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Development of a next generation global model in Korea Institute of Atmospheric Prediction Systems

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Korea Institute of Atmospheric Prediction Systems (KIAPS) has been developing a next generation global model for operational use in Korea Meteorological Administration. After conducting basic research and development, KIAPS is now at the stage of running KIAPS developed model (KIM: KIAPS Integrated Model) on the semi-realtime basis.
KIM's dynamic core consists of hydrostatic/non-hydrostatic governing equation set on cubed sphere and spectral element method. Physics packages are developed based on Weather Research and Forecasting (WRF) model and Global-Regional Integrated Model system (GRIMS) physics packages. KIAPS scientists have implemented several vital aspects of physics parameterizations such as non-orographic gravity wave drag, gray-zone convection, top-down mixing method in PBL, prognostic cloudiness, and radiation-cloud interactions. The KIM is a self-cycled 3DVAR data assimilation system with its own data acquisition and quality control. In this talk, the performance of the KIM will be presented on top of the brief overview of KIM in terms of dynamics, physics, and data assimilation system.