Department of Decision Sciences

Statistics Seminar

Blending and assessing climate model projections

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12:30pm Room 3-E4-SR03 Via Rontgen 1 Milano

Abstract

We consider the problem of forecasting future regional climate. Our method is based on blending different members of an ensemble of regional climate model (RCM) simulations while accounting for the discrepancies between these simulations, under present day conditions, and observational records for the recent past. We develop Bayesian space-time models that assess the discrepancies between climate model simulations and observational records. Those discrepancies are then propagated into the future to obtain blended forecasts of 21st century climate. The model allows for location-dependent spatial heterogeneities, providing local comparisons between the different simulations. Additionally, we estimate the different modes of spatial variability, and use the climate model-specific coefficients of the spatial factors for comparisons. We focus on regional climate model simulations performed in the context of the North American Regional Climate Change Assessment Program (NARCCAP).

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