2.6 Hurricane WRF: 2014 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 customer is the National Hurricane Center, which uses HWRF as numerical guidance for tropical cyclone forecasting. However, HWRF can be run in any oceanic basin, and is being used experimentally around the globe, including at the Joint Typhoon Warning Center (JTWC) is using it experimentally.

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 this presentation, we will give a summary of the 2014 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 (www.dtcenter.org/HurrWRF/users).