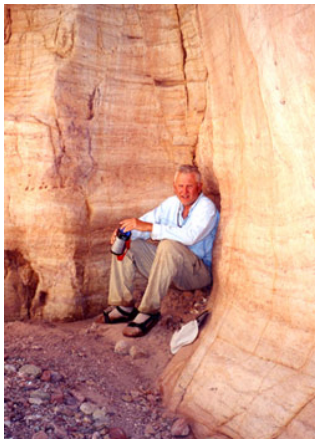
EcoClimate News Southwest

September 2021

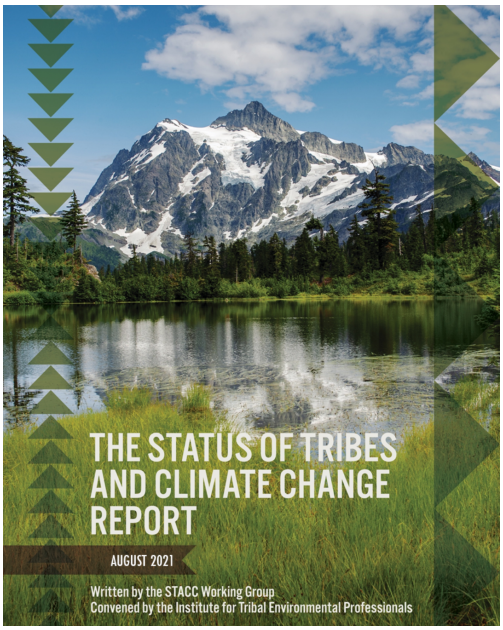
Reflections from SW CASC Researcher, Dr. (John) Jack C. Schmidt, Utah State University



The recently announced 'Declaration of Shortage' in the Lower Colorado River Basin places unprecedented focus on the dwindling water supply that the Colorado River

reservoir have spurred widespread discussion about the magnitude of water use that is sustainable in the future. In the midst of intense discussion about the allocation of a decreasing water supply, what might be the fate of the aquatic ecosystems and fish communities of the Upper Basin, the Grand Canyon, and the remaining riverine parts of the lower river? Read more here!

Just Released: Status of Tribes & Climate Change Report!



The Status of Tribes and Climate Change (STACC) Report seeks to uplift and honor the voices of Indigenous peoples across the U.S. to increase understanding of Tribal lifeways, cultures, and worldviews, the climate change impacts Tribes are experiencing, the solutions they are implementing, and ways that all of us can support Tribes in adapting to our changing world. The STACC Report was written for diverse audiences including Tribal managers, leaders, and community members, the authors of future National Climate Assessments (NCA); federal and state agencies and decision makers; and non-governmental organizations. Over 90 authors representing diverse entities and perspectives contributed to this report, including SW CASC Tribal Climate Adaptation Sceince Liaison, Althea Walker, and the authors of 34 personal narratives and author teams who wrote topic reviews using elements from their own experiences and knowledge as well as information from the most current peer reviewed literature. The development of the STACC Report was coordinated by the Institute for Tribal Environmental Professionals (ITEP), which was established in 1992 at Northern Arizona University (NAU). The report was developed with a cooperative agreement with the Bureau of Indian Affairs' Tribal Climate Resilience Program (BIA's TCRP).

Time: 10:30 AM - 11:45 AM PDT

Join Here

Come Rain or Shine Podcast

Extreme Heat & Urban Planning

Episode Art by Pixabay

In this episode we continue our conversation around the topic of extreme heat. We visit with three experts in urban planning to discuss how we can mitigate public health impacts of extreme heat through improved urban planning and green infrastructure. Dr. Ladd Keith, a researcher at the University of Arizona, Dr. Dave Hondula, a researcher at Arizona State University, and Lisa LaRocque, Sustainability Officer for the City of Las Cruces, New Mexico, share their insights and experiences with us in managing this natural hazard within an urban planning framework.

Listen Here

Coastal Systems in Southern California Close to Tipping Points

Photo credit: Steve Lee

Beaches and wetlands near Santa Barbara, California will reach tipping points by 2050, where hazard exposure (e.g., from sea level rise and storms) will substantially increase and threaten the viability of these ecosystems, according to recently published SW CASC-funded research. The authors analyzed models of various climate change-related variables, such as ocean water levels and beach and cliff evolution, to identify potential tipping points in coastal systems near Santa Barbara. Tipping points for built communities will take longer to reach (~2100 or later) given their location and ability to adapt. However, the loss of these natural ecosystems could result in indirect socioeconomic impacts by negatively impacting quality of life and disrupting the local economy.

Adaptive and Collaborative Approaches Key to Managing Ecosystem Transformation

Photo credit: Heath Haussamen, New Mexico In Depth

Adaptive approaches and close partnerships between researchers and practitioners are needed to address challenges associated with ecosystem transformation as a result of climate change, according to Dr. Stephen Jackson, USGS Director for the Southwest and South Central CASCs, in a new Perspectives piece in Science. Climate

resource managers can resist the change, accept the change, or intervene and direct the change in a more desirable way (RAD framework). These options require scientific knowledge, and so Dr. Jackson emphasizes the importance of including managers in research concept and design and for deep and sustained engagement between researchers and decision-makers.

Movement of Breeding Birds May Create Bias in Abundance Estimates

Movement of birds within a breeding season may be a substantial source of bias in estimates of their abundance, according to recently published research funded in part by SW CASC. The authors used both simulated data on breeding birds and data from point-counts of breeding birds conducted in the Great Basin to evaluate an assumption of many occupancy models—that individual animals are present throughout the survey season. Their results suggested that movement between surveys was common in their study system, and that the magnitude of bias in estimates of abundance was affected by how abundance was defined. However, in most situations, movement did not affect inferences about associations between abundance and environmental attributes.

Regional Climate Variability Effects on Humanity (Will link to website when posted.)

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 UA Computer Science program) interviewed SW CASC co- principal investigator, Dan Cayan, Scripps Institution of Oceanography at UC San Diego.

Dan Cayan's career path has been guided by a deep interest in the environment. His attraction to natural phenomena led him to stray from traditional branches of engineering to Meteorology and Oceanography, which had become a department in the University of Michigan. From this undergraduate program, Dan went on to the graduate program in physical oceanography at Scripps Institution of Oceanography at UC San Diego. At Scripps, a concentration on oceanic and atmospheric physics laid a foundation for his later career as a climate researcher.

The presence of internal variation and external drivers causes continuous activity of climate variation. Cayan noted how his early focus was aimed at understanding and predicting internal variability on monthly to seasonal time periods. These wide ranging and impactful anomalies remain one of his primary fascinations, especially as they relate to water resources and water hazards (wet and dry). As climate change signals and impacts burgeoned over the last three decades, his interests have broadened to longer time scales. Cayan's present research has a strong emphasis on regional climate change over the West, with particular focus on California. Read more here!

Fellows' Highlights

Transforming the Emotional Stresses of Climate Change and Wildfires into Action Through the SW CASC NRWD Fellowship

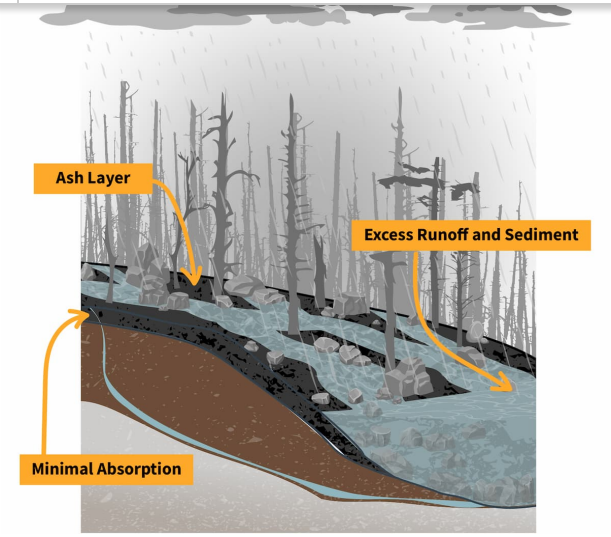
Johanna Eidmann is a PhD student at Colorado State University in Fort Collins, Colorado. Her research is focused on understanding landsliding and sediment dynamics in Puerto Rico. Below are her reflections on being a part of the SW CASC Natural Resources Workforce Development (NRWD) Fellowship during the last year.

Many know Colorado for its raw wilderness and beauty. It offers incredible and easy access to nature that, for many, is an outlet to unwind from the stresses in our day-to-day lives. The importance of the outdoors became especially apparent during the height of the pandemic, when people filled the trails to relax after being stuck at home. For the first time since moving to Fort Collins in 2016, I found almost all of the trail parking lots regularly filled to capacity.

In concert with the stresses of the pandemic, the summer of 2020 was abnormally dry. I was used to the daily "monsoon" season defined by 30-minute downpours in the summer, yet those never came. We were experiencing a new, arid summer that visibly stressed the vegetation in the area. I missed the rain. Before 2020 the vegetation was already stressed by warmer winters and drier weather, which led to the unprecedented outbreak of the mountain pine beetle. As a result, the forests were filled with dead trees that acted as fuel ready to burn. Click here to read more!

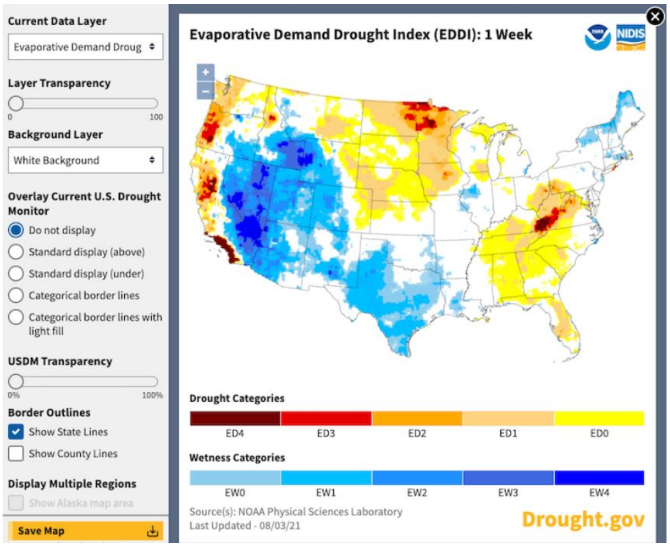
Partner Highlights

How Wildfires Threaten U.S. Water Supplies



Communities across the United States and the globe rely on clean water flowing from forested watersheds. But these water source areas are impacted by the effects of wildfire. To help water providers and land managers prepare for impacts from wildfire on water supplies, the U.S. Geological Survey is working to measure and predict post-fire water quality and quantity. Click here to learn more!

NIDIS Launches New Interactive Maps



The National Integrated Drought Information System (NIDIS) is pleased to announce two new interactive features on Drought.gov that will make it easier for decision makers and the public across the U.S. to share timely, reliable drought information. These new maps further the goal of making Drought.gov a one-stop shop for data, decision-support products, and resources. Learn more here.

Partner Events

Webinar Registration: Cultural Burning & Wildland Fire Science Intro

Date: September 15 & 22 & 29, 2021
Time: 3:00 PM PDT

Register Here!

Wildfire: Weather, Water, Weeds, Wildlife | 3-Day Symposium Series

Day 1 panelists will present, discuss, and answer questions on the physical conditions and human impacts of larger, more frequent and severe wildfires under climate change.

Date: September 16, 2021
Time: 9:00 AM - 12:00 PM PDT

Register Here for Day One!

Workshop
Understanding the User-Centered Design Process - Methods to More User-Friendly Scientific Products

The User-Centered Design Process describes a set of formalized procedures used by designers, where user input is considered in each phase of product development. This workshop, Understanding the User-Centered Design Process – Methods to More User-Friendly Scientific Products, introduces participants to the fundamental concepts. In June and September, the USGS Cascades Volcano Observatory, in partnership with University of Tennessee User eXperience Laboratory, will offer two identical workshops. The workshops focus on application of the User-Centered Design Process for creation of products that are well-defined, consistent, engaging, and effective, in a word: usable.

Date: September 20-24, 2021
Time: 1:00 - 3:00 PM PDT

Register Here for the September Workshop

Water Solutions for Our Warmer World

Join the Arizona Institutes for Resilience for the fourth episode of the Water Solutions for Our Warmer World series, Drought in the Colorado River Basin, co-hosted by the UArizona Udall Center and WRRC!

Date: September 22, 2021
Time: 4:00 - 5:30 PM PDT

Register Here

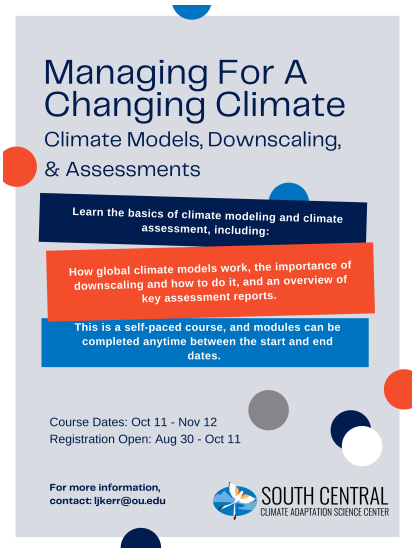
Webinar
Emerging Tools for Flash Drought Monitoring and Prediction

NIDIS and the National Weather Service (NWS) are pleased to announce an upcoming webinar on Flash Drought. This webinar is intended to help NWS field staff, climate professionals, and other operational service providers to learn about the current state of research on flash drought and the potential for improved monitoring, prediction, and planning/response tools (datasets, maps, etc.). For more

Date: September 29, 2021
Time: 2:00 - 3:00 PM EDT

Register Here

Managing for a Changing Climate course



In Fall 2021, the South Central Climate Adaptation Science Center at the University of Oklahoma will offer two short courses that will provide an integrative understanding of the components of the climate system.

Date: October 11 - November 12, 2021

Register Here

U.S. Drought Monitor Forum

Join us virtually for the U.S. Drought Monitor Forum. We will gather from Noon to 3:00 pm CT each day to discuss a variety of topics related to the USDM. Click the register button for more information!

Register Here

Save the Date!
Exploring the Fire Within Us

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 through hands-on activities, networking, and professional training opportunities.

Learn More!

Job and Funding Opportunities

Student Opportunities

Cultural Use of Fire in the Southwest- Literature Review Outreach

Seeking graduate level student to conduct literature review on the topic of cultural use of fire in the Southwest. Outputs will include annotated bibliography with entry into an existing fire/climate literature database, and a literature review. Students from the Southwest or with ties to the Southwest are preferred.

Liverman Scholars Program

The program consists of monthly meetings, including one 1.5-day retreat and three

on their communication pieces with the support of their mentors. Students will receive $1000 stipend and 2 course credits for completion of the two-semester program.

DEADLINE - September 20, 2021

Science Communications

The U.S. Geological Survey National Climate Adaptation Science Center (NCASC) is seeking to hire students or recent graduates to assist with science communications activities. Students should be available 20-40 hours a week for a year. Scheduling is flexible for academics.

DEADLINE - October 1, 2021

2022 Environment & Society Graduate Fellows Program

The Climate Assessment for the Southwest (CLIMAS) program is currently accepting applications for the 2022 Environment & Society Graduate Fellows Program. This fellowship supports University of Arizona graduate students from any degree-granting program whose work is focused on collaborative environmental research. Up to four fellowships of $4,750 each will be awarded for projects occurring between January–December 2022.

DEADLINE - October 22, 2021

Job Opportunities

Climate Justice Research Program Integration Specialist

The UW Climate Impacts Group is hiring a new, full-time Climate Justice Research Program Integration Specialist to help launch and sustain our climate justice-focused research collaborative. To skip straight to the full job description, click here.

APPLICATION REVIEW - *September 15, 2021*

Executive Director Position

Gila Watershed Partnership of Arizona (GWP) will hire an Executive Director to serve as the chief executive for the organization, and provide leadership and direction to the staff. The Executive Director reports to the GWP Board of Directors. GWP is currently at a pivotal point and the new ED will be responsible for working with the Board, staff, and partners to establish and carry out a new vision and strategic plan

DEADLINE - September 20, 2021

Assistant/Associate Professor, Human Dimensions of Environmental Change

The Department of Environment and Society (ENVS) at Utah State University (USU) invites applications for the tenure-track position of Assistant or Associate Professor with expertise in Human Dimensions of Environmental Change. We particularly welcome applications from scholars whose research focuses on social, cultural, historical, or ecological issues impacting public and/or tribal lands in the Southwest United States.

APPLICATION REVIEW - *November 1, 2021*

Information to Support Resource Management Decision-Making

This Mendenhall research opportunity invites proposals on science related to the energy-mineral-environment-human nexus and integrated analyses of tradeoffs associated with resource development and use, with the goal of creating a suite of analytical products that can be used by land and resource managers for public resource decision-making.

Funding Opportunities

USGS Rangeland Fire and Sagebrush Research - FY22 Request for Proposals

Interested in USGS research project proposals for funding consideration in the annual rangeland fire and sagebrush ecosystem research funding discussion. They are actively coordinating with Bureau of Land Management (BLM) and the Fish and Wildlife Service (USFWS) to capture the highest priority management questions related to rangeland fire and sagebrush conservation. For FY22 funding, they are asking for proposals that address topics listed at the end of this announcement (Appendix A). Please submit proposals via email to psteblein@usgs.gov and lief_wiechman@fws.gov.

DEADLINE - *September 30, 2021*

Coping with Drought Competitions: Ecological Drought

This competition will focus on research to improve our understanding, early warning, and management of drought risk in terrestrial and aquatic ecosystems to inform more deliberate and expanded decision-making that supports sustainable, healthy, and resilient ecosystems. Notice of Funding, Information Sheet, Informational Webinar

DEADLINE - *October 18, 2021*

Coping With Drought: Building Tribal Resilience

Applications should be developed by or in full partnership with tribal nations to fund the implementation of actions—together with research on those actions—to build drought resilience contained in existing plans and strategies. Plans may include, but are not limited to, drought contingency plans; drought, water, or natural resource plans; agricultural resource management plans; or climate adaptation plans. Notice of Funding, Information Sheet, Informational

DEADLINE - *October 18, 2021*

Provost's Investment Fund

The Provost's Investment Fund (PIF) is designed to ensure that the Provost can respond to requests from across campus that align with the University of Arizona's strategic goals and support the University of Arizona's ambitions for institutional excellence and distinctiveness while maintaining the ability to proactively invest in other priorities not previously identified by other units. Click here for more background information.

DEADLINE - *October 29, 2021*

Contact us at:

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