

# Short Course on Ensemble Prediction: Conveying Forecast Uncertainty

14 January 2006

H.B. Gonzales Convention Center

San Antonio, TX

## ORGANIZER:

Tom Hamill, NOAA/ESRL, Boulder, CO

## CO-INSTRUCTORS

Jim Hansen, NRL/Monterey, Maj. Tony Eckel (USAF/AFWA and Naval Postgraduate School), David Bright (NOAA/NSSL), Tom Mahoney (WFRV, Green Bay), Bryan Norcross (WFOR, Miami), John Toohey-Morales (Climadata Corp. and NBC Telemundo), Marina Timofeyeva (NOAA COMET)

## Program

**8:30** Arrival and introductions. (Tom Hamill)

**8:45** Theory behind ensemble forecasting: chaos theory and its consequences for weather prediction. (Jim Hansen)

**9:30** Basic concepts of probability and statistics. (Tom Hamill and Jim Hansen)

**10:10** Break

**10:30** Chaos forecast exercise. (Maj. Tony Eckel)

**11:00** Ensemble forecasting, Part 1: How we make ensemble forecasts and how we verify them. (Tom Hamill)

**11:30** Ensemble forecasting, Part 2: Problems with ensemble forecasts, and statistically correcting them. (Maj. Tony Eckel)

**12:15** Lunch Break

**1:15** Ensemble Forecasting, Part 3: Ways of viewing and interpreting ensemble forecasts: applications in severe weather forecasting. (David Bright)

**2:15** Laboratory preparation: Discussing the case study, how to use web-based products. (David Bright)

**2:30** Break

**2:45** Ensemble forecast lab: using ensembles to improve your forecasts. (David Bright, assisted by the rest of us)

**2:45 – 3:30** Forecasters work in groups on making forecasts for several weather situations.

**3:30 – 4:00** Presentations by the groups.

**4:00** Break

**4:10** Examples of incorporating uncertainty into real-time forecasts of winter weather and tropical weather. (Bryan Norcross and Tom Mahoney)

**4:40** Panel Discussion / Brainstorm Session with audience. (Bryan Norcross, Tom Mahoney, and John Toohey-Morales)

**5:00** Evaluations and conclusion