

**SSEC/CIMSS  
Seminar**

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AOS, JCSDA & SSEC

**A Two-Season Impact Study of the  
WindSat and ASCAT Ocean Surface Wind  
Retrievals in the NCEP Global Data  
Assimilation System**

A two-season Observing System Experiment (OSE) was used to quantify the impacts of assimilating the WindSat surface winds product developed by the Naval Research Laboratory (NRL) and ASCAT surface winds product developed by the European Organization for the Exploitation of Meteorological Satellites (EUMETSAT).

The impact of assimilating these surface winds was assessed by comparing the forecast results through 168 hours for periods covering October 2006 and March 2007 for the WindSat and August 2007 and January 2008 for the ASCAT. Control simulations utilizing all the data types assimilated in the National Centers for Environmental Prediction (NCEP) operational Global Data Assimilation System (GDAS) are compared to the experimental simulations. The experimental simulations used same data as the control simulations but also added the WindSat or ASCAT surface winds. Quality control procedures required to assimilate the surface winds are discussed. Anomaly correlations (AC) of geopotential height at 1000 and 500 hPa were evaluated for the control and experiment during both seasons. The geographical distribution of Forecast Impact on the 10m wind, 500 hPa wind, 1000hPa temperature and 500 hPa temperature fields are also presented.

The results in this study show that assimilating the surface wind retrievals from both the WindSat and ASCAT satellite improve the wind and temperature forecasts. Forecast improvements are particularly noted in the tropics. The WindSat surface wind product is now being used operationally at NCEP.

**Monday, 7 July 2008**  
**4:00 p.m.**  
**Room AOSS 351**