

IMAGE Seminar

Institute for Mathematics Applied to Geosciences at NCAR

Space-time Modeling of Biomass Burning and Regional Aerosols in Southeast Asia

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Abstract:

Scientists and policy makers have become increasingly concerned about the implications of the consistent brown haze covering Southeast Asia in terms of human health and climate change. The emergence of this haze is due to increased atmospheric concentrations of carbonaceous aerosols, which are generated by anthropogenic activities including both slash-and-burn agriculture and fossil fuel combustion. Our research focuses on determining the relative contribution of these two types of emissions to the total aerosol burden over the region. We propose a space-time model for regional carbonaceous aerosol composition and concentration, given atmospheric circulation processes and observed fire occurrence. Our model synthesizes a variety of types of data including remote sensing imagery, output from atmospheric transport models, and estimates of biomass emissions for various vegetation types.

This is joint work with Prof. Kate Calder (Statistics, OSU), Prof. Darla Munroe (Geography, OSU), and Prof. Ningchuan Xiao (Geography, OSU).

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NCAR Mesa Laboratory, Directors Conference Room

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10:00am

(Refreshments at 9:45am)