

2019 NWAL Plenary Workshop

Native Waters on Arid Lands: Using wisdom from the past to guide the future of traditional practices, farming, ranching, forestry, and natural resource management

Session Leaders:

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- Steph McAfee (UNR, NV State Climatologist)
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Proposed Facilitators:

- Christine Albano (DRI)
- Jodi Axelson (UC Berkeley Extension)
- Bethany Coulthard (UNLV)
- Virgil Dupuis (SKC)
- Randy Emm (UNR, FRTEP)
- Helen Fillmore (UNR)
- Chas Jones (Tribal Climate Resilience Liaison, Affiliated Tribes of Northwest Indians)
- Benita Litson (Dine)
- Alex Lutz (DRI)
- Nathan Notah (UA, FRTEP)
- John Phillips (FALCON)
- Trent Teegestrom (UA, FRTEP)

Summary:

This 2.5-hour plenary workshop focuses on social scales of climate resilience — families, communities, and environmental regions — and how traditional wisdom at each of these scales informs water and land use in the past and future. What do native wisdom and western science about past climate events tell us about the future of traditional practices, farming, ranching, forestry, and natural resource management? In facilitated interactive group discussions,

participants will engage oral histories and traditional practices to develop examples of resilience in their communities. All groups will be provided with environmental data specific to three regions in the West to frame the discussions: 1) Southwest: drought histories and dryland agriculture; 2) Great Basin: river histories, irrigated crops, and ranchlands; 3) Northern Rockies: fire and temperature histories, invasive species, and forest health. Each group will have access to reports, data resources, and on-line tools for accessing past and future climate information to explore specific areas of interest and questions. Each group will also have a discussion facilitator familiar with the data and tools to answer questions from the participants, and state climatologists from across the West will be on hand to answer participants' questions. The goal of this session is to share insight and practices for community adaptation to climate challenges.

The workshop will be broken into three discussion sessions. In the first session, participants will focus on historical (20th–21st century) weather events (including droughts, floods, fires, and hot/cold periods), and how their *families* were affected and adapted. Do historic weather and environmental data adequately describe the events experienced by families? How has knowledge of those events been passed down within families? What examples of adaptation and resilience can be taken from family experience? A goal of this session is for participants to grow familiar with the presentation of weather and environmental data from a time period near to their experience. The second session will focus on weather and environmental data from the past 1000 years, and how and whether *communities* adapted in the past to extreme climate events. What are the key events in your community's traditional stories that resonate with today? What lessons have been passed down through generations? What data from the past (from environmental and climate science) speak to your community's experience, and are there experiences that you don't see represented in the data? The third session will focus on *regional* adaptations to future environments in light of global climate change projections through 2100, and how communities can learn from the past experiences of their own and neighboring indigenous communities. How will families and communities in your region achieve food and resource security and sovereignty over the next century?

Each session will begin with a brief introduction to the data sources that are used to describe environmental change in each region, and each session will end with groups reporting back to share their insights.

Desired outcomes:

- Gain insight from tribal participants on the accuracy of the climate records in capturing important trends and events that affect their communities
- Make place-based climate data accessible and useful to as many participants as possible
- Identify key issues needed to improve understanding what Indigenous food and resource security and sovereignty means in light of current and future climate change
- Make climate data relevant, accessible, and useful to education and outreach programs, especially at Tribal Colleges and Universities (TCUs)

Value to tribal members:

- Access to and training in using place-based climate data relevant to their communities and practices
- Access to the researchers to pose specific questions related to their communities and practices and to further refine the accessibility and usability of the data
- Shared insight and practices for adapting to climate and environmental challenges and defining what sustainability means (practically) to native communities
- Improve TCU access to climate data and strengthen their engagement in sustainable agriculture education and outreach