2007 Fall Meeting
Search Results

Cite abstracts as **Author(s) (2007), Title, *Eos Trans. AGU, 88*(52), Fall Meet. Suppl., Abstract xxxxx-xx**

Your query was:
houser

HR: 1340h
AN: **IN43B-1178**
TI: A computational framework for the evaluation of satellite precipitation estimates for hydrological applications

AU: **Ling, Y**
EM: *yangrong@gri.msstate.edu*
AF: *Mississippi State University GeoResources Institute, Box 9652, Mississippi State, MS 39762, United States*
AU: ***Anantharaj, V**
EM: *val@gri.msstate.edu*
AF: *Mississippi State University GeoResources Institute, Box 9652, Mississippi State, MS 39762, United States*
AU: **Lu, Q**
EM: *qlu@math.msstate.edu*
AF: *Mississippi State University GeoResources Institute, Box 9652, Mississippi State, MS 39762, United States*
AU: **Turk, J**
EM: *turk@nrlmry.navy.mil*
AF: *Naval Research Laboratories Marine Meteorology Division, 7 Grace Hopper Avenue, Monterey, CA 93943, United States*
AU: **Houser, P**
EM: *phouser@gmu.edu*
AF: *Center for Research on Environment and Water George Mason University, 4041 Powder Mill Road, Suite 302, Calverton, MD 20705, United States*
AU: **Sanyal, J**
EM: *jibo@gri.msstate.edu*
AF: *Mississippi State University GeoResources Institute, Box 9652, Mississippi State, MS 39762, United States*

AB: The planned Global Precipitation Measurement (GPM) mission will provide better coverage and more accurate satellite-based rain fall estimates than the current satellite measurements. The capabilities of the GPM-era rainfall products to meet the decision making needs for water resources management applications are being evaluated using land surface and hydrological modeling. A number of precipitation products that are derived from both satellite data and ground observation are being evaluated at spatial and temporal scales that are relevant for water management applications. Routine evaluation techniques and metrics, such as root mean squared error, false alarm ratio and other skill scores, used in the research community have been adopted in a rapid prototyping computational environment. In addition, novel fuzzy-based methodologies are also be implemented to characterize the uncertainties in the rainfall data. The Noah land surface model (LSM), incorporated with the NASA Land Information System (LIS), is used to simulate land surface and hydrological properties that are relevant for the decision making needs of the

water resources management applications. Since June 2007, GPM proxy data, based on the NRL-Blended algorithm, was implemented for data collection over the continental United States and surrounding areas (0N-50N, 130W-50W). The collection of the various precipitation data sets has been automated. These precipitation data are then catalogued and distributed via the Unidata THREDDS server. The statistical verification algorithms are being incorporated into an "evaluation toolbox" used to characterize the uncertainties of the various rainfall estimates. The integration of the THREDDS server and the evaluation toolbox will provide a common framework for the evaluation of rainfall estimation techniques and their application using the land surface models in NASA LIS.

DE: 0520 Data analysis: algorithms and implementation
DE: 0525 Data management
DE: 1805 Computational hydrology
DE: 1855 Remote sensing (1640)
SC: Earth and Space Science Informatics [IN]
MN: 2007 Fall Meeting

New Search