

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: 0800h

AN: H31D-0646

[LIS-Noah land surface model validation in the Southern Great Plains \(SGP\)](#)

\***Shrestha, R K**

E [Roshan@iges.org](mailto:Roshan@iges.org)

A *Center for Research on Environment and Water, IGES, 4041 Powder Mill Road, Suite 302, Calverton, MD 20705,*

**Houser, P**

E [phouser@gmu.edu](mailto:phouser@gmu.edu)

A *Center for Research on Environment and Water, IGES, 4041 Powder Mill Road, Suite 302, Calverton, MD 20705,*

**Houser, P**

E [phouser@gmu.edu](mailto:phouser@gmu.edu)

A *George Mason University, 4400 University Drive, Fairfax, VA 22030,*

**Bosilovich, M**

E [Michael.Bosilovich@nasa.gov](mailto:Michael.Bosilovich@nasa.gov)

A *Global Modeling and Assimilation Office, Earth Sciences Division NASA/GSFC Code 610.1, Greenbelt, MD 20771,*

**Mocko, D**

E [mocko@climate.gsfc.nasa.gov](mailto:mocko@climate.gsfc.nasa.gov)

A *SAIC at Climate and Radiation Branch, NASA Goddard Space Flight Center, Greenbelt, MD 20771,*

Land surface models are used in various studies to investigate the effects of environmental and climate changes. However, running these models at increasingly high resolutions or for many point measurement locations is computationally and observationally challenging. In this study, we test and validate the Noah land surface model within the framework of the Land Information System. The forcing input data such as radiation, precipitation, wind and temperature records are gathered from 12 SGP sites located in the Midwestern USA. These forcing data are input to the LIS-Noah model on a 30-min interval. Other required data for the LIS-Noah model, such as the vegetation, soil, albedo, greenness fraction parameters are taken from various data sources using the 1-km resolution grid settings of the model assuming that those 1-km blocks fairly represent the site specific vegetation, soil, albedo and greenness fraction. Simulated fluxes from the model are compared with the observed fluxes at the same SGP sites. The results of the study show that the simulated and observed fluxes such as the sensible, latent and ground heat fluxes match fairly well at those SGP sites during warm weather period. The timing and the rate of change in the fluxes are in good agreement. However, the model overestimates the fluxes during the winter season despite maintaining the seasonal patterns of the fluxes. The results indicate that the model has the capability to capture the main features of land surface radiative fluxes except in

the winter. The problem with the wintertime radiative fluxes is related to the model's higher sensitivity to snow cover on the ground triggering positive temperature–albedo feedback mechanisms and degraded quality of the forcing data in winter.

DE: 1631 Land/atmosphere interactions (1218, 1843, 3322)

DE: 1814 Energy budgets

DE: 1843 Land/atmosphere interactions (1218, 1631, 3322)

DE: 3322 Land/atmosphere interactions (1218, 1631, 1843)

SC: Hydrology [H]

MN: 2007 Fall Meeting

---

[New Search](#)

