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Verifications of the medium-range forecasts of KIAPS integrated model

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The Korea Institute of Atmospheric Prediction System, KIAPS, was established to carry out a national project in developing a new global forecast system from 2011 to 2019. The initial version of KIAPS Integrated Model, KIM, consisted of a spectral element dynamical core on a cubed sphere and a standard physics package from existing models such as the GRIMs, WRF, and GFS. Then KIM2.0 was released with the advanced or newly developed physics, dynamics, and data assimilation. Last July, its semi-real time forecast for 5 days has been operated every 00 and 12 UTC with the fully coupled 3D Var data assimilation system. Performance of KIM forecasts is evaluated both for the period of the selected testbed cases and for the semi-real time operational period, to examine the model improvement along with the upgrade and to figure out the model bias. Standardized statistical verification is also conducted including verification against analyses and observations (e.g., sonde and precipitation data). These will be summarized in this presentation. Additionally, surface verification using SYNOP observations and spatial verification for precipitation applied to meet the need for more informative forecast evaluations will be discussed.