EcoClimate News Southwest

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Reflections from SW CASC University Director Gregg Garfin

“Climate disasters endanger the ability of important ecosystems to provide us with food, clean air and water, economic products, and natural beauty,” said Dr. Renee

the southwestern United States, where, in the last two decades; each southwestern state has recorded its fire of record; water supply reliability in major river systems, like the Colorado and the Sacramento-San Joaquin, have been challenged by “hot drought”; and coastal and aquatic systems have experienced outbreaks of harmful algal blooms, related to elevated water temperatures. As these climate-related challenges unfold across the Southwest and the nation, the Climate Adaptation Science Centers (CASCs), have been working in partnership with natural and cultural resource managers to deliver science that informs the managers of our nation’s fish, wildlife, water, and land to prepare for and adapt to changes in climate and extreme weather.

The CASC Act, introduced by the House Natural Resources Committee, aims to establish the Climate Adaptation Science Centers in law, under the auspices of the USGS. By authorizing the National and Regional CASCs, the CASC Act would stabilize the CASC program, ensuring the innovative model of collaborative research and services provided by the CASCs within the USGS, as well as bolstering the durability of relationships of trust between the CASCs and their partners. These relationships are needed to fund and maintain climate adaptation research, advice, and services to address local, state, regional, and national needs on timescales that cross multiple administrations.

The National and Regional CASCs were established through a 2009 Secretary of Interior Order—and secretarial orders are not law; thus, they can be rescinded by future Interior secretaries. Authorization of the CASC program would solidify the program and how the USGS and regional CASC consortia work to serve natural and cultural resource management needs. The Act would also:

- Foster USGS partnerships with other Federal agencies to encourage a collaborative approach to climate adaptation.
- Provide clear fiscal mechanisms to eliminate administrative delays that stall climate adaptation projects.
- Restore the role of an advisory council to the National CASC to ensure the agency is forward-looking, strategic, and informed by important perspectives.
- Authorize appropriations, to help provide long-term funding stability for the CASC network.

We expect that the bill will be considered by members of the House and Senate and—eventually, we hope—the President. In the meantime, the Southwest CASC and the CASC network will continue our work to address the pressing needs for climate adaptation science, and maintain relationships with existing partners, while convening natural and cultural resource managers to work together, in innovative ways, on emerging climate and ecosystem issues facing the nation.

Apply Now!
2022-23 Natural Resources Workforce Development Fellowship

DEADLINE: April 4, 2022

The SW CASC NRWD Fellowship was developed to provide graduate students with opportunities for training and practice in developing use-inspired and actionable science to inform natural resource management decisions. Those selected will make up a team of 8 scientists, working together over the course of twelve months on this year's science theme: **Climate-informed management of natural resources in aquatic ecosystems to support effective climate adaptation.**

The Fellowship will begin at the end of September 2022 and extend through October 2023. Funding includes a stipend of **$7,000**, with an additional travel allowance of **$1,000** for travel to each of two meetings to be held at Utah State University, Logan, Utah.

Apply Here!

Come Rain or Shine Podcast

Forest Transformation in the Southwest

Impacts from rapid climate change are challenging traditional land & wildlife management strategies that were based on a stable baseline condition. In some locations we are already observing early-stage ecosystem reorganization in response to historic land management practices combined with recent novel climate stresses. Dr. Craig Allen and Dr. Nate Stephenson discuss how the convergence of climate stress, human land use patterns and histories, and disturbance trends in the SW United States are leading to forest ecosystem changes and transformation.

If you want to know right away when episodes are posted, please sign up for our podcast listserv.

Listen Here

SW CASC Interim Federal Director Contributed to Latest IPCC Climate Report

The Intergovernmental Panel on Climate Change this week released a new report focused on climate change impacts, adaptation and vulnerability. Carolyn Enquist, interim federal director and deputy director for the SW CASC, contributed to the Working Group II report, which is part of the larger IPCC Sixth Assessment Report.

The Working Group II report assesses the impacts and risks of climate change, looking at ecosystems, biodiversity and human communities at global and regional levels. The report also reviews vulnerabilities and the capacities and limits of the natural world and human societies to adapt to climate change.

Read more on the University of Arizona News site here.

The SW CASC is proud to share that our 2020-2021 Fellow, Tanner Waters (UCLA), has received the Ecological Society of America Katherine S. McCarter Graduate Student Policy Award. Only 44 students from across the country received the award, which gives graduate students the opportunity to learn about the legislative process and meet virtually with their Members of Congress. Congratulations, Tanner!

SW CASC Requesting Letters of Interest for Tribal Climate Resilience Liaison Position

Through a partnership with the Bureau of Indian Affairs Tribal Resilience Program (BIA TRP) and the University of Arizona, the SW CASC is requesting letters of interest for a new Tribal Climate Liaison to serve as a part of the Tribal Climate Resilience Liaison Network. This full-time, professional position will provide direct extension support to tribes and tribal colleges & universities located in California, Nevada, Utah, and Arizona, the states comprising the service area of the Department of the Interior Southwest Climate Adaptation Science Center (SW CASC). The position, based at the University of Arizona in Tucson, AZ, will draw upon the SW CASC Tribal Engagement Strategy and work with the SW CASC to develop and implement a communications, education and outreach program involving climate resilience planning and implementation. This includes facilitation of focus groups, meetings, workshops, and other convenings. The selected applicant will also provide our tribal stakeholders with information, technical assistance, and access to subject matter experts necessary to support local climate resilience research, planning, and implementation efforts.

If interested, please send a letter of interest and your CV/resume to Sarah LeRoy, sary21@email.arizona.edu

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 Post-Doctoral Researcher Drew Eppehimer (Utah State University).

The Colorado River is one of the most heavily managed and monitored water systems in the world. The river spans across several states in the U.S. and eventually finds itself crossing the country's southern border into Mexico. Aside from being the primary supplier of water for many Southwestern states, the river is responsible for creating hydroelectric power through its dams and is home to a large variety of plant and animal species. Some of these species are finding themselves in danger as temperatures in the region rise and drought conditions persist, damaging the river's health. Drew Eppehimer, former SW CASC Fellow and currently working for Utah State University, is devoting his post-doctoral research to studying fish in the Colorado River.

Drew grew up loving the outdoors, especially fishing and being surrounded by nature. Over time, he found himself becoming more curious about the functioning of underwater ecosystems and the species that call this place home. Drew wanted to gain a better appreciation for the world underwater that few humans get to truly appreciate. Thus, during his college career, Drew began studying how these underwater species interact with each other, and what impacts humans are having on them. This interest led him to the Michael Bogan lab at the University of Arizona, where he conducted research on aquatic ecology and waste-water restoration projects in Tucson (check out this podcast episode where Drew talks about the Tucson water project).

Read More Here

Fellows' Highlight

The Power of Collaboration: Unifying the Streams of Science

Adam Stratman is pursuing his M.S. in Hydrology at the University of Arizona. Below are his reflections on the SW CASC Natural Resources Workforce Development (NRWD) Fellowship.

Living in the Colorado River Basin lends itself to witnessing how climate change increases stress on our water resources and negatively impacts our environment. Issues related to climate change are often described as complex, layered, and evolving, and their solutions are no less complicated. This is true of my own master's research at the University of Arizona where I am using water chemistry and age dating techniques to help better understand the hydrology of an endangered desert wetland (ciénega) in southeastern Arizona. The ciénega is biologically diverse and provides critical habitat to several species protected under the Endangered Species Act. It also helps improve the water quality of water moving through the watershed which eventually flows into the San Pedro River, one of the last undammed rivers in the Southwest.

Unfortunately, this rare riparian habitat is experiencing the negative effects of climate change and human impact in the form of plant encroachment, land degradation, and groundwater decline. As a result, the ultimate goal of my research is to better inform land management practices regarding strategies to preserve the health of the ciénega based on the source and age of water supporting it.

Read More Here

Partner Highlights

The National Drought Mitigation Center's Drought Impacts Toolkit

Please visit and share the latest Collaborative Conservation and Adaptation Strategy Toolbox (CCAST) Case Study, which explores the development and use of the National Drought Mitigation Center (NDMC) Drought Impacts Toolkit. The online StoryMap may be found here, and its accompanying two-page handout here.

Climate-Smart Commodities Grants

USDA is committed to supporting a diverse set of farmers, ranchers and forest owners through climate solutions that increase resilience, expand market opportunities and strengthen rural America. The new Partnerships for Climate-Smart Commodities opportunity provides up to $1 billion for pilot projects that create market opportunities for commodities produced using climate-smart practices. USDA is now accepting project applications for fiscal year 2022. More information here.

Partner Events

Climate Change Impacts and Adaptation Online Course

The South Central Climate Adaptation Science Center at the University of Oklahoma is offering a **free, online** course on climate change impacts and adaptation. The course will be live from **April 4th – April 29th.** This course focuses on the physical and ecological impacts of climate change, including how climate change may impact hydrology, polar regions, coasts and marine systems, and wildlife. It will also cover decision making & adaptation strategies.

Register Here

2022 Southwestern Tribal Climate Change Summit

The 2022 SWTCCS will build upon key takeaways from the 2019 SWTCCS held in Idyllwild, CA. In 2022, we will once again bring together Tribal leaders, professionals, and community members from across the Southwest to explore the kinship with fire and its role in community, conservation, and climate change adaptation while putting our own unique twist with hands-on activities, networking, and professional training opportunities.

Date: May 16-18, 2022

Register Here

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

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