

[16th Conference on Climate Variability and Change](#)

## 7.1

**A pilot study for the intercomparison of data assimilation products during the Coordinated Enhanced Observing Period (CEOP)**

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The Coordinated Enhanced Observing Period (CEOP) began as a GEWEX Hydrometeorology Panel (GHP) effort to better organize data from in situ observing stations at Continental Scale Experiments (CSEs) located across the globe. Tremendous interest from both remote sensing and global model and data assimilation researchers further spurred the growth of CEOP, which is now a separate element of the World Climate Research Program and the first element of the developing Integrated Global Observing System. A critical component of CEOP is the concurrent measurement and simulation (Numerical Weather Prediction Analyses) of surface energy and water budget variables for many diverse climatic regions of the world. Since CEOP is already proving to be quite useful for individual centers' development and validation efforts, we are beginning to develop a more formal framework for comparing operational and research data assimilation systems by initially focusing on a few of the US analysis systems including: GMAO (Goddard Modeling and Assimilation Office), GLDAS (Global Land Data Assimilation Systems at Goddard), ECPC (Scripps Experimental Climate Prediction Center), and NCEP (National Centers for Environmental Prediction) simulations of water and energy variables at the US CEOP in situ reference sites. A near term goal is to extend this intercomparison to include all of the participating global analyses systems to all of the global CEOP reference sites. Preliminary point evaluations already indicate that the US analysis systems overestimate incoming shortwave radiation and overestimate surface evaporation at the US sites. Our ultimate goal is to also include remote sensing measurements and GEWEX data sets in order to fully understand the accuracy of CEOP in situ measurements as well as the uncertainty in modern analysis systems. CEOP's focus on analysis comparisons may eventually provide a useful addition to the current Atmospheric Model Intercomparison Project, which is focused on long term simulations.

[Session 7, Development of In Situ, Satellite, and Model Data Focused on Hydrometeorological Processes in the Atmosphere and Land Surface \(parallel with Session 6\)](#)

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