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**CHRISTOPHER WIKLE**, University of Missouri  
*Statistics and the Environment: Overview and Challenges*

The earth's environment is undergoing unprecedented change due to the influences of climate, land use, pressures from growing population, etc. Our understanding of the underlying processes, and their interactions, is somewhat limited. Yet, we have increasingly large amounts of environmental information from high-resolution deterministic model simulations, remotely sensed observations (e.g., satellites), and increasingly sophisticated (e.g., wireless) monitoring networks. Currently, environmental statistics is concerned with understanding variation and uncertainty in high dimensional, multivariate, nonlinear systems in the presence of such data and their uncertainties. This talk presents an overview of current and future challenges and model-based solutions in environmental statistics.