2012 NOAA in the Carolinas Meeting

Resiliency and Water Resources Breakout Session

NWS-SERFC
John Schmidt, DOH
March 15, 2012

NWS-SERFC Briefing & Discussion

1. Overview of NIDIS SE Pilot Project in the Apalachicola-Chattahoochee-Flint (ACF) Basin

2. Introduction of NIDIS Carolina Pilot Project Proposal

3. SERFC Science Update (CHPS, SNOW Modeling, Short Term Ensembles, Extending Water Forecasting to the Sea)

Timeline of ACF Pilot Project

- **Spring 2008…Southeast US NIDIS Expansion Meeting in Peachtree City, GA.**
- **2008-2009…Three regional NIDIS meetings held to identify existing drought-related observational and forecasting capabilities amongst topic experts in ACF region.**
- **2009-2010…Three regional NIDIS *stakeholder meetings* held across ACF region to demonstrate drought-related capabilities and identify service gaps.**
- **Early 2011…Operational, monthly Drought Early Warning System (DEWS) briefings for stakeholders.**

drought.gov - Windows Internet Explorer

http://www.drought.gov/portal/server.pt/com

National Oceanic and Atmosphe... | 2012_NinC_Agenda_2011-03-0... | drought.gov | drought.gov

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Area Drought Information

Select State... Go

Select Region... Go

Maps & Tools

- Map & Data Viewer - new!
- Geodata Portal
- Drought Monitor Graphics
- CRN Soil Data

Events & Announcements

- Risk Management Meeting 11/2011
- ACF Climate Outlook Forum and Pilot Review Meeting 2011
- Engaging Preparedness Communities Webinar, Dec 13th 1-2 PM EST

View Archive | Portal Release Notes

Regional Drought Webinars

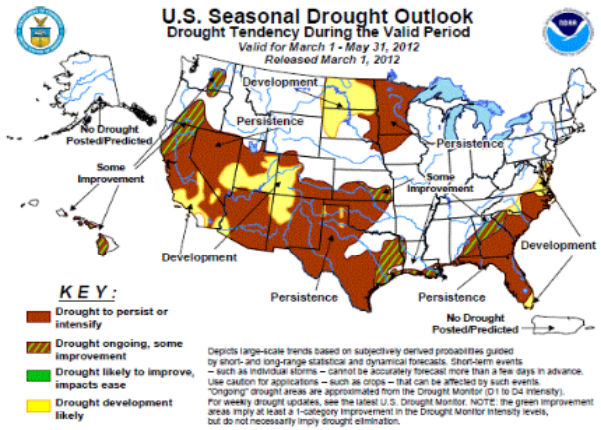
- ACFB Drought Assessment Webinar - February 28th, 2012
- ACF Briefing Presentation - January 17th, 2012
- Managing Drought in the Southern Plains
- ACF Briefing Presentation - November 15th, 2011
- Colorado - weekly, 12PM EDT
- South Central Drought Briefing - November 10th, 11 AM CDT

Drought In The News

- City Adjusts Water Use for New Restrictions
- Texas drought twists migrations of many birds
- Report: Drought costs state $5.2B in 2011
- Cattle inventory drops to lowest since 1952 on drought
- Drought Crisis Leads To Increased hay Prices

Featured Products

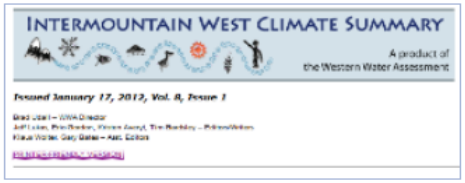
Where are Drought Conditions Now? | How is the Drought Affecting Me? | Will the Drought Continue?



Regional Drought Early Warning Systems (DEWS)

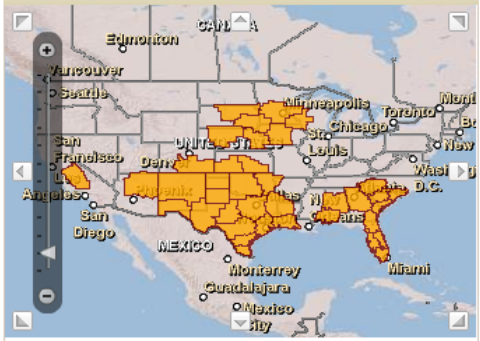
(Click on an area to view the Drought Early Warning System - DEWS)

NIDIS Feature



Intermountain West Climate Summary

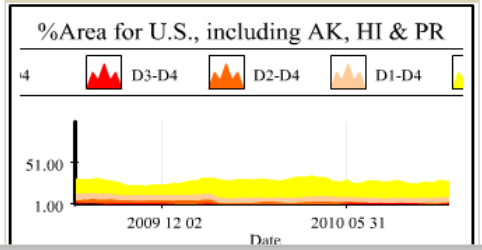
Drought Information Statements



Click on a highlighted area to view the current NWS Drought Information Statement or Click Here to select from a list

View larger map

Drought Monitor Time Series



http://www.drought.gov/portal/server.pt/document/21024013/ACF%20Climate%20Outlook%20Forum%20and%20Pilot%20Review%20Meeting%202011

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http://www.drought.gov/portal/server.pt/con

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National Integrated Drought Information System

Regional Drought Early Warning System

Apalachicola-Chattahoochee-Flint (ACF) River Basin

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Area Drought Info

Select State within the DEWS

... Go

Select Other Regional DEWS

... Go

Upcoming Meetings

Recent Updates

- ACF Water Update, February 2012
- ACF Briefing Presentation 2/28/2012
- ACF Briefing Presentation 2/7/2012
- ACF Briefing Presentation 1/17/2012
- ACF Climate Outlook Forum and Pilot Review 2011
- ACF Water
- ACF Briefing Presentation (11/15/2011)
- ACF Briefing Presentation (10/25/2011)
- ACF Briefing Presentation (10/4/2011)
- ACF September 2011 Update
- Extreme Drought Spreads into North Georgia
- ACF Briefing Presentation (8/30/11)
- August 2011 ACF Update
- LaNina Watch (Aug 2011)
  - From CPC
  - From AgroClimate
- ACF Briefing Presentation (8/2/11)
- ACF Briefing Presentation (7/12/11)
- ACF Stakeholders Newsletter

Featured Products

Current Conditions | Impacts | Forecast

U.S. Drought Monitor

Southeast

March 6, 2012

Valid 7 a.m. EST

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	26.24	73.76	59.02	32.47	19.04	1.62
Last Week (03/06/2012 map)	24.97	75.03	58.78	36.03	24.26	8.11
3 Months Ago (12/06/2011 map)	43.19	56.81	43.30	31.28	19.41	0.00
Start of Calendar Year (12/27/2011 map)	40.38	59.62	43.05	28.62	18.71	0.00
Start of Water Year (09/27/2011 map)	42.24	57.76	41.82	31.77	23.48	0.00
One Year Ago (03/01/2011 map)	5.82	94.18	75.79	27.10	4.43	0.00

Intensity:

D0 Abnormally Dry
D1 Drought - Moderate
D2 Drought - Severe
D3 Drought - Extreme
D4 Drought - Exceptional

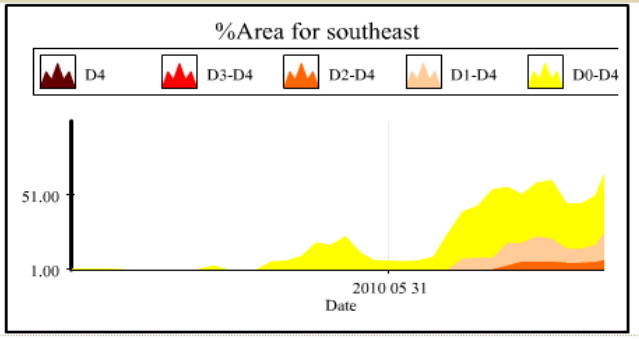
The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://droughtmonitor.unl.edu

Released Thursday, March 8, 2012

Michael Brewer, National Climatic Data Center, NOAA

Drought Monitor Time Series - Southeast



Drought Classifications | Larger View

ACF River Basin

Southeast Data Resources

- Data Resources Spreadsheet

Drought in the News

- Special Report: South Georgia Drought 02/20/2012
- Southeast Georgia fire season could be repeat of 2011
- Inconsistent Weather Affects Winter Crops
- Deal Seeks Drought Disaster Aid
- Officials Ask Georgians to Temper Water Use
- 11th Circuit hands Georgia victory in water wars case | ajc.com
- S. Georgia waterways hurt by drought | ajc.com
- Wells Run Dry in South Georgia - GPB News

http://www.drought.gov/portal/server.pt/gateway/PTARGS_0_2_792_223_0_43/http%3B/droughtmonitor.unl.edu/DM_southeast.htm

100%

National Integrated Drought Information System (NIDIS)

- Pilot Project in the Carolinas
  - Intended focus: coastal ecosystems
- Initial activities and workshops planned for spring-summer 2012
- Possible projects
  - Assess most appropriate drought indices for coastal ecosystems
  - Collaborate with resource managers to develop relevant information and tools for decision making
  - Improve the dissemination of drought information

Recent SERFC Modeling and Forecasting Enhancements

- CHPS Operational Implementation
- Multi-Meteorological Model Ensemble Forecast System (MMEFS)
- SNOW-17 Modeling
- Operational Integration of Hydraulic Models (Waccamaw River)

Community Hydrologic Prediction System (CHPS)

A State-of-the-Art, Open Architecture Software and a New Business Model !

More flexibility to address upcoming major service enhancements

- **Short term ensemble forecasts**
- **Gridded hydrologic modeling**
- **Gridded water resources forecasts**

Simpler and accelerated research to operations path

Take advantage of community-developed models

Simpler and lower cost of software maintenance and addition of small enhancements

- **NWS developers concentrate on hydrology not infrastructure**

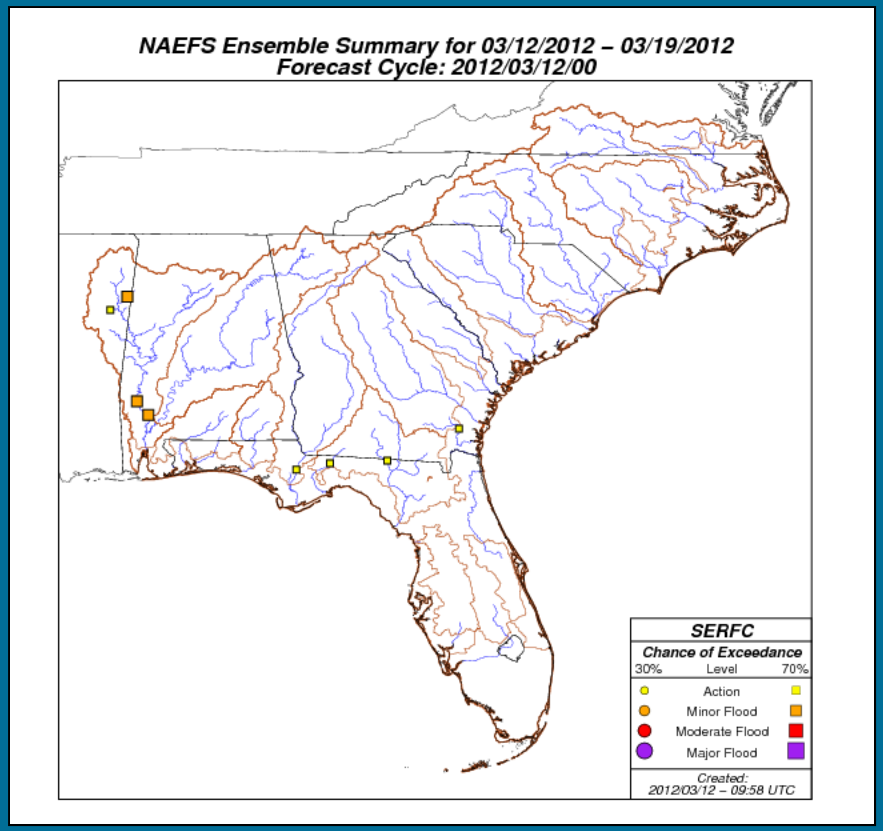
Potential to run models locally via remote sync to RFC (local operator client at WFO).

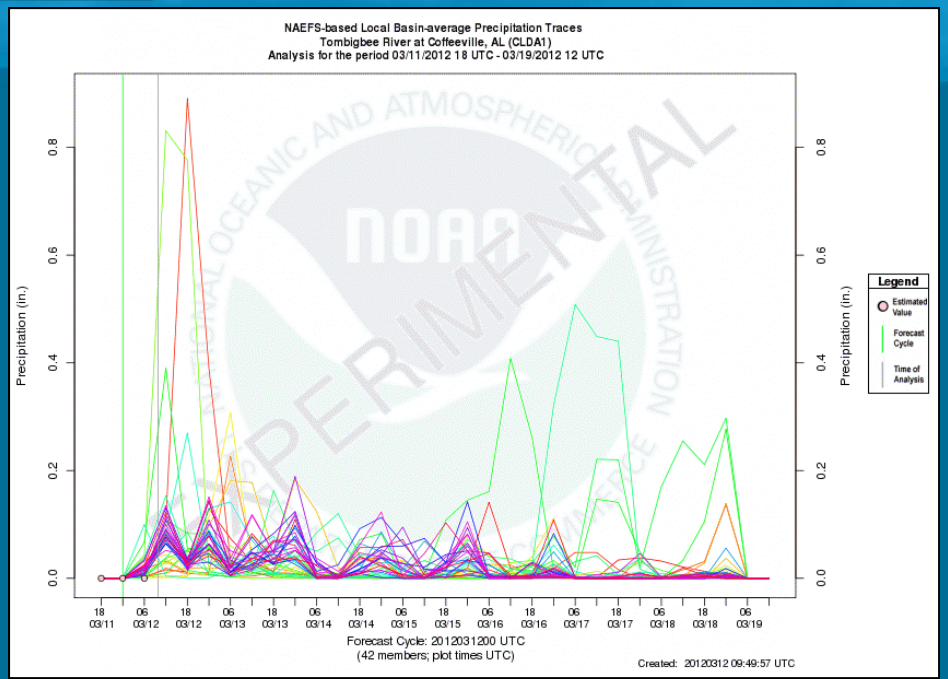
Potential to provide external real-time operational (USACE) model simulations directly to RFC forecast process.

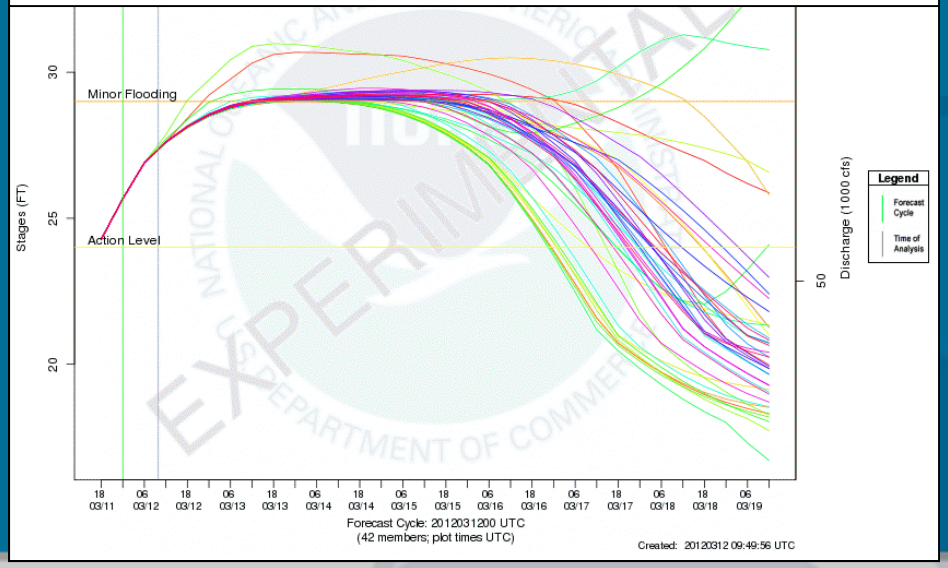
Ability to add instances of proven models to enhance public forecast products.

Ability to add instances of experimental models to enhance research efforts (R2O).

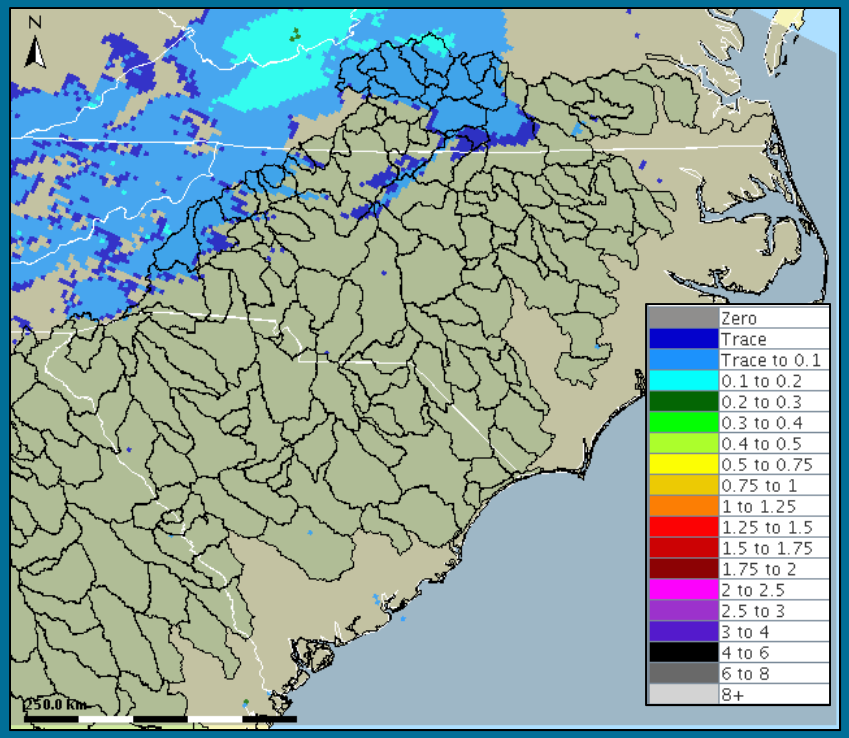
MMEFS

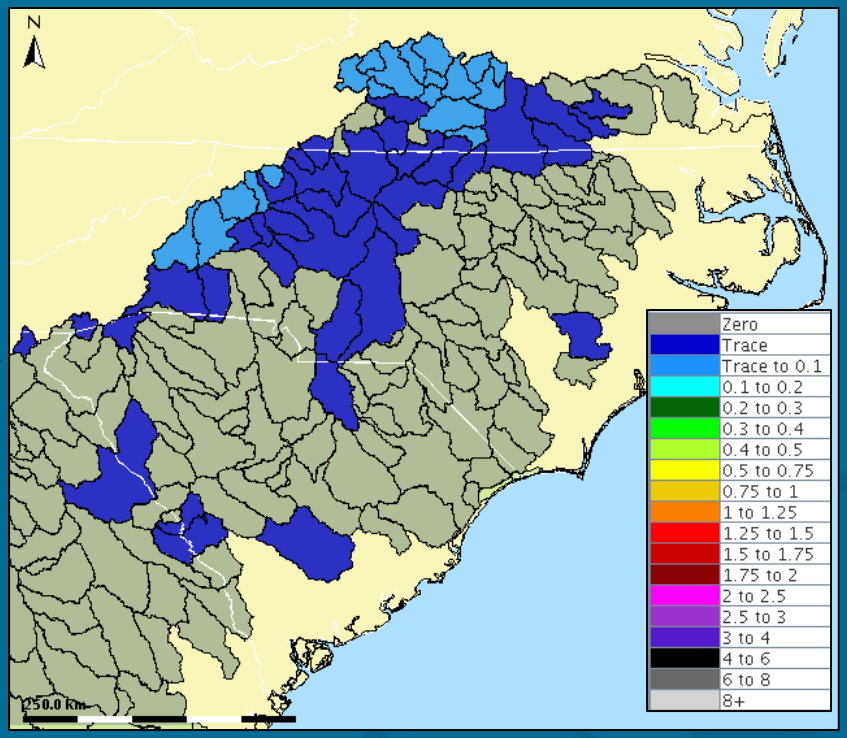

NAEFS Ensemble Summary for 03/12/2012 – 03/19/2012
Forecast Cycle: 2012/03/12/00
SERFC
Chance of Exceedance
30% Level 70%
Action
Minor Flood
Moderate Flood
Major Flood
Created:
2012/03/12 – 09:58 UTC


NAEFS-based Local Basin-average Precipitation Traces
Tombigbee River at Coffeeville, AL (CLDA1)
Analysis for the period 03/11/2012 18 UTC - 03/19/2012 12 UTC
Precipitation (in.)
Legend
Estimated Value
Forecast Cycle
Time of Analysis
Forecast Cycle: 2012031200 UTC
(42 members; plot times UTC)
Created: 20120312 09:49:57 UTC


Minor Flooding
Action Level
Stages (FT)
Discharge (1000 cfs)
Legend
Forecast Cycle
Time of Analysis
Forecast Cycle: 2012031200 UTC
(42 members; plot times UTC)
Created: 20120312 09:49:56 UTC

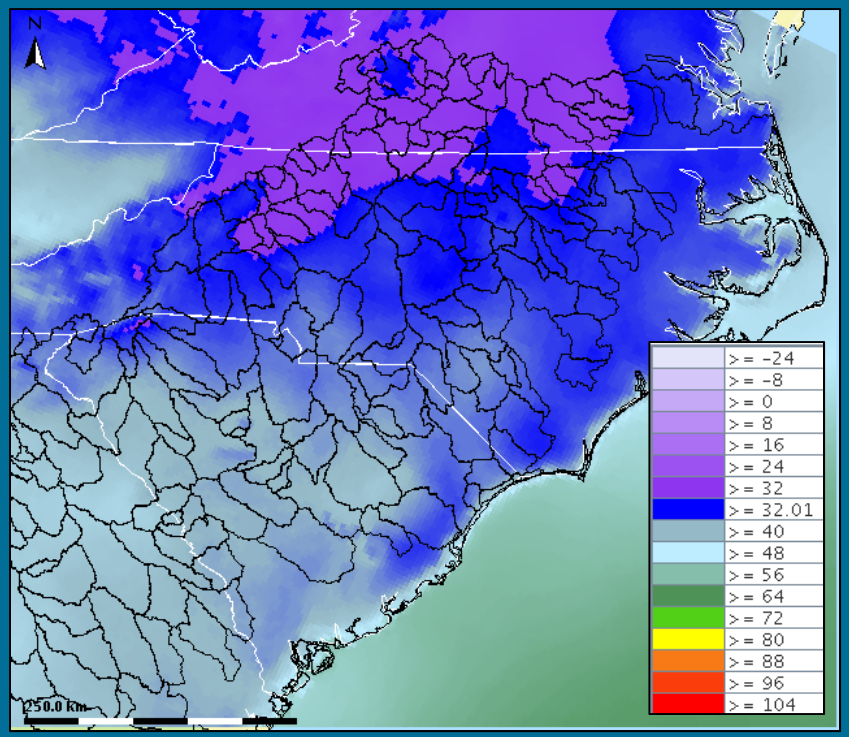
SNOW-17

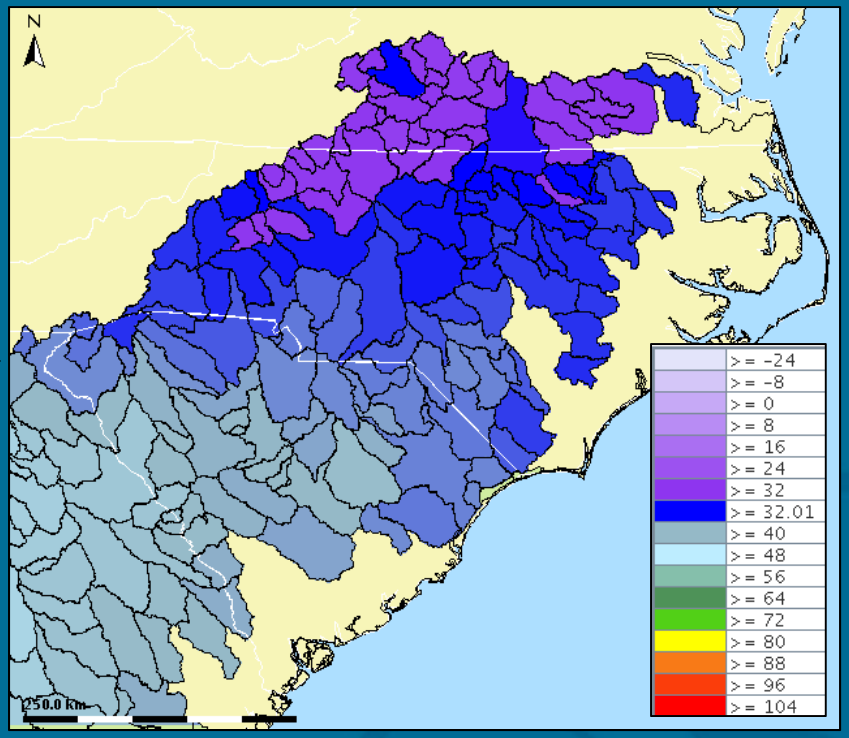




6-hour Precipitation Input

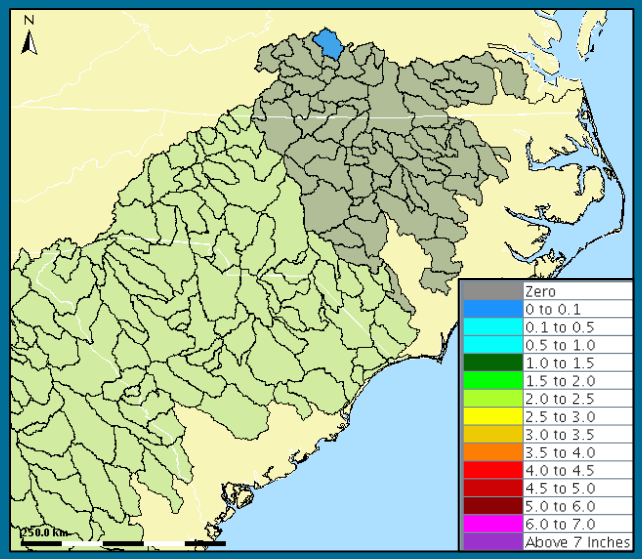
SNOW-17

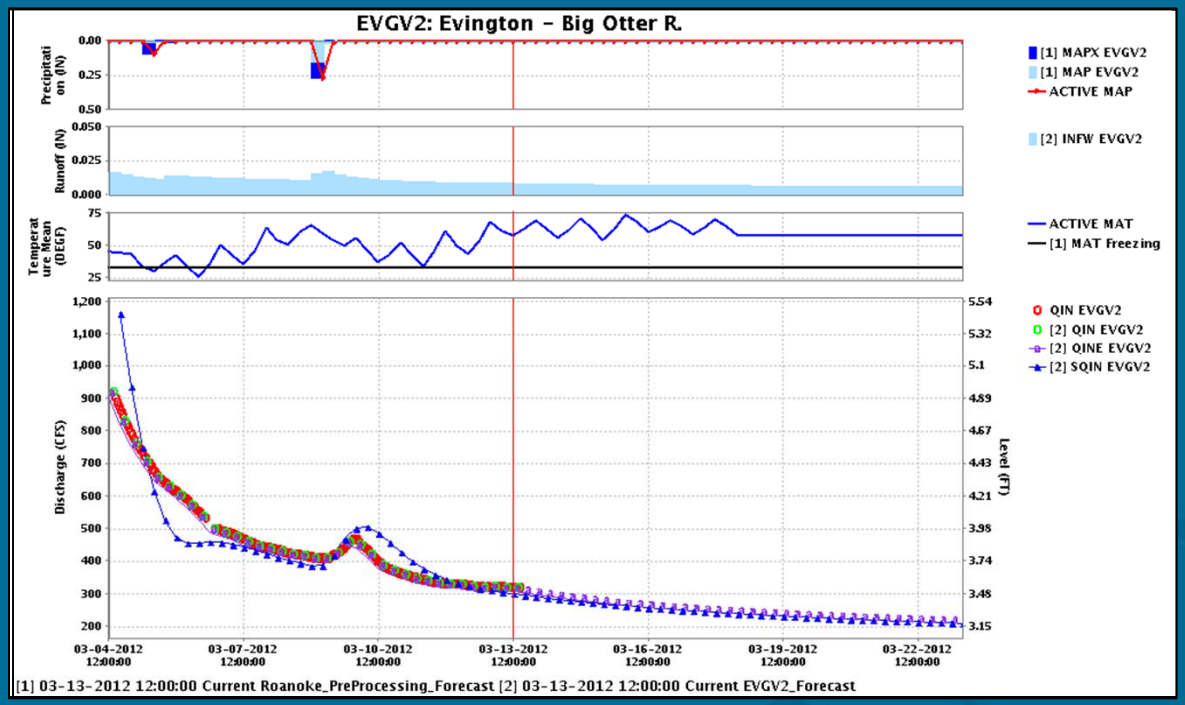




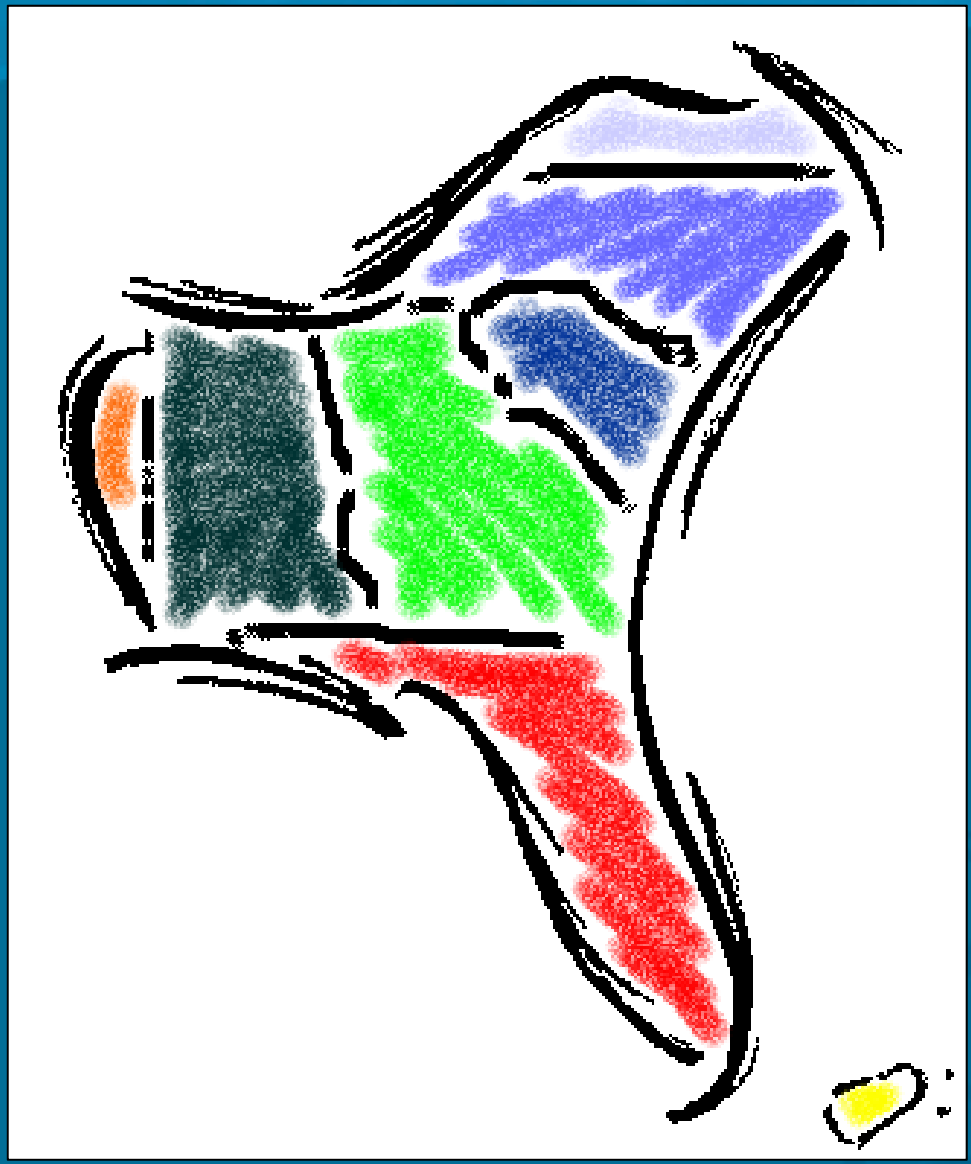
6-hour Temperature Input

SNOW-17

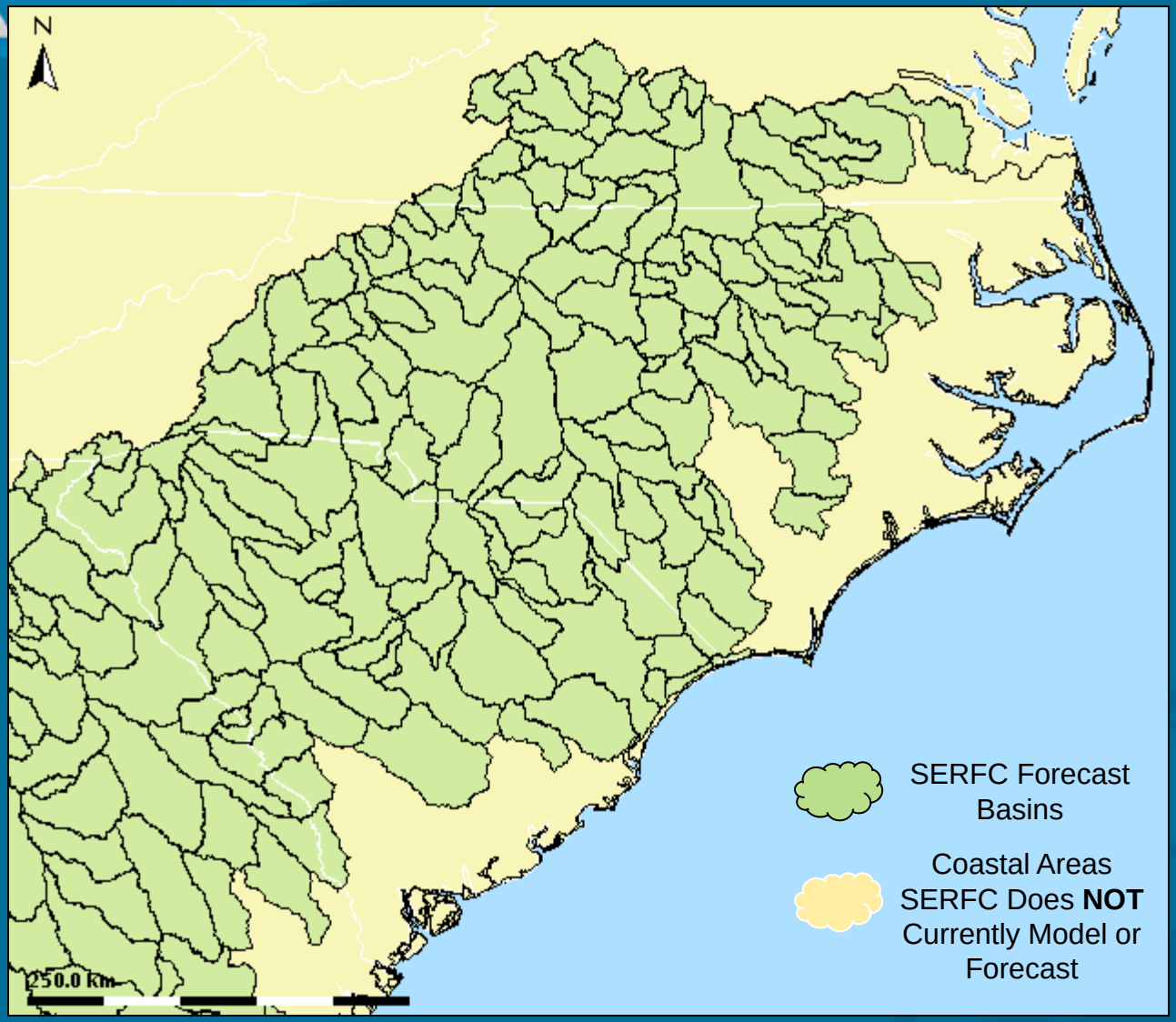

N
250.0 km
Zero
0 to 0.1
0.1 to 0.5
0.5 to 1.0
1.0 to 1.5
1.5 to 2.0
2.0 to 2.5
2.5 to 3.0
3.0 to 3.5
3.5 to 4.0
4.0 to 4.5
4.5 to 5.0
5.0 to 6.0
6.0 to 7.0
Above 7 Inches


EVGV2: Evington – Big Otter R.
Precipitation (IN)
Runoff (IN)
Temperature Mean (DEGF)
Discharge (CFS)
Level (FT)
[1] MAPX EVGV2
[1] MAP EVGV2
ACTIVE MAP
[2] INFW EVGV2
ACTIVE MAT
[1] MAT Freezing
QIN EVGV2
[2] QIN EVGV2
[2] QINE EVGV2
[2] SQIN EVGV2
03-04-2012 12:00:00
03-07-2012 12:00:00
03-10-2012 12:00:00
03-13-2012 12:00:00
03-16-2012 12:00:00
03-19-2012 12:00:00
03-22-2012 12:00:00
[1] 03-13-2012 12:00:00 Current Roanoke_PreProcessing_Forecast [2] 03-13-2012 12:00:00 Current EVGV2_Forecast

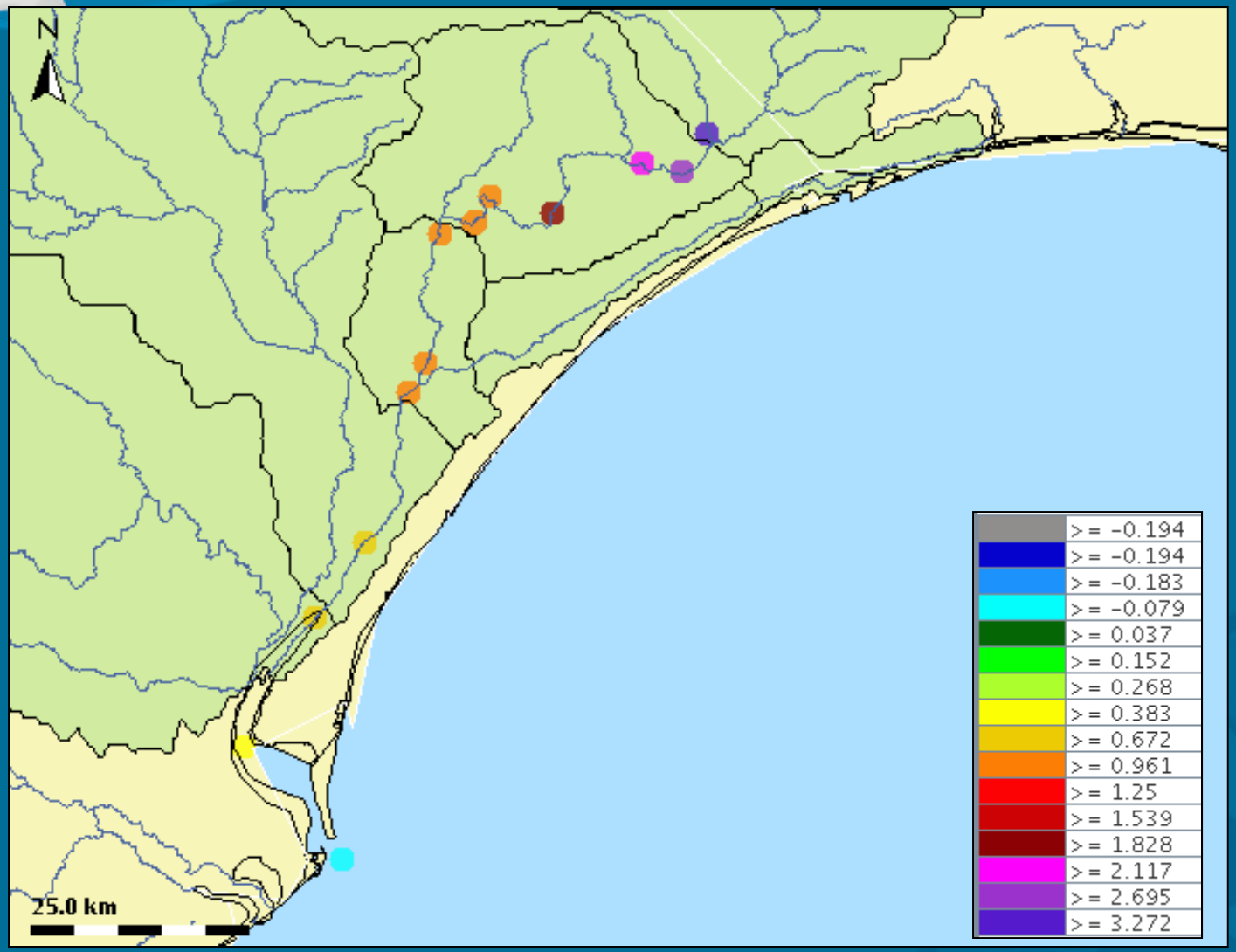
SERFC Service Area



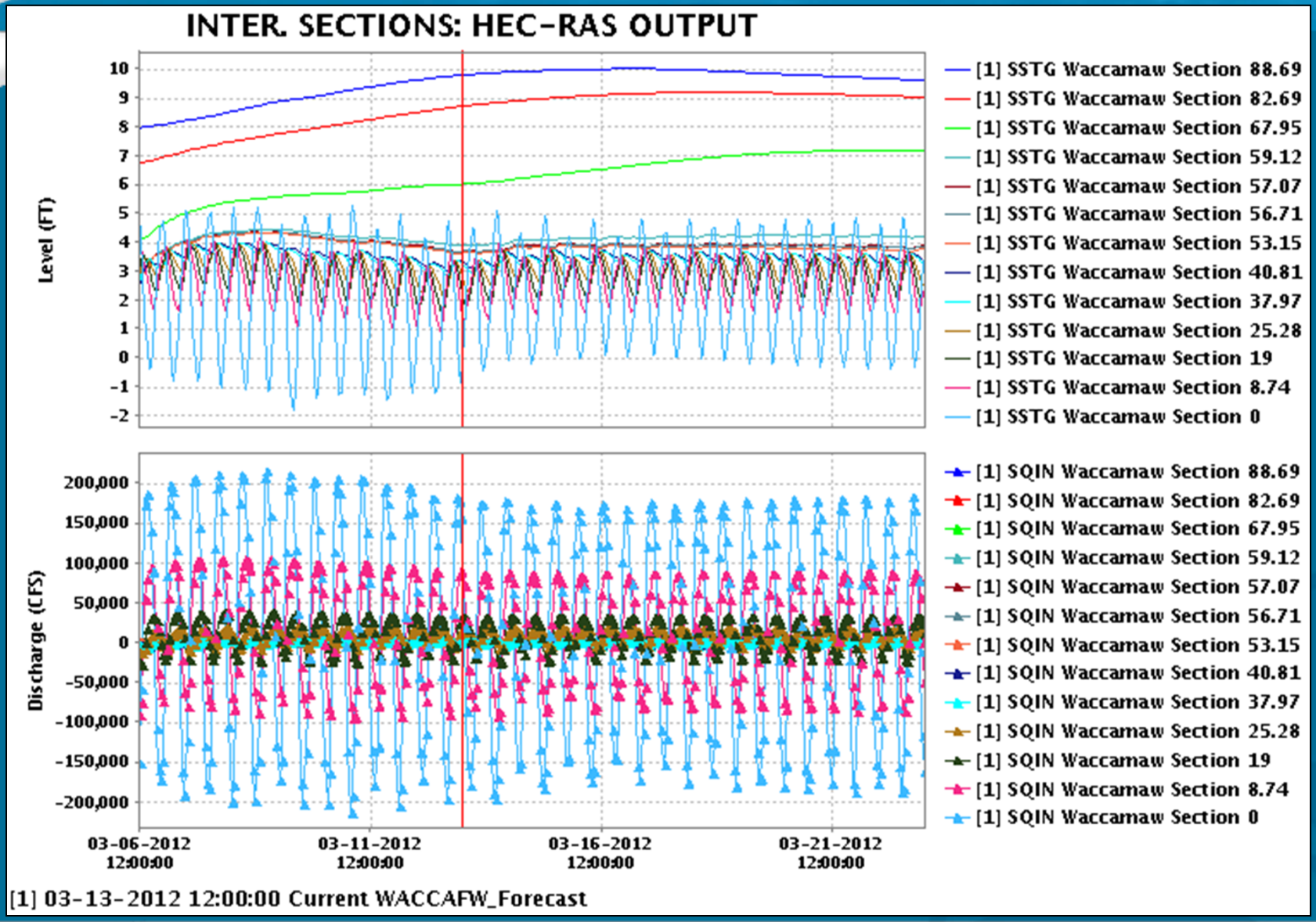
SERFC Modeling/Forecasting Extent



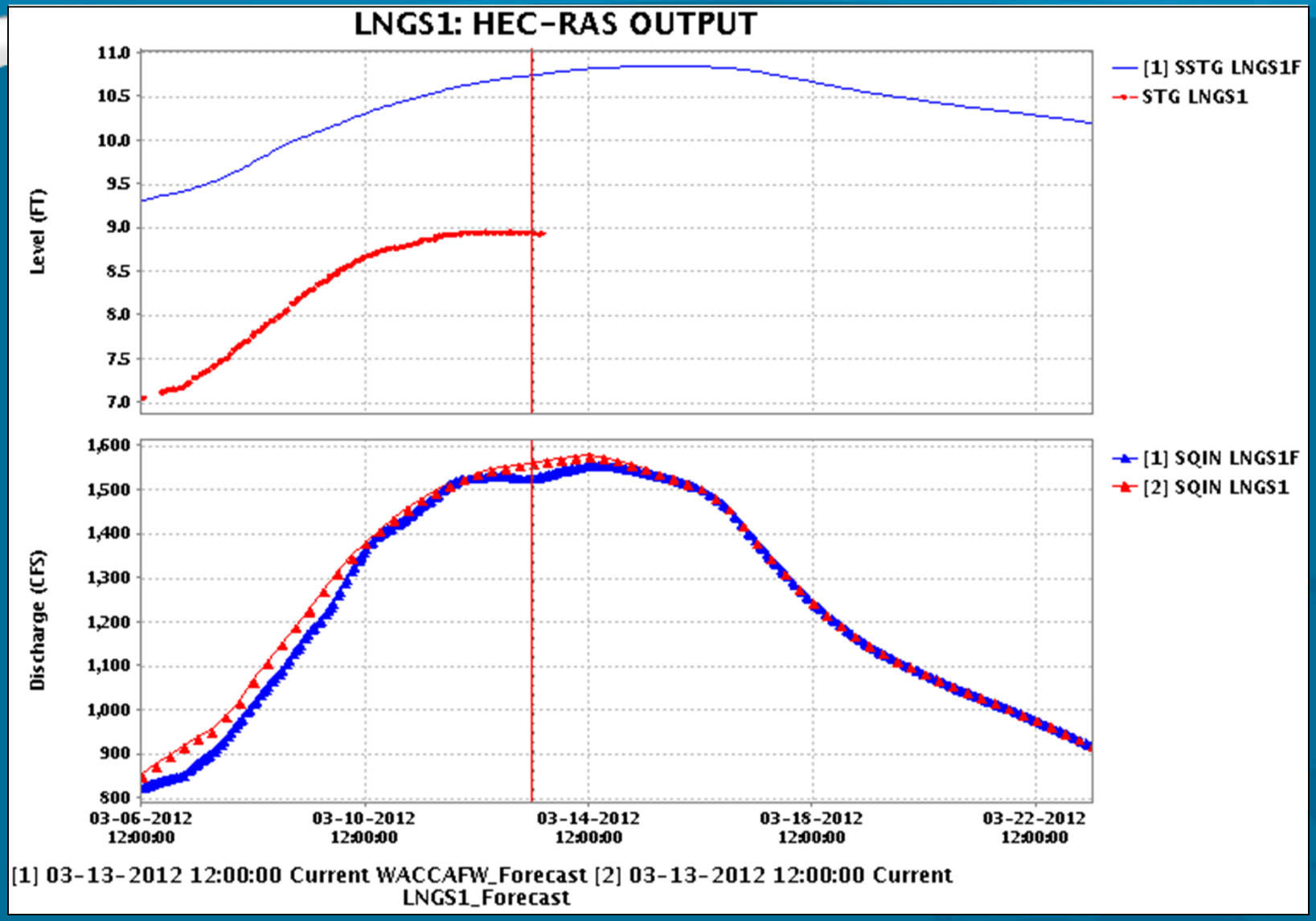
Hydraulic Modeling



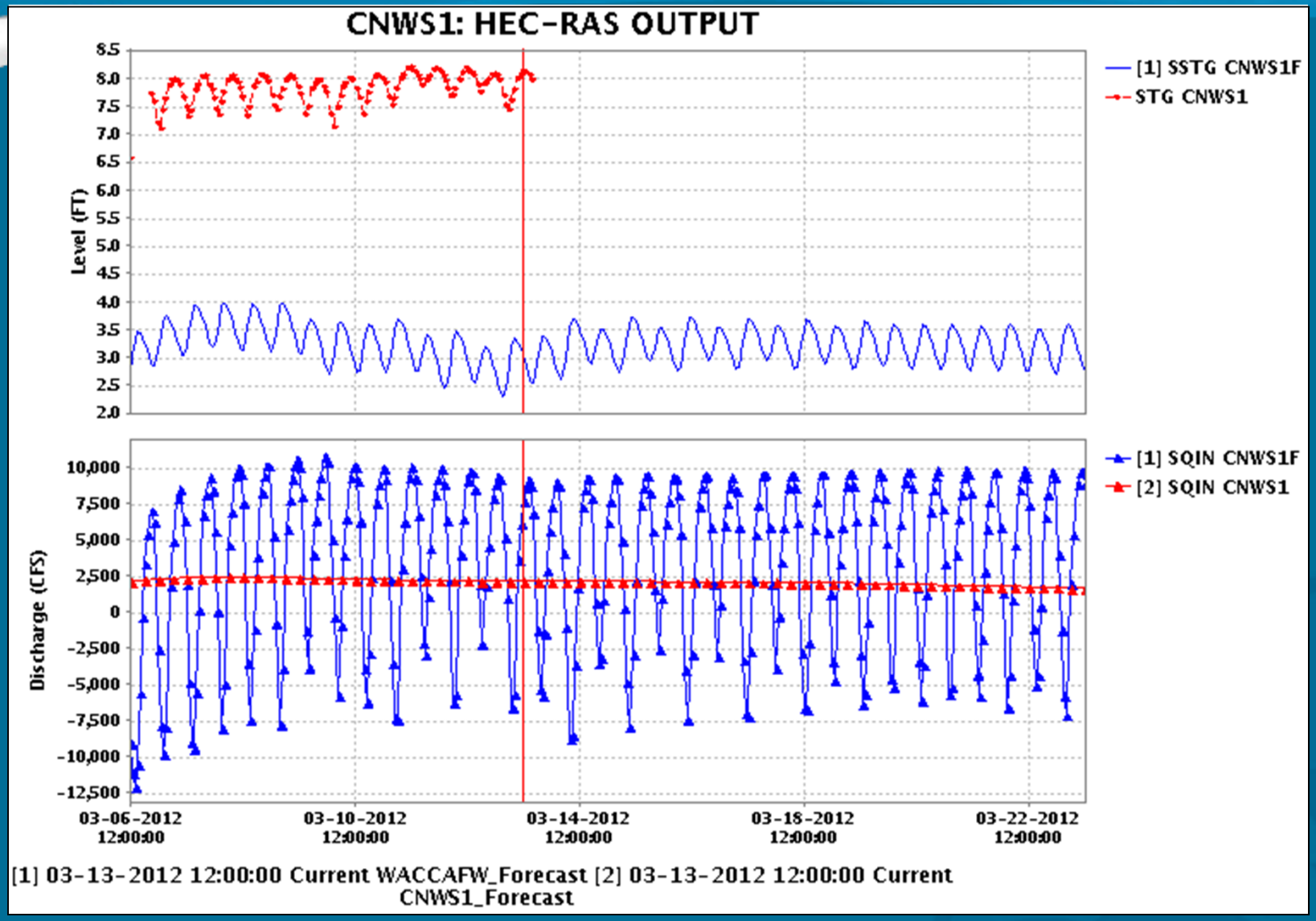
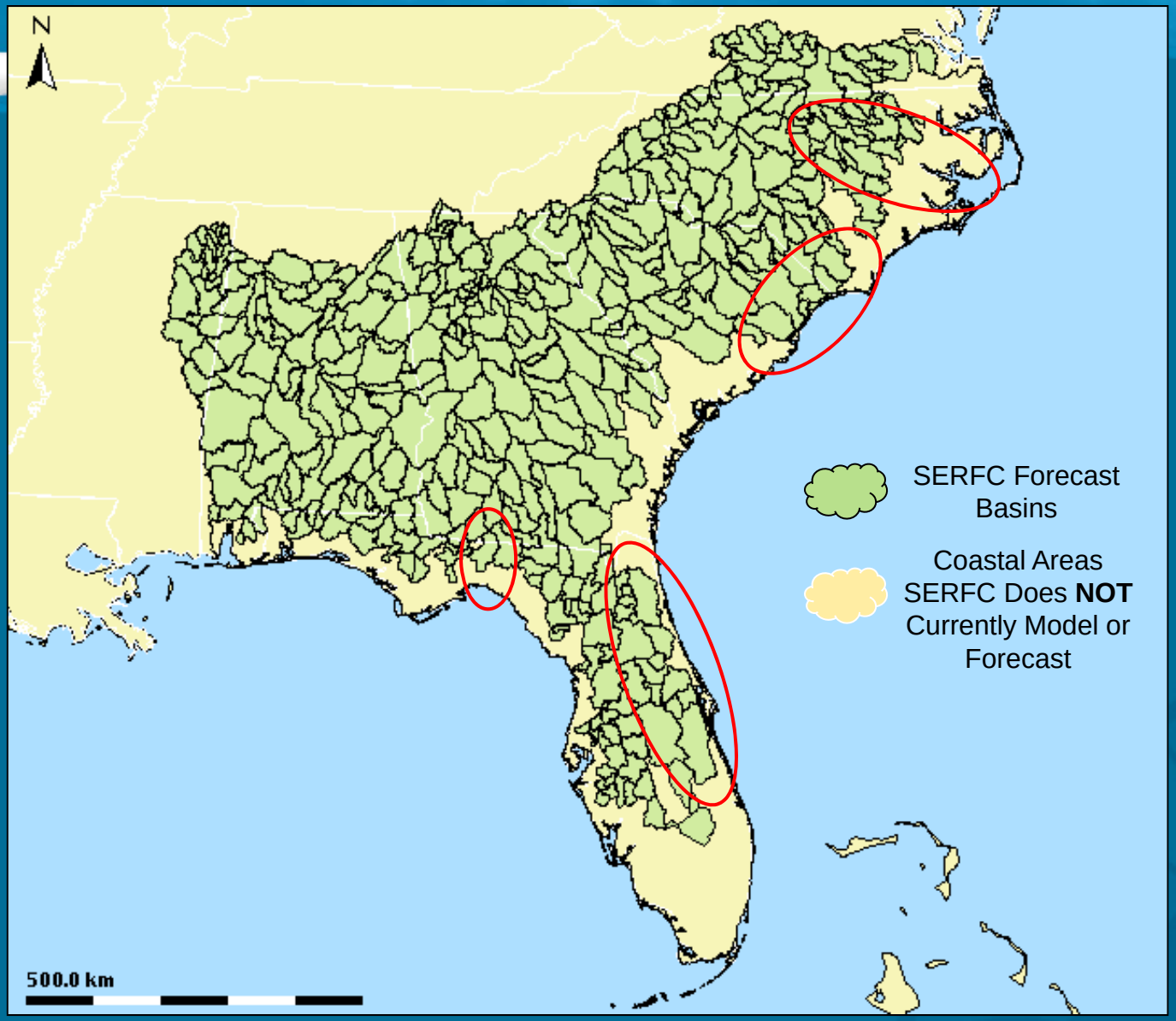
Hydraulic Modeling



Hydraulic Modeling



Hydraulic Modeling



Hydraulic Modeling