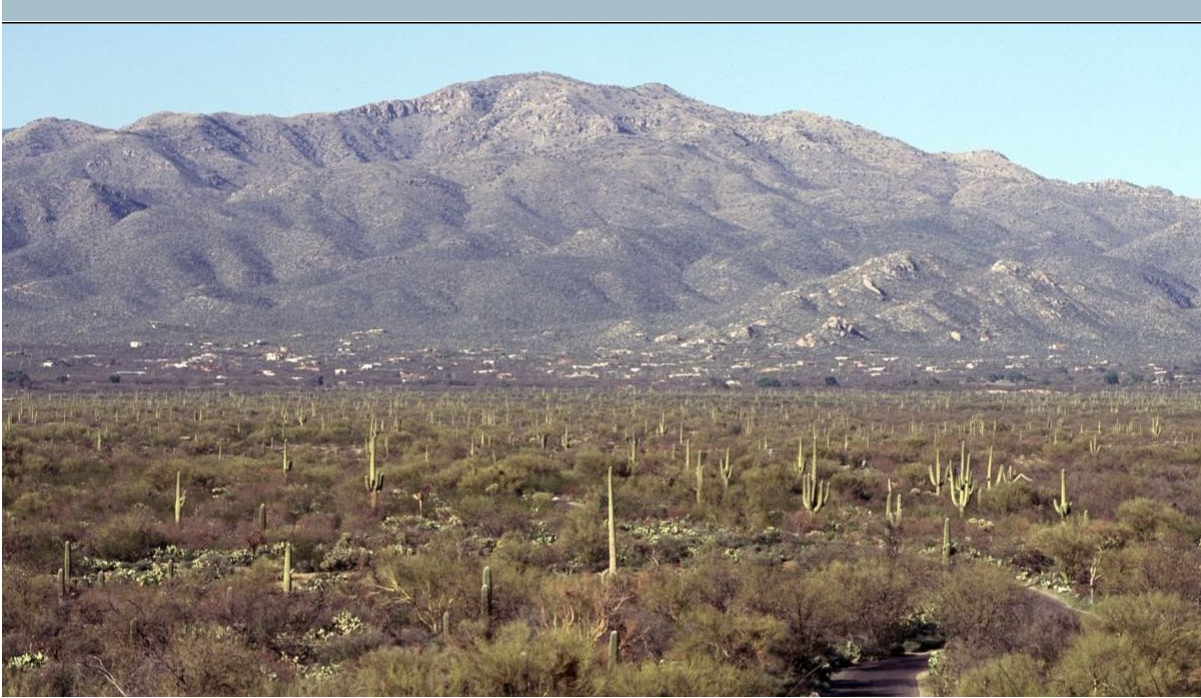


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EcoClimate News Southwest

April 2021

**Reflections from Gregg Garfin
SW CASC University Director**



On April 6-8, 2021, the second Southwest Adaptation Forum (SWAF) was convened online, hosted by the Climate Science Alliance and the Southwest CASC, with the support and input of a dozen partner organizations and a 16-person advisory

Most folks who know me well would agree that I'm not prone to bragging, but I would say, without reservation, that the 2021 SWAF marks a milestone in the focus and tone of climate science and adaptation meetings, for reasons that I describe below. (N.B.: I was not involved in the conceptualization or development of the 2021 SWAF; like approximately 350 other people, I was an attendee). Here are a few things, among many, that stood out to me as a participant in the Forum.

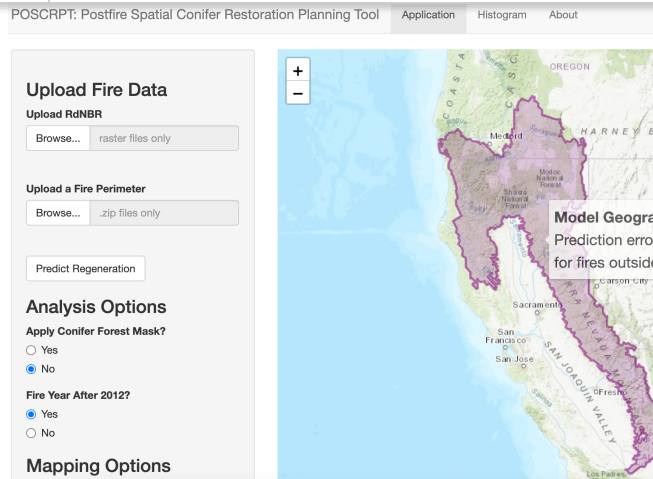
The format of the 2021 SWAF fostered much excellent exchange of knowledge on climate change science, impacts, adaptation initiatives, and natural resource management challenges. But, the real focus of the 2021 SWAF was dialogue and relationships among resource managers, planners, and researchers. The 2021 SWAF sessions brought home to me, in very tangible terms, that while lack of scientific knowledge or precise estimates of future climate impacts are often cited as the impediments to making progress on adaptation to climate change, rather it is the development of relationships, trust, common articulation of questions, articulation of ground rules for working together (to sustain relationships), and common understanding of the outputs, outcomes and uses of the work that most constrain progress.

This perspective was brought home by many of the SWAF panelists, but most poignantly during a session entitled "Wisdom & Reciprocity: Collaborating with Tribal Nations." In the session, Will Madrigal, Jr. (Tribal Capacities and Partnerships Program Manager, Climate Science Alliance; Professor of American Indian Studies/History/Language, and an enrolled member of the Cahuilla Band of Indians) expressed, in essence, that a consequence of the lack of authentic relationship between researchers and participants in the adaptation planning process, the lack of a relationship built on common respect and, even more, reciprocity among partners – mutually acknowledged equity in the give and take that leads to the conceptualization of a scientific research or planning process or the products of the research or planning process (e.g., data and reports) – a consequence is that wisdom cannot be accessed. Shared wisdom is what we all desire, as an outcome of scientific and adaptation planning partnership—a guide to action for dealing with changing environmental and social conditions.

Read more [here](#).

2021 Spring Webinar Series: Highlighting Recent SW CASC Research

Webinar 2



In this webinar, SW CASC researchers Phil van Mantgem (USGS), Joseph Stewart (University of California, Davis), and Micah Wright (USGS), will describe [recently published research](#) where they estimate seed production and postfire regeneration of conifers in low-elevation California forests to help managers identify where management may be needed to encourage forest recovery after large wildfires. The researchers will share a tool they created to aid managers in selecting which areas will be best for replanting after megafires. The [Postfire Spatial Conifer Restoration Planning Tool \(POSCRPT\)](#) predicts the probability of postfire conifer regeneration. The tool is designed to simplify the process of predicting postfire conifer regeneration under different precipitation and seed production scenarios.

Date: April 15, 2021

Time: 11am - 12pm PDT

[Register Here](#)

Webinar 3

A Collaborative Project:

Plausible Scenarios for Future Colorado River Drought



In this webinar, Connie Woodhouse (University of Arizona) will present on recent [SW CASC-funded research](#) that addresses the concerns of a set of Colorado River Basin water managers regarding future drought and water supply reliability in the Upper Colorado River. Researchers collaborated with this water resource management community of practice to develop plausible scenarios of future droughts in the Upper Colorado River Basin, then used these scenarios to examine future reductions in streamflow.

Date: May 7, 2021

Time: 10 - 11am PDT

[Register Here](#)

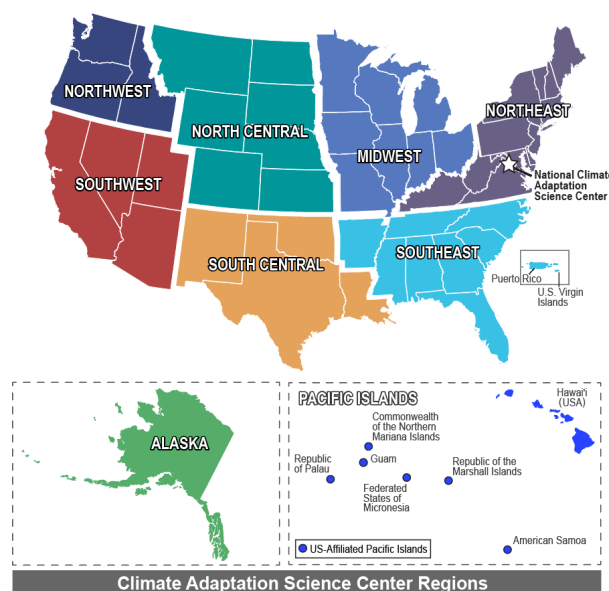
Deb Haaland Makes History Becoming the 54th Interior Secretary



Last month, Representative Deb Haaland, a member of the Pueblo of Laguna and a 35th generation New Mexican, became the first Native American Cabinet Secretary when she was confirmed as Secretary of the Interior. Her responsibilities include overseeing all of the diverse bureaus in the Department of the Interior, including the US Geological Survey, which sponsors the Climate Adaptation Science Center network. Secretary Haaland has expressed her commitment to applying climate science to natural-resource conservation and to the welfare of indigenous people

Read more [here](#), and [here](#).

Webinar Navigating the Climate Adaptation Science Centers: A National Network



From the expansion of invasive species to wildfire, from drought to sea-level rise, climate change creates new and evolving challenges for ecosystems across the nation. The USGS Climate Adaptation Science Centers (CASCs) are a partnership-driven program that teams scientific researchers with natural and cultural resource managers and local communities to help fish, wildlife, waters, and lands across the country adapt to changing conditions. Tribal resilience liaisons from several Climate Adaptation Science Centers will lead an introduction to the CASCs and the tribal resilience liaison network. They will share some examples of cultural resource projects and efforts and share insights on how to engage with CASCs for climate adaptation support.

Presenters for this session will be:

April Taylor, South Central Climate Adaptation Science Center

Althea Walker, Southwest Climate Adaptation Science Center

Stefan Tangen, North Central Climate Adaptation Science Center

Casey Thornburgh, Northeast Climate Adaptation Science Center

*This webinar is being hosted by the National Park Service as part of a larger series that promotes dialogue on climate change issues of importance to Tribal Citizens and Nations.

Time: 10 - 11am PDT

[Register Here](#)



Come Rain or Shine Podcast

Drought Impacts on Mental Health



Drought impacts more than our physical world - the psychological impacts of drought are also very real. Crop damage or failure, running out of forage for livestock, the loss of culturally important natural resources, and many other drought-related effects can lead to stress, anxiety, and a deep sense of loss. Sometimes it's hard to know who to talk to or what resources are available. In this episode, we talk to three experts on this topic and discuss some strategies for coping and what you can do to help support others in your community.

[Listen Here](#)

**Water Scarcity and the Role of Climate Adaptation
Planning to Support Ecosystems and People in the Gila
River Watershed, Arizona**



Photo credit: Drew Eppehimer (University of Arizona).

People and the environment are inextricably linked making natural resource management incredibly important but also complicated. In arid and semi-arid climates, water is often challenging to manage for the benefit of both people and nature. Balancing these concerns well is aided by deliberate planning, actions, and collaboration among diverse groups of stakeholders.

A fellowship, funded by the Southwest Climate Adaptation Science Center (SW CASC) for the 2019-2020 academic year, attempted to address these issues. The [Natural Resources Workforce Development \(NRWD\) Fellowship](#) brought together students from 7 consortium universities to collaborate on use-inspired and actionable science to inform natural resource management decisions. Their recently published [report](#) examines the challenges and opportunities that came about from this research. Read more [here](#).

Studying Public Perceptions of Climate Change Risks

This profile is a part of our consortium profile series, highlighting the people that make up the SW CASC—what inspires them, makes them passionate about their research, and gives them hope for the future. For this profile, Bryson Mineart (SW CASC communications student assistant and undergraduate student in the University of Arizona Computer Science program) interviewed SW CASC co-principal investigator Tamara Wall, Deputy Director of the Western Regional Climate Center and Associate Research Professor for DRI.



For much of her life, Tamara Wall has found herself working and communicating with a large variety of individuals. It makes sense, then, that Tamara found herself drawn into a world of understanding how the public may interpret science and possible risk regarding climate. As a social scientist, Tamara has put much of her interest in asking the large questions about climate change and how this information is interpreted.

Tamara Wall had a very irregular journey into the world of climate science that defines her sense of individuality and hard work. Tamara's inspirations began in the 1990s as she was transitioning through several different outdoor jobs. Her journey took her down a path as a wilderness ranger, a fire lookout, and a tour guide leading tourists through the wilderness on horseback. Tamara's love for horses and the wilderness led her to go back to school with a concentration on forestry and wildfire. Again, with an interest on what perceptions the public has on mitigating possible risk. This resulted in her post-doc at DRI where she was hired as a social scientist to concentrate on public use of science and the communication of climate attribution and uncertainty. Read more [here](#).

Fellows' Highlight

Practicing Interdisciplinary Team Science in a Pandemic



Anna Murveit is a graduate student at the University of Arizona in the School of Natural Resources and the Environment. Below are her experiences and insights as a SW CASC Natural Resources Workforce Development (NRWD) Fellow.

Over the past weeks, I have encouraged several graduate students at my institution to apply to the SW CASC NRWD Fellowship. Around this time last year, I decided to submit my application to this fellowship in hopes that I would gain exposure to interdisciplinary climate adaptation research and become part of a network of young researchers and professionals studying natural resources. I thought that I could offer my expertise in facilitating collaborative groups and apply this to the team science project. In addition, our research theme on landscape-scale disturbance is a topic that I'm personally affected by, as two years ago my family lost my grandparents' cabin in the Sierra Nevada to the Dardenelles Fire. Five months into our year-long program, it is the perfect time to reflect on not only what I have gained, but also our team's progress and what has helped us grow into the collaborative and creative group we have become. Read more [here](#).

New Brief Discusses Cultural Burning and the Relationship with Fire



This information brief summarizes and synthesizes the current state of knowledge regarding cultural burning, from research funded by the Southwest Climate Adaptation Science Center (SW CASC). SW CASC works to coordinate and collaborate with users and providers of climate information to ensure that the research pursued by CASC-affiliated scientists results in tools, techniques, and actionable information to inform robust decision-making by resource managers, policy makers, and other stakeholders. Additional cultural burning resources can be found here: <https://www.swcasc.arizona.edu/infoal-related-projects>.

Cultural burning is the intentional use of fire by Indigenous people to benefit local ecosystems and lifeways. Through years of application, Indigenous peoples accumulated knowledge and understanding of the benefits of fire, such as removing dead plant material, rejuvenating plant growth and abundance, increasing wildlife richness and abundance, decreasing forest density, and reducing risk for high severity wildfires. Other Indigenous use and benefit include clearing land for farming, hunting strategies, and reducing the risk of catastrophic fires for cultural and traditional purposes.

Cultural burning has influenced the landscapes of the Southwest from time immemorial, especially near Indigenous seasonal homes and along travel corridors. Indigenous peoples have developed a deep understanding of the natural world and the many species that compose an ecosystem. Indigenous people learned to live with fire. This knowledge comes from generations of trial and error. Through repeated application, Indigenous peoples attained the knowledge to strengthen their relationship with the land and with fire.



The SW CASC has developed a brief that summarizes and synthesizes the current state of knowledge regarding cultural burning. The brief describes what cultural burning is, its history, its benefits for ecosystems, barriers and opportunities to restoring cultural burning, and recent SW CASC research and efforts to use cultural burning as a climate adaptation strategy. Special thanks to Corwin Carroll, BIA Pathways Intern to the SW CASC, advised by Althea Walker (AIHEC/SW CASC), for writing this brief, and to Ron Goode (North Fork Mono Tribe), Jonathan Long (US Forest Service), and Beth Rose Middleton (University of California, Davis) for their extensive contributions. View and download the brief, and view our other cultural burning resources, [here](#).

Partner Highlights

Toolkit Helps State Fish and Wildlife Managers Incorporate Climate Change into Connectivity Planning



CONNECTIVITY & CLIMATE
CHANGE TOOLKIT

2021

provides state fish and wildlife agency planners and managers with the information necessary to ensure climate considerations are being accounted for and incorporated in the planning and implementation of terrestrial and aquatic connectivity initiatives. View the toolkit [here](#).

Partner Events

Webinar

SW Beef Project: Precision Ranching Technologies

The [Sustainable Southwest Beef](#) Project team is excited to present a webinar showcasing precision ranching technologies. This webinar will highlight precision ranching technologies under evaluation by the Sustainable Southwest Beef Project, including cattle movement sensors and virtual fencing. [Dr. Michael Crimmins](#), Professor & Extension Climate Specialist at the University of Arizona will present on [My RAINge Log](#), a tool specifically designed around the type of infrequent, cumulative precipitation observations often collected at remote, rangeland sites. [Asombro Institute for Science Education](#) will present on related education materials suitable for classroom use and/or youth programming.

Date: April 13, 2021

Time: 1:00 MDT

[Register Here](#)

Southwest Drought Briefing

The USDA Southwest Climate Hub and Intermountain West Drought Early Warning System are continuing monthly drought briefings as drought conditions persist. The next [Southwest Drought Briefing](#) will be Friday, April 16, 11-11:30 MDT. The most recent [U.S. Drought Monitor](#) indicates that all of the Southwest is experiencing some level of drought, with more than 50% of the area in extreme or exceptional drought. Forecasts indicate these conditions are expected to continue through spring. This short drought briefing will provide an update on current drought conditions and forecasts for Arizona, Colorado, New Mexico, Utah, and Nevada, followed by a presentation on the latest grassland productivity forecast for the Southwest using the [Grass-Cast](#) tool.

Register Here

Webinar Series

Madrean Sky Island Biodiversity and Conservation

This webinar series aims to bring together academic scientists, agencies, NGOs, and conservation practitioners among other stakeholders in Mexico and the Southwestern U.S. borderlands to discuss new biogeographic approaches and conservation challenges to sky island biodiversity. It will begin by introducing new advancements in a [Constraint-based Dynamic Island Biogeography \(CDIB\)](#) model and its utility in predicting past, present and future biodiversity of sky island systems. The series is co-hosted by the University of Arizona's [Bridging Biodiversity and Conservation Science](#) Program, [The City College of New York](#) of CUNY and the [National Science Foundation](#).

Session 1: Introduction to the Madrean Sky Island System

Date: April 16, 2021

Time: 11am-1pm PDT

Session 2: Sky Island Biodiversity

Date: April 23, 2021

Time: 11am-1pm PDT

Session 3: Conservation Challenges to Sky Island Systems

Date: April 30, 2021

Time: 11am-1pm PDT

Register Here

Webinar Series

Water Solutions for Our Warmer World

Water is interwoven through every aspect of human activity, and is linked to a range of climate change impacts – droughts, intense rainstorms, floods, and sea level rise. A warmer world will bring increasing ecological, social, and economic challenges.

multiple scales.

As conveners of conversations and leaders in finding innovative and collaborative solutions to the world's most pressing water issues, the [Arizona Institutes for Resilience](#), the [Udall Center for Studies in Public Policy](#), and the [Water Resources Research Center](#) are excited to host *Water Solutions for Our Warmer World*, a six-part public webinar series. We invite the community to engage with us in exploring regional water-related challenges and solutions.

This series is dedicated to the memory of Regents Professor Jim Shuttleworth, 1945-2020.

Episode 2: Water and COVID-19 in Indian Country

Date: April 21, 2021

Time: 4:00-5:30pm PDT

Episode 3: The Realities of Adaptation in the Water Sector

Date: May 19, 2021

Time: 4:00-5:30pm PDT

Register Here

Livestream Event On Common Ground: Hyper-local Climate Resilience

Hyper-Local Climate Resilience

On Common Ground

KQED

FEATURING PANELISTS

Beth Rose Middleton Manning
Terrie Harris-Green



Many people can adapt to climate change via migration, but for some adaptation means finding the solutions to remain in place. In this evening of conversation we'll look at how resiliency takes hold on a local level in two very different locations.

Marin City's population boomed during World War II when the shipyards recruited African-Americans to work there building the nation's warships. The housing they

[Green](#) (Shore Up Marin City), who is currently working with other local activists on solutions to keep people in their homes in the face of development pressure, rising sea levels, and pollution.

Across the nation, the emerging Native Land Trust Alliance is collaborating with non-Native land conservationists to re-establish and sustain the tribes' relationships with their ancestral lands. We'll speak with [Beth Rose Middleton Manning](#) (Professor and Department Chair of the Department of Native American Studies at UC Davis and SW CASC co-principal investigator), about how Native methods of caring for Earth's lands and animals challenge Western land conservation methodologies.

The hour-long event will be hosted by KQED senior editor [Kat Snow](#) with student guest reporter [Janelle Marie Salanga](#) (Engagement Reporting intern, College Journalism Network).

Date: April 22, 2021

Time: 6:00pm PDT

[Register Here](#)

Utah Agriculture Drought Impact Reporting

The Utah Drought Task Force seeks to engage with stakeholders to build a network of reporters to share information about drought impacts in Utah. We invite producers, natural resource managers, Extension, and other natural resource professionals to attend our second Drought Impact Reporting workshop to learn about and discuss:

1. What is the drought outlook and projected impacts in the state
2. Why reporting drought impacts ultimately helps producers
3. How to use the CMOR drought reporting tool and other resources

Date: April 27, 2021

Time: 6:00-8:00pm MDT

[Register Here](#)

Job and Funding Opportunities

[Center for Regional Food Studies Outreach Coordinator Position](#)

The Center for Regional Food Studies and the Climate Assessment for the Southwest (CLIMAS) seek a University of Arizona graduate student or motivated undergraduate student for part-time, hourly employment to coordinate outreach and community engagement for a public report about the southern Arizona food system in spring 2021.

DEADLINE - *April 16, 2021*

Funding Opportunities

[Tribal Climate Resilience Program 2021 Funding Opportunity](#)

The Bureau of Indian Affairs is pleased to announce the availability of funding through the Tribal Climate Resilience Program (Program). The Program will provide funding for tribal activities that support tribal adaptation and resilience planning, ocean and coastal management planning, and relocation, managed retreat, or protect-in-place planning and design activities for coastal and riverine communities. The Program aims to support Tribal Nations that are working toward climate adaptation planning and need information for management decisions that affect tribal treaty and trust resources, economies, infrastructure, and human health and welfare.

DEADLINE - *April 23, 2021*

[Wildlife Conservation Society Climate Adaptation Fund 2021 RFP](#)

The [WCS Climate Adaptation Fund](#) will provide up to \$2.5 million in competitive grants in 2021. Awards will be made to non-profit conservation organizations applying for one of two grant categories: Adaptation implementation projects that apply innovative approaches to conservation actions designed to help wildlife and ecosystems adapt to climate change, and adaptation mainstreaming projects that pursue pathways to unlock the potential of an adaptation approach with known benefits to be adopted at a large scale.

DEADLINE - *April 28, 2021*

[Applications Now Being Accepted to Host Midwest Climate Adaptation Science Center](#)

Qualified organizations are invited to apply to host and, as applicable, serve as consortium partners for the Midwest Climate Adaptation Science Center that includes the states of Illinois, Indiana, Iowa, Michigan, Minnesota, Missouri, Ohio, and Wisconsin.

DEADLINE - *June 14, 2021*

We at the Southwest Climate Adaptation Science Center stand in solidarity with Black communities in the fight for freedom, liberation, and justice. We acknowledge that Black and Indigenous communities, and all people of color continue to experience systemic and institutional racism. We commit to challenging these entrenched systems through our work on climate change adaptation, and through our personal behavior. We acknowledge that communities of color are disproportionately affected by climate change due to the legacy and continuing burdens of environmental racism and injustice. The SW CASC is hosted by The University of Arizona, which sits on the ancestral homelands of the Tohono O'odham Nation and the Pascua Yaqui Tribe. The University of Arizona is recognized for being a Hispanic Serving Institution and has long-standing programs and institutions focused on underrepresented communities, including a strong commitment to Indigenous community governance and resilience. Collaboration with tribal communities is a key tenet of the SW CASC mission. We commit to using our expertise and experience, in collaboration with our colleagues, to work in partnership with Black, Indigenous, and other communities of color to anticipate, monitor, and adapt to climate change impacts and collaborate on adaptation efforts that support each community's effort in building sustainable, healthy, and resilient communities.

Contact us at:

University of Arizona, ENR2 Building, 1064 E. Lowell St., Suite N441, Tucson, AZ 85721

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