Water Resource Risks:
Integrated Approaches to Support Actions

December 6, 2017, 9:00 am - 5:00 pm

MIT Campus, E18-304
40 Ames Street, Cambridge MA

Workshop Information

Agenda

Time	Topic	Speaker
9:00a	**Welcome**	
9:15a	**Global Water Models: Historical Perspective, Comparison, and Capabilities**	Strzepek
10:00a	**Modeling, Limits-to-Prediction, and Projecting Risk from Change**	Schlosser
10:45a	**Break**	-
11:00a	**Decision-Making for Water Resources Under Uncertainty**	Fletcher
12:00p	**Lunch (catered on site)**	-
1:00p	**Focus Areas of Water Research: Water Stress/Scarcity/Availability**	Gao
1:30p	**Focus Areas of Water Research: Water Quality**	Boehlert
2:00p	**Focus Areas of Water Research: Water for Energy**	Strzepek
2:30p	**Focus Areas of Water Research: Water for Agriculture**	Winchester
3:00p	**Break**	-
3:15p	**Mitigation and Adaptation Amidst Changes in Water-Energy-Food Nexus**	Schlosser
3:45p	**Open Discussion: Recognizing Challenges, Setting Priorities, and Supporting Research & Investment Opportunities**	All
5:00p	**Informal post-workshop social (Meadhall or Champions)**	-

Speakers

C. Adam Schlosser

Deputy Director for Science Research
MIT Joint Program

Senior Research Scientist
MIT Center for Global Change Science

Dr. C. Adam Schlosser is primarily interested in the modeling and prediction of global hydrologic, ecologic, and biogeochemical change using MIT's Integrated Global Systems Model (IGSM), including model development of its terrestrial component—the Global Land System (GLS). His other research endeavors work to improve our observational capabilities for monitoring, understanding and predicting the Earth's global water and energy cycles. Dr. Schlosser has undertaken numerical experimentation and observational studies of land hydrologic processes and their role in coupled hydroclimatological variability, and the predictability and prediction of the Earth's climate system. In doing so, he has worked with a wide range of numerical models, ranging from point-scale models of land biogeophysical processes to general circulation models; and point to global-scale observational data for evaluation and complementary analyses.

Dr. Schlosser has also recently participated in and led international experiments aimed to assess the performance of land and climate model simulations and predictions (e.g. GSWP 2, PILPS, IPCC, AMIP 2, DSP, SNOWMIP). His current collaborative research activities include the study of extreme precipitation events and associating their potential changes to shifts in climate regimes, the fate of the arctic permafrost under potential climate warming and subsequent impacts on its biogeochemistry and trace-gas emissions, and climate-water issues on adaptation. He also currently serves as a member of the NASA Energy and Water Cycle Study (NEWS) Science Integration Team. Prior to his appointment at MIT, Dr. Schlosser was an Associate Research Scientist at the NASA Goddard Space Flight Center (2001–2003), and a Research Scientist at the Center for Ocean Land Atmosphere Studies (1997–2001). He conducted his postdoctoral work (1995–1997) at NOAA's Geophysical Fluid Dynamics Laboratory (GFDL) in Princeton.

Niven Winchester

Principal Research Scientist
MIT Joint Program

Dr. Niven Winchester focuses his research on analyses of climate, energy and trade policies using applied general equilibrium analysis. Dr. Winchester has published extensively in leading peer-reviewed academic journals, including *The American Economic Review*, *The Energy Journal*, *Energy Economics*, and *Environmental Science and Technology*.

Dr. Winchester has advised several organizations on trade and energy issues, including the OECD, the Federal Aviation Administration, and the New Zealand Ministry of Foreign Affairs and Trade. Dr. Winchester is founding co-editor of the *Journal of Global Economic Analysis*. He was named a Global Trade Analysis Project Research Fellow for the periods 2013–2016 and 2017–2020 for his contributions to the applied general equilibrium community. Dr. Winchester also has an interest in sports economics and his research on sports ranking systems inspired a change to how major rugby competitions award league points. Prior to joining MIT, Dr. Winchester held a faculty position at the University of Otago and earned a Ph.D. from the University of Nottingham.

Kenneth Strzepek

Research Scientist
MIT Joint Program

Research Scientist
MIT Center for Global Change Science

Professor Emeritus of Civil, Environmental, and Architectural Engineering
University of Boulder, CO

Adjunct Professor of Public Policy
Harvard Kennedy School

Dr. Kenneth M. Strzepek has over 40 years of experience in integrated water resource management, and is one of the few experts in this area with training in economics, as well as an expertise in climate change impact and adaptation assessment. He is a Lead Author for the IPCC Working Group II assessment of climate impacts for the water sector. In addition, Dr. Strzepek is a non-resident Senior Research Fellow the United Nations University – World Institute for Development Economics Research. Dr. Strzepek is a recent US Army Corps of Engineers Institute of Water Resources Maass-White Fellow and received the Department of Interior's Citizen's Award for Innovation in the applications of Systems Analysis to Water Management.

Xiang Gao

Research Scientist
MIT Center for Global Change Science

Dr. Xiang Gao's research is focused on the development and application of land-surface models, and using satellite remote sensing data to investigate precipitation events and hydrologic properties, including storm frequency and duration, soil wetness, and vegetation biophysical parameters. Her recent work has addressed land-climate interactions, the global water cycle, Arctic processes, and remote sensing of vegetation biophysical parameters. Prior to joining MIT, Dr. Gao was a Research Scientist at the Center for Ocean Land Atmosphere Studies (COLA) in Calverton, Maryland.

Speakers (cont'd)

Brent Boehlert

Research Affiliate
MIT Joint Program

Research Affiliate
MIT Center for Global Change Science

Senior Associate
Industrial Economics, Inc.

Dr. Brent Boehlert specializes in applied economics and policy analysis, with a focus on water resources and climate change. He has extensive experience analyzing the effects of changes in water availability and allocation, climate change impacts and adaptation responses, the economic impacts of environmental regulations, and the costs of damages to natural resources. He is collaborating on the Joint Program's analysis of water and energy resources with a focus on development in Africa.

Sarah Fletcher

PhD candidate
MIT Institute for Data, Systems, and Society

Sarah Fletcher focuses her research on water supply infrastructure planning under uncertainty. In particular, she is interested in the potential for flexible infrastructure design and adaptive policymaking to mitigate risk from a variety of uncertainties including future demand growth, groundwater availability, and climate change. Before starting her PhD, Sarah worked as a researcher and consultant on issues at the intersection of water, energy, and environment at IHS CERA. She was formerly the Director of Product Development at the startup Sourcewater, where she led the development of the first online marketplace for water and wastewater for energy companies. Sarah has an S.M. in Technology and Policy from MIT and a B.A. in Physics and Economics from the University of Pennsylvania.

Map

View on Google Maps: https://drive.google.com/open?id=1dpysbWj1pO2ISKQKdQe9rFxM7RPcl8z0&usp=sharing

● Workshop Location ● Parking ● Hotel ● Hubway ● Transit ● Dunkin Donuts ● Starbucks