

Date: **February 13th**

Time: **11:00 AM**

Location: **Ames 234**

Speaker: **Dr. John Albertson**
 Duke University

Title: **"Exploring the Spatial and Temporal Controls on Lower
Atmosphere Dynamics over Semi-Arid Landscapes"**

Abstract

The lower atmosphere mediates the exchange of mass and energy between the land surface and the atmosphere, thus controlling key aspects of the climate system (e.g. water and carbon cycling). The structure of the turbulence that transports these constituents is largely controlled by the structure of the lower boundary conditions (such as vegetation distribution and radiative heating). In this talk we explore spatial and temporal scale attributes of these lower boundary conditions, including landscape spatial heterogeneity and its low-frequency temporal changes, and the effects of these scales on the atmospheric boundary layer dynamics. Results are presented from field work and vegetation modeling in the Kalahari desert of southern Africa, and from detailed Large Eddy Simulations using remotely sensed boundary conditions.