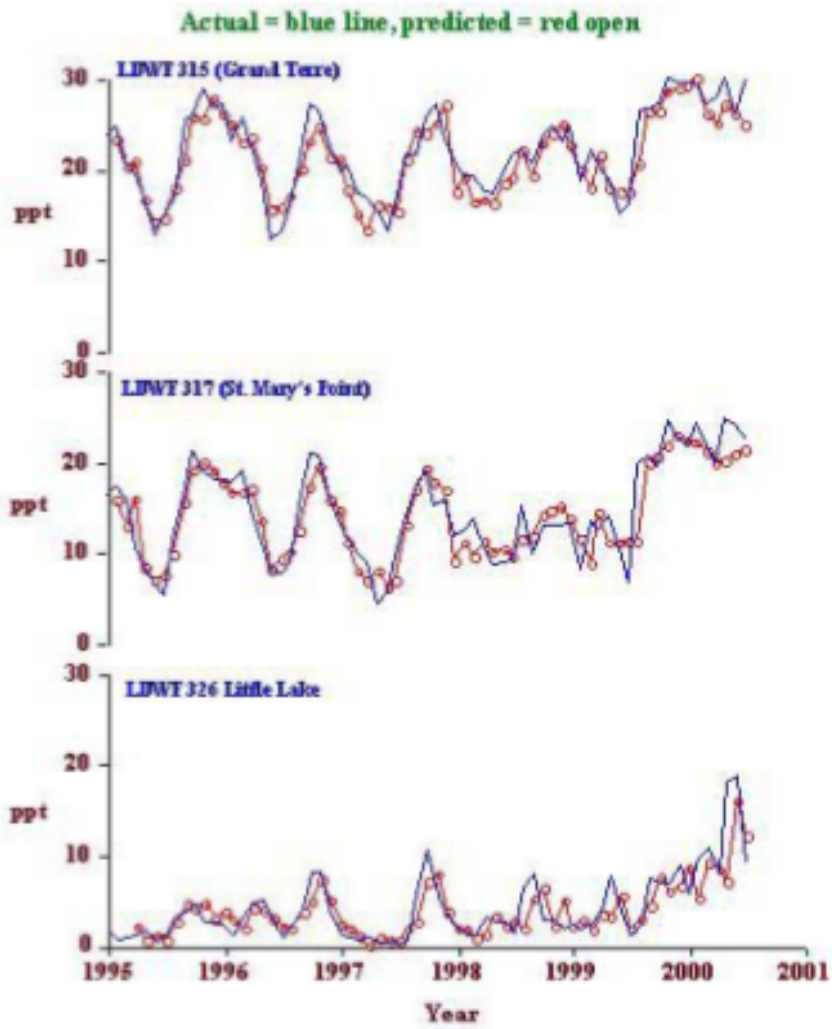
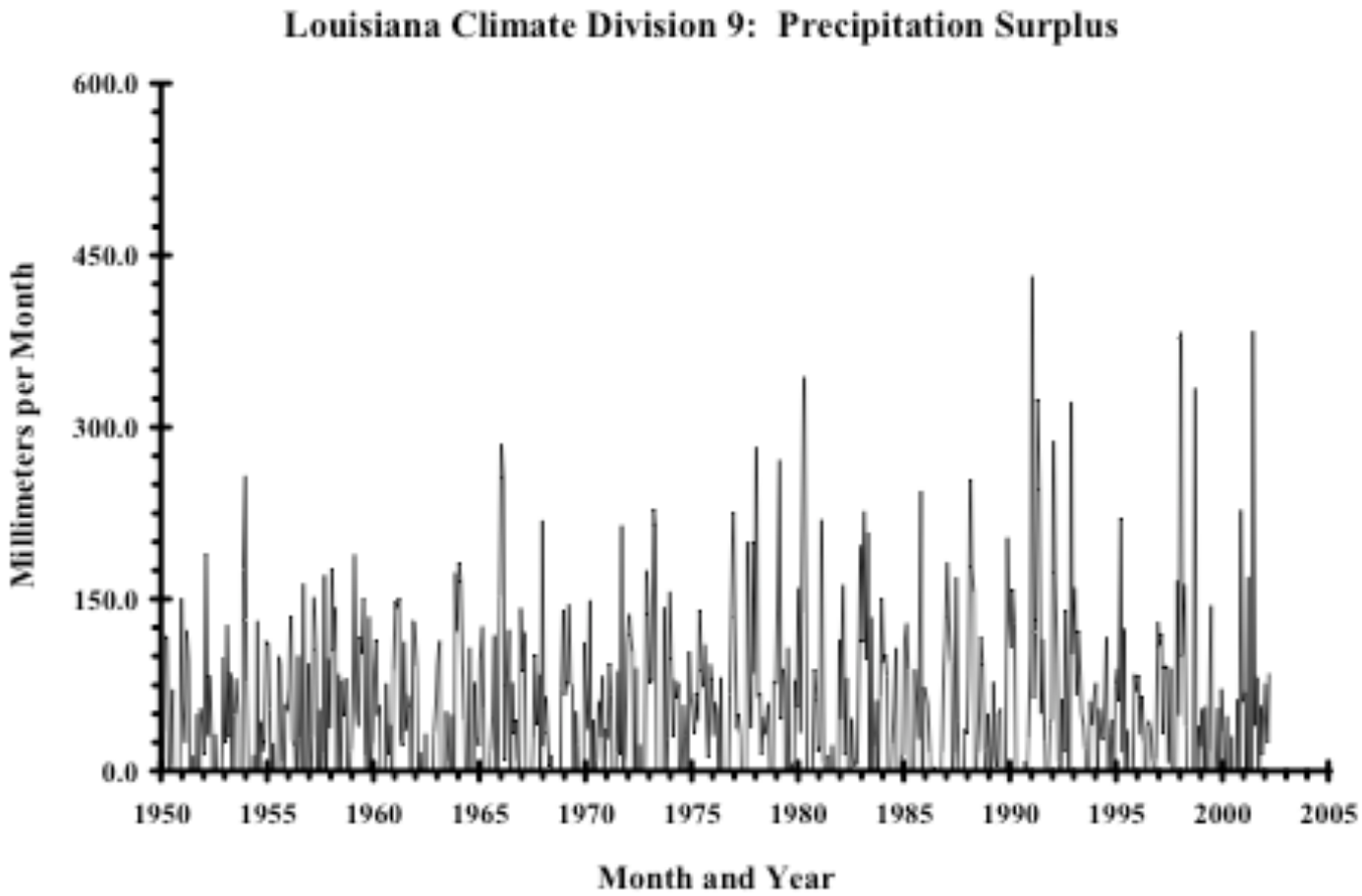
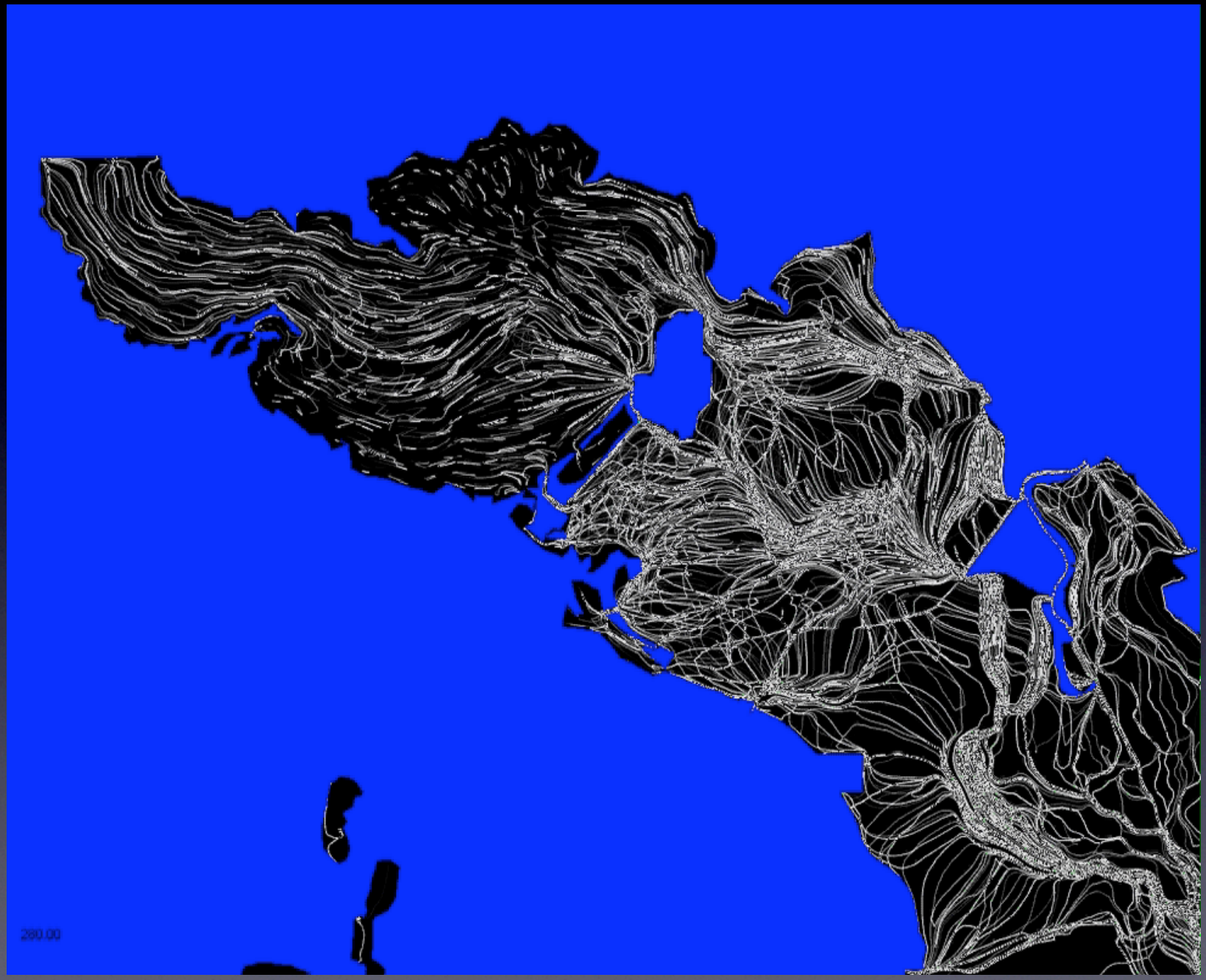
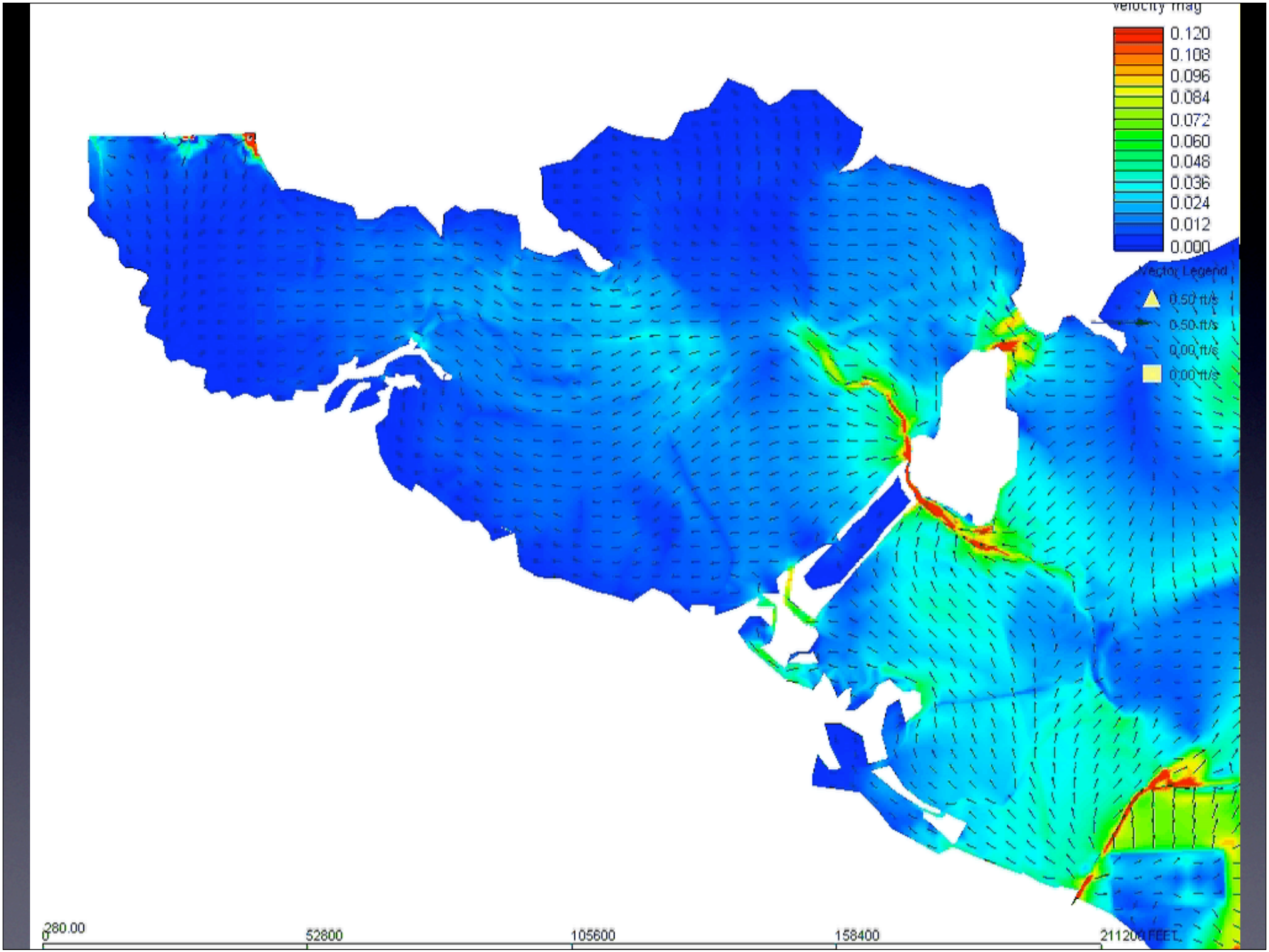


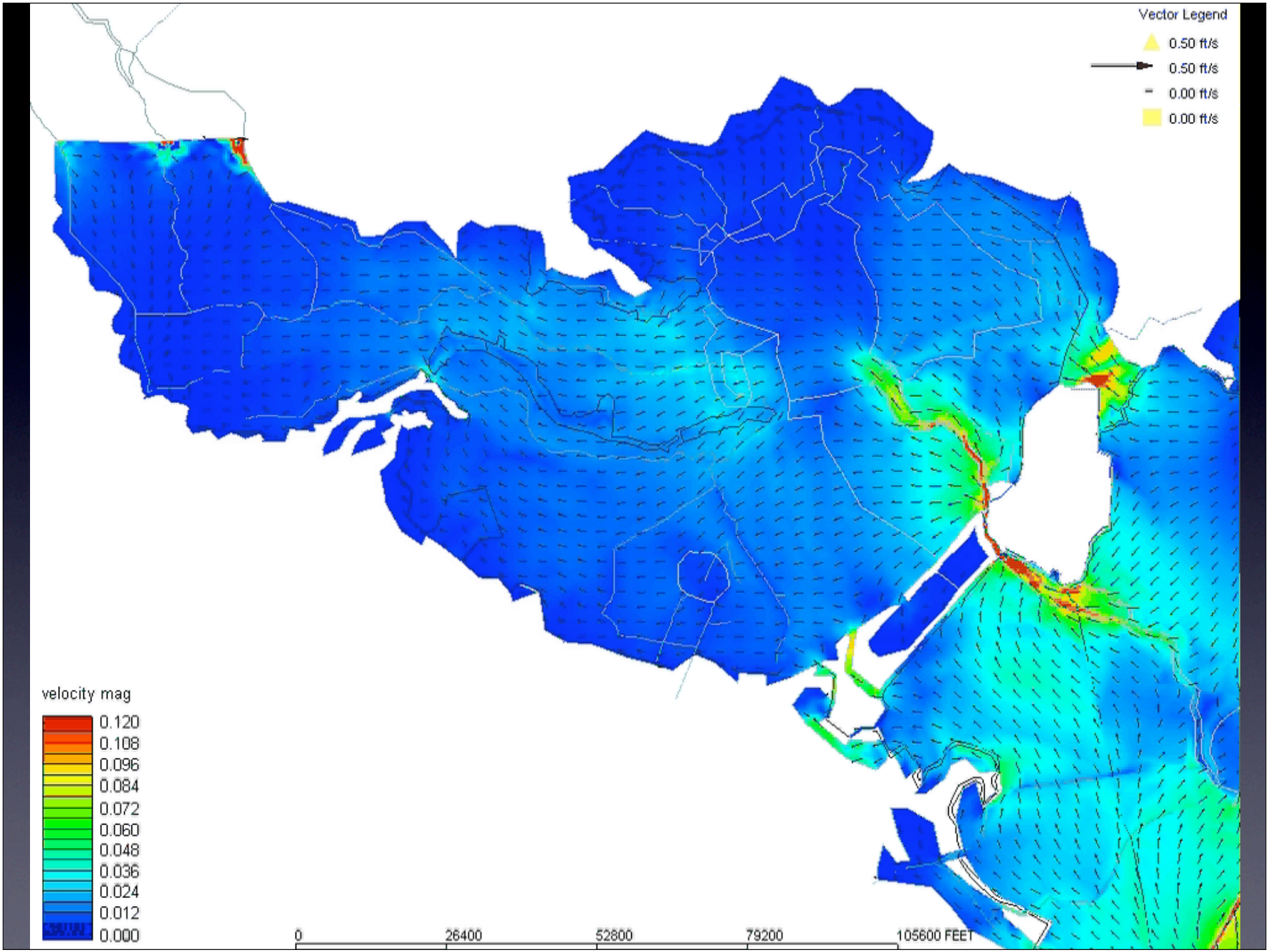
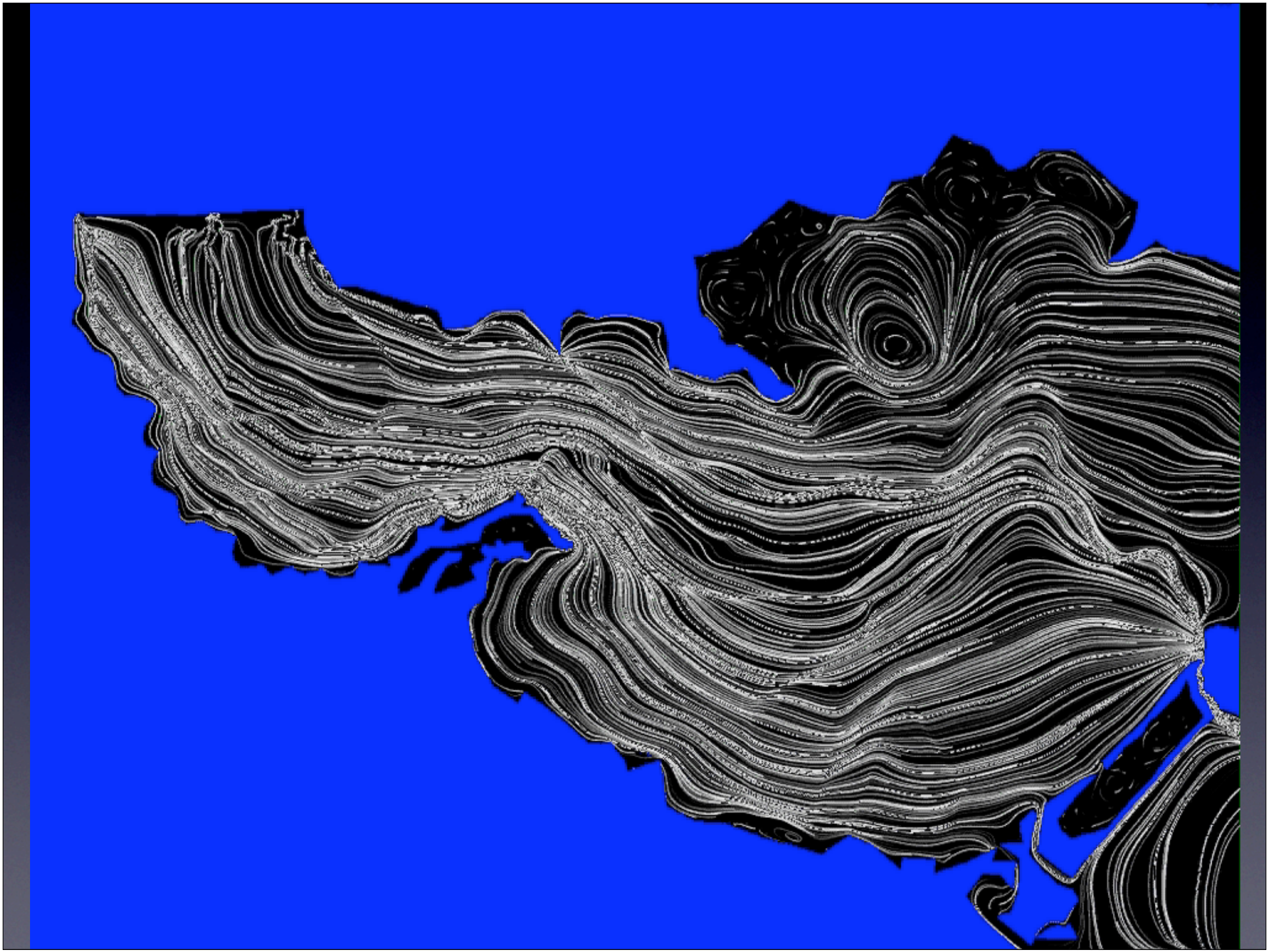
Figure 37. Time series plot of discrete salinity data from the Jefferson Parish EMPACT project (EPA funded) jointly conducted by the Coastal Ecology Institute at LSU and the USGS Baton Rouge office. The data are weekly observations.


Actual = blue line, predicted = red open
LIWT 315 (Grand Terre)
LIWT 317 (St. Mary's Point)
LIWT 326 Little Lake
ppt
30
20
10
0
1995
1996
1997
1998
1999
2000
2001
Year


Louisiana Climate Division 9: Precipitation Surplus
600.0
450.0
300.0
150.0
0.0
Millimeters per Month
1950
1955
1960
1965
1970
1975
1980
1985
1990
1995
2000
2005
Month and Year


280.00


Velocity Mag
0.120
0.108
0.096
0.084
0.072
0.060
0.048
0.036
0.024
0.012
0.000
Vector Legend
0.50 ft/s
0.50 ft/s
0.00 ft/s
0.00 ft/s
280.00
0
52800
105600
158400
211200 FEET


Vector Legend
0.50 ft/s
0.50 ft/s
0.00 ft/s
0.00 ft/s
velocity mag
0.120
0.108
0.096
0.084
0.072
0.060
0.048
0.036
0.024
0.012
0.000
0
26400
52800
79200
105600 FEET