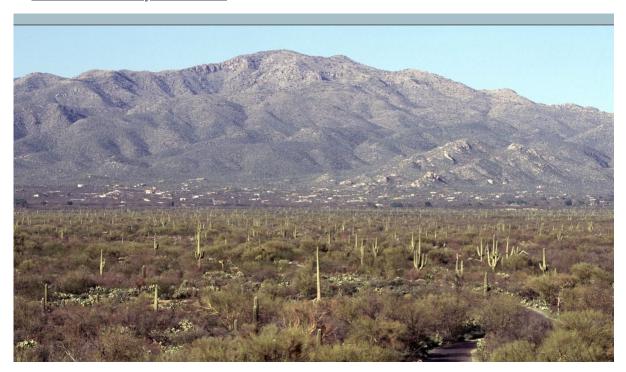
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EcoClimate News Southwest

March 2021

Reflections from Carolyn Enquist SW CASC USGS Deputy Director



The Southwest Climate Adaptation Science Center is pleased to announce the <u>2021</u> Southwest Adaptation Forum (SWAF), in partnership with the <u>Climate Science</u> Alliance, April 6-8, 2021! At SWAF 2021, adaptation practitioners and researchers

explore how to connect wildlands and communities via an effort that is
effectively bridging the urban to rural divide in Southern California—the
project serves as a model for advancing transformational adaptation through
interdisciplinary collaboration to support resilience for ecosystems and local
communities across the Southwest,

- participate in a hands-on training for practitioners interested in cultivating meaningful and authentic collaborations with Indigenous communities,
- and engage in roundtable conversations focused on overcoming challenges to fire and forest management in the Southwest, with a specific focus on indigenous uses of fire, such as cultural burning, and how tribes are bringing fire back to the land in the context of climate adaptation.

SWAF 2021 builds on our inaugural event in the Fall of 2018, when over 100 climate adaptation and assessment researchers and practitioners from across the Southwest and nation gathered in sunny Tucson, AZ, to build and strengthen relationships, identify gaps in existing networks, and generate synergy and momentum for future engagement among partners. The 2018 Southwest Adaptation Forum (SWAF) was a large success, and inspired the creation of a regional "network of networks" initiative, called the Southwest Practitioners Adaptation Network, or SPAN.

SPAN was created as a space for climate adaptation and assessment practitioners that spans across multiple disciplines and sectors (e.g., urban, rural, natural resources, public health, etc.) in the Southwest, where they can exchange experiences and best practices from their work and build a network dedicated to finding and implementing integrated, community-based adaptation solutions. The network officially launched with an in-person meeting in Winter of 2020, consisting of practitioners from Las Vegas and across Nevada, leading to the development of new *virtual* tools to enable ongoing network building. Join us at SWAF 2021 during our Climate Showcase event to learn more about SPAN and this new tool!

We highly encourage you to register soon, before we reach our "digital capacity" (apply here). We look forward to seeing you there!

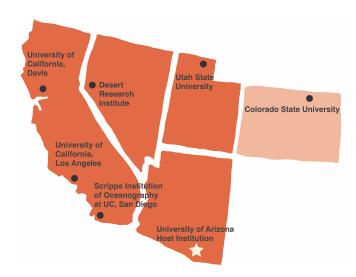
Register for the 2021 Southwest Adaptation Forum!



Registration is now open for the 2021 Southwest Adaptation Forum (SWAF), being held virtually, April 6-8, 2021. Co-hosted by the SW CASC and the Climate Science Alliance, SWAF 2021 will build on takeaways from the 2018 SWAF, by bringing together practitioners and researchers from across the Southwest to explore efforts that are advancing climate change adaptation, including hands-on activities, networking, and professional training. You can learn more about the agenda here. Due to the limited capacity of our digital platforms and overwhelming interest in past events, attendance at the 2021 Southwest Adaptation Forum is by application only, but is *free* for accepted applicants. The application period closes **March 17th**.

Apply Here

SW CASC FY22 Funding Opportunities



FY22 Research Project Funding Opportunity

The entire CASC network is requesting statements of interest for research projects addressing high priority climate adaptation science needs. For the SW CASC call, eligible applicants include researchers from USGS and SW CASC consortium institutions (see map above). Parties from other organizations can serve as co-PIs

\$350,000 each, that focus on one or more of the following research priorities:

- 1. Indigenous practices of ecosystem management and restoration in the context of climate change and adaptation.
- 2. Management implications of mega-disturbance events and ecological transformation.
- 3. Climate-informed management of natural resources in coastal, freshwater and riparian ecosystems to support effective climate adaptation.
- 4. Application of existing decision-support tools for climate adaptation (small grants up to \sim \$65K).

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Learn More and Apply Here

2021-22 NRWD Fellowship Request for Applications

The 2021-22 Natural Resources Workforce Development (NRWD) Fellowship application period is now open until **March 24, 2021**. The fellowship is open to graduate students enrolled in research-based thesis or dissertation-granting programs at the seven SW CASC consortium institutions (see map above). One applicant from each institution will be selected to take part in each fellowship cohort. Fellows will work as a team to conduct research focused on this year's science theme: endangered streams--building strong and authentic bridges between science and practice to understand impacts of future water flows on aquatic ecosystems. Funding for successful applicants includes a stipend of \$5,000, with an additional travel allowance of \$1,000 for each Fellows cohort meeting that occurs away from their home campus.

Learn More and Apply Here

2021 Spring Webinar Series: Highlighting Recent SW CASC Research

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



This webinar is the first in a series this spring, featuring recent research and engagements by the Southwest Climate Adaptation Science Center (SW CASC). This webinar features SW CASC Tribal Climate Adaptation Science Liaison, Althea Walker, who will present on SW CASC tribal-focused engagements, including upcoming events and work focused on Indigenous science and traditional methods of ecosystem restoration and natural resource management in the context of climate change and adaptation. She will also present resources and funding opportunities that the SW CASC provides for our tribal partners.

Register Here



Come Rain or Shine Podcast

Drought & Natural Resources Management



Image credit: USDA

As of March 1st 2020, 85% of Arizona and 82% of New Mexico were in extreme to exceptional drought--the most severe drought categories used by the U.S. Drought Monitor--and other states in the Southwest were fairing similarly. Rangelands and other arid ecosystems that are able to withstand exceptionally high temperatures may not seem as vulnerable to drought as other types of ecosystems, but they may be even closer to thresholds and more vulnerable. In this episode, we spoke with two USGS scientists about their drought-related research in Southwest dryland ecosystems and how it informs natural resource management in the region. Listen in to hear some entertaining fieldwork stories, and learn about programs and projects, like the Restoration Assessment & Monitoring Program for the Southwest (RAMPS), that are designed to help managers develop better strategies for recovering ecosystems, and to foster knowledge exchange between land managers and researchers.

Listen Here

New Project Aims to Improve Forest Resilience in Southern California's Montane Forests



Wikimedia Commons image by Randy McEoin.

To showcase a recently-funded SW CASC <u>project</u>, researchers have created a new <u>webpage</u> and <u>project one-pager</u>. The project is focused on the "sky island" montane forests of southern California which feature conifers and several oak species, with the goal of advancing collective knowledge of the vulnerabilities of these forest ecosystems and developing strategies for increasing resilience. The project team consists of partners from the SW CASC, Climate Science Alliance, U.S. Forest Service, and the Institute for Ecological Monitoring and Management at San Diego State University. Through collaborative planning sessions and tree regeneration data collection, the partners aim to build a community of practice, develop a forest conservation strategy, identify implementation actions, and promote collaboration to improve forest resilience.

Developing Relationships Among Different Communities

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 Physics program) interviewed SW CASC co-investigator Beth Rose Middleton, Professor and Department Chair for the Native American Studies Department at University of California, Davis.



Photo caption: Left to right: Mayra Goode, Danny Manning (Maidu), Beth Rose Middleton Manning, Ron Goode (North Fork Mono), and Christopher Adlam, at a cultural burn workshop with Ron Goode in Mariposa, CA in 2019.

Growing up, Beth Rose Middleton recognized the harsh reality that our environmental resources are not split in an ideal manner to assure that all have their needs met. Through this injustice Beth Rose found inspiration to spend much of her career and early life working to build awareness of, and develop climate-adapted solutions focused on, environmental justice. She dedicates her time to building authentic relationships amongst groups with differing viewpoints and ensuring clear communication between groups.

Beth Rose's inspiration began when adventuring outside as a young child, from her interactions with other individuals, local plant life, and even watching local wildlife roam free. However, Beth Rose's largest inspiration spawns from the injustices that are ever-present in the social matrix surrounding us. This realization led her down a path of completing an undergraduate thesis on Attitudes towards Forest Management in northern California and eventually working in environmental policy with a concentration on growing relationships and connecting bridges between communities. Read more here.

Fellows' Highlight

It's Time: Collaboration, Community Building and Engagement for Interdisciplinary Climate Resiliency Planning



Carlie Domingues is a PhD candidate at the University of California, Davis in the Department of Native American Studies. Below are her experiences and insights as a SW CASC Natural Resources Workforce Development (NRWD) Fellow.

Greetings, SW CASC Community! This blog post will include a short introduction to my research and my insight into the vital need to welcome social science methodology and research into "hard science" research projects, especially those projects that address climate resiliency planning.

The SW CASC Natural Resources Workforce Development (NRWD) Fellowship called to me because I recognize the critical need in ecological, conservation and agricultural planning for collaboration amongst Indigenous-centered social science and humanities oriented scholars, and scholars of life science, biology, and other physical sciences. However, we need space to create methodology for collaboration! The NRWD Fellowship provides opportune research time to collaborate and create resilient ecosystems, both academic and ecological.

Currently, I am a doctoral scholar of Native American Studies at University of California (UC), Davis and recently earned a M.A. in American Indian Studies from UCLA. As an undergraduate, I earned B.A.s in Literature and History from UC Santa Cruz. This academic formation fosters my perception that Indigenous knowledge and praxis offers solutions to many of the research questions generated by climate scientists. Read more here.

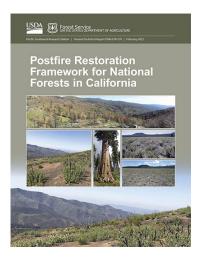
Creating Effective Learning Spaces to Narrow the Science to Management Knowledge Gap



SW CASC co-principal investigator, Dr. Alison Meadow (University of Arizona), co-authored a recent publication in *Conservation Science and Practice*, advocating for the use of learning spaces to accelerate the development of actionable knowledge. The researchers describe the "science-management knowledge gap," or the limited application of science to environmental management, and they argue for an alternative model of knowledge creation to narrow this gap. This model stresses that knowledge can be converted into more usable forms through effective learning spaces, which require trust and social learning, to enable open and honest interactions among scientific and management communities. The researchers argue that implementing these principles may require a reorganization of environmental research and decision-making processes, but they will inevitably improve environmental sustainability and human well-being.

Partner Highlights

Postfire Restoration Framework for National Forests in California



The U.S. Forest Service has produced a general technical report, <u>Postfire Restoration</u> <u>Framework for National Forests in California</u>. This report presents a framework to guide the development of postfire restoration on national forests in California. The

monitoring. The authors discuss the application of this approach to California's forest, chaparral, and sagebrush-steppe ecosystems. The restoration framework can inform future postfire management, monitoring, and research in California's diverse ecosystems.

Free Online Short Course Physical Impacts of Climate Change and Adaptation Strategies

In Spring 2021, the South Central Climate Adaptation Science Center at the University of Oklahoma will offer two short courses that will dive into the impacts of climate change and adaptation strategies. The courses are free and online, so anyone from anywhere may participate! You will have the opportunity to learn from climate experts at OU and our partner institutions. Upon successful completion of a short course, you will receive a personalized certificate. This course is the second course offering in Spring 2021: Physical Impacts of Climate Change & Adaptation Strategies. This course will be live from April 5 - 30, 2021. Registration closes April 4th.



Community Forests Prepare for Climate Change

The USDA Southwest Climate Hub co-authored an Eos Feature Article titled "Community Forests Prepare for Climate Change," which explores how cities across the United States are integrating climate science into on-the-ground decision-making and management. It spotlights the efforts of three U.S. cities—Albuquerque, Austin, and Durango—that have worked collaboratively with climate adaptation specialists at the USDA Climate Hubs, the Northern Institute of Applied Climate Science (NIACS), The Nature Conservancy, and other organizations to develop clear strategies for addressing local climate change impacts to urban and community forests. These three case studies highlight how practitioners and scientists can work together to address climate uncertainty and find solutions that support climate-informed community forest management.

Climate Change and the Carbon Cycle



Photo Caption: High School students in Las Cruces, New Mexico play the "Up in the Air" board game to quantitatively model the impacts humans have on the carbon cycle and use the results to calculate how much carbon is added to the atmosphere from fossil fuel reserves in one year.

The USDA Southwest Climate Hub recently released a free education unit, <u>Climate Change and the Carbon Cycle</u>, to introduce high school students to climate change, the carbon cycle, and the effects of increasing atmospheric carbon dioxide on Earth's climate. They partnered with the nonprofit Asombro Institute for Science Education to create these engaging, fun, and scientifically rigorous activities. The free unit was designed for classroom teachers or informal educators in settings such as camps, 4H, and after-school programs. Each lesson includes an educator guide, handout, answer key, and slide presentation. The lessons can be conducted as a unit, or each activity can stand alone. All lessons are aligned with Common Core State Standards and Next Generation Science Standards. Visit <u>asombro.org/climate</u> or contact Program Leader Kelly Steinberg, kelly@asombro.org, for more information.

Drought monitoring and reporting in Utah

Drought impacts information helps the State of Utah in drought monitoring, planning and response efforts, and U.S. Drought Monitor authors in categorizing drought severity. However, drought impacts in Utah have historically been underreported, meaning that important information does not consistently reach decision-makers or Drought Monitor authors. The USDA Southwest Hub and Drought Learning Network partners delivered an online workshop for land and natural resource managers, Extension, ranchers, farmers and others to learn about evaluating, measuring and reporting drought. Click here to access workshop materials and learn more...



The Southwest Drought Learning Network was formed to link climate service providers with resource managers to increase landscape and community resilience in current and future drought. One of the early products of the network has been several case studies documenting various drought resilience and response strategies. The Sharing Management Practices team, one of six topical teams, partnered in 2020 with the Collaborative Conservation and Adaptation Strategy Toolbox (CCAST) to document and share these and similar management examples. Each case study is shared via the web as a story map, and has an accompanying 2-page pdf providing an "at a glance" overview of the project or strategy. Contact Skye Aney (sierra25@nmsu.edu) or Maude Dinan (mdinan@nmsu.edu) with any questions or if you'd like to suggest a project or strategy for a case study.

Partner Events

Southeast CASC Webinar:

Using Information From Global Climate Models to Inform Policymaking and Natural Resource Decision Making

Climate change is a risk management challenge for society and natural resource managers because of the uncertain consequences for natural and human systems across decades to centuries. Climate-related science activities within the USGS emphasize research on adaptation to climate change. This research helps inform adaptive management processes and planning activities within other DOI bureaus and by DOI stakeholders. Global climate models are sophisticated numerical representations of the Earth's climate system. Research groups from around the world regularly participate in a coordinated effort to produce a suite of climate models. This global effort provides a test bed to assess model performance and analyze projections of future change under various prescribed climate scenarios. These climate scenarios describe a plausible future outcome associated with a specific set of societal actions. Examining a range of projected climate outcomes based on multiple scenarios is a recommended best practice because it allows decision makers to better consider both short- and long-term risks and

help inform natural resource management decisions in a warming planet.

Date: March 16, 11am ET

Register Here

Webinar Series Water Solutions for Our Warmer World

This public webinar series is hosted by the the <u>Arizona Institutes for</u>

Resilience (AIR), the <u>Udall Center for Studies in Public Policy</u>, and the <u>Water</u>

Resources Research Center (WRRC) at the University of Arizona. The topics for this spring's events include 1) Perspectives on Regional Water Sustainability; 2) COVID-19, Water and Tribes in Arizona; and 3) the Realities of Adaptation in the Water Sector.

Episode 1: March 17, 4-5:30pm MST

Register Here

NIDIS Webinar Series on Ecological Drought

This four-part webinar series, taking place in February and March, seeks to raise awareness of ecological drought, share actions that strengthen ecosystem resilience and mitigate the impacts of droughts, and discuss research and management needs for future drought planning and preparedness. The series is co-hosted by National Oceanic and Atmospheric Administration's (NOAA) National Integrated Drought Information System (NIDIS) program and the U.S. Geological Survey (USGS) National Climate Adaptation Science Center (NCASC), with expert speakers from the research community, tribal nations, and government agencies.

Date: March 17, 3-4pm EDT

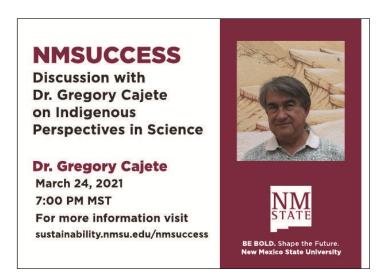
Register Here

The California-Nevada Drought Early Warning System (CA-NV DEWS) March 2021 Drought & Climate Outlook Webinar is part of a series of regular drought and climate outlook webinars designed to provide stakeholders and other interested parties in the region with timely information on current drought status and impacts, as well as a preview of current and developing climatic events (i.e., El Niño and La Niña).

Date: March 22, 11am - 12pm PDT

Register Here

Discussion with Dr. Gregory Cajete on Indigenous Perspectives in Science



The NMSU Climate Change Education Speaker Series NMSUCCESS presents
Gregory Cajete, Native American educator whose work is dedicated to honoring the foundations of Indigenous knowledge in education. Dr.Cajete is a Tewa Indian from Santa Clara Pueblo, New Mexico. He has served as a New Mexico Humanities scholar in ethnobotany of Northern New Mexico and as a member of the New Mexico Arts Commission. In addition, he has lectured at colleges and universities in the U.S., Canada, Mexico, New Zealand, Italy, Japan, Russia, Bhutan, Taiwan, Ecuador, Peru, Bolivia, England, France and Germany. Read more >>>

Date: March 24, 2021, 7pm MDT

Register Here

Job Opportunities

Postdoctoral Researcher in Boreal Wildfire Dynamics

The Alaska CASC is hiring a postdoctoral fellow in boreal wildfire dynamics and natural resource management in Alaska. This is a two-year position based at the <u>International Arctic Research Center</u> at the University of Alaska Fairbanks that will be jointly supervised and mentored by Dr. Scott Rupp at University of Alaska, Fairbanks and Dr. Jeremy Littell with the US Geological Survey at the AK CASC in Anchorage, Alaska.

Priority Submission Date - March 22, 2021

William & Mary Postdoctoral Fellowship in Historical Ecology

The Environmental Science and Policy (ENSP) program at William & Mary seeks applications for a two-year postdoctoral scholar position in the historical ecology of the precolonial Chesapeake. Supported by W&M faculty, the postdoctoral fellow will develop a historical ecological study of shell midden deposits linked to questions of sustainability, traditional ecological knowledge, and biological conservation in the Chesapeake.

DEADLINE - March 24, 2021

U.S. Forest Service Postdoctoral Fellowship in Applied Climate Change Science

A research training opportunity is available at the USDA Forest Service, Pacific Northwest (PNW) Research Station, Northwest Climate Hub, and Western Wildland Environmental Threat Assessment Center (WWETAC). In collaboration with WWETAC and Northwest Climate Hub team members, the selected participant will facilitate science-management partnerships to develop climate change vulnerability assessments and adaptation options for western landscapes.

DEADLINE - April 12, 2021

University of Arizona Postdoctoral Fellow Position in Urban Climate Action

In collaboration with the <u>University Climate Change Coalition</u> (UC3), the University of Arizona is offering a UC3 Postdoctoral Fellowship to work on climate action initiatives in the Tucson community, advance coalition-wide activities, and learn from other fellows in the program. The Fellow will be hosted by the Arizona Institutes for Resilience at the University of Arizona, and will be responsible for working collaboratively to identify approaches to achieving the City of Tucson's carbon neutrality goals.

Northwest CASC Research Fellowship Program

The Northwest Climate Adaptation Science Center (NW CASC) invites proposals for its 2021-2022 Research Fellowship Program from graduate students at University of Washington (UW), Boise State University (BSU), Oregon State University (OSU), University of Montana (UM), Washington State University (WSU) and Western Washington University (WWU) and postdoctoral scholars at BSU, OSU, UM, WSU, and WWU (this fellowship cannot support postdocs at UW). The NW CASC Fellowship Program supports research related to climate adaptation for Northwest natural and cultural resource management and provides training in the principles and practices of developing decision-relevant science. Funding will be available as early as Fall Term 2021, to support research performed during the 2021-2022 academic year.

DEADLINE - March 15, 2021

<u>University of Arizona Carson Scholars Program</u>

The Carson Scholars Program is a one-year fellowship for current PhD and JD students, and master's students in terminal creative or professional programs. While in the program, scholars will have the opportunity to explore their motivations and science stories, develop meaningful and engaging ways to share their work, and use their communication skills through presentations, op-eds and community outreach. Included in the fellowship is a \$5,000 scholarship to graduate students committed to interdisciplinary research on environment and society.

DEADLINE - March 19, 2021

Virtual Talk Climate Institute Scholarships

Climate Generation has full and partial scholarships to attend the upcoming <u>Talk Climate Institute</u>, virtually on March 23 - 24, 2021. With priority for scholarships given to Black, Indigenous, and People of Color (BIPOC) applicants. Open to a national audience, this two-day workshop is designed to empower people to talk about climate change through developing and sharing our personal climate stories to build confidence, ignite conversations, and mobilize action.

Southwest CASC 2021-22 NRWD Fellowship

The 2021-22 Natural Resources Workforce Development (NRWD) Fellowship application period is now open. The fellowship is open to graduate students enrolled in research-based thesis or dissertation-granting programs at the seven SW CASC consortium institutions. Fellows will work as a team to conduct research focused on this year's science theme: endangered streams--building strong and authentic bridges between science and practice to understand impacts of future water flows on aquatic ecosystems. Funding for successful applicants includes a stipend of \$5,000, with an additional travel allowance of \$1,000 for each Fellows cohort meeting that occurs away from their home campus.

Funding Opportunities

Southwest CASC FY22 Research Project Funding Opportunity

The SW CASC is requesting statements of interest for research projects addressing high priority climate adaptation science needs. Eligible applicants include Principal Investigators (PIs) from USGS and SW CASC consortium institutions. Parties from other organizations can serve as co-PIs and receive funds via subaward from an eligible organization. The SW CASC intends to fund 5-8 projects, not to exceed \$350,000 each.

DEADLINE - *March* 19, 2021

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

National Park Service Historic Preservation Grants to States and Tribes

The National Park Service (NPS) is distributing \$55.7 million in historic preservation grants for states, territories, and partnering nations, and \$15 million in historic preservation grants to 200 tribal historic preservation offices. The HPF grants fund preservation programs at state offices, ensure support of local preservation, fund tribal preservation programs, assist tribes in the preservation of their cultural heritage, and promote the protection of historically significant sites.

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

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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