



North Central Climate Adaptation Science Center

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Molly Cross Testifies at Hearing of the House Natural Resources Subcommittee on Parks, Forests, and Public Lands

NC CASC Consortium Partner Molly Cross (WCS), [testified](#) on a March 23rd, 2021 hearing of the House and Natural Resources Subcommittee on Parks, Forests, and Public Lands, on the role of federal programs in supporting natural climate solutions in the U.S. In both her written testimony and during the Q&A session, Cross mentioned the CASCs and the challenges faced by federal scientists in the last several years. She advocated for the full funding of federal agencies, so managers can take steps on climate change mitigation and adaptation on public lands with non-federal partners. Read the written testimony [here](#).

Molly has also completed her fiscal year [2018 project](#), "Enabling Climate-Informed Planning and Decision about Species of Conservation Concern in the North Central Region: Phase 2." She is now working on a publication for the findings in the project.



NC CASC Webinar Series:

"Grass-Cast: a grassland productivity forecast to inform rangeland management decisions in the Great Plains and Southwest"

**Thursday, May 13th, 2021
11am-12pm MDT**

Presenter:

**Dannele Peck, Director of USDA
Norther Plains Climate Hub**

Register in advance [here](#)

Read the abstract [here](#)

USGS Publishes First Wildland Fire Science Strategic Plan

The first Wildland Fire Science Strategic Plan was published in early March, which guides USGS research in the 21st century and prioritizes the production of innovative science, tools, and resources that inform land management and provide an understanding of fire's role in ecosystems and in human communities. The plan emphasizes the need for actionable fire science while seeking to collaborate with federal, Tribal, state, and other stakeholders. Find more information [here](#).



Join Us in Welcoming Our Summer Graduate Research Assistants!



Prasad Thota: Climate Data, Tools and Science Support

Prasad Thota is an M.S. student in Civil Engineering at CU and works with the Hydrology, Water Resources, and Environmental and Fluid Mechanics Group, and advised by Prof. Balaji Rajagopalan. He is originally from Andhra Pradesh in India where he did his undergrad in Civil Engineering at Indian Institute of Technology, Hyderabad. After which, he worked as a Research Assistant for one and a half years under Dr. Satish Regonda at IIT Hyderabad on the project titled “Understanding Space-Time Variability of Climate Extremes for Societal Resiliency in Indonesia and India”. He will be working with Imtiaz Rangwala and Jane Wolken during the 2021 summer to support research and data/tool development for the NC CASC Climate Science Support Platform.



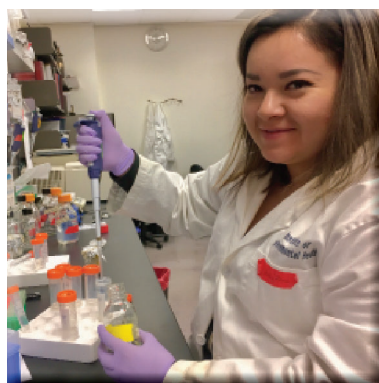
Sarah Jaffe: Grasslands Synthesis Project

Sarah Jaffe is a PhD student in the Environmental Studies program at the University of Colorado Boulder. She returned to school to learn remote sensing, GIS and how to make python code reusable for wildlife and land management. She is passionate about generating maps and other deliverables that can bring stakeholders together in decision-making processes. Her particular interest in changing human and natural systems has brought her to NC CASC’s Grasslands Synthesis Project. Sarah is originally from Eastern Oregon, has traveled the world to manage ecological and human-wildlife conflict research projects and enjoys spending time with her husband and dogs in the middle of nowhere.



Phurwa Gurung: Tribal Ecological Knowledge (TEK) Project

Phurwa D Gurung, born and raised in Dolpo in the Nepal Himalaya, is a Ph.D. student in the Department of Geography at CU Boulder. He is broadly interested in political ecology, Indigenous geographies, and critical development studies. His research focuses on the political ecology of caterpillar fungus as an opening to explore broader interactions and frictions between Dolpopa conceptions of and relationship to their land and national and international conservation and development projects in the Himalaya. As a traveler/translator between traditional and scientific ways of knowing, Phurwa is deeply invested in exploring new ways of knowing and being at the intersection of, and cross-pollination between, different onto-epistemologies.



Shelby Ross: Tribal Ecological Knowledge (TEK) Project

Shelby Ross is a PhD student in the Department of Geography and a Tribal Climate Leaders student in the NC CASC. She is an enrolled member of the Oglala Sioux Tribe born and raised on the Pine Ridge Indian Reservation in southwestern South Dakota. Growing up, Shelby always had a passion to help make her reservation a better place for future generations. While attaining her B.S. from the local tribal college on the reservation, Oglala Lakota College, she found interest in environmental science and seeks to bridge the traditional knowledge of the natural surrounding her ancestors embodied with modern-day science. Read more about Shelby [on our website](#).



Resource Stewardship Strategy (RSS) for Wind Cave National Park Published

The Resource Stewardship Strategy (RSS) for Wind Cave National Park has just been published. It acknowledges the NC CASC partnership by Brian Miller, Max Joseph, Travis Williams, and Imtiaz Rangwala in supporting the effort (pg 5). WICA was the second park to integrate climate change scenario planning into its RSS, and this project helped inform the "[Supplemental Guidance: Integration of CCSP into the RSS Process](#)" produced by DSC, USGS, and CCRP staff. This is also the first RSS summary document to contain the full climate change scenario planning NR Report as an appendix. Read the RSS [here](#).

Laura Edwards Featured in South Dakota State University Extension Drought Hour

On April 19th, NC CASC Consortium Partner, Laura Edwards was featured in the South Dakota State University Extension Drought Hour. The virtual Hour invited participants to take their coffee breaks online and stay ahead of drought impacts with climate updates, business insights, and research-tested management tips. A recording can be found on [YouTube](#).



Phil Higuera gives talk, "Colorado's Record-Setting 2020 Fire Season in the Context of the Past 6000 Years"

On March 4th, PI Phil Higuera at the University of Montana, gave a talk for the Aspen Center for Environmental Studies "Naturalists Nights" program called, "Colorado's Record-Setting 2020 Fire Season in the Context of the Past 6000 Years." A recording to the presentation can be found on [YouTube](#).

NW CASC 2020 Ecological Transformation Deep Dive Products Available Online

The NW CASC organizes an annual Ecological Transformation Deep Dive to identify emerging climate risks. The Deep Dive convenes researchers, scientists, and students to assess the state of knowledge and practice associated with managing that risk. In 2020, Nicole DeCrappeo (the USGS Director for both the NC and NW CASCs), Kim Davis from the University of Montana, and several other NC CASC partners helped with each of the working group reports. A summary of the process and actionable science agenda, a tools database, an interactive map of studies, and more can be found on the [NW CASC website](#).



Stefan Tangen Participates in Trees, Water, and People Webinar, NPS Webinar

On March 31st, Stefan Tangen and Dr. Valerie A. Small, the National Program Director at Trees, Water, and People, gave the webinar presentation, “[Building Tribal Community Resilience: The Role of Nonprofits](#)”. They discussed food sovereignty, building relationships with native communities, and the ways federal partners can support tribal resilience building.

On April 28th, Stefan Tangen participated on a panel in an NPS webinar, “[Navigating the Climate Adaptation Science Centers: A National Network of Climate Adaptation Support for Native Nations](#).” The panel discussed the work and structure of the CASCs, as well as the role of the Tribal Resilience Liaisons. The webinar is part of a larger NPS series that promotes dialogue on climate change issues of importance to Tribal Citizens and Nations.



Leadership Teams of the NC CASC, Western Water Assessment, and USDA Northern Plains Climate Hub Meet Virtually for Three Centers Retreat

On March 17, the leadership teams of the North Central CASC, NOAA’s Western Water Assessment, and USDA Northern Plains Climate Hub met virtually for their bi-annual Three Centers Retreat. The Retreat served as a chance for each center to provide an update on recent activities, outline expected activities for the coming year and opportunities for collaboration, and discuss shifts in agency and program priorities. The group also discussed lessons learned during the pandemic about stakeholder engagement and outreach that might be carried forward even after in person interactions are possible again. A second retreat for 2021 will occur in late summer or early fall.



Brian Miller Presents at Association for Landscape Ecology North America Annual Meeting

On April 14th, USGS Research Scientist, Brian Miller gave a presentation at the Association for Landscape Ecology North America’s Annual Meeting, titled “A streamlined approach to agent-based state-and-transition simulation modeling”. He discussed the new software developments that facilitate modeling interactions between wildlife and their environment. Read the abstract [here](#).



Kim Davis Presents at NCASC Webinar: “Managing Post-Fire, Climate-Induced Vegetation Transitions”

On March 11th, University of Montana partner, Kim Davis, presented at an [NCASC webinar](#), “Managing Post-Fire, Climate-Induced Vegetation Transitions.” The webinar discussed these transitions via a science and management synthesis of existing knowledge and research needs.



Watch Our Latest Webinars on YouTube

In March, our very own Dr. Jennifer Balch presented “Our Changing Fire Regimes” and in April, Justin Gude presented “Demographic uncertainty and disease risk drive climate-informed mountain goat management.” Recordings of both webinars and information about upcoming webinars can be found on our [website](#). Our next webinar is scheduled for May 13th, 2021.

NC CASC Tribal Climate Adaptation Newsletters Online

Tribal Climate Adaptation Newsletters contain information relevant to tribal partners and are posted monthly on our [website](#). The [March](#) and [April](#) 2021 newsletters are online. Interested parties can use [this link](#) to subscribe to the Tribal Climate Adaptation newsletter.

Recent Publications

R-R-T (resistance-resilience-transformation) typology reveals differential conservation approaches across ecosystems and time • January 2021 • Nature Journal • Molly Cross

Challenges to the Reforestation Pipeline in the United States • February 2021 • Frontiers in Forests and Global Change • Kimberley Davis

Seasonal to multi-year soil moisture drought forecasting • March 2021 • Climate and Atmospheric Sciences • Imtiaz Rangwala

The impact of production network economies on spatially-contiguous conservation—Theoretical model with evidence from the U.S. Prairie Pothole Region • March 2021 • Journal of Environmental Economics and Management • Funded by the NC CASC

