Workshop on Land Surface Modeling in Support of NWP and Sub-Seasonal Climate Prediction

The Center for Ocean-Land-Atmosphere Studies (COLA) at George Mason University (GMU) and the Korean Institute for Atmospheric Prediction Systems (KIAPS) will hold a workshop to discuss the impact of land surface modeling on numerical weather prediction (NWP) and sub-seasonal climate prediction (SSCP).

Dates: 5-6 December 2013 (1.5 days beginning noon on Thursday, 5 December and ending at 5 pm on 6 December)

Venue: Mason Inn http://www.themasoninnva.com/

Organizing Committee:

Paul Dirmeyer (COLA and GMU; chair)
Jim Kinter (COLA and GMU)
Stacey Whitlock (COLA; secretariat)
Emilia Jin (KIAPS)
J. Shukla (COLA and GMU)

Theme: Variations in land surface state can have a profound influence on weather and short-term climate. Land surface models are representations of the processes involving fluxes of energy, water and momentum between the atmosphere and the land surface, as well as land states like soil moisture, snow cover, heat content and vegetation. Land surface modeling (LSM) is, therefore, a critical component for both NWP and sub-seasonal climate prediction (SSCP). COLA and KIAPS are collaborating to develop a set of codes for LSM and NWP that may be interesting and useful to a wider audience. The workshop will address the needs for LSM in the context of real-time NWP and SSCP, with emphasis on the following questions:

- What is the role and importance of the representation of interactions among different spatial scales, including those unresolved by the atmospheric model? Do LSMs need to include scale-aware parameterizations for incorporation in both NWP and SSCP systems?
- What is the role and importance of interactions between the land surface and the planetary boundary layer during the course of the diurnal cycle? How do these interactions manifest on sub-seasonal time scales?
- What is the role and importance of land surface memory (persistence of anomalies) and land-atmosphere feedbacks in the transition between NWP time scales and (sub-seasonal) climate time scales?

The workshop will be organized in sessions focusing on each question. Discussion time will be included in each session, and each session will have two co-chairs and a rapporteur. A white paper will be developed at the workshop that provides the current state of the science in these three areas and makes recommendations for the next steps in research and operational applications.

Web site: http://www.iges.org/lsm/