

Takeaways from the 16th Annual Biennial Conference of Science & Management for the Colorado Plateau & Southwest Region

Lauren Kramer and Maude Dinan

Representatives from the Southwest Climate Hub, Lauren Kramer and Maude Dinan, attended the [16th Annual Biennial Conference of Science & Management for the Colorado Plateau & Southwest Region](#). The conference was held at Northern Arizona University (NAU) in Flagstaff, Arizona, and sponsored by NAU, the U.S. Geological Survey (USGS), the Southwest Fire Science Consortium, the Charles Redd Center for Western Studies, the U.S. Forest Service (USFS), and the U.S. Department of Agriculture (USDA). The theme of the conference was “Creating hope through action: advancing solutions to rapid environmental change.” This theme resonated throughout the conference, opening with a keynote address from Sasha Reed (USGS) who shared stories of hope in times of change. Hosted sessions ranged in diverse topics from wildfire management and ecosystem vulnerability to cultural resources and Traditional Ecological Knowledge (TEK). Tribal perspectives were well represented throughout the conference in many sessions and workshops. The sessions highlighting indigenous knowledge and management were highly anticipated and attended by participants. These sessions provided a unique opportunity for land management agencies and tribal communities to engage. [The Institute of Tribal Ecological Professionals](#) (ITEP) and USGS hosted a knowledge-sharing workshop titled “Native Viewpoints on Increasing Vulnerabilities and Landscape Changes Impacting Food Sovereignty, Security, Cultural Livelihood, Traditional Medicinal Plants, and Land Cover Dynamics.” The workshop’s focus was to listen, discuss, and develop science plans with tribal communities’ priorities in mind. Tribal members discussed increased vulnerabilities and changes on the landscape. Loss and significant ecological change was a resounding theme; however, there was also discussion of hopeful initiatives to help create resilience in a changing landscape. In collaboration with the [Community Collaborative Rain, Hail and Snow Network](#) (CoCoRaHS), the Hub was able to donate 14 rain gauges to increase participation in the network among tribes in the southwest region.



Maude and Lauren both presented at the session “Demystifying climate adaptation planning: frameworks, partnerships, and case studies from diverse perspectives.” Here, presenters shared their experience and lessons learned from management and partnership contexts. Following the 15 presentations, discussion covered opportunities to address urgent needs while fostering needed systems change, move away from linear planning, and account for the complexity of planning when multiple scales, perspectives, and goals must be considered.

Maude presented on the [Southwest Drought Learning Network](#) (DLN), covering its development and function in the region. The exceptional drought across the Colorado Plateau in 2018 resulted in remarkable demonstrations of resilience; however, a method for capturing and sharing these novel adaptations was needed. By convening climate service providers, resource managers, producers, and tribes in a peer-to-peer learning environment, the DLN fosters accelerated, informed, and collective response to drought. The DLN sustains involvement and momentum through multiple teams, each led by multiple leaders, that evolve in response to drought needs in the region. Resource leveraging among partners within the DLN results in incredible opportunities, such as the development of case studies through the support of the Collaborative Conservation and Adaptation Strategy Toolbox ([CCAST](#)) and hiring paid interns whose involvement is critical to climate change efforts.



Lauren, in cooperation with Courtney Peterson (NIACS), presented an adaptation planning tool, the [Adaptation Workbook](#). With land management agencies and organizations under increasing pressure to integrate climate change considerations into planning and implementation activities, the Southwest Climate Hub, the Northern Institute of Applied Climate Science ([NIACS](#)), and our partners have been working to tailor climate adaptation tools to meet the diverse needs of resource managers working collaboratively across multiple spatial scales. One of these tools is the Adaptation Workbook which is a multi-step adaptation planning process. The workbook is paired with “[menus](#)” of adaptation strategies and approaches to help land managers design and implement site-specific climate change adaptation actions. Initially, the tool focused on forested ecosystems; however, collaborators quickly became interested in developing topic-specific menus for their systems of interest. These tools are now being used by natural resource professionals who manage an array of ecosystems and approach

management with varied goals and values, focusing on forested watersheds, urban forests, wetlands, wildlife habitats, recreation areas, coastal ecosystems, carbon stewardship, fire adaptation, arid grasslands, agriculture and tribal perspectives. These menus can be modified to fit different sector-specific planning needs while using a common decision-support process. Aside from the adaptation workbook components, Lauren also highlighted an example of how the Adaptation Workbook Process has been applied in the Southwest via an adaptation Planning and Practices Course hosted for resource management professionals, irrigators, ranchers, farmers and landowners in the Upper Rio Grande Basin. The Southwest Climate hub is continuing to develop a team of adaptation specialists to facilitate the adaptation workbook process in the Southwest.



Key Conference Takeaways

- “If we take care of nature, nature takes care of us.” - Yavapai-Apache elder
- Intentionally working with change to create thoughtful and sound possibilities
- Equitable opportunities and pathways to grow and support the next generation of managers and scientists
- Listening to diverse tribal perspectives and incorporating them into every aspect of land management activities
- Rebranding land management as “land care” - Nikki Cooley (ITEP)
- Applying Traditional Ecological Knowledge (TEK) and prioritizing cultural resources
- Developing synergies among agencies, programs, collaboratives, tribes and communities
- Demystifying climate adaptation planning with available tools and resources
- Finding hopeful opportunities in times of change

