DTC/HMT Verification Overview
20 January 2010 Case Study

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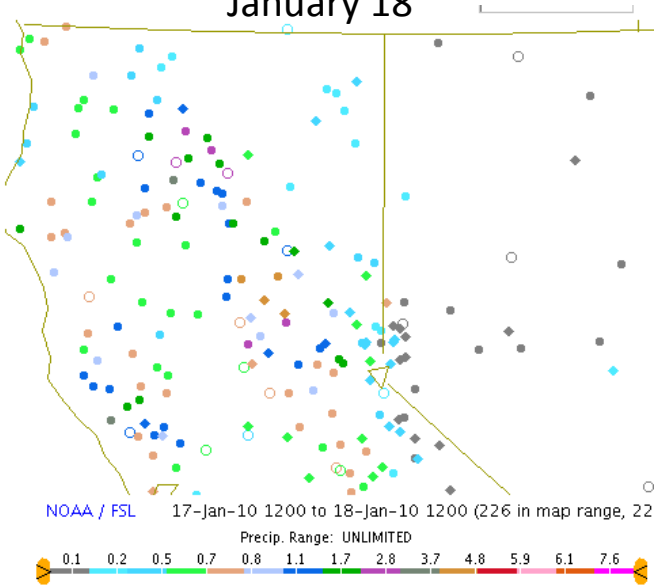
for
DTC/HMT Team

Telecon – 5 Feb 2010

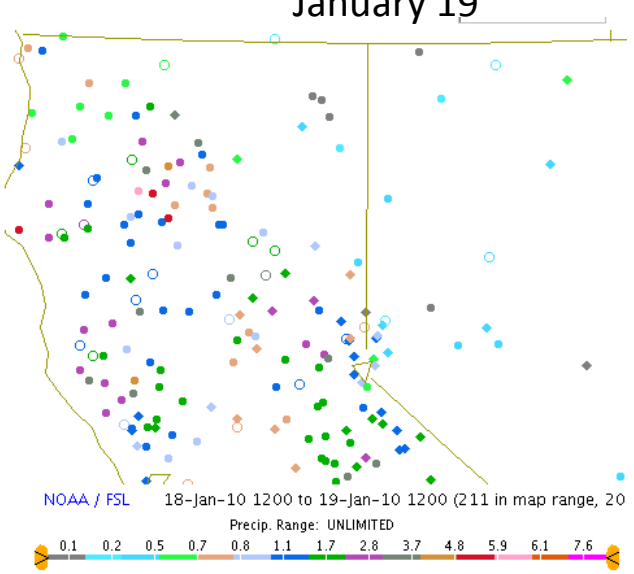
THE DEVELOPMENTAL TESTBED CENTER (DTC)

California rainfall, January 2010; a good week to be in Atlanta

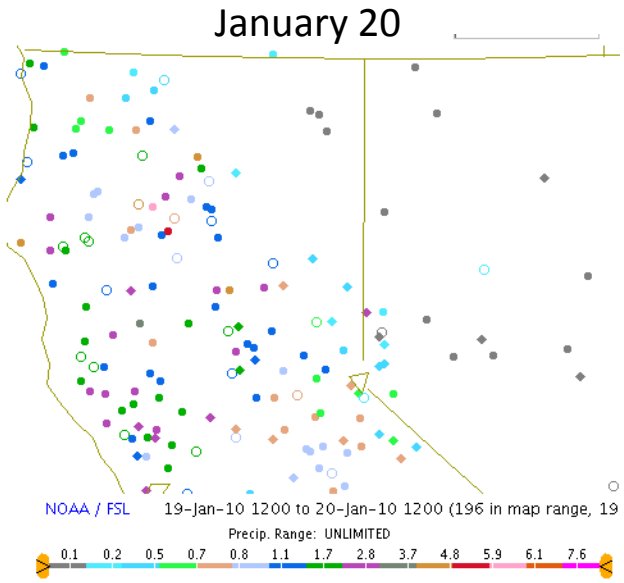
January 18



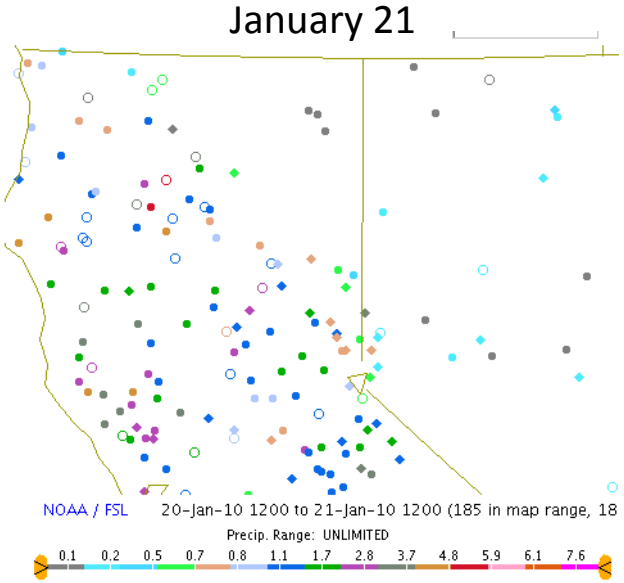
January 19



January 20



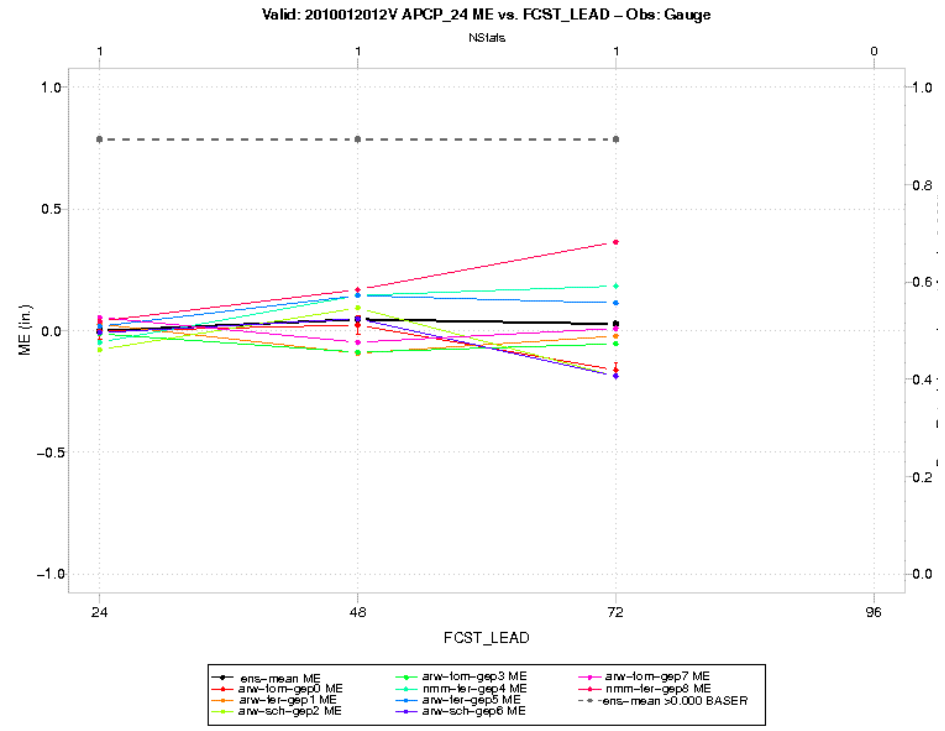
January 21



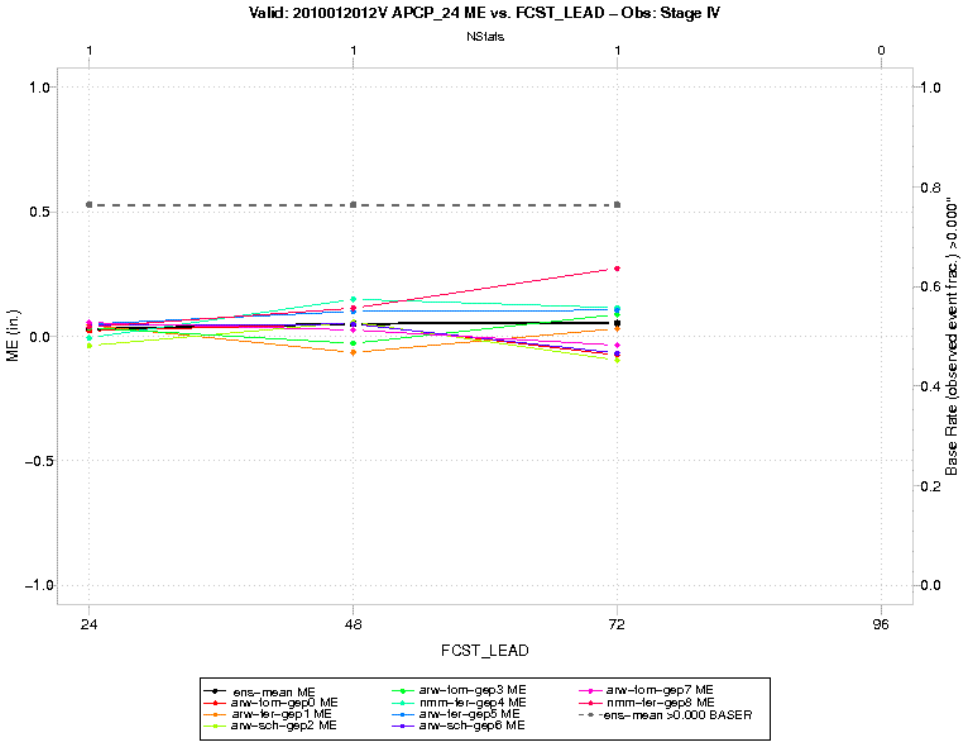
What is impact of verification dataset choices?
Do NMM runs have different bias characteristics?

Mean error (estimate of bias)
Valid time: 1200 UTC 1/20/2010

Verification data: gages

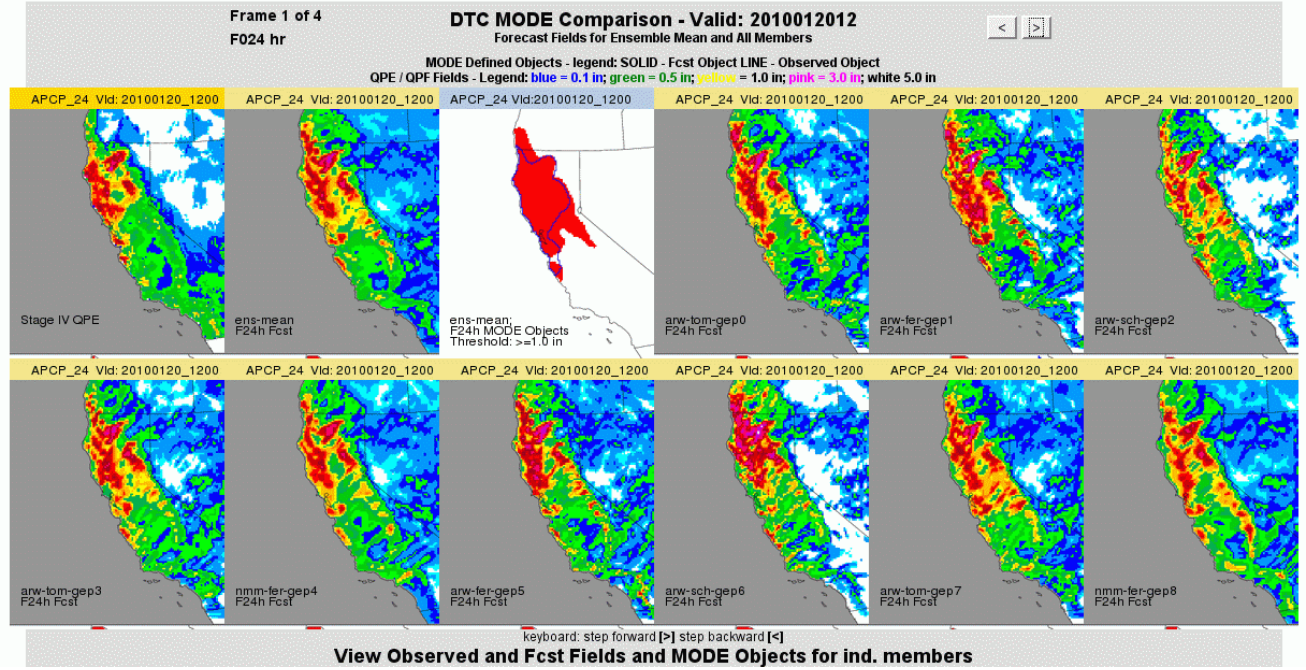


Verification data: Stage IV



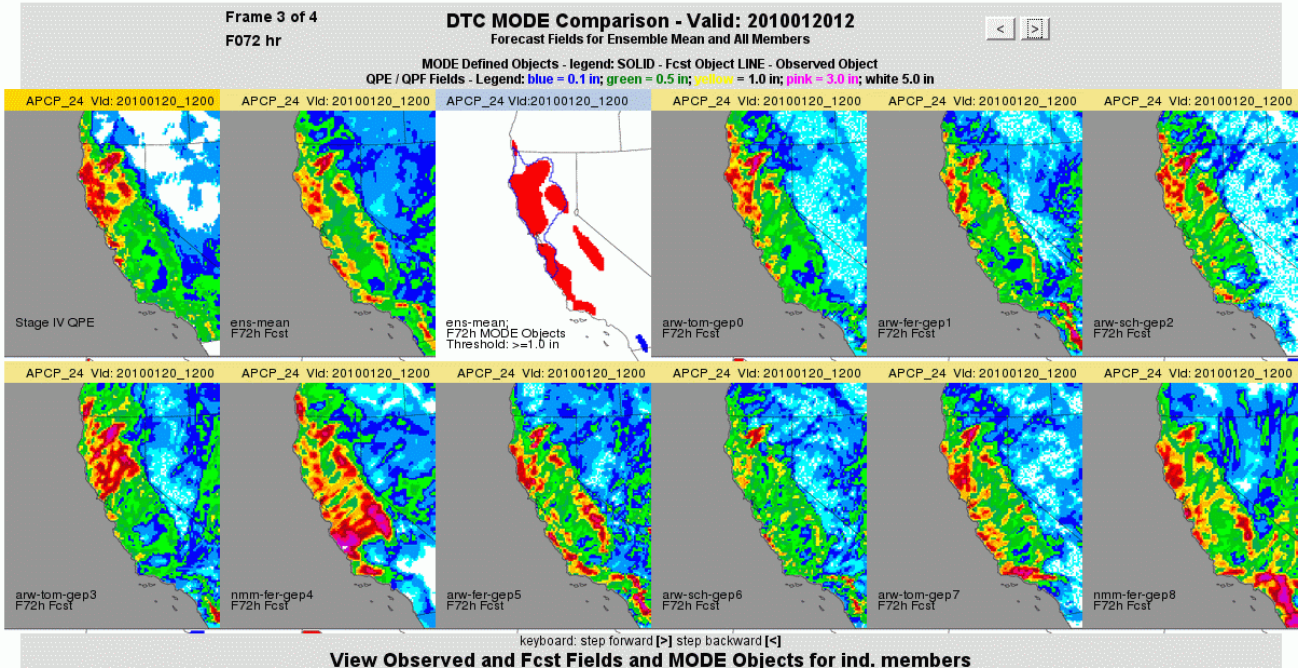
Impact of lead time on precipitation fields of ensemble members

24 h forecast >>>



Valid Time: 1200
1/20/2010
Heavy precipitation
24 h Stage IV

72 h forecast >>>



Impact of lead time on verification objects of ensemble members

24 h forecast >>>

Valid Time: 1200
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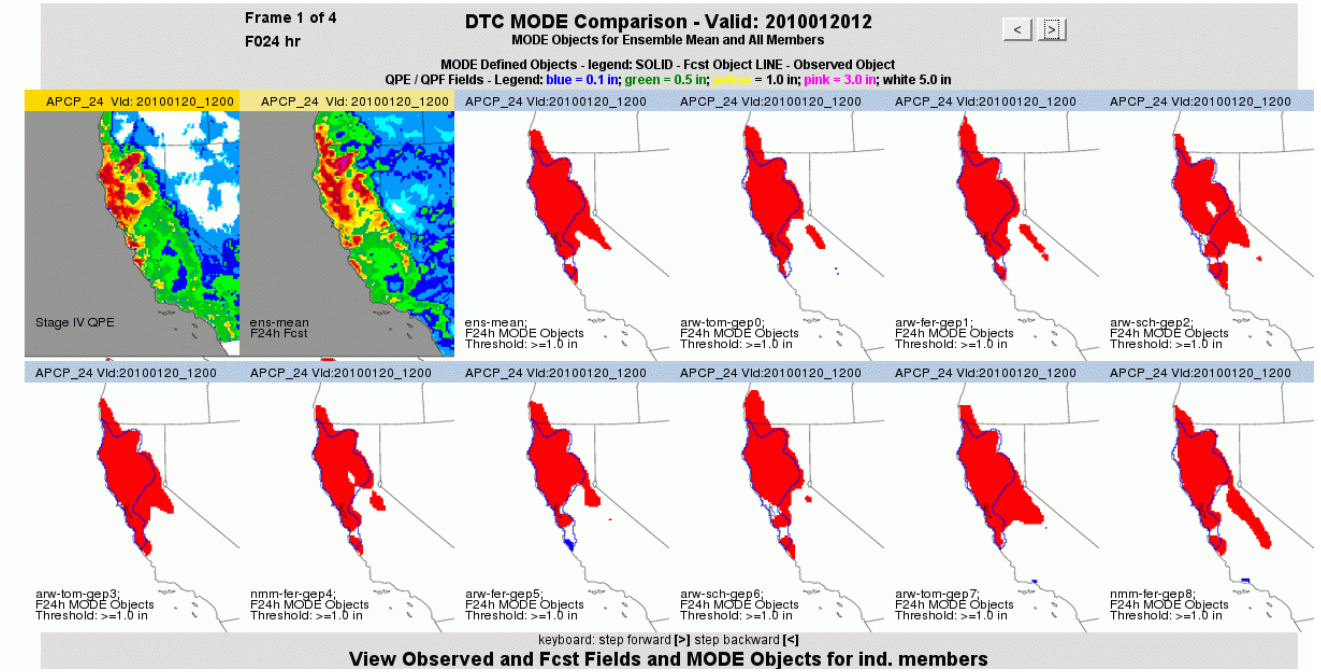
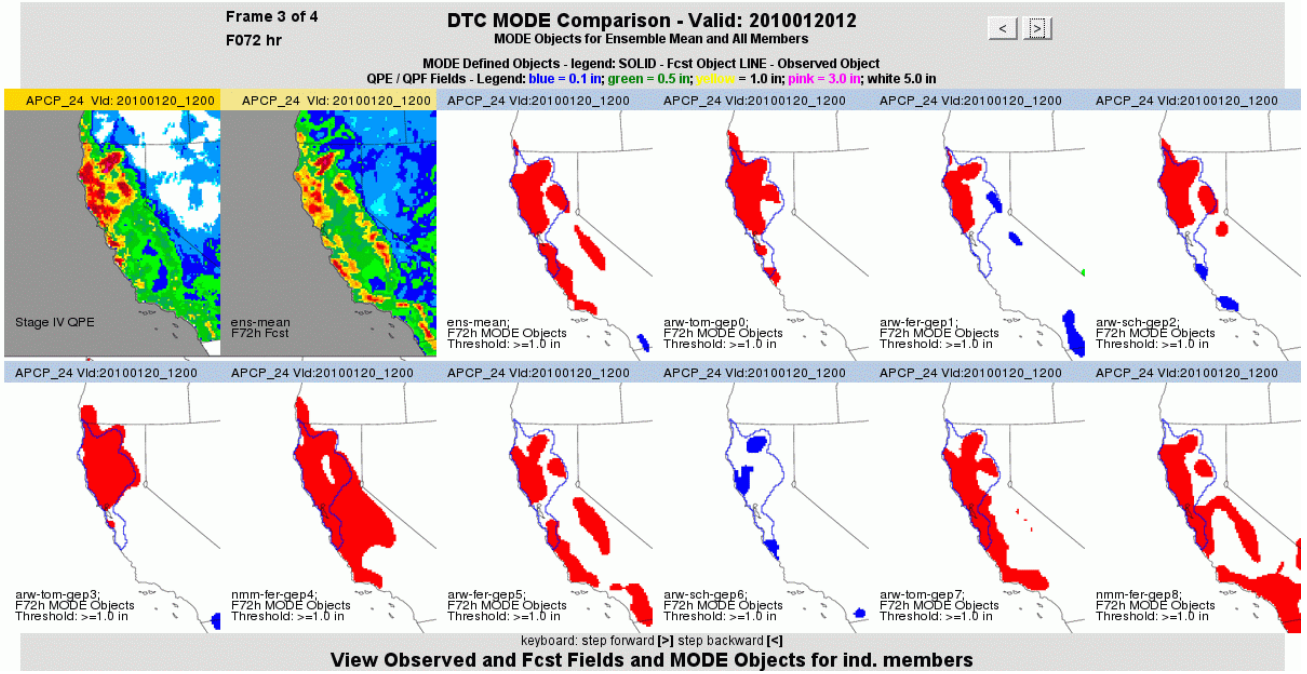
Heavy precipitation
24 h Stage IV

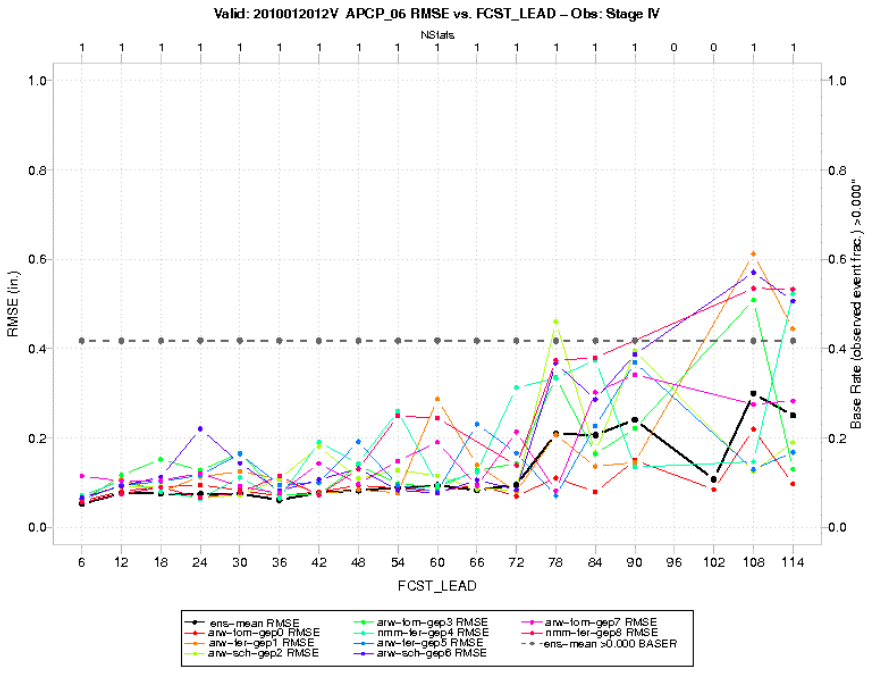
72 h forecast >>>



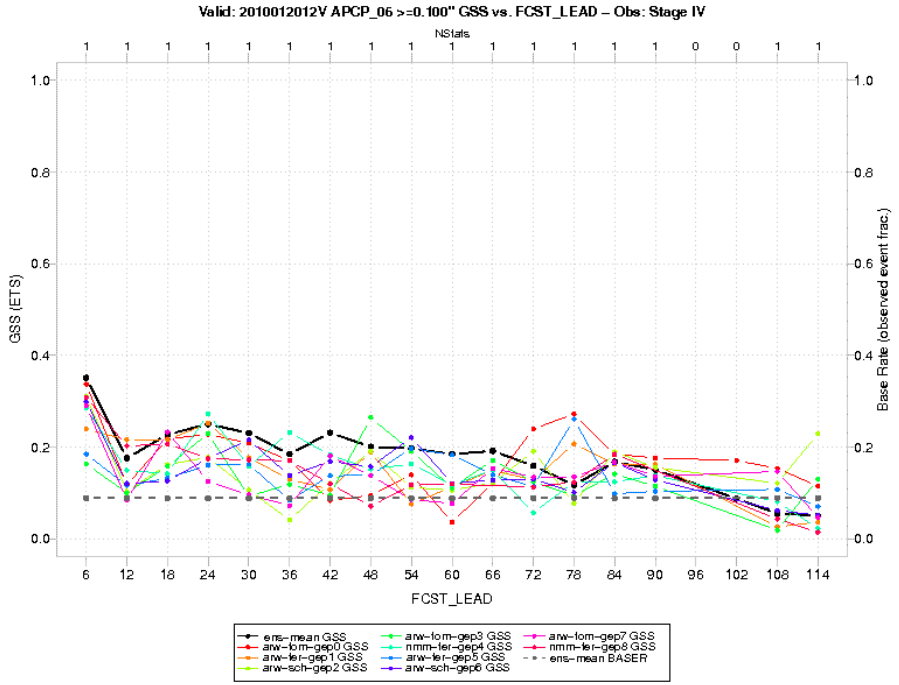


How does the ensemble mean perform as compared to individual ensemble members?

RMSE

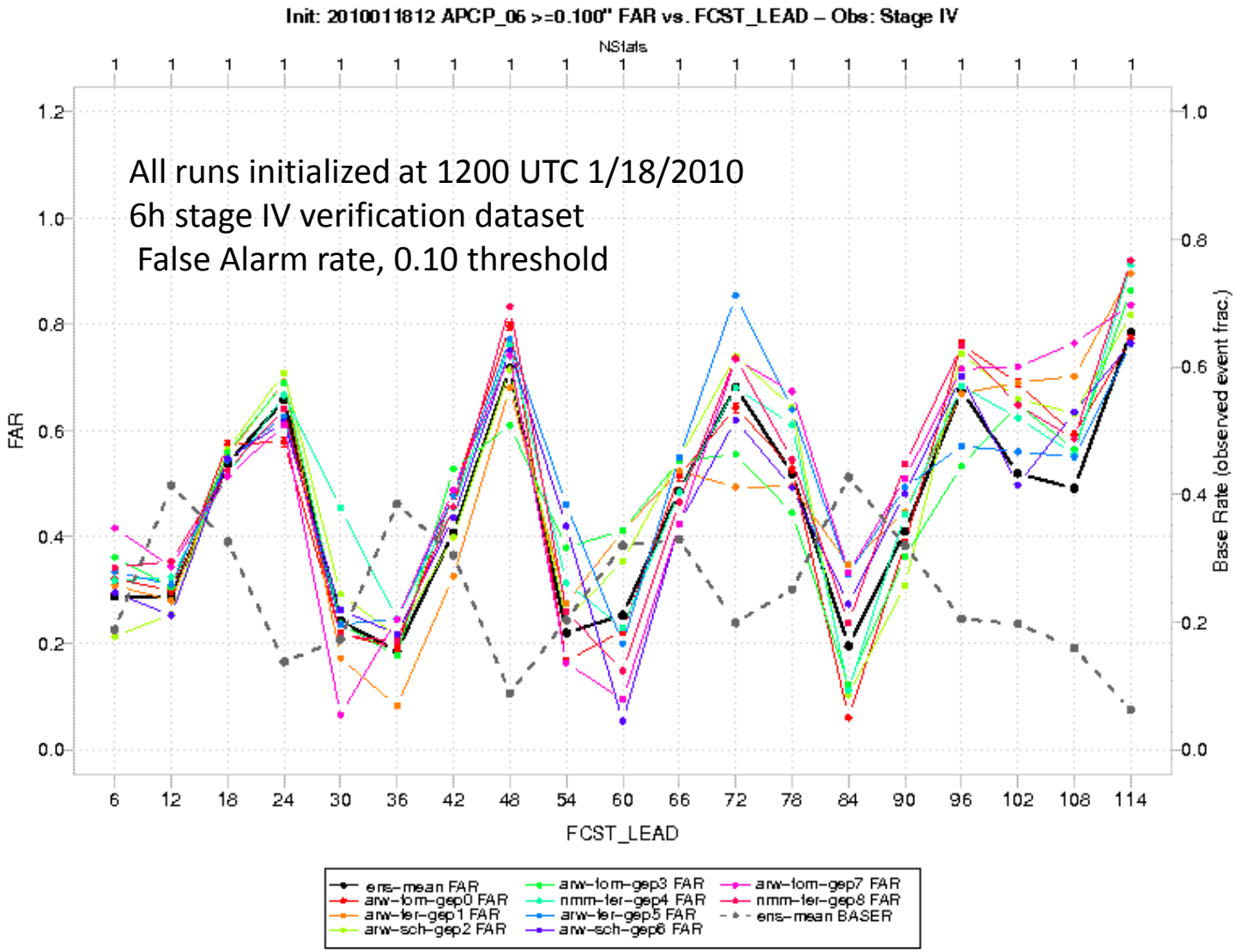


GSS (ETS)



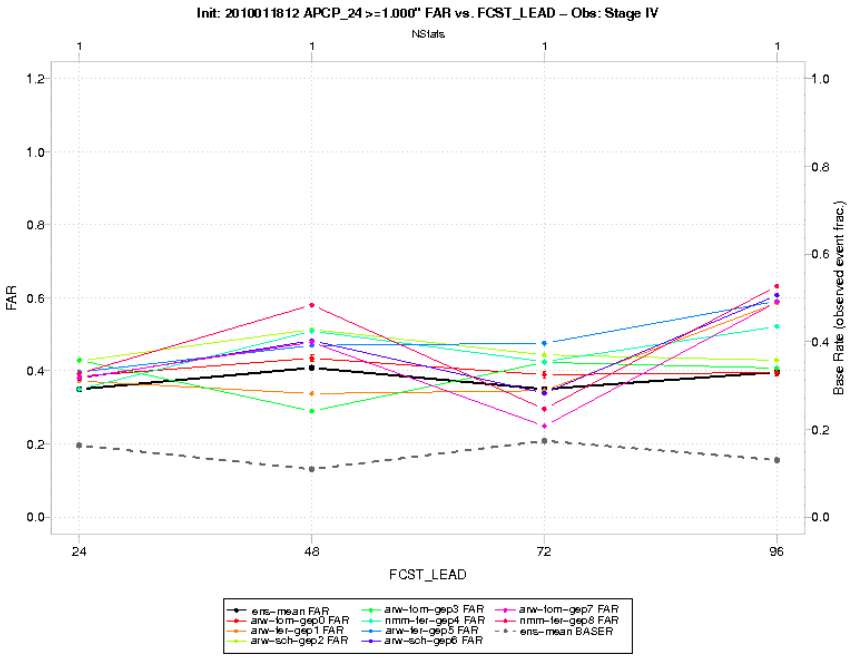
Stage 4, 6h precipitation, full domain, valid 1200 UTC 1/20/2010

What is the daily variability of FAR and precipitation frequency?
How does FAR vary WRT precipitation frequency?

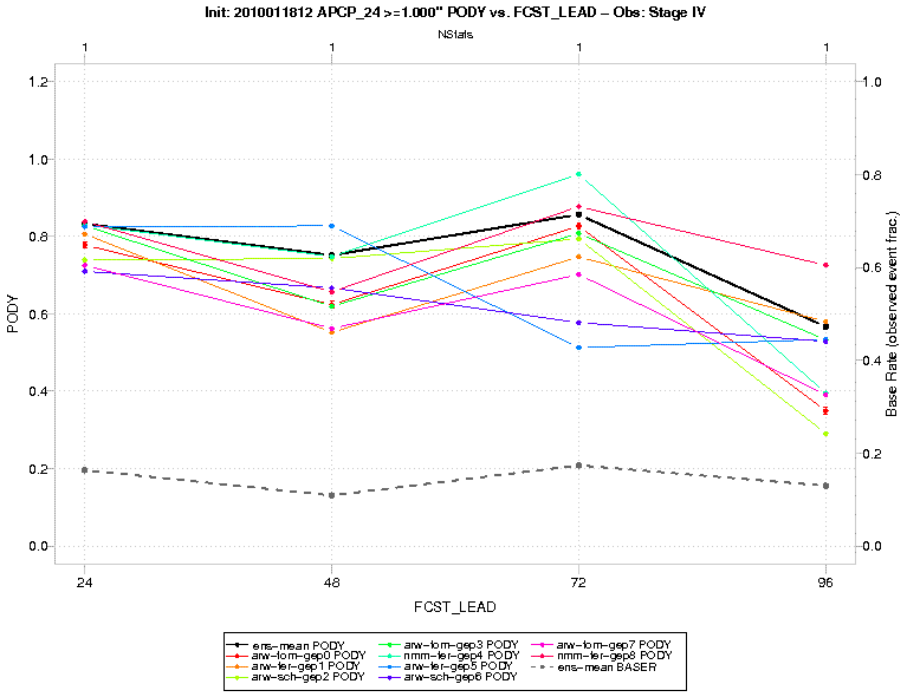


FAR and PODY vary inversely; increasing detection introduces false alarms.
Longer accumulation periods reduce the temporal variability, especially for mean.
Longer accumulation periods improve credibility of large threshold (1.00 inch)

All runs initialized at 1200 UTC 1/18/2010
24h stage IV verification dataset



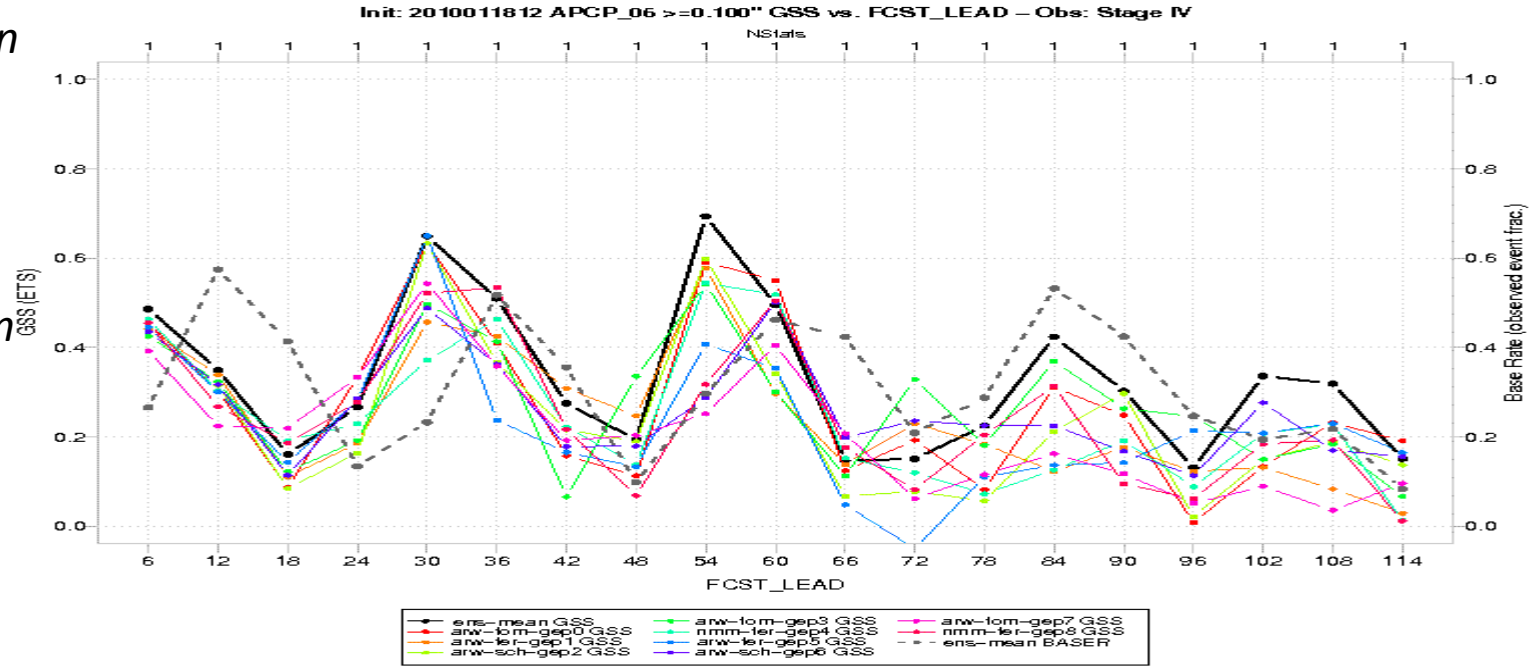
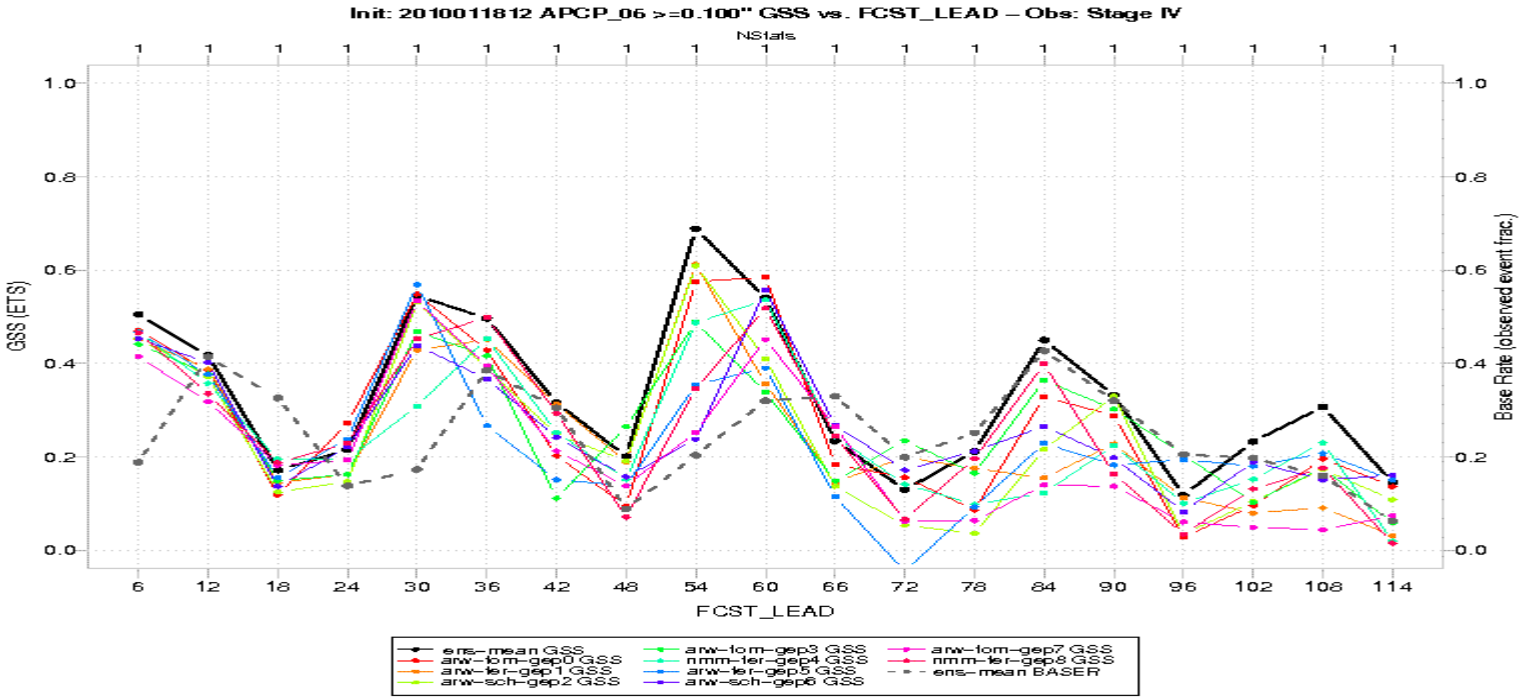
False alarm rate, threshold = 1.00 inch



Probability of detection (yes), threshold = 1.00

Impact of domain changes; depends on distribution of rainfall within domains; small in this case

CNRFC >>>>>



Full WRF domain >>>>>