

WRF Ensemble Working Group Meeting
20 August 2010

Members present: Colle, DiMego, Eckel, Etherton, Hamill, Jankov, Kuchera, Reynolds, Schneider, Snyder, Stauffer, Stensrud, Weiss, Xue, Zhang

Others: Kuo

We appreciate the DTC involving the community and asking for input during the first year of the DTC Ensemble Testbed. We commend the DTC for taking this collaborative and interactive approach from the very beginning of the DET.

The WG members unanimously agree that the DET is greatly underfunded for the tasks overviewed during the workshop. Thus, prioritizing DET activities and goals will be the key to a successful program.

We strongly believe that the DET needs to be an enabler of ensemble research and an impartial broker when evaluating various approaches. We view the main goals of the DET to be the development and support of a common community infrastructure for ensembles, evaluation and testing of critical ensemble components, and collaborating with the research and operations community on prototyping next generation systems.

With the DTC goals in mind, the WG makes the following recommendations:

- The DET should select an overall software design from an ensemble system already in use within the community (e.g., WRF/DART system at Albany, CAPS system at OU, JME system at AFWA, WRF-EnKF at PSU) and facilitate the use of this software on various computer systems. However, the WG recognizes that the DET cannot support all the various models or data assimilation systems that may have links within the overall software design.
- The DET should assist NCEP in development of the 2011 SREF upgrade as needed. Archiving the SREF testing runs and the operational forecasts, along with observations (for verification and post-processing development and testing), should be performed to populate the first benchmark database for future use. Make this operational system available to the community using the same scripts that were selected as an outcome of the first recommendation.
- The DET should engage the ensemble research community in the testing and evaluation of initial condition perturbation and model uncertainty strategies. The DET would not lead the research, but partner with external scientists to help port and evaluate the various approaches. This enabling activity could lead to an early success in terms of improving the operational SREF. If an approach shows promise during a quick evaluation process, then follow EMC guidelines for testing and evaluation over a longer period of time.

- The DET should emphasize the development of the post-processing module. The post-processing community should be encouraged to champion and test various approaches using the 2011 SREF baseline. A successful post-processing module could help NCEP provide bias corrected forecasts with or soon after the 2011 SREF upgrade and would be another example of an early success.
- The DET should partner with quasi-operational testbeds to highlight potential improvements to SREF and guide future developments and NCEP infrastructure needs. This will require a real-time ensemble forecast capability.
- The DET needs to provide a user support function.
- The DET should meet with the WRF ensemble forecasting working group twice per year - once in person (hopefully in conjunction with another meeting or workshop) and once by teleconference. A likely schedule is a February teleconference followed by an in-person meeting in association with an August workshop.