

CTB

Seminar

12:00 noon – 1:00pm EST, 3 February 2016

NOAA Climate Test Bed Seminar Series

Speaker:

Thomas Smith, Ph. D.
NESDIS, NOAA &
CICS/ESSIC/University of Maryland
College Park, MD

Time:

12:00 noon - 1:00pm EST, 3 February 2016

Location:

NOAA Center for Weather and Climate
Prediction, Conference Room 2155
5830 University Research Court
College Park, MD 20740

Remote Access:

[https://www1.gotomeeting.com/
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Meeting ID: 714-576-893

Conference call: 1-877-680-3341

Passcode: 858747

Contact:

Jin Huang, Director
NOAA Climate Test Bed
NOAA's National Weather Service
Jin.Huang@noaa.gov



Super-Ensemble Statistical Short-Range Precipitation Forecasting Over the US and Improvements from Ocean-Area Precipitation Predictors

ABSTRACT

Super-ensemble statistical precipitation forecasting is evaluated for the contiguous US. Ensemble statistical forecasting combines a number of individual forecasts of some property such as precipitation. A super-ensemble forecast considers the errors of individual forecasts in weighting them to form the ensemble. Here short-term precipitation forecast are considered to test the methods. Cross-validation is used to evaluate forecast skill. Some tests use SST predictors and some evaluate the impact of predictions including ocean-area precipitation predictors. Although predictions are heavily influenced by ENSO variations, other regions contribute greatly to forecast skill. The super-ensemble method improves skill because it combines good forecasts for different regions from different predictors. The super ensemble is also used to optimally combine forecasts from several statistical models with different qualities. Since multiple regions and predictors contribute to skill, the ENSO spring barrier is reduced in the ensemble. Using satellite-based ocean-area precipitation predictors further increases forecast skill. The resulting skill is comparable to that from dynamic-model forecasts, but the regions with best forecasts are different. That suggests that the statistical and dynamic forecasts may be combined in a larger super ensemble to yield further improvements.

(With Coauthors: Sam Shen, and Ralph Ferraro)

