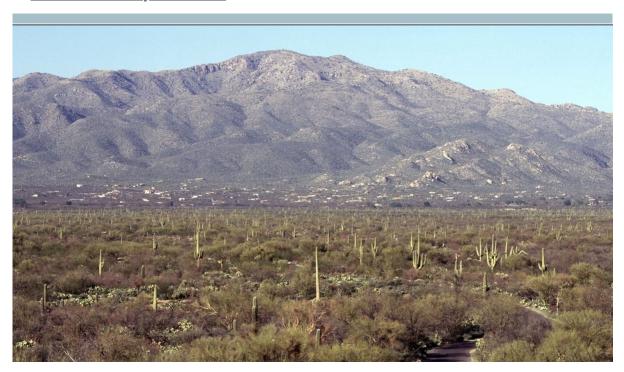
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EcoClimate News Southwest

October 2020

Reflections from SW CASC USGS Director, Dr. Stephen Jackson



Last month marked the 201st anniversary of Alexander von Humboldt's birth, and was celebrated by the <u>International Biogeography Society</u>, which held their first <u>Annual Humboldt Week</u> in mid-September. I was honored to be asked to present a keynote talk, "<u>Putting Humboldt in his Place</u>". Summarizing Humboldt's

humanistic contributions as his scientific contributions, since the latter are at least moderately well-known to contemporary scientists.

The Southwest Climate Adaptation Science Center is, at its heart, a Humboldtian enterprise; nearly all its activities have foundations in Humboldt's thinking. Essential fields, including climatology, geophysics, biogeography, ecology, and hydrology, are all built on his work, and he showed how the phenomena of the atmosphere, hydrosphere, and biosphere were causally linked, how they influenced human activities, and how human activities influenced them in turn. He showed how climate affected the abundance and distribution of plant and animal species across the globe, and how vegetation structure affected the atmosphere and soils. Humboldt recognized how human activities could lead to collapse of species populations and alter regional climate and hydrology. He was first to envision the Earth as a coherent system comprising interacting components, with solar energy driving ocean currents and atmospheric circulation patterns, and those in turn influencing living things across the planet. The models we rely on today to understand and forecast weather, climate, and ecology all derive from Humboldt's 19th-century vision.

The Humboldtian nature of the SW CASC goes beyond the core science, however. Humboldt considered himself as much a humanist as a scientist, and saw science as one among many elements of the human experience. He researched the origins and uses of wild and cultivated species around the world, and the role of vegetation in stabilizing hillslopes and moderating climate. He wrote extensively and passionately about the aesthetic qualities of nature, ranging from biblical scripture and ancient poetry to the Romantic era. These utilitarian and aesthetic perspectives are at the heart of the policies that our partners in the federal and state resource-management agencies are charged with implementing. Humboldt was concerned through his lifetime with communicating science and scholarship to the broader public, writing hundreds of short pieces published in newspapers and magazines as well as essays and books. This continues in the CASC network's efforts in communicating our science to decision-makers and the public. Finally, Humboldt was an impassioned believer in human welfare and freedom. He was a vocal proponent of democracy and liberty, a bitter opponent of slavery, and an influential champion of the view that all humans are one species, all races are equal, and all people "are in like degree, destined for freedom". This, of course, is in accord with the SW CASC's commitment to application of scientific knowledge to inform decisions in a free and open democratic society, and to equality, inclusion, and diversity among its staff and its many partners.

Upcoming Events

During the COVID19 pandemic and climate crisis we are at a time where we are forced to restructure and rethink how we address the concerns within and beyond our communities. We are seeing the gaps and barriers that have been identified, as well as the opportunities to strengthen our communities toward long term wellbeing. How can we center Indigenous governance and lifeways as we go through this transition? What has COVID19 made apparent as related to the climate crisis? What tribal and other institutional research and data governance strategies and challenges have emerged? Please join us to discuss these topics at the Data & Research Priorities for Southwest Tribal Climate Resilience Summit. The Summit is open to anyone who wants to attend. The Summit content is focused towards tribal leaders and community members, tribal staff members, and academics.

Date: October 21, 2020 Time: 9:30-11:00am; 1:30-3:00pm PDT

Register Today

Webinar: Arizona & New Mexico Monsoon Recap and Winter Drought Outlook



Following a poor monsoon, much of the Southwest U.S. is going into winter with a rainfall deficit. This collaborative webinar will look at some of the impacts of the current drought across Arizona and New Mexico, including tribal lands, and review the seasonal outlook for the upcoming winter. The presenters will include Dave DuBois from the New Mexico State Climate Center, Mike Crimmins from the Department of Environmental Science at the University of Arizona, and Mike Halpert, the Deputy Director of the Climate Prediction Center (CPC).

Date: October 27, 2020 Time: 11am PDT

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Come Rain or Shine Podcast



Episode 5: 2020 Fire Season: Grim, Smoky, Flexible

How would you sum up the 2020 fire season in just one word? Tim Brown (Western Regional Climate Center/Desert Research Institute), Royce Fontenot (National Weather Service), and Megan Friggens (U.S. Forest Service) share their impressions of the current fire season and discuss their work with pre-fire preparedness, active fire management, and post-fire recovery. They close with sharing some additional thoughts on fire management and response. Listen to this and other podcast episodes here.

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 seed funding in preparation for subsequent calls for proposals or focus on developing a process for implementing traditional practices and/or building bridges between western (conventional) and indigenous practices. Statements of interest are due December 17, 2020. Click here for more information and instructions on how to apply.

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SW CASC Welcomes New Fire and Climate Adaptation Coordinator!



Alicia Azpeleta Tarancón is the new SW CASC Fire and Climate Adaptation Coordinator. She will help build an interagency collaborative network for fire and climate adaptation research and strategies working closely with the Southwest Fire Science Consortium. Born in Mallorca, an island in the Mediterranean Basin, she found the Southwest Sky-Islands her home. Her research is focused on addressing the impacts of climate change on ecosystem services, relying on multiple tools and knowledge systems. She has worked with the Mescalero Apache Tribe (NM) to reconstruct historical fire regimes and co-produce forest management to mitigate the effects and adapt to climate change. Alicia was a lecturer in the School of Forestry at Northern Arizona University. She has a Ph.D. in Forestry from Northern Arizona University and an MS in Management and Restoration of the Natural Environment from the Universitat d'Alacant (Spain).

2020 San Diego Climate Summit Presentations and Activities Now Available Online!



In late August, 278 researchers, resource managers, Tribal members, community engagers, and youth leaders gathered virtually for the 2020 San Diego Climate Summit, hosted by the Climate Science Alliance. This immersive and engaging

All presentations, workshops, and activities of the 2020 San Diego Climate Summit are now publicly available and can be accessed here.

New 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 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. Many researchers want to apply their research to real-world 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 and will be eligible to receive 2 continuing education units per course. Part 2, on Practicing Collaborative Research begins January 25, 2021. You can find more information here, and register here.

Fellows' Highlight

How the SW CASC Fellowship Prepares Us for Real-World Challenges, Especially During a Pandemic



Lydia Jennings is a PhD candidate at the University of Arizona, in the Department of Environmental Science, with a minor in American Indian Policy. Below are her experiences and insights as a SW CASC Natural Resources Workforce Development (NRWD) Fellow.

What happens when you bring together an atmospheric scientist, several hydrologists, stream and marsh ecologists, and a soil scientist into a fellowship about headwater ecosystems and downstream water resources? A lot of peer learning!

Upon being accepted and entering the SW CASC Natural Resources Workforce Development Fellowship in 2019, we had little idea how much it would prepare us for the world of 2020: the virtual meetings, distanced peer learning, integrating and listening to diverse perspectives. We navigated how to incorporate all of our interests and asked ourselves: How do we accomplish something in a short time period, being inclusive of all our skills, while ensuring everyone feels heard and validated? At the time, we didn't anticipate how those same questions and themes might emerge in the very research we produced.

Read the full blog post by SW CASC NRWD Fellow Lydia Jennings here.

Supporting Tribal Climate Adaptation Through the CASC Network



On September 14-18, 2020, the Institute for Tribal Environmental Professionals

Bureau of Indian Affairs Tribal Resilience Program (BIA TRP). The NTICC was open to all U.S. tribal nations, and Indigenous Peoples from across the world, and emphasized the inclusion of Elders and Youth. The NTICC brought together experts on climate change and included a balance of Traditional Indigenous Knowledges and Western Science.

As the Tribal Resilience Liaison for the American Indian Higher Education Consortium (AIHEC) at the Southwest Climate Adaptation Science Center (SW CASC), I led two sessions. One of those sessions brought together the Climate Adaptation Science Centers (CASCs), BIA TRP, and the partnering tribal organizations, like AIHEC, that support the BIA Tribal Resilience Liaisons at each of the regional CASCs. The session truly highlighted this unique network and partnership that supports tribal climate adaptation across the country. Read more here.

Colorado River Basin Wiki Site Coming Next Year!



SW CASC researchers from Colorado State University have partnered with the Aspen Global Change Institute to build a science synthesis wiki for the Colorado River Basin. The site will allow resource managers and other users working in the Colorado River Basin to contribute data and information to the wiki, and also easily find information that they're looking for to inform their management. To date, the team has conducted interviews with Basin stakeholders to gather information on usability and the types of information to include on the site. Researchers are about to begin work on a prototype. Keep an eye on this newsletter for information on how to access the wiki site, when it becomes public next year.

Partner Highlights

Supporting Climate Change Mitigation Through K-12 Student Education

of both long-term and short-term mitigation. In addition to the influence that education can have on students' actions as future stakeholders, research shows that children can be effective agents of change within their families with regard to environmental behaviors. With this in mind, the USDA Southwest Climate Hub partnered with the nonprofit Asombro Institute for Science Education to create engaging and scientifically rigorous secondary education units on climate change and the water cycle, agricultural systems, and the carbon cycle. Three units are available for educators and can be found here.

Partner Events

Webinar Series

Intersections of Environment and Justice: From Our Bodies to the Earth

Register for the four-part Carson Scholars Program webinar series, <u>Intersections of Environment and Justice: From Our Bodies to the Earth</u>. This series brings together the expertise of the 2020 cohort of graduate students to discuss the future of food; management and re-use of resources; environmental, health, and social justice; and environmental stresses and climate impacts. In four one-hour webinars, the 12 Scholars detail the challenges facing communities around the world and innovations that could impact the way we interact with the planet and each other.

Dates: October 8, 15, 22, and 29, 2020 Time: 5:00pm MST

Register Today

Webinar Series Past, Present, and Future of the Santa Cruz River Heritage Reach

















The Santa Cruz River was the life blood of the earliest human settlements in Tucson (*Chukshon*, O'odham, Black Base) but today has been downcut, drained, channelized, cemented, and ignored. Yet, innovative thinking and actions are working to reverse this trend and revitalize the Santa Cruz river where it once flowed perennially at the

Tumamoc Hill, will explore how the river has coursed through the history of people in this region and how it can continue to do so into the future. **All presentations are free**, begin at 6 pm MST, and will be hosted via Zoom. **Registration is required for each lecture**.

Dates: Oct. 14, Nov. 11, Dec. 2 & 3, 2020 Time: 6:00pm MST

Register Today

Webinar Global Change Seminar: Climate Policies and COVID-19

The Global Change Fellows of the Southeast Climate Adaptation Science Center have congregated a multi-disciplinary panel to address the impacts of COVID-19 on climate and environmental policies. As COVID-19 continues to influence people's lives around the world, it is crucial to understand the hidden relationship between the pandemic and the status of climate policies. The seminar will be structured as a panel discussion consisting of a policymaker, scientist, and journalist. They will bring their expertise and experience as they answer questions provided by the Fellows and audience members. Panelists will also discuss what we have learned through the changes of climate policies due to COVID-19 and what are the implications for future actions on climate policies during a pandemic. More details here.

Dates: October 22, 2020 Time: 3:30pm ET

Register Today

2020 Jornada Virtual Symposium

This year's Jornada Symposium will cover recent research on ecological change, climate adaptation strategies, sustainable beef supply chains, and landscape monitoring and decision tools. We will feature recorded presentations (available beginning November 6) and interactive discussions by topic. In addition to informing our audience about Jornada research, we hope that the discussions infuse new ideas and priorities for our programs. The symposium will be followed by a virtual art

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Live interactive session:

Date: November 12, 2020 Time: 1:00-2:45pm MST

Art of Ecology Virtual Art Show

Date: November 12, 2020 Time: 4:00-5:30pm MST

Register Today

Sustainable Southwest Beef On-Ranch Demo

The Sustainable Southwest Beef Project is researching novel approaches to improve sustainability of beef cattle production in the Southwestern U.S., including: precision ranching technologies, supply chain options, and heritage cattle genetics. The virtual annual on-ranch demonstration at Clayton Livestock Research Center will showcase research on these novel approaches to enhance agricultural and environmental sustainability.

Date: December 1, 2020 Time: 9-11am 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 positions available during the next 6-12 months. Positions include several Post-Doc positions, a Research Coordinator position, and a Graduate student opportunity, all 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

CIRES/NC CASC Grasslands Project Postdoctoral Researcher

The North Central Climate Adaptation Science Center is seeking a Postdoctoral Researcher to coordinate two interdisciplinary working groups to synthesize the science around climate change and climate change adaptation in the grassland socio-ecological systems of the North American Great Plains. Review of applications will start on September 15, 2020.

DEADLINE - Position open until filled

PI-CASC Fire Postdoctoral Fellowship

The Pacific Islands Climate Adaptation Science Center is pleased to welcome applications for a postdoctoral fellowship exploring the "Future of Fire in the Pacific Islands" as part of a national CASC effort synthesizing knowledge on wildfires under conditions of a changing climate. The two-year fellowship will begin no earlier than March 1, 2021.

DEADLINE - October 15, 2020

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

CLIMAS Environment & Society Graduate Fellows Program

The Climate Assessment for the Southwest (CLIMAS) program is currently accepting applications for the 2021 Environment & Society Graduate Fellows Program. This fellowship supports currently enrolled University of Arizona graduate students from any degree-granting program whose work is focused on collaborative environmental research. Up to four fellowships in the amount of \$4,750 each will be awarded for projects occurring between January-December 2021.

DEADLINE - October 26, 2020

<u>American Institute of Physics (AIP) Science Policy Fellowship</u>

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 - October 15 and 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.

DEADLINE - January 4, 2021

Funding Opportunities

NOAA Effects of Sea Level Rise (ESLR) Grant

The National Oceanic and Atmospheric Administration (NOAA) ESLR Program is soliciting proposals to evaluate and quantify the ability of natural and nature-based features to mitigate the effects of sea level rise and inundation (storm surge, nuisance flooding, and/or wave actions).

DEADLINE - Letters of intent due October 16, 2020

Luce Indigenous Knowledge Fellowship

The Luce Indigenous Knowledge Fellowship promotes intellectual leadership in Native American communities by supporting outstanding Native Americans who hail from a wide variety of fields and utilize different modes of expression in communicating their knowledge and work. First Nations will award 10 fellowships of \$50,000 each to outstanding Native knowledge holders and knowledge makers engaged in work that benefits Indigenous people communities.

DEADLINE - October 22, 2020

Arizona DFFM Western Bark Beetle Initiative Grant Program

The Arizona Department of Forestry and Fire Management (DFFM) - Western Bark Beetle Initiative Grant Program is soliciting proposals from \$10,000 to \$70,000 to treat a

attacks and tree mortality.

DEADLINE - November 4, 2020

Regional Conservation Partnership Program (RCPP) Conservation Projects

USDA has announced \$360 million in funding for the next round of Regional Conservation Partnership Program (RCPP) conservation projects. Project applications are now being accepted for locally driven, public-private partnerships that improve the nation's water quality (including drinking water sources), combat drought, enhance soil health, support wildlife habitat, and protect agricultural viability. Projects are eligible to receive between \$250,000 and \$10 million in RCPP funding.

DEADLINE - November 4, 2020

NOAA Climate Program Office (CPO) FY2021 Grants

The National Oceanic and Atmospheric Administration (NOAA) CPO is awarding approximately \$8 million to approximately 90 new awards as part of their FY2021 Notice of Funding Opportunity. There are six competitions, including one related to new climate monitoring approaches and one related to advancing climate adaptation and coastal community resilience.

DEADLINE - November 30, 2020

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 (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.

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

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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 2 continuing education units per course.

REGISTRATION DEADLINE - January 25, 2021 for Part 2

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.

Contact us at:

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

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