Paper Session:

4177 Spatiotemporal Symposium: Spatiotemporal Variations and their Impacts on Geographic Models

is scheduled on Friday, 4/24/2015, from 8:00 AM - 9:40 AM in Alpine 2, Swissôtel, Lucerne Level

Sponsorship(s):
Spatial Analysis and Modeling Specialty Group
Cyberinfrastructure Specialty Group
Geographic Information Science and Systems Specialty Group

Organizer(s):
Manzhu Yu - George Mason University

Chair(s):
Manzhu Yu - George Mason University

Abstract(s):

8:00 AM Author(s): *Manzhu Yu - George Mason University
Chaowei Yang - George Mason University

Abstract Title: *Adjusting Spatiotemporal Variation of Input Parameters to Reduce Dust Model Uncertainty*

8:20 AM Author(s): *Priyadarsi D. Roy - Instituto de Geología, Universidad Nacional Autónoma de México, México, City, CP 04510, Mexico
Axel Rivero-Navarrete - Posgrado en Ciencias de la Tierra, Universidad Nacional Autónoma de México, Mexico City, CP 04510, Mexico
Norma Lucina Hernández Juárez - Facultad de Ciencias, Universidad Nacional Autónoma de México, Mexico City, CP 04510, Mexico

Abstract Title: *Possible Influence of Atlantic Warm Pool on Spatio-temporal Precipitation Variations over Tropical and Subtropical North America since the Last Glacial Maximum*

8:40 AM Author(s): *Laura Schuch, MPH - Kent State University

Abstract Title: *The Neighborhood Context of Air Quality: Spatial and Temporal Patterns of Particulate Matter*

9:00 AM Author(s): *Charles I. Scaife - University of North Carolina at Chapel Hill
Lawrence E. Band, Dr. - University of North Carolina at Chapel Hill

Abstract Title: *Spatial and temporal scaling relationships of soil moisture in the Southern Appalachian Mountains*

Session Description: Modeling is a powerful tool for geographers to explore hidden truth, analyze patterns and predict future conditions. Various types of models are being used extensively in the current geographic research field, such as GIS data models, atmospheric models, hydrologic models, and social science models. These models have been proposed to integrate spatial and temporal information. For example, temporal information can be represented as time-stamped layers in atmospheric models, or as an attribute of event-based simulation. The spatial and temporal elements are tightened together in the evolution of simulation period. Any changes involved with the spatial

elements (shape, size, or pattern) requires a time period to evolve. Questions appear in quantifying these spatiotemporal variations and their impact on geographic models. The lack of quantitative relationship between spatiotemporal variations and model variables hampers the capability of complex model schemes.

This session focuses on cutting-edge research that examines the theories, methods, techniques, and applications related to spatiotemporal variations impacting all kinds of geographical models. Topics include, but are not limited to:

What are the impacts of spatiotemporal variations on geographical models? How can we utilize these impacts to improve geographical models or minimize the negative impacts? What are the statistical methods/models that can efficiently and accurately analyze the relationships between these spatiotemporal variations and the model variables? Can we develop innovative methods to analyze and visualize the spatiotemporal variations?

New Query