

Climate and Water

Climate and Water: Advancing adaptation science and strategies for water-resource vulnerability from climate variability and change

Given projections of future warming and associated changes to hydrological cycles, there will likely be substantial climatic effects on water resources and management. Changing seasonality and increasing societal demand for water that can exceed availability threatens the sustainability of some social-ecological systems. At the same time, uncertainties inherent to model-based, hydroclimatic projections at regional and local levels limit the usability of the science for adaptation decisions. There is a timely and critical need for collaborative and integrative research on adaptation strategies between junior, biophysical and social scientists in the climate and water community. Of particular importance is the improved dialogue regarding stakeholders' needs for observational data and simulation diagnostics and how scientists will help meet those needs.

A fundamental challenge that scientists and stakeholders face is that the vulnerability of water resources to climate variability and change, and associated social-ecological systems adaptations, are inherently dynamic. Therefore, assessment of vulnerability and adaptation requires: a) understanding processes that are context- and place-specific, b) defining appropriate scales of local and regional analyses, and c) identifying cross-scale linkages to national and international processes and agendas. Success in meeting these challenges will result from integrating social and natural sciences that best apply qualitative and quantitative research methods and from participatory approaches that include open and ongoing communication between scientists and stakeholders. To that end, we envision a highly engaging, interactive, and collaborative forum on adaptation science and methods to serve society. The purpose of this forum is to bring together early career faculty and researchers across the social, natural, and physical sciences with senior scientists and practitioners in water management to advance strategies for water resource adaptation science and policymaking.

The **AGENDA** is attached in the upper right corner of this page under **TOOLS -> ATTACHMENTS**