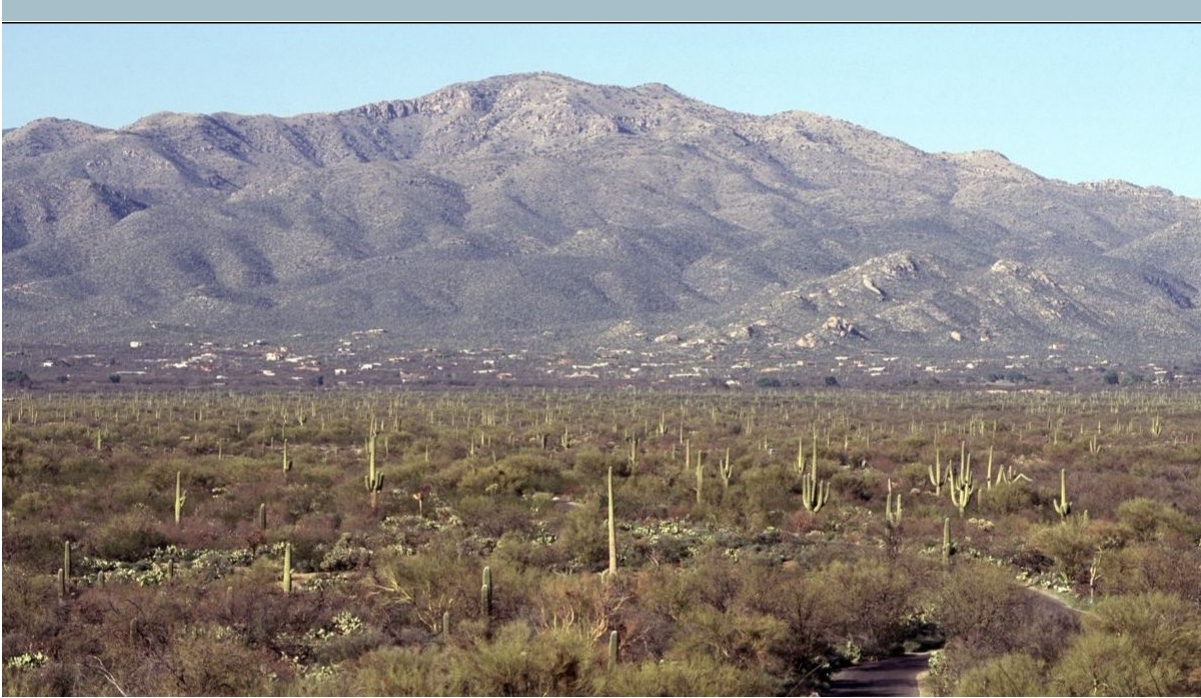


[View this email in your browser](#)



# EcoClimate News Southwest

May 2021

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



In this month's *EcoClimate News Southwest*, Sarah LeRoy sums up an interview with Dr. Connie Woodhouse, whose work has substantially expanded the knowledge base of researchers and water managers on the paleohydrology, paleoclimate and

investigations. Dr. Woodhouse has long collaborated with water managers, to set her research agenda and, most important, to ensure that the insights from her scientific investigations are put to use. The collaborative approach used by Dr. Woodhouse and her co-investigators is arguably the strongest example of the style of use-inspired “actionable science” that the SW CASC promotes, funds, and cultivates through the trainings and workshops that we convene. Typical of this approach to science, Dr. Woodhouse and fellow researchers work closely with water managers, in workshop sessions and focus group discussions, to understand approaches to science that inspire managers’ trust and that use the same metrics that the managers use in their day-to-day operations and decisions. Thus, SW CASC-funded research by Dr. Woodhouse employs “bottom-up” scenario approaches that address specific vulnerabilities of concern to managers (e.g., various degrees of temperature increase overlaid on historic precipitation and drought variability, to explore potential shortfalls in water resources). The research results are expressed in terms of thresholds used in water management, rather than statistical metrics that scientists routinely calculate. This “co-production” of science is the hallmark of Dr. Woodhouse’s research and the gold standard to which all SW CASC research aspires.

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## Dr. Connie Woodhouse Appointed as University of Arizona Regents Professor



Photo credit: Will Tintor (University of Arizona)

Dr. Connie Woodhouse, Professor in the School of Geography and Development at the University of Arizona, has recently been appointed as [Regents Professor](#). Dr. Woodhouse is internationally known for her research using tree rings to better understand past changes in streamflow, particularly in the Colorado River Basin. The SW CASC has funded two projects by Dr. Woodhouse ([2014 project](#); [2017 project](#)), where her work exemplifies the mission of the SW CASC—outstanding science



I spoke with Dr. Woodhouse about her scientific journey, and her feelings about receiving this honor. Dr. Woodhouse showed humility in her initial reaction to this recognition, and actually didn't believe the email when she first read it. It was an email from the President of the University, which she initially shrugged off as routine communication with university staff. Then she read it and thought *this can't be right*. It took a while, but she now "owns it," as she says, and sees that it wasn't a fluke—that she has made an impact, people recognize it, and that's a nice feeling. Read more [here](#).

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### SW CASC Postdoc Opportunity - Apply Now!



The University of California, Davis, in collaboration with the SW CASC, invites applications for a Postdoctoral Fellowship with a focus on Indigenous-led applications of fire in the Southwest for a 2-year period. The postdoc will be able to work across both the Middleton (<https://nas.ucdavis.edu/people/beth-middleton>) and Safford (<https://safford.faculty.ucdavis.edu/people/>) research groups, with projects including cultural burning demonstration, outreach, and education (Middleton); cultural burn policy analysis (Middleton); and the ecological impacts of low-intensity fire on SW and Australian ecosystems (Safford). We work collaboratively across the CASC network to respond to research needs and develop relevant products for natural resource managers. Applications due May 14th.

**Apply Here**

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### Come Rain or Shine Podcast

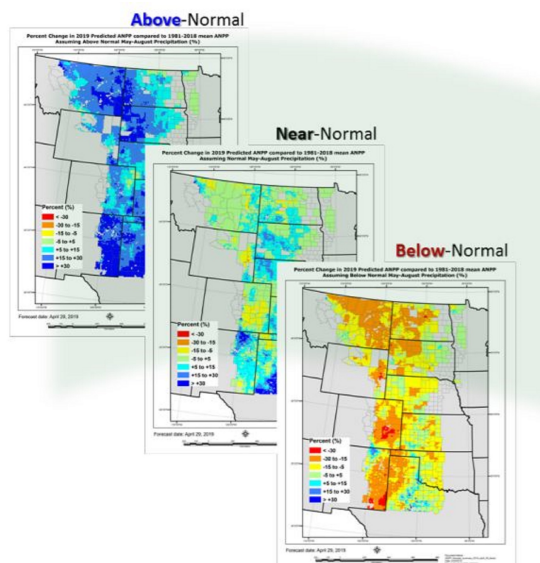
**Drought, Snowpack, and Streamflow**



In this continuation of our special series on drought, we interview two water and climate scientists to learn what streamflow forecasts are predicting for the upcoming summer, and to learn more about an emerging area of research, termed snow drought. Dr. Adrian Harpold is a hydrologist with the University of Nevada, Reno, and is also a SW CASC funded researcher. Dr. Brad Udall is a Senior Water and Climate Scientist with the Colorado Water Center at Colorado State University, and is a co-principal investigator with the SW CASC. Here they share with us insights such as why 100% of the historic snowpack doesn't always translate to 100% of the historic runoff, the challenges of “weather whiplash”, options for water management on the watershed scale, and what gives them hope for the future even in the face of some pretty grim predictions.

[Listen Here](#)

## Grass-Cast: A Grassland Productivity Forecasting Tool



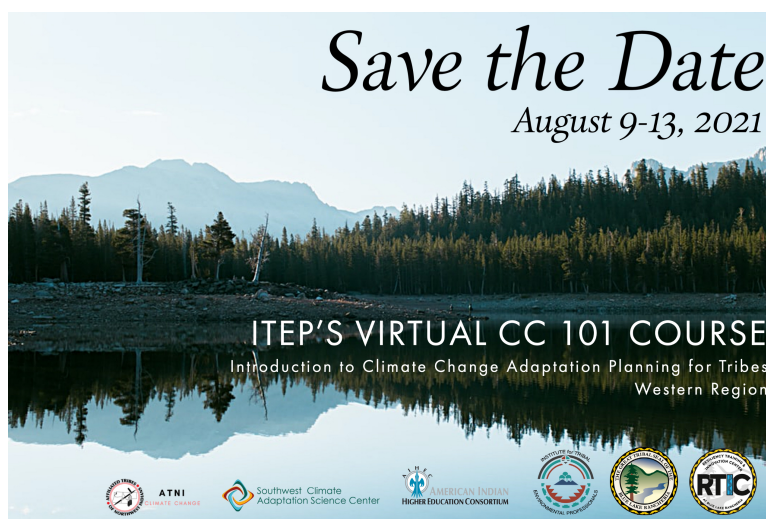
productivity forecasting tool called Grass-Cast. Grass-Cast uses well-known relationships between historical weather and grassland production to provide estimates of annual forage production, beginning in the spring of each year and updated on a two-week cycle throughout the growing season. With the new growing season now upon us, we decided to check in with Dannele for a behind the scenes look at Grass-Cast - how it's made, why it's important, and what changes we might expect to see in the future.

Grass-Cast homepage <https://grasscast.unl.edu/>

[Listen Here](#)

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## Save the Date for ITEP's Virtual Climate Change 101 Course!



Please Save-the-Date for the Virtual Western Region Climate Change 101 Course being offered by the Institute for Tribal Environmental Professionals (ITEP), Blue Lake Rancheria, Southwest Climate Adaptation Science Center (SW CASC), American Indian Higher Education Consortium, and the Affiliated Tribes of Northwest Indians. The course will take place virtually **August 9-13, 2021**. If you have any questions, please reach out to Althea Walker at [awalker@aihec.org](mailto:awalker@aihec.org) or Nikki Colley at [Nikki.Cooley@nau.edu](mailto:Nikki.Cooley@nau.edu). More information to come in May 2021.

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## 2021 Spring Webinar Series: Highlighting Recent SW CASC Research





We have wrapped up our Spring webinar series, highlighting recent SW CASC research. If you missed any of the episodes, all recordings are on our website and can be found at the link below.

Episode 1: Connecting Climate Networks: SW CASC Tribal-Focused Engagements and Opportunities

Episode 2: Rebuilding Forests After Fire

Episode 3: A Collaborative Project: Plausible Scenarios for Future Colorado River Drought

**Watch Here**

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## SWAF 2021 Discussions and Resources Available Online



On behalf of the SW CASC and the [Climate Science Alliance](#), thank you to everyone who joined us for the [2021 Southwest Adaptation Forum](#). From inspiring stories of climate adaptation and resilience to understanding how to continue and grow this work - in the right way, the 2021 Southwest Adaptation Forum was an opportunity to showcase the transformations occurring in our communities and beyond. See the full

All panel discussions, activities, and resources of the 2021 Southwest Adaptation Forum are now publicly available and can be accessed through our online Interface: [www.swaf2021.org](http://www.swaf2021.org)! We encourage you to share the Interface with your network and explore, utilize, and implement these tools and resources.

## New Brief Describes the Southwest Fire and Climate Adaptation Partnership (SWFireCAP)



The SW CASC has developed a brief that describes our new initiative, the Southwest Fire and Climate Adaptation Partnership, or SWFireCAP. The SWFireCAP is an open and inclusive group of partners with a shared vision for working together to advance fire and climate adaptation in the southwestern U.S. The monumental task of effective climate adaptation requires cross-organization collaboration and leveraging of people, time, resources, and funding. Initiated by the SW CASC and the Southwest Fire Science Consortium, the SWFireCAP now has several partner organizations and is open to anyone interested in the intersection of climate change and fire in the Southwest. View and download the brief [here](#).

## Ensuring Climate Adaptation Efforts are Beneficial for Aquatic Ecosystems

*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,*



Michelle Baker's journey into climate research is an interesting one. While pursuing her undergraduate degree, she was working in a lab performing examinations of cancer medications on mice with another student. This student left the lab, forcing Michelle to sacrifice several dozen (it was between 50-60) mice in the lab, something she was not happy doing. As a result, Michelle's professor had another project for her to work on, one that required her to examine the effects of nutrient pollution on a reservoir in the Pocono mountains in Pennsylvania. In a way, Michelle accidentally became an ecologist.

Read more [here](#).

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## Fellows' Highlights

### Interdisciplinary Research as a Vessel for Personal Growth





*to quantify human exposure to wildfire smoke. Sam is in the process of defending their master's thesis, titled "Evaluating Fire Emissions Inventories to Model Smoke Exposure in the Western United States". In the fall, they will begin their PhD in chemical engineering at University of Utah. Below are their reflections on the SW CASC Natural Resources Workforce Development (NRWD) Fellowship.*

Being well-rounded is something that is incredibly important to me. One of the most important parts of my approach to research is ensuring that I can communicate my results, not just to my academic peers, but to anyone who may be interested in them. It's impossible to do that without an understanding of the world outside my little corner of expertise. This understanding is what draws me to the NWRD Fellowship and to interdisciplinary research in general. Our cohort has decided to focus on a project related to land management techniques, particularly those of indigenous communities, and wildfire outcomes. Working collaboratively with people in many different disciplines has been incredibly enriching. I am understanding the multitude of ways that different researchers with different backgrounds approach the same problem, and I am a better scientist because of this. Read more [here](#).

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### NRWD Fellow Receives Postdoc Position at USU!



Please help us congratulate past Natural Resources Workforce Development (NRWD) Fellow, Drew Eppehimer, for receiving a position with Utah State University's [Future of the Colorado River Project](#) beginning in July. He will be based in Flagstaff working closely with USGS to model the impacts of climate change and water management decisions on native fish. Congratulations Drew!

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## New Online Course Focuses on Practicing Collaborative Research



### TRANSDISCIPLINARY SCIENCE FOR SOCIETY

The University of Arizona is offering online courses for working professionals and graduate students who want a solid grounding in applying scientific insights to real world challenges. The next course is May 17 - June 13 and is focused on applying collaborative research methods and approaches to an environmental problem as a case study. Each week, a different element of a collaborative research plan will be addressed using a research planning guide. You will also listen to lectures and take part in online discussions. The final product is a research plan based on your case study that may be used as a template for future work. The course costs \$500 and is open to anyone with a Bachelor's degree. There are discounts for UArizona students and some scholarships are available.

[Register Here](#)

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### April 2021 Southwest Climate Podcast Winter Recap & Diving into Drought Assessments

In the [April 2021 episode of the CLIMAS Southwest Climate Podcast](#), Mike Crimmins and Zack Guido jump into winter weather and assessments of (drought) conditions. First, they look back at winter so far and see how it stacks up to recent historical totals. Next, they take a closer look at the relationship between summer and winter precipitation, and the various phase combinations (wet/dry, dry/wet, wet/wet, dry/dry). They turn to some paleoclimate expertise to help them think about these patterns, as well as how drought has been defined (seasonal drought, megadrought, etc.), and how these terms get used in science communication and the media.

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### Partner Events

## Adaptation in San Francisco Bay

The Climate Adaptation Research Seminar Series is a webinar series that will share the most current adaptation research from its members on climate-related topics. The seminars will give participants a taste of the wide breadth of research conducted by research members on the UC Davis campus.

For this webinar: adapting to sea-level rise requires multi-level cooperation that links local decisions to regional benefits and costs. Using San Francisco Bay as an example, this paper adopts Ostrom's "diagnostic approach" to identify the core governance barriers for regional sea-level rise adaptation. The diagnostic approach considers variables related to the resource system, the resource units, the users, and the governance system. Integrating hydrodynamic modeling and qualitative social science case study methods into this framework leads us to identify seven core governance barriers and highlights ongoing activities seeking to fill the governance gap in the San Francisco Bay region. Our translation of the SES diagnostic approach can serve as a practical guide for sea-level rise stakeholders to think about the system. These collective-action problems and governance barriers are likely to appear to various degrees in all regions facing sea-level rise and coastal flooding.

Date: May 12, 2021

Time: 9:00 - 10:00 AM PDT

**Register Here**

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### 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. What are the solutions? The University of Arizona, with a long history of excellence in water-related research and policy, is helping to build water-related resilience at 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-



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

### Episode 3: The Realities of Adaptation in the Water Sector

Date: May 19, 2021

Time: 4:00-5:30pm PDT

**Register Here**

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## **Drought Update and Wildfire Outlook Webinar for California and the Southwest**



The Drought Update and Wildfire Outlook Webinar for California and the Southwest is designed to provide stakeholders and other interested parties in the region with timely information on the current drought status and outlook and wildland fire potential outlook.

This webinar is a special joint region webinar, combining the California-Nevada Drought Early Warning System Drought & Climate Outlook Webinar Series and Southwest Drought Briefings, which are produced by the Intermountain West Drought Early Warning System and the USDA Southwest Climate Hub.

### Featured Presentations

- Drought & Climate Update & Outlook: Brian Fuchs, National Drought Mitigation Center
- Wildland Fire Potential Outlook: Chuck Maxwell, Predictive Services Manager, Southwest Coordination Center

- [Post-Wildfire Resources: Emile Elias, USDA Southwest Climate Hub](#)

Date: May 24, 2021

Time: 11:00 AM - 12:00 PM PDT

[Register Here](#)

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## Conference Mobilizing Decolonial Praxis



Hosted by the Institute for Tribal Environmental Professionals (ITEP), this conference, Indigenous Teacher Education: Mobilizing Decolonial Praxis, will premiere critical Indigenous education efforts that mobilize a decolonial praxis in schools and communities serving Indigenous students. The goals of the conference are to: 1) share ITEP teachers' efforts in indigenizing and decolonizing curriculum and pedagogy; 2) contextualize the ways in which educators develop a critical Indigenous consciousness that engages justice-centered pedagogies; and 3) create opportunities for participants to engage critical dialogues that furthers the goal of mobilizing decolonial praxis.

Date: June 21-22, 2021

Time: 9:00 AM - 3:00 PM PDT

[Register Here](#)

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## National Tribal & Indigenous Climate Conference



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## Job and Funding Opportunities

### Student Opportunities

#### [University Climate Change Coalition \(UC3\) Fellowship](#)

The 2021-2022 UC3 Collaborative Sustainability Fellowship Program is accepting applications for paid fellowship opportunities that generally overlap with the 2021-2022 academic year (August 2021-June 2022). This program is focused on solutions to pressing climate and environmental issues that require collaborative approaches to problem solving.

DEADLINE - *June 18, 2021*

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### Job Opportunities

#### [SW CASC Postdoc Opportunity at UC Davis](#)

The University of California, Davis, in collaboration with the SW CASC, invites applications for a Postdoctoral Fellowship with a focus on Indigenous-led applications of fire in the Southwest for a 2-year period.

DEADLINE - *May 14, 2021*



The U.S. Fish and Wildlife Service is seeking four social scientists. Three positions will be housed under Science Applications (multiple locations available) and one under the National Wildlife Refuge System in the Branch of Human Dimensions (Ft. Collins, CO).

DEADLINE - *May 21, 2021*

[Pacific Island CASC \(PI-CASC\) Aquatic Flows Postdoc Fellowship](#)

As part of a CASC network effort, PI-CASC is offering a postdoctoral fellowship on the Future of Aquatic Flows in the Pacific Islands. They seek applicants with a background in hydrology, stream ecology, drought, or related fields to conduct a synthetic research assessment of changing aquatic flow dynamics in Hawai‘i and/or specific U.S.-Affiliated Pacific Islands (or both) and to relate these changes to natural and/or cultural resource management.

DEADLINE - *May 28, 2021*

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## **Funding Opportunities**

[Arizona Institutes for Resilience \(AIR\) International Programs Seed Grants](#)

AIR's International Programs announces a seed grant to develop concept papers on research topics of central importance for development challenges. The awards will provide \$7,500 that can be used for supplemental compensation (if eligible). They are supporting up to four teams of two or more individuals from the University of Arizona. 1-2 page proposals for the concept papers are due May 24. Grants will be awarded on June 1.

DEADLINE - *May 24, 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*

[Agriculture and Food Research Initiative Competitive Grants Program](#)

In this Request for Applications, the National Institute of Food and Agriculture requests applications for six AFRI priority areas through the Foundational and Applied Science

economically viable plant and animal production systems. The global agricultural output needs to be expanded significantly to meet the food needs of the population expected in 2050; thus, it is imperative to develop innovative, safe and sustainable management strategies for livestock, crops, and critical underlying resources.

DEADLINE - *Depends on Program Area*

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## Educational Opportunities

### [Inclusive STEM Teaching Project](#)

The Inclusive STEM Teaching Project, a National Science Foundation grant-funded program, is hosting a Massive Open Online Course (MOOC) from June 15th - July 27th via edX. This six-week course is designed to advance the awareness, self-efficacy, and ability of STEM faculty, postdocs, graduate students, and staff to cultivate inclusive learning environments for all of their students. Participants will engage in deep reflection and discussion around topics of equity and inclusion across a variety of institutional contexts.

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*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.*

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