



A workshop organized by the Soil & Water Conservation Society.

July 30, 2008 • Tucson, Arizona

Water, energy, and climate change are likely to be among the most important environmental and economic challenges we confront in this century. How well we manage watersheds—most of which are dominated by privately owned agricultural and forest land—will determine how well we meet this challenge.

Hydrology is central to many, if not most, agricultural and environmental interactions. Intensification of grain and/or biomass production could exacerbate current problems caused by altered or degraded hydrologic systems. Alternatively, introduction of perennial, dedicated “energy crops” could be an opportunity to repair and restore those systems. Climate change makes more effective management of hydrologic systems in agricultural landscapes more urgent and more difficult.

The purpose of this workshop is to explore the connections between hydrology, climate change and the bio-economy. More specifically, the workshop will focus on what needs to be done to “get the water right” in the face of climate change and the bio-economy.

8:00 a.m. Opening Session

National Water Availability and Water Use

Speaker: Bill Alley, USGS

8:30 a.m. Panel 1: The Case for “Getting the Water Right”

Followed by open discussion among audience and panel.

Moderator: Janice Ward, USGS

This panel will include a current picture of regional water use and availability, concerns, and impacts of the competing demands for water.

Speakers:

1. Climate Variability and Climate Change in the Western U.S.
Julio Betancourt, USGS

2. Midwestern Water Issues and Implications of the Emerging Bioeconomy
Mary Skopec, Iowa Department of Natural Resources

3. Irrigation Water & Energy Challenges in the Southeast
Jim Hook, University of Georgia

4. Ethanol: Challenges and Choices for Getting the Water Right
Tom Simpson, University of Maryland

10:15 a.m. Break

10:30 a.m. **Panel 2: Research and Data Needs**

Followed by open discussion among audience and panel
Moderator: Mark Weltz, USDA-ARS

This panel is focused on the capacity to (1) monitor and model changes in hydrologic systems in response to changes in climate, land use and management in agricultural landscapes and (2) our capacity to monitor and understand the economic and social factors driving change in agricultural landscapes. The goal for the panel is to shed light on how biophysical models can be combined with economic and social "models" to help us prepare to meet the new stresses that will be placed on hydrologic systems in the U.S.

The panel will have 3 speakers:

1. Richard Alexander, USGS, will discuss the SPARROW model.
2. Jeff Arnold, ARS, will discuss the CEAP model development.

These two speakers will discuss why and how each model was developed, what they are designed to tell us, what lessons have been learned during development, and what additional research and data would lead to greater capacity to look at the implications of climate change, biofuels, and land use and management.

3. Marcel Ailery, ERS, will discuss ERS's attempts to combine social and economic data (largely ARMS data sets) with other information to develop policy relevant analyses.

12:15 p.m. **Lunch (included with registration)**

1:00 p.m. **Policy Implications and Opportunities**

Followed by open discussion among audience and panel
Moderator: Andy Manale, U.S. EPA

How must public policy and programs be adapted to ensure we get the water right in the face of climate change and the current and emerging bio-economy?

Speakers:

- Duane Sand, Iowa Natural Heritage Foundation (Federal/State Ag Policy)
- Allan Hoffman, US Department of Energy (Energy Policy)
- Jimmie Powell, The Nature Conservancy (Climate Change Policy)
- Kathy Jacobs, Arizona Water Institute (State Policy)

2:45 p.m. **Break**

3:00 p.m. **Key Points**

Moderators of each panel session present the key points they think were identified by their panelists and doing the discussion following the panel. Audience invited to add new key points and/or comment on key points presented by moderators.

4:30 p.m. **Closing Remarks and Adjourn**

Registration available at www.swcs.org/gwr or by calling 515-289-2331 x118.