

Planning for Climate Change Through an Integrative Approach to Water-Planning, Climate Downscaling, and Robust Decision-Making:

A Workshop Series

FALL 2009-SPRING 2010

Location:

Decision Center for a Desert City

&

Decision Theater
Arizona State University

Workshop Partners:



Executive Summary

The water supplies of central Arizona will likely be affected by increasing temperatures and changes in precipitation that are associated with climate change. Scientists are currently working to improve the ability of climate models at the global scale to represent physical processes at the land surface within regions and to produce information that is useful for water supply planning. To date, climate change data and models are very difficult for planners and water managers to use, and there is much uncertainty about the best way to use them to make decisions.

Arizona Water Institute (AWI), Decision Center for a Desert City (DCDC) and the Decision Theater (DT) have created a special workshop series to bring together scientists and practitioners to address the challenge of using climate change data for watershed and water resource planning. DCDC and DT are the hosts of this workshop series. DCDC is conceived at the interface of the water governance community and the social and climate change scientist community to support collaboration through translational activities. The DT is a laboratory for exploring and understanding decision-making in complex and uncertain systems, with a special focus on today's emerging sustainability challenges. This series of workshops will be held in tandem with a regionalization or "downscaling" of global climate models through the efforts of the University of Arizona. The overarching goal is to achieve a better understanding of regional water supply availability under future conditions.

To date two workshops in this series have been planned. The first examines reconstructed flows based on tree-ring data and how they can be used to build scenarios addressing both flood and drought. The second explores methods for understanding and potentially reducing uncertainty in climate modeling.

The workshops will provide multiple sources of information, including:

- Information on applying paleo-climate data to the assessment of water supply availability and flood frequency and future watershed and water resource planning
- Guidance for responding to and preparing for uncertainty; providing practical approaches in using uncertain climate information in watershed and water resource planning processes
- Support for water management stakeholders in making decisions with more locally-relevant and informed scientific information related to climate change issues

This workshop series has been developed with support from the Arizona Water Institute (AWI), U.S. Bureau of Reclamation (Reclamation), the Central Arizona Project (CAP), the City of Phoenix (COP), the Climate Assessment for the Southwest (CLIMAS) as well as the ASU Decision Center for a Desert City (DCDC), the ASU Decision Theater (DT), and the University of Arizona (UA) Institute of the Environment and Department of Geography.

Agenda Workshop #1: Paleohydrology Workshop

September 11, 2009, 9:00am-3:30pm

Goal: To explore the applications of paleo-climate data in watershed and water resource planning and the potential use in developing scenarios for water planning.

TOPICS:

- Basic concepts behind tree-ring reconstructions of hydroclimate
 - Available reconstructions and paleoflood data for Colorado River Basin, including the Salt and Verde River Basins
 - Web-based resources; TreeFlow web site
 - Applications of paleo-climate data to water resource management
 - Planning scenarios ; what paleo-climate data can provide, how best to make use of these data
 - Decision Center for a Desert City and Decision Theater: WaterSim demo
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FINAL AGENDA

9:00 – 9:15 Welcome, introductions, plan for the day, goals for workshop (*Connie Woodhouse*)

9:15 – 9:40 Overview of Dendrochronology, how trees record climate, how reconstructions are developed, skill and uncertainty, what kinds of information we get from reconstructions (*Connie Woodhouse*)

9:40 – 10:30 Reconstructions for the Colorado River Basin

Upper Colorado (*Connie Woodhouse, 10 min*)

Lower Colorado and comparison with the Upper Colorado (*Kiyomi Morino, 15 min*)

Paleofloods (*Katie Hirschboeck, 15 min*)

Questions and Discussion (*10 min*)

10:30 – 10:45 Break

10:45 – 11:00 TreeFlow demo (*Dan Griffin*)
Preview of monsoon reconstructions (*Dan Griffin*)

11:00 – 12:00 Examples of applications to water management in the Colorado River Basin

Introduction (*Connie Woodhouse*)

SRP (*Jon Skindlov*)

City of Phoenix (*Steve Rossi*)

Bureau of Reclamation (*Carly Jerla*)

Bureau of Reclamation (*Kiyomi Morino*)

12:00 – 1:00 Hosted lunch

1:00 – 1:30 Scenarios: Overview and discussion (*Katie Hirschboeck and Kathy Jacobs*)

1:30 – 2:30 WaterSim demo, scenarios, and discussion (*Mike Tschudi and Kathy Jacobs*)

3:00 – 3:30 Wrap up and next steps (*Kathy Jacobs*)

Contact information & Directions

Decision Center for a Desert City

The Brickyard Orchid House Building (BYOH)
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Parking is available at the Brickyard Garage below our facility.

We will validate parking at the workshop.



Driving Directions

From Tucson and points Southeast: Take I-10 West to exit 153B (Broadway/52nd St.). Turn right off the ramp, and follow Broadway 1/2 mile. Turn left onto Priest Drive, and continue for 1 mile. Turn right onto University Drive, and continue for 1.2 miles to Mill Avenue. Turn left onto Mill Avenue, then right onto 6th Street. Parking is accessible from the cul-de-sac east of Mill Avenue. DCDC's entrance faces 6th Street Park.

From Flagstaff and points North: Take I-17 South to exit 200A (I-10 East/Tucson). Continue on me-10 east for 4 more miles to exit 147A (Loop 202 East). Stay right when the ramp forks. Continue onto Loop 202 East for 4.7 miles to exit 6 (Priest Dr.) Turn right onto Priest Drive, and continue for 1 mile to University Drive. Turn left onto University Drive, and continue for 1.2 miles to Mill Avenue. Turn left onto Mill Avenue, then right onto 6th Street. Parking is accessible from the cul-de-sac east of Mill Avenue. DCDC's entrance faces 6th Street Park.

From Buckeye and points West: Take M-10 East into Phoenix. After passing through the Deck Park Tunnel, continue on I-10 east for approximately 1 more mile, to exit 147A (Loop 202 East). Stay right when the ramp forks. Continue onto Loop 202 East for 4.7 miles to exit 6 (Priest Dr.) Turn right onto Priest Drive, and continue for 1 mile. Turn left onto University Drive, and continue for 1.2 miles to Mill Avenue. Turn left onto Mill Avenue, then right onto 6th Street. Parking is accessible from the cul-de-sac east of Mill Avenue. DCDC's entrance faces 6th Street Park

