

***EPA Environmental Research Program Review***

**Consequences of Global Climate Change:  
Water Quality Impacts, Ecological Impacts & Nonlinear Responses**

***EPA Headquarters  
EPA Map Room 1153  
1201 Constitution Ave NW  
Washington, DC  
September 20-22, 2011***

Webinar: <https://www3.gotomeeting.com/register/223362878>

Website: <http://www.epa.gov/ncer/events/>

**AGENDA**

*Tuesday, September 20*

10:00 – 10:30 Welcome

Michael Hiscock, National Center for Environmental Research, Office of Research and Development, EPA

Bryan Bloomer, Division Director, Applied Science Division, National Center for Environmental Research, Office of Research and Development, EPA

William Sanders, Director, National Center for Environmental Research, Office of Research and Development, EPA

Michael Shapiro, Principal Deputy Assistant Administrator, Office of Water, EPA

Andy Miller, National Program Director for Global Change Research, EPA

***ECOSYSTEM SERVICES***

10:30 – 11:00 John Powers, Office of Water, EPA

EPA Ecosystem Services Policy and Research Needs

11:00 – 11:30 Lisa Thompson & Peter Moyle, University of California - Davis

Climate Change Predictions and Management Options from Coupled Watershed and Population Dynamics Models: An Example Using Spring-Run Chinook Salmon in California.

11:30 – 12:00 Julian Olden, University of Washington

Forecasting the Effects of Climate Change on Species Invasions and Their Impacts on Chinook Salmon

12:00 – 1:30 LUNCH (on your own)

***INVASIVE SPECIES & PATHOGENS***

1:30 - 2:00 Michael Bowers, Division of Global Climate Change, USDA  
USDA Research: Climate Change Impacts on Invasive Species and Pathogens

2:00 – 2:30 LeRoy Poff, Colorado State University  
Predicting Relative Risk of Invasion by Saltcedar and Mud Snails in River Networks Under Different Scenarios of Climate Change and Dam Operations in the Western United States

2:30 – 3:00 Curtis Richardson, Duke University  
Elevated Temperature and Land Use Flood Frequency Alteration Effects on Rates of Invasive and Native Species Interactions in Freshwater Floodplain Wetlands

3:00 – 3:30 BREAK

3:30 – 4:00 Sally Hacker, Oregon State University  
Beach grass invasions, climate change, and flooding risk in coastal dune ecosystems

4:00 – 4:30 Richard Osman, Smithsonian Environmental Research Center & Robert Whitlatch, University of Connecticut  
Interaction of Climate Change, Landuse and Invasive Species: Tests of Contrasting Management Scenarios for Coastal Communities

4:30 – 5:00 Jason Rohr, University of South Florida  
Understanding the Role of Climate Change and Land Use Modifications in Facilitating Pathogen Invasions and Declines of Ectotherms

*Wednesday, September 21*

***NONLINEAR RESPONSES TO CLIMATE CHANGE***

9:00 – 9:30 Rona Birnbaum, Chief, Climate Science and Impacts Branch, Climate Change Division, Office of Air and Radiation, EPA  
Leveraging Climate Change Research in Support of Environmental Protection

9:30 – 10:00 John Rybczk, Western Washington University  
Sustainable Coastal Habitat Restoration in the Pacific Northwest: Modeling and  
Managing the Effects, Feedbacks, and Risks Associated with Climate Change

10:00 – 10:30 BREAK

10:30 – 11:00 Charles Vorosmarty, City University of New York & Jerry Melillo, Marine  
Biological Laboratory  
Nonlinear and Threshold Responses to Environmental Stressors in Land-river Networks a  
Regional to Continental Scales

11:00 – 11:30 Denise Wardrop, Pennsylvania State University  
Hydrologic Forecasting for Characterization of Non-linear Response of Freshwater  
Wetlands

11:30 – 1:30 LUNCH (on your own)

1:30 – 2:00 Carter Johnson, South Dakota State University  
Non-Linear Response of Prairie Pothole Landscapes to Climate Change and Land  
Management

### ***HYDROLOGIC MODELING OF WATER QUALITY IMPACTS***

2:00 – 2:30 Tom Johnson, Office of Research and Development (ORD), EPA  
Water Quality and Aquatic Ecosystem Sensitivity to Climate Change: Highlights of EPA  
ORD National Center for Environmental Assessment Projects

2:30 – 3:00 Charles Hawkins, Utah State University  
Effects of Projected Climate Change on USA Stream Biodiversity: Update on Climate,  
Hydrology, Stream Temperature, Stream Water Chemistry, and Biodiversity Models

3:00 – 4:00 POSTER SESSION

4:00 – 4:30 Xin-Zhong Liang, University of Maryland  
Development of Predictive SWAT to Assess Global Change Impacts on U.S. Water  
Quality

4:30 – 5:00 Huicheng Chien & Jason Knouft, Saint Louis University  
The potential impacts of climate change on streamflow in agricultural watersheds of the  
Midwestern United States

*Thursday, September 22*

**HYDROLOGIC MODELING OF WATER QUALITY IMPACTS**

9:00 – 9:30 Charles Vorosmarty, City University of New York  
Impact of Climate Change and Variability on the Nation's Water Quality and Ecosystem  
State

9:30 – 10:00 Ying Fan Reinfelder, Rutgers University  
Integrated water quantity simulation over North America: Linking climate, surface  
water, groundwater, and sea-level change

10:00 – 10:30 Thorsten Wagener, Pennsylvania State University  
A Probabilistic Framework for Projections of Watershed Services in US Headwaters  
under Climate Change Scenarios

10:30 – 11:00 BREAK

11:00 – 11:30 Iris Stewart-Frey, Santa Clara University  
Assessing the Impact of a Warmer Climate on Stream Water Quality Across the  
Mountainous Western United States

11:30 – 12:00 Charles Driscoll, Syracuse University  
Hydrochemical Modeling of the Response of Headwater Watersheds to Climate Change  
and Atmospheric Deposition

12:00 – 12:30 Thomas Meixner, University of Arizona (presented by Thorsten Wagener,  
Pennsylvania State University)  
Climate Change and Variability - Impacts on Riparian Biodiversity of Semi-Arid Rivers

12:30 – 12:45 CLOSING COMMENTS & ADJOURN

# Lunch Locations

- A. Aria Pizzeria & Bar  
1300 Pennsylvania Ave., NW  
202.312.1250
- B. Quiznos  
1300 Pennsylvania Ave., NW  
202.289.3594
- C. Indian Delight  
1100 Pennsylvania Ave., NW  
202.371.2295
- D. West Wing Café  
1111 Pennsylvania Ave., NW  
202.628.2233
- E. Naan & Beyond  
1331 Pennsylvania Ave., NW  
202.737.0890
- F. Hard Rock Café  
999 E Street, NW  
202.737.7625
- G. Cosi  
1001 Pennsylvania Ave., NW  
202.628.0602
- H. Au Bon Pain  
1001 Pennsylvania Ave., NW  
202.887.9331
- I. Potbelly Sandwich Shop  
555 12<sup>th</sup> Street, NW  
202.347.7100
- J. Five Guys Burgers & Fries  
1331 Pennsylvania Ave., NW  
202.393.2135
- K. Food Court in Ronald Reagan Building  
L. Food Court on F Street  
1331 Pennsylvania Ave., NW
- M. National Museum of American History Café  
N. National Museum of Natural History Café

