Tests of hybrid EnKF-Variational Data Assimilation capabilities using JEDI with NOAA’s Next Generation Regional High Resolution NWP System

Ting Lei∗1,2, Shun Liu3,4, Jacob Carley4, Cory Martin5,6, Daniel Holdaway7, Benjamin Ménétier8,7, Eric Rogers1, Xiaoyan Zhang3,9, Benjamin Blake3,4, Ming Hu10, and Daryl Kleist4

1IM Systems Group, Inc. – 3206 Tower Oaks Blvd 300, Rockville, MD 20852, United States
2Environmental Modeling Center, MNOAA National Centers for Environmental Prediction – 5830 University Research Court, College Park, MD 20740, United States
3IM Systems Group, Inc – 3206 Tower Oaks Blvd 300, Rockville, MD 20852, United States
4Environmental Modeling Center, NOAA National Centers for Environmental Prediction – 5830 University Research Court, College Park, MD 20740, United States
5RedLine Performance Methodology – 2275 Research Blvd., 500 Rockville, Md. 20850, United States
6Environmental Modeling Center, NOAA National Centers for Environmental Prediction – 5830 University Research Court, College Park, MD 20740, United States
7Joint Center for Satellite Data Assimilation – 3300 MITCHELL LANE, BOULDER, CO, 80301, United States
8Institut de recherche en informatique de Toulouse – université Toulouse 1 Capitole, Université Toulouse - Jean Jaurès, Université Toulouse III - Paul Sabatier, Université Fédérale Toulouse Midi-Pyrénées, Centre National de la Recherche Scientifique : UMR5505, Institut National Polytechnique (Toulouse) – 118 Route de Narbonne, F-31062 Toulouse Cedex 9, France
9NOAA National Centers for Environmental Prediction – 5830 University Research Court, College Park, MD 20740, United States
10Global System Laboratory – 325 Broadway Boulder, Colorado 80305-3328, USA, United States

Abstract

The JEDI (Joint Effort for Data assimilation Integration) system is the next generation data assimilation framework planned to underpin the NCEP production suite and is developed following the principles of object-oriented design. At NCEP’s Environmental Modeling Center, the hybrid EnKF and Variational Applications of JEDI on regional domains has been tested and evaluated using various configurations in comparison with the current operational data assimilation framework (Gridpoint Statistical Interpolation; GSI) to prepare for its future role in NOAA’s Next Generation Regional High Resolution NWP System - the Rapid Refresh Forecast System. The evaluation of JEDI in comparison to GSI will focus on the performance and analysis characteristics of the hybrid EnVar algorithms of both systems and provide helpful insight toward the ongoing JEDIagile development process.

∗Speaker
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