Development of a High Resolution Local Forecast Model at the Mobile, Alabama, NWS Office

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The NWS Warning and Forecast Office in Mobile, Alabama (WFO Mobile) has been running a version of the Weather Research and Forecast Environmental Modeling System since 2007. The model is run to better represent mesoscale phenomena within the office's area of responsibility, and to support the increasing demand for high resolution gridded forecast information. The model uses the non-hydrostatic mesoscale model dynamical core and a 4 km horizontal grid spacing. The model is run four times each day with initial conditions from the Local Analysis and Prediction System (LAPS) which forces explicit vertical motions. The LAPS ingests all available local surface data from the Meteorological Assimilation Data Ingest System. Recently, WFO Mobile partnered with NASA's Short-term Prediction Research and Transition Center to assimilate sea-surface temperatures from the Moderate Resolution Imaging Spectroradiometer onboard the polar-orbiting Terra and Aqua satellites. In this presentation we will review the forecast model's basic construct and assimilated data; demonstrate some innovative visualization tools; and discuss future local modeling plans to demonstrate that a huge first step has been taken towards the development of a high-resolution community forecast model to serve all WFO Mobile's partners.