

# NERFC Verification Activities

Second RFC Verification Workshop

November 18, 2008

Salt Lake City, UT

Presented by  
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# NERFC Verification Activities

- RVF Verification
- QPF Verification
- Short-term Goals
- Suggested IVP Improvements
- University of Connecticut Proposal

# Monthly RVF Verification

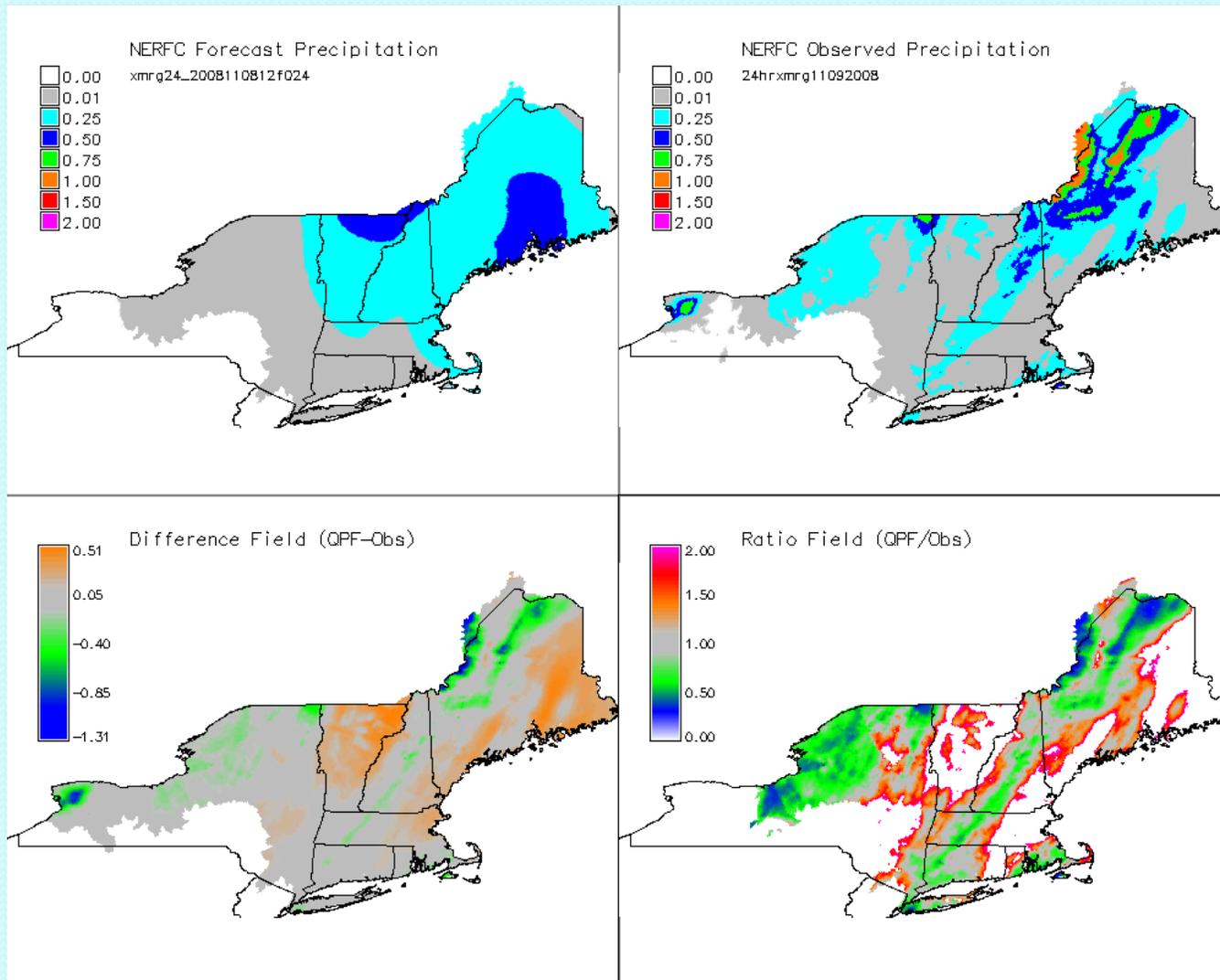
- Standard national verification
  - Enhancements
    - POD/FAR for above flood stage
    - Statistics based on time of issuance
    - Statistics based on rate of rise/fall
  - Tabular report provided to staff for review

# Tabular Report

OVERALL ERROR					
ID	CNT	ME	MAE	SS	GOAL
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-ALL-	34969	0.01	0.39	0.39	
Maine					
DICM1	273	-0.03	0.26	0.41	
FTKM1	273	0.02	0.29	0.43	
MASM1	264	-0.02	0.29	0.11	
WSHM1	264	-0.02	0.23	0.13	
MATM1	264	0.05	0.25	0.07	
GRNM1	264	-0.07	0.18	-0.14	
DOVM1	264	-0.07	0.25	0.32	
WENM1	264	0.04	0.31	0.06	
NANM1	273	-0.04	0.35	0.51	
SIDM1	282	-0.05	0.45	0.47	
AUGM1	18	-0.85	2.01	0.54	
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# More QPF Verification



# Verification Goals

- NERFC needs to expand to using EVS for ensemble verification
  - 30 day AHPS plots
  - Short Term Experimental using GFS and SREF ensemble
- Need to complete QPF Verification projects
- CHPS transition validation

# Suggested IVP Improvements

- Need to be able to address timing errors better
- Being able to view errors spatially thru an integrated process with IVP

# U.Conn Proposal

- University of Connecticut has submitted a proposal to NOAA with NERFC as a partner with following questions
  - **Q1.** What is the realistic statistical model to generate the entire predictive probability distribution function given deterministic forecast values, for various lead times?
    - **Find the conditional distribution of forecast error given a forecast value**
  - **Q2.** At a given location, what is the dependence of the entire predictive probability distribution function on season, for various lead times?
  - **Q3.** At a given location, what is the relative contribution of the input precipitation observation and forecast error to the overall predictive uncertainty, and how does this depend on lead time and season?
  - **Q4.** How do answers to questions (2) and (3) vary with watersheds, i.e. what are the effects of watershed size and topographic properties on the entire predictive probability distribution function?

# U.Conn Proposal

- NOAA-CPPA (Climate Prediction Program for the Americas) funded research?
- Three year project
- Principle Investigator
  - Dr. Mekonnen Gebremichael, Ph.D.
    - Dept of Civil and Environmental Engineering