

Climate Research, Decision Support, and Outreach:

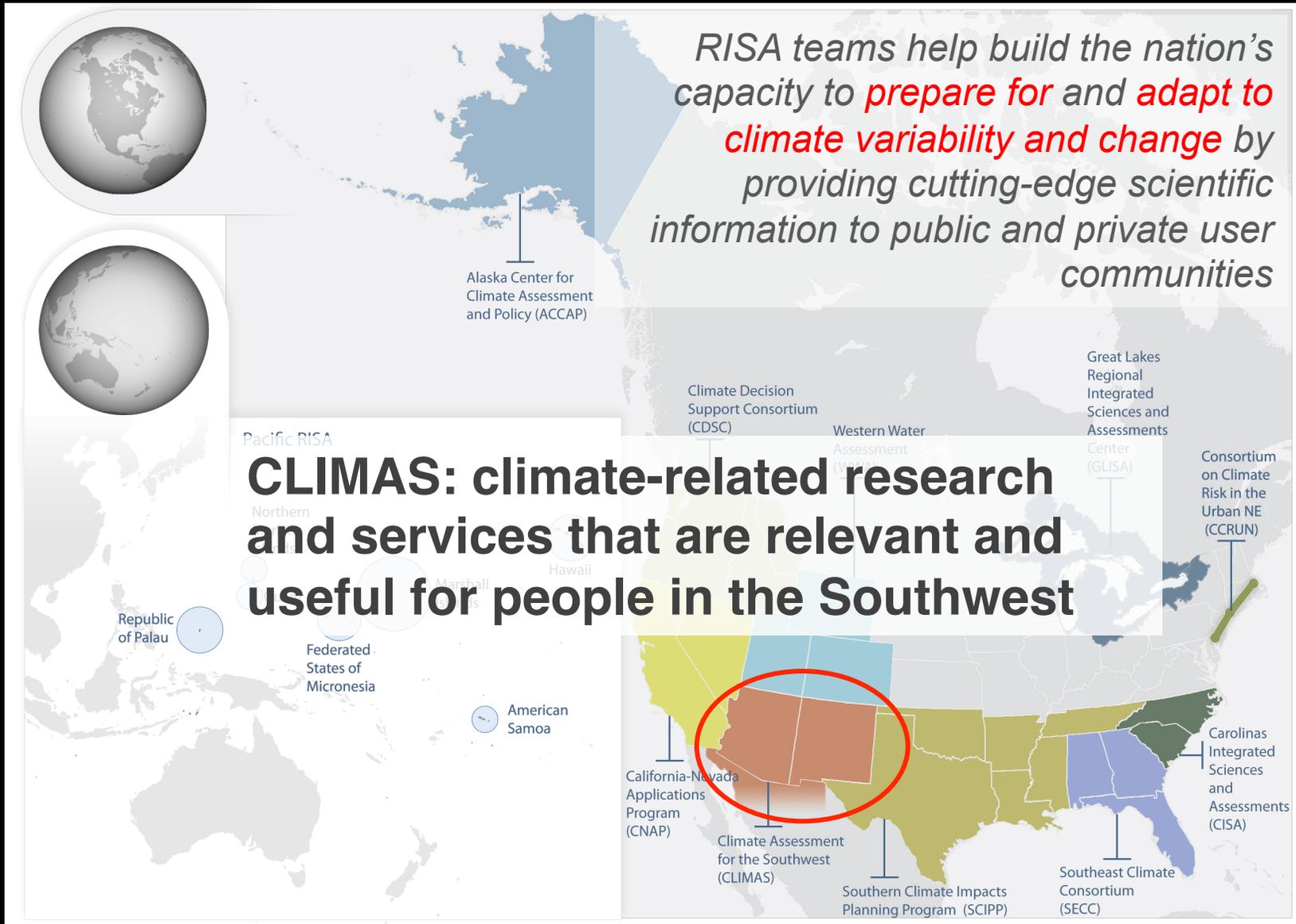
An Overview of the CLIMAS Program

Daniel Ferguson
University of Arizona
Institute of the Environment



*8th Annual Research Insights in
Semiarid Ecosystems (RISE)
Symposium*
University of Arizona
October 29, 2011

Regional Integrated Science and Assessments (RISA)



NM state climatologist

2011-2012 CLIMAS team

principal investigators

the boss



Bonnie Colby
Professor
Agricultural and Resource
Economics
Phone: (520) 621-4775
bcolby@ag.arizona.edu



Andrew Comrie
Professor
School of Geography &
Development
Phone: (520) 621-1585
comrie@email.arizona.edu



Michael Crimmins
Associate Professor
Soil, Water and Environmental
Science
Phone: (520) 626-4244
crimmins@email.arizona.edu



David DuBois
New Mexico Climate Center
Phone: (575) 646-2974
dwdubois@nmsu.edu



Daniel Ferguson
Program Director
Climate Assessment for the
Southwest
Phone: (520) 622-8918
dferg@email.arizona.edu



George Frisvold
Professor
Agricultural and Resource
Economics
Phone: (520) 621-6269
frisvold@ag.arizona.edu



Gregg Garfin
Deputy Director
Institute of the Environment
Phone: (520) 626-4372
gmgarfin@email.arizona.edu



Holly Hartmann
Director, Arid Lands Information
Center
Phone: 541-607-6722
hollyoregon@juno.com



Katherine Hirschboeck
Associate Professor
Laboratory of Tree-Ring Research
Phone: (520) 621-6466
katie@itrr.arizona.edu



Jonathan Overpeck
Co-Director
Institute of the Environment
Phone: (520) 622-9065
jto@email.arizona.edu



Margaret Wilder
Associate Professor
School of Geography and
Development
Phone: (520) 626-7231
mwilder@email.arizona.edu



Connie Woodhouse
Associate Professor
School of Geography and
Development
Phone: (520) 626-0235
conniew1@email.arizona.edu

core office staff



Jaimie Galayda
Project Manager
Phone: 520-626-3346
jgalayda@email.arizona.edu



Zack Guido
Associate Staff Scientist
Phone: (520) 622-8149
zguido@email.arizona.edu



Alena Kimbrough
Research Assistant
Phone: not specified
alenak@email.arizona.edu



Gigi Owen
Assistant Staff Scientist
Phone: (520) 622-9001
gigi@email.arizona.edu

post docs



Julie Brugger
Postdoc
Climate Assessment for the
Southwest
Phone: 520-622-0330
julleb3@email.arizona.edu



Alison Meadow
Assistant Research Scientist
Soil, Water and Environmental
Science
Phone: (520) 792-1123
meadow@email.arizona.edu



Adrian Quijada-Mascareñas
Postdoc
Climate Assessment for the
Southwest
Phone: 520-626-1636
aquijada@cals.arizona.edu



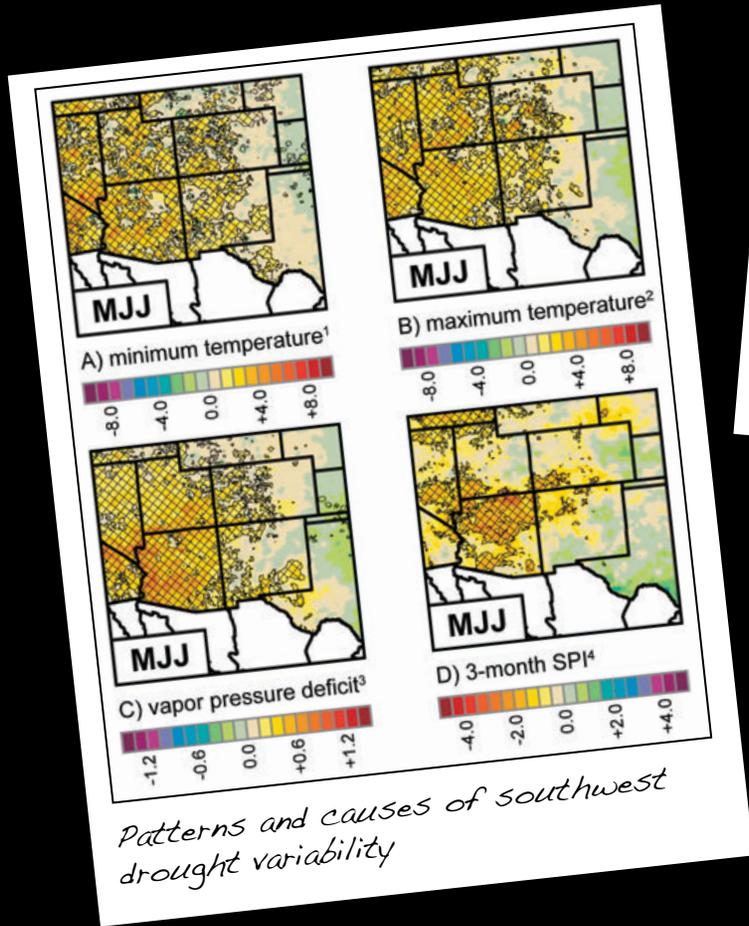
Angie Jardine
NCA post doc

**plus ~25 graduate
research assistants**

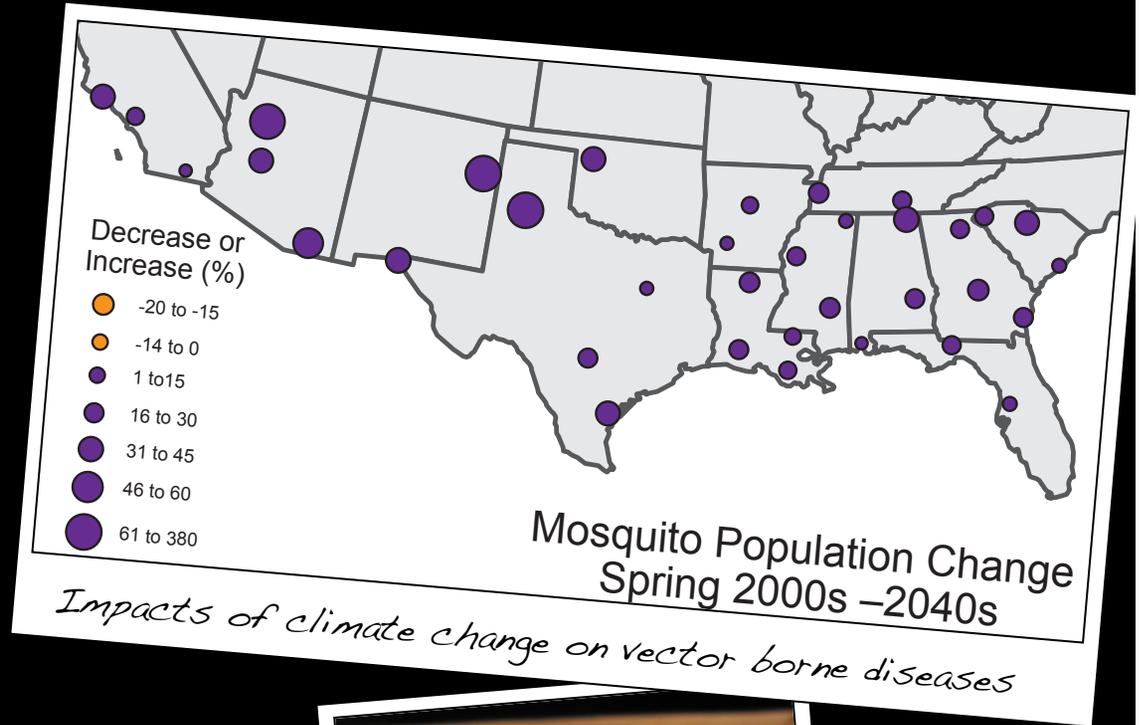
Stakeholder and Collaborator Network

Agua de Hermosillo	Bureau of Land Management	Dept. of Defense	Investigaciones Forestales, Agrícolas y Pecuarias	New Mexico Dept. of Forestry	Tucson Water
Agri-Business Council of Arizona	CA Dept. of Forestry and Natural Resources	El Colegio de Sonora	Instituto Municipal de Investigación y Planeación	New Mexico Dept. of Game and Fish	Tucson Water
American Farmland Conservancy	CA Dept. of Water Resources	Colorado Division of Wildlife	Intertribal Council of Arizona	Nogales, AZ Water Utility	Upper Gunnison River Conservancy
Arizona Watershed Education Taskforce	Canadian Forest Service	Colorado Natural Heritage Program	Jemez Pueblo, NM	Nogales, Sonora neighborhood associations	Universidad de Sonora
AZ Chamber of Commerce	Central Arizona Project	Colorado River Water Users Association	Kinship Conservation Fellows	Organismo Operador Municipal de Agua Potable	U.S. Bureau of Reclamation
AZ County & State Health Depts.	Center for Biological Research	Comisión Nacional del Agua	Mexico Civil Protection/Disaster Relief Offices	Alcantarillado Saneamiento	U.S. Geological Survey
AZ County-level Local Groups	Center for Desert and Ocean Research	Comisión Estatal del Agua-Sonora	Mountain Studies Institute	Pima County Flood Control	USDA-Forest Service
AZ Dept. of Water Resources	Centro de Investigación Científica de Educación Superior de Ensenada	Cotton Incorporated	Multiagency Task Force of Flood Warning Services	Santa Clara Pueblo	USDA-Natural Resources Conservation Service
AZ Division of Emergency Management	Centro de Investigaciones Biológicas del Noroeste	Denver Water	Native American Fish & Wildlife Society	Seattle Public Utilities	Utah Dept. of Water
AZ Electric Power Cooperative	City of Chandler, AZ	Ducks Unlimited	Natl. Association of State Foresters	Servicio Meteorológico Nacional	Utah Division of Water Quality
AZ Game & Fish Dept.	City of Hermosillo (Sonora)	East Valley Water Forum	Natl. Interagency Fire Center-Predictive Services	Sky Island Alliance	Washington Dept. of Natural Resources
AZ Governor's Drought Task Force	City of Las Vegas, NV- Business Leaders	Eastern Area Coordination Center	Natl. Interagency Fire Center-Predictive Services	Sonoran Institute	Water Utility Climate Alliance
AZ Public Service Corporation	City of Mesa, AZ	Environmental Protection Agency	Natl. Association of State Foresters	Southwest Coordination Center	Western Governors' Association
AZ Resilience Institute for Solar Energy	City of Peñasco (Sonora)	Forest Guardians	Natl. Interagency Fire Center-Predictive Services	The Audubon Society	Western Resource Advocates
AZ State Lands Dept.	City of Tucson, AZ	Grand Canyon Trust	Natl. Interagency Fire Center-Predictive Services	The Nature Conservancy	Wild Utah Project
Bureau of Indian Affairs	City of Scottsdale, AZ	Gunnison County	Natl. Judicial Law College	Tohono O'odham Community College	Wildlife Conservation Society
		High Country Citizens Alliance	Natl. Weather Service		
		Hopi Dept. of Natural Resources	Navajo Nation		

climate science



Patterns and causes of southwest drought variability



**Mosquito Population Change
Spring 2000s -2040s**

Impacts of climate change on vector borne diseases

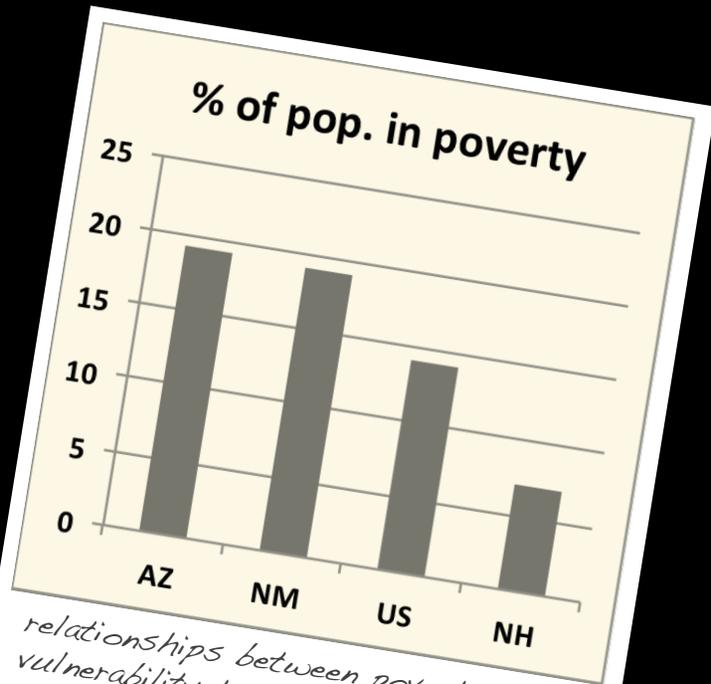


Paleo-southwest monsoon dynamics

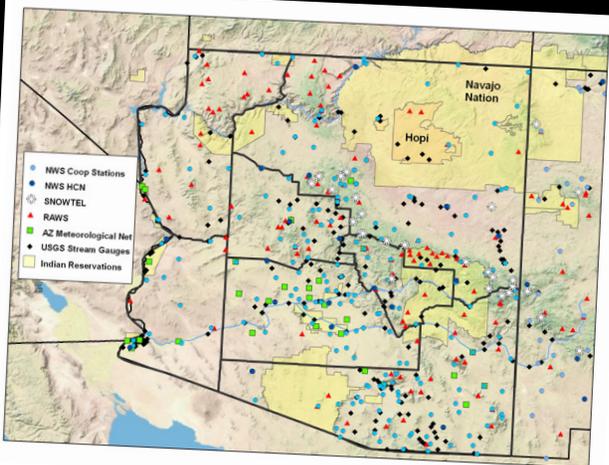


Photo: Arizona Public Service

What does AZ's RES mean for renewable energy and water demand?



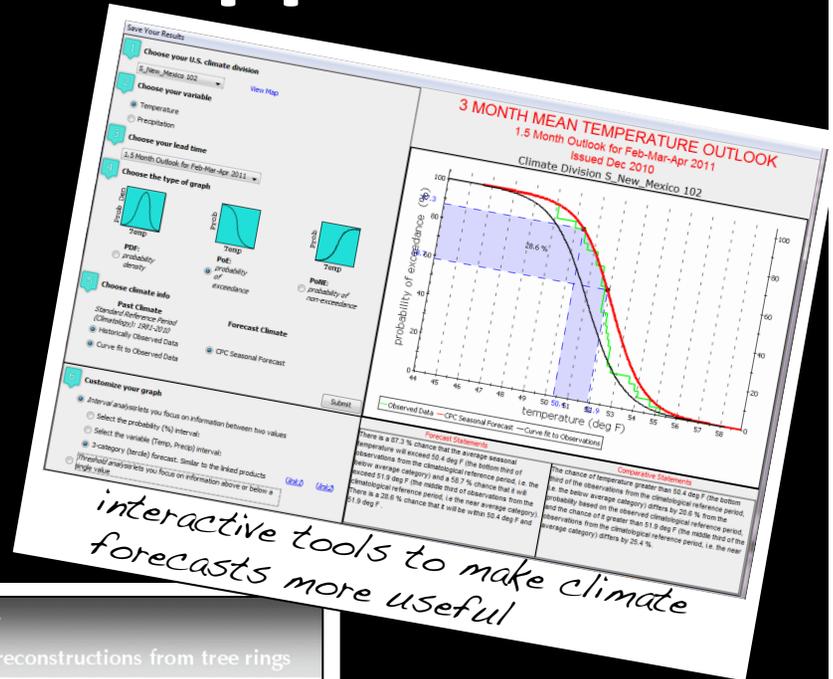
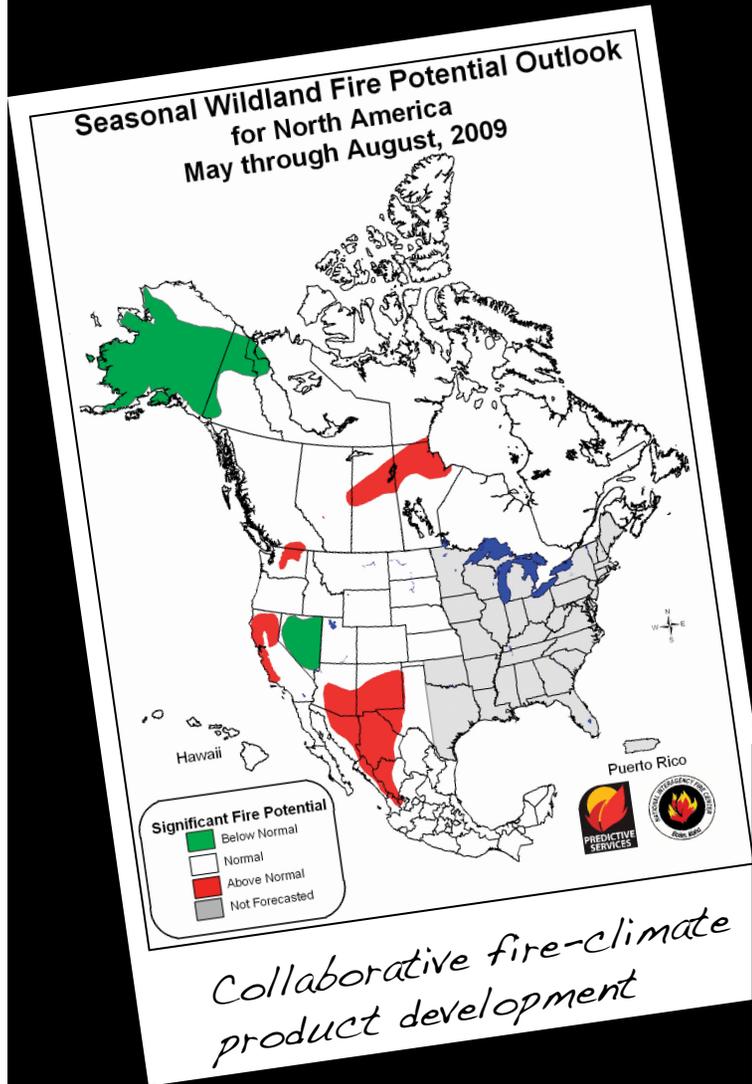
relationships between poverty and vulnerability to climate change in southwestern US



collaborations to improve drought monitoring on Native lands in the Four Corners

**interdisciplinary
research**

decision support



TreeFlow
streamflow reconstructions from tree rings

About TreeFlow

TreeFlow is a comprehensive web resource for tree-ring reconstructions of streamflow and climate, providing easy access to reconstruction data as well as information about how the data were developed, and can be used. [Click here to learn more about TreeFlow.](#)

Data Access by Basin

Many tree-ring reconstructions of streamflow, and other hydroclimatic reconstructions, are now available for the western US. Data for the eastern US will be added in the future. [Click here to access the reconstructions and other information resources by hydrologic basin.](#)

Tree-Ring Background Information

A tree-ring reconstruction is a best-estimate of past streamflows, based on the relationship between tree-ring data and observed streamflow over the modern period. [To learn more about how streamflow reconstructions are developed, click here.](#)

Paleoclimate data and information for water management

**a few major new activities and
initiatives**

new UA graduate certificate: connecting environmental science and decision making (CESD)



photo: iStockphoto

theoretical underpinnings of the interface
between science and decision making

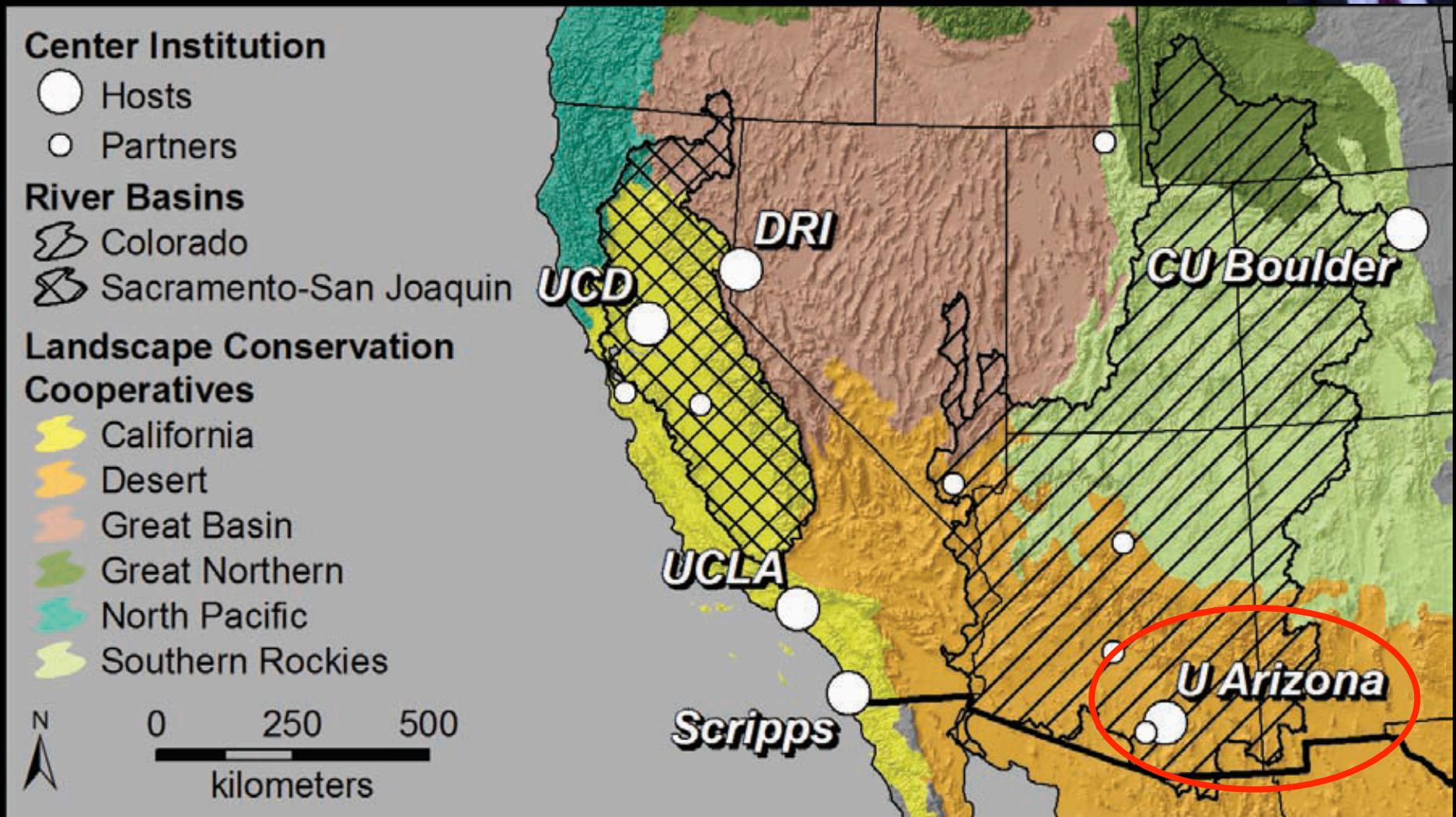
study approaches for scientists to engage,
interact, and collaborate with decision
makers

effectively communicate scientific information

methods and technical skills useful for bridging
science and policy

US Department of Interior Southwest Climate Science Center (consortium)

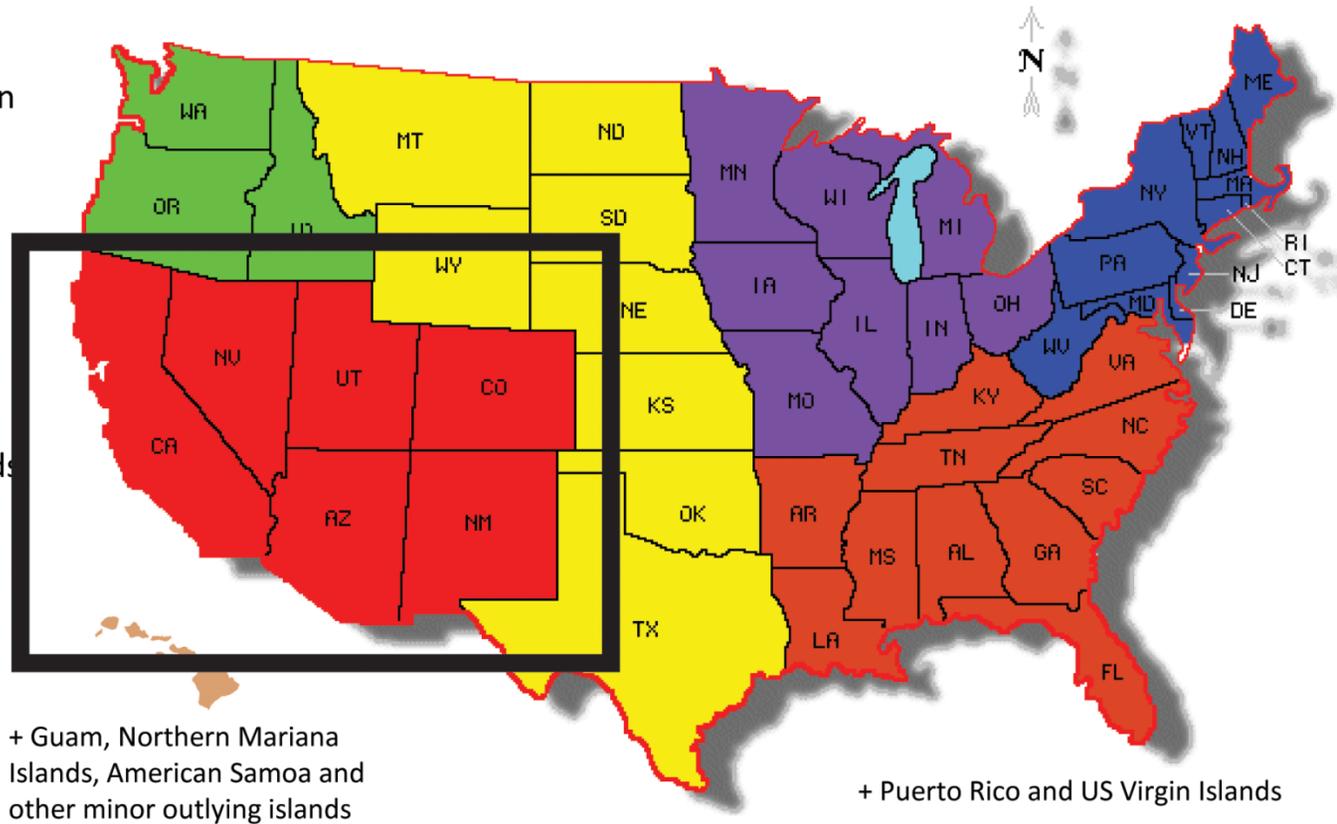
the boss



national climate assessment

Southwest Region Technical Report: A Contribution to the National Climate Assessment PROSPECTIVE AUTHORS' WORKSHOP

- Northeast
- Southeast and Caribbean
- Midwest
- Great Plains
- Northwest
- Southwest
- Alaska and Arctic
- Hawaii and Pacific Islands



And much, much, much more...

About Us **Projects** **SW Climate** **Library** **Tools**

CLIMAS
Climate Assessment for the Southwest

Search
Enter Keywords

New Center to Help the Southwest Address Climate Challenges



The new Southwest Climate Science Center is coming to the University of Arizona. The center was established by the U.S. Department of the Interior to address the effects of climate change on the region's natural and cultural resources, and will tap the expertise and capacity of the UA and other institutions around the West.

"The Southwest is a bull's-eye for climate change in the United States, and the impacts of this climate change are already clear," said the center's principal investigator, Jonathan Overpeck, lead investigator for the Climate Assessment for the Southwest (CLIMAS).

The southwest faces many challenges that have been well documented by researchers, including rising temperatures, earlier snowmelt, northward-shifting winter storms, intensifying drought, and decreasing Colorado River reservoir storage. CLIMAS, which has a long history of helping the region respond to climate changes and variability, will likely collaborate with the center to address these and other issues.

Read more about the new Southwest Climate Science Center at <http://uanews.org/node/34898>

Products, Tools and Publications

La Niña Drought Tracker - Feb 2011
The La Niña Drought Tracker provides current La Niña and drought-related information for the Southwest.

Southwest Climate Outlook - Jan 2011
The January 2011 Southwest Climate outlook is out and includes seasonal outlooks through July 2011.

2009-2010 CLIMAS Research Highlights - Jul 2010
This report highlights some of the work spearheaded by CLIMAS from May 2009 through April 2010.

Southwest Snapshot of La Niña and Drought



www.climas.arizona.edu