Highlights only on Key Issues, March 2008 accomplishments

Model Development and Enhancement Research Team
15 April 2008

5.1   RUC/NAM operations at NCEP
- Parallel RUC testing continues, improved radar processing in past month. Parallel testing at NCEP will require cold and warm-season periods, and implementation of the RUC upgrade is now scheduled for August-Sept 2008.
- Upgrade to operational NAM implemented on 31 March 2008, culmination of much effort at NCEP EMC and NCO.

5.4   Develop/test/implement Rapid Refresh
- More reliable 1-h cycle now running at GSD, in parallel with 6-h cold start Rapid Refresh, with previous disk issues on ESRL computer resolved in February.
- Reliability issues with ftp from NCEP for prepBUFR observations needed for RR testing at GSD.
- WRF version 3.0 (released 2 weeks ago) is now being implemented in Rapid Refresh, replacing the previous WRF version.
- Top pressure is being raised from previous, nominal level of 50 hPa (similar to RUC) to 10 hPa.
- Delivery to AWRP RTs and other users now being arranged for RR grids.

5.15 Improved cloud/moisture analysis
- Continued progress on integrated cloud analysis using METAR, satellite, radar, background hydrometeors by GSD and CAPS for GSI Rapid Refresh. New poster completed.

5.6   Develop/test/evaluate performance of WRF model
- Release of WRF version 3.0 on 1 April 2008, a major step for NCAR and larger WRF community, with strong involvement from NOAA/ESRL and NCEP. Quickly being incorporated into Rapid Refresh and HRRR nest testing at GS.

5.8   Improve model physics for aviation forecasts
- Improved treatment for 2-m temperatures over snow cover tested at GSD and now running successfully in parallel RUC at NCEP also. This will be added to the WRF also for the RUC-Smirnova land-surface model for use in the Rapid Refresh.
- Grell-Devenyi convective scheme version with non-local subsidence continues run successfully in parallel RUC and was included in WRF v3.0.

5.24 Convection-resolving Rapid Refresh nest
- Initial HRRR testing underway at GSD using 3-km grid over northeastern U.S, currently initialized with radar-enhanced RUC. (HRRR will ultimately run as Rapid Refresh nest.) Delivery time will be improved for collaborating partners in April.
- Much discussion on this issue with MDE partner labs and with AWRP.