Status of FY 2007 Deliverables
Model Development and Enhancement Research Team #5
15 Aug 2007

Legend:

☐ **Task proceeding on schedule;** ☑ **Task complete;** ☐ **Task incomplete and overdue.** ☐ **Task delayed by outside factors.**

- Date changed with concurrence of AWRP Point of Contact. Otherwise, the date is that specified in latest Technical Direction for FY 2007.

Due dates in blue indicate a change recommended by lead organization(s) in the past month.

	Task Number and Description	Lead Organization	Due Date	Status	Comments
07.5.1	**Infrastructure support Related to Operational Running of the non-WRF Rapid Update Cycle System in NCEP Operations**				
E1	Perform observation ingest, quality control, and preparation in support of the operational RUC runs	NCEP	Oct '06 – Sep '07	☐	
E2	Perform configuration management for RUC, including thorough documentation, and respond promptly to any code malfunctions or performance issues.	ESRL	Oct '06 – Sep '07	☐	
E3	Monitor RUC performance, respond to any problems detected by ESRL, NCEP, or any RUC users, diagnose cause, develop solutions to RUC software problems, and coordinate with EMC and NCO on testing.	ESRL	Oct '06 – Sep '07	☐	
07.5.4	**Develop, test, and implement Rapid Refresh configuration of the WRF modeling system**				
E1	Complete a technical report describing the ESRL preliminary real-time and retrospective testing of the WRF Rapid Refresh system.	ESRL	15 Oct 06	☑	
E2	Deliver report on progress with WRF Rapid Refresh code toward FY09 Rapid Refresh implementation	ESRL	15 Jul 06	☑	

07.5.5	**Develop, test and implement improvements to operational WRF 3DVARs for Rapid Refresh and North American Mesoscale runs.**				
E1	Subject to NCEP Director approval, implement in WRF-GSI in NAM/NDAS	NCEP	30 Mar 07 – now delayed to 2Q FY08	☐	NAM implementation is now planned for Jan-Mar 08 – see August 07 report for more details under 7.5.17.
E2	Based on real-time parallel and retrospective testing and refinement of the experimental code, report on progress toward a "pre-implementation" version of GSI suitable for Rapid-Refresh application	ESRL	15 Jul 07	☑	
07.5.6	**Develop test and evaluate the performance of the nonhydrostatic WRF modeling system**				
E1	Conduct a WRF Users' Workshop and a tutorial on the Advanced Research WRF (ARW) core (NCAR) for the user community. Include descriptions and testing of Rapid Refresh as part of the workshop.	NCAR/MMM NCEP/DTC ESRL	30 Jun 07	☑	
07.5.8	**Improve physics in the WRF model, especially that bearing on prediction of aircraft icing.**				
E2	Report on testing of revised versions of microphysics and other physical parameterizations into WRF Rapid Refresh model code package and include in Rapid Refresh package to NCEP.	ESRL	15 Jun 07	☑	
E3	Report on overall performance of physics parameterizations in pre-implementation version of RR at annual WRF Workshop in Boulder, CO	ESRL	30 Jun 07	☑	
E4	Report on development of a predictive capability in the NCAR microphysics for aerosol concentration and mixing ratio that can be used to determine cloud condensation nuclei (CCN) and ice nuclei (IN) as a function of cloud updraft velocity, temperature, pressure, and background aerosol concentration.	NCAR	30 Sep 07	☐	
07.5.15	**Develop improved methods of cloud and moisture analysis for use in the WRF Modeling System**				
E2	Report on progress of GSI cloud analysis code to be part of Rapid Refresh.	ESRL	15 Jul 07	☑	

E3	Complete further revisions and testing of the generalized cloud analysis package within GSI for stratiform cloud (using GOES cloud top and METAR cloud data) and initial treatment for convective cloud at parameterized scale assimilating radar reflectivity.	ESRL/OKU	15 Sep 07	❑
07.5.17	**Infrastructure support for running operational WRF model in North American Mesoscale and HiResWindow models at NCEP. (Rapid Refresh to be added in FY09)**			
E1	Perform observation ingest, quality control and preparation in support of the operational North American Mesoscale WRF runs.	NCEP	Oct '06 – Sep '07	❑
E2	As requested by other RTs, incorporate new AIV calculations into Operational WRF Model post-processor and product generator.	NCEP	Oct '06 – Sep '07	❑