THE UNIVERSITY OF GEORGIA

DEPARTMENT OF STATISTICS

FRANKLIN COLLEGE OF ARTS AND SCIENCES

The University of Georgia
Department of Statistics

Colloquium Series

Xuming He
Department of Statistics
University of Michigan

"Bivariate Downscaling for Climate Projections"

Statistical downscaling is a useful technique to localize global or regional climate model projections to assess the potential impact of climate changes. It requires quantifying a relationship between climate model output and local observations from the past, but the two sets of measurements are not necessarily taken simultaneously, so the usual regression techniques are not applicable. In the case of univariate downscaling, a simple quantile-matching approach with asynchronous measurements often works well, but challenges remain for downscaling bivariate data. In this talk, we propose a bivariate downscaling method for asynchronous measurements based on a notion of bivariate ranks and positions. The proposed method is preferable to univariate downscaling, because it is able to preserve general forms of association between two variables, such as temperature and precipitation, in statistical downscaling. This desirable property of the bivariate downscaling method is demonstrated through applications to simulated and real data.

The talk is based on joint work with Yunwen Yang and Jingfei Zhang.

Thursday, February 16, 2011

3:30 PM at 306 Statistics Building

Refreshments will be immediately after the talk in The Cohen Room, room 230, Statistics Building

For more information, please contact:
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