

Joint OSSE and OSSE at JCSDA

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An international collaborative effort for Observing System Simulation Experiments (OSSE) was developed over the last several years (Andersson and Masutani, 2010). Although a large initial investment is required for OSSE, using an OSSE is the most reliable strategy today to assess the quantitative impact from prospective observing systems. The 13 month long (From May 2005-May2006) Joint OSSE Nature Run was produced by the European Center for Medium-Range Weather Forecasts (ECMWF) and shared with the internationally collaborative Joint OSSE community. A simulation of observations over the Nature Run period for control experiments, based on the observations available during the period, was completed by the National Centers for Environmental Prediction (NCEP) and Joint Center for Satellite and Data Assimilation (JCSDA) and shared with the Joint OSSE community. Initial conditions for NCEP global model are also provided.

In order to conduct OSSEs with more recent observations, observations from instruments such as CrIs, ATMS, IASI, SSMIS, and Seviri; from satellites such as Metop, NOAA18 and NOAA19; and from GPSRO and other observational data available in 2012 have been simulated for July, August, January and February. Further simulated observation used for OSSE experiments may become available.

JCSDA has conducted OSSE to assess data impact of DWL(Riishøjgaard et al.) and additional satellites in Early-Morning Orbits. In various configurations have been conducted. Further OSSE to evaluate additional GPSRO and Arctic Observation are planned. JCSDA is acquiring a new higher resolution Nature run to conduct OSSE for hurricane forecasts.

References

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