

Medium-range forecasts with a non-hydrostatic global atmospheric model on a cubed sphere grid

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Korea Institute of Atmospheric Prediction Systems (KIAPS) has embarked a national project in developing a new global forecast system in 2011. The ultimate goal of this 9-year project is to replace the current operational model at Korea Meteorological Administration (KMA), which was adopted from the United Kingdom's Meteorological Office's operational model. As of January 2019, the 12-km Korean Integrated Model (KIM) system that consists of a spectral-element non-hydrostatic dynamical core on a cubed sphere and the state-of-the-art physics has been launched in a real-time forecast framework, with the initial conditions obtained from the advanced 4-DEnvar over its native grid. A background on the KIAPS mission and the development strategy of KIM toward a world-class global forecast system are described, along with a future plan for operational deployment.