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