



Development and experiments with the FIM coupled atmosphere-ocean-chemistry global model for seasonal to medium-range forecast applications

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

NOAA/ESRL continues numerical, physics, chemistry, and coupled ocean refinements to the FIM global model (Flow-following finite-volume) Icosahedral Model) and its HYCOM ocean component with a unique combination of adaptive largely quasi-lagrangian vertical grids for atmosphere and ocean and an icosahedral horizontal grid. The FIM model is being applied to both medium-range and seasonal prediction (coupled FIM-HYCOM version) with success and is a candidate for NOAA global prediction including 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.

The poster will summarize performance of the FIM global model vs. GFS and other models for medium-range prediction including detail on its full earth-system capability with inline chemistry and a matching icosahedral version of the HYCOM ocean model and FIM-HYCOM performance for seasonal prediction.