2015-16 results from the FIM global model for medium-range to subseasonal forecast duration

Stan Benjamin, Shan Sun, Rainer Bleck, Georg Grell, Jian-Wen Bao, and John Brown
NOAA Research, Earth System Research Laboratory, Boulder, CO, United States (stan.benjamin@noaa.gov)

NOAA/ESRL has continued to develop numerical, physics, and coupled ocean refinements to the FIM global model (Flow-following finite-volume) Icosahedral Model) with a unique combination of an adaptive largely isentropic vertical grid and an icosahedral horizontal grid. The FIM model is being applied to both medium-range and seasonal prediction with considerable success and is a candidate for NOAA week 3-4 prediction within a multi-model ensemble and as a research earth system simulator with ocean and inline chemistry components already in use. FIM is currently run at down to 10-km resolution in real-time. Design improvements from FIM will be applied, in part, toward NOAA's future Next-Generation Global Prediction System (NGGPS).

2015-2016 performance of the FIM global model vs. GFS and other models for medium-range prediction will be summarized. In 2015 controlled experiments, 30km FIM shows improved anomaly correlation attributable to its dynamic core. The presentation will include detail on its coupled with inline chemistry and a matching icosahedral version of the HYCOM ocean model.