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EcoClimate News Southwest

December 2020

Reflections from SW CASC University Director, Dr. Gregg Garfin



The COVID-19 pandemic has given the Southwest Climate Adaptation Science Center an opportunity to reflect on how we can better meet the climate and environment-related needs of partners in the Southwest region. During the last three years, we

[Engagement Strategy](#). In consultation with our investigators and various colleagues, we are synthesizing this information, to inform a new strategic science agenda.

Through these multiple assessments and initiatives, we have learned about needs to address a variety of research, outreach and collaboration topics. In particular, we have documented important needs for processes and research products to help natural resource managers think about the intersections between climate and:

- natural resources, including wildlife
- the efficacy of existing management practices, especially in the face of severe wildfires
- pre-existing non-climate conditions, such as human population growth, expansion of wildland-urban interfaces, invasion of non-native grass and shrub species
- multiple systems, such as the ways in which storm runoff following severe fires can mesh with concerns about downstream water quality, public health, infrastructure and other factors (so-called “compound extreme events” or “cascading risks”)

SW CASC looks forward to addressing these challenges, with you, through collaboration, USGS-funded research, the organizations and institutions represented by our investigators, and through our expanding network of partners. If you want to know how to connect with us, to partner on climate science-related natural resource management issues, see our webpage on the [Southwest Adaptation Forum](#) and a collaboration with the University of Arizona’s Center for Climate Adaptation Science and Solutions, called the [Southwest Practitioners Adaptation Network](#). Or reach out to us, through our [Contact page](#).

Special Funding Opportunity: Call for Statements of Interest for Tribal Climate Adaptation Research Projects



The Northwest and Southwest Climate Adaptation Science Centers (NW CASC, SW CASC) invite statements of interest for tribal climate adaptation research projects to be initiated in Federal Fiscal Year (FY) 2021. The SW CASC is requesting statements of interest that specifically draw upon the application of traditional methods of ecosystem restoration and natural resource management, with special emphasis on fire in the context of climate change and adaptation. These projects can be used as

western (conventional) and indigenous practices. Statements of interest are due December 17, 2020. Click [here](#) for more information and instructions on how to apply.

SWCASC University Director Named AAAS Fellow!



Please help us in congratulating Dr. Gregg Garfin, SW CASC University Director, for being named a 2020 Fellow of the American Association for the Advancement of Science (AAAS). The title recognizes important contributions to STEM disciplines, including pioneering research and advancing public understanding of science.

Dr. Garfin is recognized for his contributions in linking fundamental climate and paleoclimate science to climate services and decision making, through climate assessment, knowledge exchange, and the development of translational ecology. Dr. Garfin will be recognized, along with approximately 500 colleagues, during a virtual induction ceremony on Feb. 13, 2021, following the AAAS Annual Meeting. Read more [here](#).

SWCASC USGS Director Recognized on Highly Cited Researchers 2020 List!



The Southwest and South Central CASCs are excited to announce that our USGS Director Dr. Stephen Jackson made the list of Highly Cited Researchers 2020 from Web of Science and is among the top 1% of citations for publications! Dr. Jackson is one of 6,167 researchers who made the list this year and is recognized in the Environment and Ecology category. This is the fourth year Dr. Jackson has been recognized in the list of Highly Cited Researchers.

The methodology that determines the “who’s who” of influential researchers draws on the data and analysis performed by bibliometric experts and data scientists at the Institute for Scientific Information™ at Clarivate. Researchers are selected based on the number of citations their work receives over an 11-year average of publication citations from January 2009 to December 2019. For more information on this recognition, view the press release [here](#).



Come Rain or Shine Podcast

Episode 7: The Nitty Gritty of Dust



Dust stirred up by field tillage shows the potential for wind-blown particulate emissions from dry, susceptible soils. Photo by Jack Dykinga.

Drs. Dave Dubois, New Mexico State Climatologist, and Nick Webb, research scientist at the Jornada Experimental Range, discuss the nitty gritty of dust (pun intended). What weather conditions produce dust, what kind of modeling and monitoring projects are being implemented currently, and some speculations for the future.

[Listen Here](#)

Online Short Courses Focus on Transdisciplinary Research



The Transdisciplinary Environmental Science for Society (TESS) initiative at the University of Arizona has developed a set of online professional development shortcourses, to equip future generations of researchers, practitioners, political leaders, and educators with the knowledge to actively confront society's most complex environmental challenges. Many researchers want to apply their research to realworld problems, and decision makers want better access to advances in science. TESS content helps researchers and practitioners to bridge the gap between science and the needs of society. TESS is built for both working professionals and graduate students, with three 4-week online courses that allow participants to work at their own pace. Once each course is completed, participants will receive a digital badge



Adapting to climate change can be such a broad and amorphous idea that would-be actors are left without clear directions. “Adaptation Strategies and Approaches for California Forest Ecosystems”, recently published by the [USDA CA Climate Hub](#), is a menu of tangible, but flexible, options for land managers who want to integrate climate change considerations into their management. The menu features a nested set of management strategies, associated approaches, and examples of specific tactics. View the menu [here](#).

Recentring Ecological Restoration with Tribal Perspectives



SW CASC partners authored a recent article in *California Native Plant Society*, describing how ecosystems and their interconnected Indigenous communities in California can once again flourish through the idea of "ecocultural restoration." The authors provide examples of meadow, oak grove, and cultural resource restoration projects, highlighting how restoration can include and value Indigenous people and their relationships to ancestral lands. Read the full article [here](#).

New Research Shows Climate Change and Evaporative Demand Will Bring More Fire Danger and Drought to CA and NV

SW CASC investigator Dan Cayan (Scripps Institution of Oceanography at University of California, San Diego) and other SW CASC partners examined projected changes in evaporative demand in California and Nevada, along with the future frequency of

evaporative demand in all seasons, leading to a substantial increase in extreme wildfire potential during summer and autumn and extreme 3-year droughts that could deplete regional-scale water supply. The authors argue that adaptation planning efforts for wildfire, forest, and water management should account for this likelihood of more extreme events. Read more [here](#).

State of Nevada Releases State Climate Strategy

The *Nevada State Climate Strategy* is an integrated, economy-wide roadmap for the Silver State to accelerate climate action necessary to achieve Nevada's climate goals and capture the health and economic benefits of the clean energy and technology revolution. The Strategy is just the beginning of future climate action in Nevada. As a living document, the Strategy will be adapted and updated as the impacts of climate change evolve and new climate-friendly technologies become available. View the strategy [here](#).

Partner Events

Resilient Agroecosystems at the American Geophysical Union Fall Meeting

If you're attending AGU this year, please drop in on the session hosted by the Southwest, South Central and California Climate Hubs "Resilient Agroecosystems." Globally, agroecosystems are susceptible to short- and long-term impacts of weather events, climate change, and related biophysical disturbances. Higher temperatures, altered precipitation regimes, depleted water resources, increased frequency of drought, wildfire, flooding, and worsening pressure from pathogens, pests, and weeds threaten the current and future sustainability of food and fiber production systems. This session includes nine presentations that advance our understanding of how biophysical, institutional, socio-economic, and/or policy factors threaten or enhance the resilience of agroecosystems.

Final Session Number: SY044

Session ID and Title: #106884, Resilient Agroecosystems I

Date: December 11, 2020

Time: 5:30-6:30pm PST

Every month while the Southwest is in exceptional drought, the Drought Learning Network hosts a drought and climate outlook briefing for southwestern and western states. In this month's briefing, Nancy Selover (AZ State Climatologist) will be giving the climate update and outlook, and Brian Fuchs (National Drought Mitigation Center) will be describing the drought risk atlas.

Date: December 18, 2020

Time: 11:00-11:30am MST

To join: <https://global.gotomeeting.com/join/994868949>

Or by phone: +1 (872) 240-3311 - Access Code: 994-868-949

Workshop

Air Quality, Agriculture, and Climate Change Science and Applications Workshop

The USDA Southwest and Southern Plains Climate Hubs invite you to a virtual science and applications workshop focused on agriculture, air quality and climate change challenges of the southern United States. During this short, interactive workshop, scientists and resource managers will hear the most recent scientific advancements and draft a prioritized roadmap for research and outreach to advance resilient landscapes during climate change. We will present outcomes from a national air quality assessment effort, along with the NRCS Dust Mitigation Handbook, and facilitate identification of regional research and management needs and priorities among ARS, NRCS, and other professionals.

Date: February 3, 2021

Time: 10:00am-12:00pm MST

Register Today

Job and Funding Opportunities

Job Opportunities

[Pending Job Openings in Climate Variability, Change, Impacts, and Adaptation](#)

The host universities for all Climate Adaptation Science Centers *may* have several

focusing on the impacts of climate variability and change on ecosystems, natural resources, cultural resources, infrastructure, tribal lands and waters, urban and rural settlements, and economic development. If you wish to be contacted about official job postings if grants are awarded, please send contact information (name, address, email, and phone) to info@southcentralclimate.org.

USGS Climate Impacts Scientist

USGS is recruiting to hire a new climate impacts scientist to engage with natural resource managers and USGS scientists to develop and deliver climate science research and technical assistance to better understand the impacts of a changing climate on eastern US ecosystems and species. Contact Ryan Boyles (rboyles@usgs.gov) for more information.

NOAA Climate & Global Change Postdoctoral Fellowship

The National Oceanic and Atmospheric Administration (NOAA) Climate and Global Change Postdoctoral Fellows focus on observing, understanding, modeling, and predicting climate variability and change on seasonal and longer time scales. Each appointed fellow is hosted by a mentoring scientist at a U.S. university or research institution to work in an area of mutual interest.

DEADLINE - January 8, 2021

Student Opportunities

American Institute of Physics (AIP) Science Policy Fellowship

The AIP is accepting applications for fellowship programs that will place scientists with the State Department and Congress for a one-year term starting in fall 2021. This is a unique opportunity for a scientist to contribute technical expertise and scientific advice to either the State Department or congressional staff.

DEADLINE - December 15, 2020

Mendenhall Research Fellowship Program

The USGS Wetland and Aquatic Research Center seeks a Mendenhall Fellow to collaborate with USGS scientists researching invasive species and other conservation and restoration issues. The Fellow's research would focus on the valuation of natural resources and ecosystem services impacted by invasive species and the cost and benefits of management actions.

[USDA Announces Scholars Programs for Students at Historically Black and Tribal Land-Grant Colleges and Universities](#)

USDA is now accepting applications for its 1890 National Scholars Program. The scholarships help students build a career path in agriculture, food, natural resource sciences, and many more agriculture-related subjects. They are looking to provide funding for minority undergraduates.

DEADLINE - January 31, 2021

[Babbitt Dissertation Fellowship](#)

The Babbitt Center for Land and Water Policy at the Lincoln Institute of Land Policy announces a call for proposals for their Babbitt Dissertation Fellowship. They invite applications from doctoral students who are conducting dissertation projects in fields that address the Babbitt Center's primary interest areas in improving the integration of land use and water management and policy.

DEADLINE - March 1, 2021

[MS and PhD Positions at Northern Arizona University](#)

Northern Arizona University is recruiting up to three graduate students (MS or PhD) for funded positions that begin in Fall 2021. The positions are focused on understanding modern dust cycling on the Colorado Plateau, and on understanding rapid Arctic warming. For further information visit nau.edu/mckay and email nicholas.mckay@nau.edu.

Funding Opportunities

[Early Career Faculty Innovator Program](#)

The Early Career Faculty Innovator Program is inviting a second cohort of early career faculty in the social and behavioral sciences to co-develop interdisciplinary and actionable research projects in partnership with scientists and engineers at the National Center for Atmospheric Research (NCAR) in Boulder, Colorado. The Innovator Program will award two-year grants for up to six faculty from the social and behavioral sciences. Awards will be up to \$400K over two years, starting in fall 2021

[SW CASC Call for Statements of Interest for Tribal Climate Adaptation Research Projects](#)

The Northwest and Southwest Climate Adaptation Science Centers invite statements of interest for tribal climate adaptation research projects to be initiated in Federal Fiscal Year

management, with special emphasis on fire in the context of climate change and adaptation.

DEADLINE - December 17, 2020

[WaterSMART Drought Response Program: Drought Contingency Planning Grants](#)

The Bureau of Reclamation WaterSMART Drought Response Program is inviting states, tribes, irrigation districts, water districts, and other organizations with water or power delivery authority to apply for their Drought Contingency Planning Grant to either develop a new Drought Contingency Plan or update an existing plan.

DEADLINE - January 6, 2021

[University of Hawai'i Sea Grant College Program Funding Cycle](#)

Preliminary proposals are requested for the 2022-2024 University of Hawai'i Sea Grant College Program (Hawai'i Sea Grant) funding cycle. Hawai'i Sea Grant supports a multidisciplinary, integrated program of applied research, outreach, and education addressing marine and coastal issues of public concern. Faculty from universities and colleges; state, local and regional governments and organizations; and individuals in Hawai'i and US Pacific territories are encouraged to apply.

DEADLINE - January 15, 2021

Learning Opportunities

[Online Short Courses: Transdisciplinary Environmental Science for Society \(TESS\)](#)

The TESS initiative at the University of Arizona has developed a set of online professional development short-courses, to equip future generations of researchers, practitioners, political leaders, and educators with the knowledge to actively confront society's most complex environmental challenges and bridge the gap between science and the needs of society. TESS is built for both working professionals and graduate students, with three 4-week online courses that allow participants to work at their own pace. Once each course is completed, participants will receive a digital badge and will be eligible to receive two continuing education units per course.

REGISTRATION DEADLINE - January 25, 2021 for Part 2

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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