

Detecting the Atmospheric Response to the Changing Face of the Earth: A Focus on Human-Caused Regional Climate Forcings, Land-Cover/Land-Use Change, and Data Monitoring

**27-29 August 2007
Boulder, CO**

TENTATIVE AGENDA

(Presentations should be 12 min with 3 minutes for questions)

Check-in 7:45-8:15 am

August 27, 8:15 am. Opening remarks

Paper sessions start at 8:30 am.

Session Title: Observations of land-surface/ecosystem function changes and their interactions with weather and climate

Session chair: Gordon Bonan

8:30 am. Gordon Bonan, Do mid-latitude croplands cool climate?

8:45 am Sam Gameda, Linkages between summerfallow and climate trends in the Canadian Prairies.

9:00 am. Jinyang Du. Using 10-year SSM/I data to study Asian dust storm source regions.

9:15 am Richard McNider, Detecting a greenhouse warming signal using only maximum daily temperatures.

9:30 am Souleymane Fall, D. Niyogi, R. Pielke Sr., A. Gluhovsky, and E. Kalnay. Impacts of land surface properties on temperature trends using North American Regional Reanalysis.

9:45 am. Peter Blanken, M. Williams, R. Monson, S. Burns, K. Chowanski, T. Ackerman, J. Knowles, and A. Bailey. Preliminary observations of water and carbon dioxide fluxes across alpine treeline.

10:00-10:15 am. Morning Break

10:15 am. Mike Coughenour, Needs for enhanced ecosystem-atmosphere models

10:30 am. Lixin Lu - tentative

10:45 am. Robert Hale, Analysis of near-surface temperature in areas of known landuse/landcover change.

11:00 am. Andrew Carlton, Vegetation boundaries and deep convection: An observational study for the Midwest and U. S. Central corn belt.

11:15 am. Sajith Vezhapparambu, J. Adegoke, C. L. Castro, R. A. Pielke Sr., A. M. Carlton, and K. P. Gallo. The impact of soil moisture and surface vegetation variability on the organization of summer convective activity in the US Midwest: August 2000 case study.

11:30 am. Yongkang Xue, Fernando De Sales, and C. R. Mechoso. The effect of vegetation biophysical processes (VBP) on global precipitation.

11:45 am. Andres Etter. Impacts of agricultural frontier expansion on Colombian ecosystems on the regional climate forcing

12:00 – 1:30 pm. Lunch Break: Lunch provided on site

1:30 pm. Chandana Mitra. Ongoing modeling and observational studies assessing the impact of urbanization on precipitation.

1:45 pm. Anna Nordfelt. The influence of urbanization on precipitation patterns in the Dallas/Fort Worth (DFW) Metroplex since 1900.

2:00 pm. Dev Niyogi. Impacts of urbanization on mesoscale rainfall

2:15 pm. Lei Zhong. Land-atmosphere energy transfer and surface boundary layer characteristics in Rongbu valley.

2:30 pm. J.-W. Wang, R.A. Pielke Sr., T. Matsui, D. Niyogi, and B. Seok. Retrieval algorithm for surface latent heat flux using remote sensing data.

2:45 pm. Jing Tao. New microwave vegetation index: Characteristics and application.

3:00 pm. Robert Lund. Change point detection in periodic and correlated settings.

3:30 pm. Khishigbayar Jamiyansharav, D. Ojima, R. A. Pielke Sr., B. Parton, J. Morgan and A. Beltran. Seasonal and interannual variability in surface energy partitioning in Shortgrass steppe depending on the vegetation cover.

3:30-3:45 pm. Afternoon break

Session Title: Modeling effects of land-use/land-cover change and ecological processes on weather and climate

Session chair: Dev Niyogi

4:00 pm. Thomas N. Chase, P. J. Lawrence, and E. Lee. Comparisons of the effect of land surface hydrology and deforestation on three Asian monsoon systems.

4:15 pm. Peter Lawrence and T. N. Chase. Investigating the climate impacts of land cover change in the Community Climate System Model.

4:30 pm. Valentine Anantharaj, U. Nair, A. Song, P. Fitzpatrick, and L. Wasson. Impact of land use change regional climate in the lower Mississippi Alluvial Valley, use of regional models constrained with satellite data.

4:45 pm. Jie Song, Jiang Zhihong, Li Wei. Analysis of urban heat island effect to the observed air temperatures in the southeast China

5:00 pm. Sessions adjourns. This session will continue on the next morning after the talk by key note speaker.

August 28, Paper sessions start at 8:30 am.

8:30 am. Key Note Talk: William Cotton, Urban land-use versus aerosol pollution influences on precipitation.

9:00 am. Clive McAlpine, Modelling the climate impacts of Australian woody vegetation cover change.

9:15 am. Yuanyuan Qi, L. Lu, J. Chi, L. Jiang. A sensitivity test in Tibetan Plateau using RAMS 6.0

9:30 am. Adriana Beltran-Przekurat, and R.A. Pielke Sr. Using a regional climate model to study land-use land-cover changes impacts on near-surface atmosphere.

9:45 am. Quintanar, A., R. Mahmood, J. Loughrin, and N. Lovanh. Impact of canopy resistance and roughness parameters changes on boundary layer variables.

10:00-10:15 am. Morning Break

10:15 am. Peter J. Lawrence and Thomas N. Chase. Investigating the role of the land surface in the Community Climate System Model

10:30 am. E. Sertel and A. Robock. Introducing multitemporal land cover data into a climate model.

10:45 am. Yuling Wu, U. Nair, T. Lyons, J. Hacker, R. M. Welch, and R. A. Pielke Sr., Impact of land use change on the convective boundary layer in southwest Australia.

11: 00 am. Ronnie Leeper, A. Quintanar, R. Mahmood. Atmospheric response to land-use and fractional vegetation coverage change.

11:15 am. Zhuo Wang. Modeling of dynamic vegetation, hydrology, and climate.

11:30 am. Asefi Salvi, U. Nair, V. Anantharaj, K Knupp, and Y. Wu. Simulation of the Lake Breeze caused by an anthropogenic lake using integrated RAMS and LIS modeling systems evaluated using ARMOR radar observations

11:45 am. Hsin-I Chang, D. Niyogi, A. Kumar, F. Chen, R.A. Pielke, Sr., U.C. Mohanty, and C.M. Kishtawal. Effect of land surface processes on the land falling tropical depressions over the Indian monsoon region

12:00 – 1:30 pm. Lunch Break: Lunch provided on site

Session title: Monitoring and quantifying land-use/land-cover change and ecological processes and their impacts on observational data including multi-decadal surface air temperature trends and associated biases.

Session chair: David Legates

1: 30 pm. Bruce Baker. U.S Climate Reference Network (USCRN): A unique National long-term climate monitoring network.

1: 45 pm. Glen Conner, Identifying bias in climate records: The role of station histories.

2: 00 pm. Christopher Davey, K.T. Redmond, and J.E. Gross. The NPS Climate Inventory Project: Identifying Present Data Sources and Future Needs.

2:15 am. David Legates, The effect of changes in wind, air temperature, and land use/land cover on precipitation gage measurement

2:30 am. Tiana Bogart, D. Legates, and D. Yang. Bias Adjustments of Arctic Precipitation

2:45 pm. Oliver Frauenfeld, Is warming on the Tibetan Plateau caused by land cover change or data uncertainty?

3:00 pm. Anthony Watts, A hands-on study of station siting issues for United States Historical Climatology Network Stations.

3:15 pm. Roger Pielke Sr., Land use change and microclimate exposure effects on near-surface air temperature assessments-unresolved issues.

3:30-3:45 pm. Afternoon break

August 28, Breakout sessions: 3:45-5:15 pm.

August 29th

8:30 am Ming Cai. Use of reanalysis for detecting climate change sensitivity to land types and urbanization.

August 29. Finalize recommendations: 8:45-9:45 am.

Posters will be available for viewing throughout the Workshop.

Valentine Anantharaj, U. Nair, Q. Lu, J. Xu, S. Asefi, D. Berendes, and R. King. Surface temperature analysis and satellite cloud statistics over agricultural lands and mixed forests.

Ming Lei and Dev Niyogi. The effect of urbanization on Mumbai heavy rain

Udaysankar Nair, V. Anantharaj, J. Fairman, S. Christopher, and G. Mostovoy. Estimates of Surface Energy Fluxes Associated with Land Use Patterns in the Lower Mississippi Alluvial Valley