2.2   Hurricane WRF: 2015 operational implementation and community support

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The Hurricane WRF model (HWRF) is one of the various applications of the WRF model in National Weather Service operations. Its main customers are the National Hurricane Center, Central Pacific Hurricane Center, and Joint Typhoon Warning Center, which use HWRF as numerical guidance for tropical cyclone forecasting. However, the HWRF is run across the globe by other countries' forecast centers, and by research groups. (http://www.emc.ncep.noaa.gov/HWRF)

The model has a sophisticated initialization process, which involves cycling the vortex from the previous HWRF forecast and assimilating observations using a hybrid three- dimensional variational data assimilation package. The Message Passing Interface Princeton Ocean Model for Tropical Cyclones (MPIPOM-TC), which currently uses a feature-based initialization procedure in the Atlantic basin and a GDEMv3 based initialization in the Eastern Pacific basin, is run coupled with the WRF model to represent important ocean-atmosphere feedback processes. In the North Atlantic basin, a forty member ensemble (ENSDA) is run to provide forecast error covariances when NOAA Hurricane Hunter aircraft are flying through a hurricane, providing Tail Doppler Radar (TDR) data. Post-processing and tracking use the Unified Post-Processor and GFDL Vortex Tracker.

In this presentation, we will give a summary of the 2015 operational HWRF implementation and present the changes in model initialization and configuration that were put in effect since last year. Additionally, we will discuss model performance and give an overview of the HWRF community support that is provided by the Developmental Testbed Center (http://www.dtcenter.org/HurrWRF/users).