



Southwest Climate Adaptation Science Center

86+
Projects

since
2011

ARIZONA

The **Southwest Climate Adaptation Science Center** (SW CASC) is a collaborative federal-university partnership between the U.S. Geological Survey (USGS) and seven academic institutions. Our mission is to develop actionable science and implementable climate adaptation solutions in partnership with natural and cultural resource managers, policy makers, Native Nations and researchers across the U.S. Southwest.

Key Science Themes



Water Availability and
Long-Term Drought



Altered Fire
Regimes



High-Impact
Events



Changing
Ecosystems



Changing Coastal
Environments

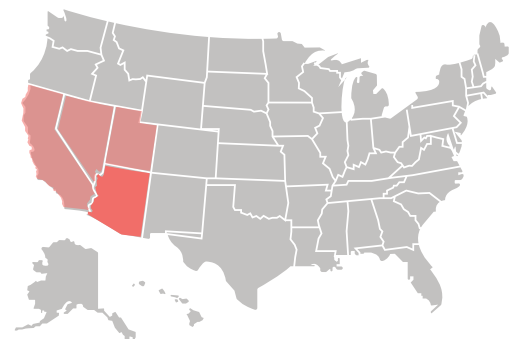


Adaptation Obstacles
and Opportunities

Southwest CASC Consortium Institutions

Host: University of Arizona

- Northern Arizona University
- Scripps Institution of Oceanography at UC San Diego
- University of California, Davis
- University of California, Los Angeles
- University of Nevada, Las Vegas
- Utah State University



ARIZONA Project Highlights



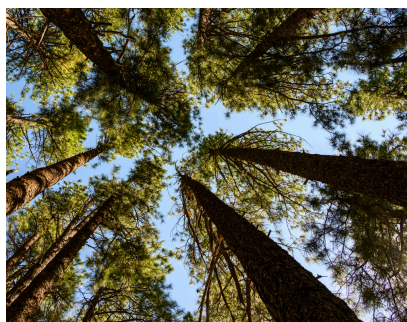
Climate Decision Support Tools for Land Managers

Natural resource managers often use weather and climate information to make land management decisions. While technological advancements in data acquisition and processing have led to an increase in the amount of online, climate-based tools and databases, these tools often require substantial time investment and are ultimately left underutilized.

WHAT: This project worked with natural resource managers in the Southwest to create a new, user-friendly decision support tool (DST) that aids management staff in making data-informed land management decisions.

RESULTS: The project team developed a climate report generation system that delivers a customized monthly PDF climate report with maps, figures, data tables and timely, relevant information summarizing important seasonal climate statistics for management units within a National Forest boundary.

IMPACT: Natural and cultural resource managers can easily access and download the project code and generate a customized climate report themselves. This mode of climate services development quickly and flexibly connects an array of climate data and information to managers who have little time to learn complex DSTs, but who want to incorporate this kind of information into their planning.



Assessing Post-Fire Vulnerability of Forest Ecosystems

Wildfire is a natural and essential process in forest ecosystems, but fire regimes that have shaped these landscapes are changing with a shifting climate and human activities. Changes in fire size, frequency, and severity may degrade essential ecosystem services that produce clean air and water, fertile soil for crop and wood production, and healthy habitats.

WHAT: This project examined how recent fires have affected vegetation and wildlife communities, and explored management practices to help sustain and conserve these communities in vulnerable forest ecosystems and woodlands in the Sky Island mountains, Mogollon Plateau and Southwestern borderlands.

RESULTS: Researchers collaborated with managers, landowners, practitioners and First Nations to develop best management practices tailored to local on-the-ground priorities. The team developed an atlas that includes visualizations of the variable responses of vegetation and wildlife communities to fire. The team also identified refugia where changes are occurring more slowly than in the surrounding landscape.

IMPACT: This project generated new information to help focus conservation and management efforts, and furthered an understanding of the actions and inactions that contribute to the vulnerability of forest ecosystems.

Who We Are



AMERICAN INDIAN
HIGHER EDUCATION
CONSORTIUM



Learn More

Southwest CASC



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CASC Network



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