

# CGD SEMINAR



**DATE:** Tuesday, 16 May 2017

**TIME:** 11 a.m.

**LOCATION:** NCAR, 1850 Table Mesa Drive  
Mesa Lab, Main Seminar Room

**TITLE:** Land data assimilation, and the use of  
land surface observations in NASA's  
reanalysis program

**SPEAKER:** Clara Draper, NASA

## **ABSTRACT:**

This presentation will provide an overview of recent progress in land data assimilation, focusing on developments related to the reanalysis program at the NASA Global Modeling and Assimilation Office (GMAO). The current capabilities and main challenges of data assimilation into land models will be identified, and recent work at GMAO to incorporate observations relevant to the land surface into current and future atmospheric/Earth system reanalyses will be discussed. First, the land component of the recently released Modern-Era Retrospective Analysis for Research and Applications 2 (MERRA-2) will be briefly reviewed. While the land surface states in MERRA-2 are not directly updated through data assimilation, the AGCM-generated precipitation is corrected through direct insertion of observed precipitation at the land surface. The use of observed precipitation improves the MERRA-2 land surface hydrology, surface turbulent heat fluxes, and 2 m air temperature. Second, GMAO is moving towards an integrated Earth system analysis, which will include weakly-coupled land and atmospheric data assimilation. The first priorities are to assimilate remotely sensed snow cover and near-surface soil moisture, and in situ snow depth observations. Finally, early work towards integrating the GMAO land data assimilation system into the GEOS-5 hybrid Var system will be reviewed.

**Live webcast:** <http://www.fin.ucar.edu/it/mms/ml-live.htm>

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