

USDA Southwest Climate Hub

Since 2014, the USDA Southwest Climate Hub (SWCH) has been helping farmers, ranchers, foresters and communities plan for and respond to climate change and extreme events in our region. The SWCH is one of ten Climate Hubs across the nation.

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WATER SCARCITY SOLUTIONS

The SWCH is developing a geospatial atlas of water scarcity solutions to be used in discussions with water experts and broadly promote sustainable water use in the Southwest. In support of the Bureau of Reclamation Rio Grande New Mexico Basin Study, the SWCH team facilitated an adaptation planning and practices course with water users in the Upper Rio Grande.

Our team is leading geospatial analyses of adaptation options and the impacts of changes in cropping practices.



SUSTAINABLE SOUTHWEST BEEF PROJECT

SWCH leads the extension team for the SSBP, a project promoting ranch and rangeland resilience in the Southwestern US. The diverse team is evaluating: 1) heritage Raramuri Criollo cattle for sustainable grazing in arid rangelands, 2) precision ranching technologies, and 3) supply chain options as strategies to help keep ranching and rangelands ecologically and economically healthy as climate, markets, and policies change. A workshop for NMSU Cooperative Extension Agents to discuss precision ranching technologies will be held later this year in Corona, NM.

FOREST RESOURCES

Forest managers agree that finding relevant information to inform management can be a challenge. The SWCH is building an accessible library of forest resources for New Mexico and Arizona. The project includes a science to services workshop, literature review and geospatial resources library.

CLIMATE EQUITY AND INDIGENOUS COLLABORATION

The SWCH is partnering on a Native Climate project with the Desert Research Institute. This project aims to strengthen the Role of Climate Hubs in Indian Country will support three native climate fellows (Agriculture, Data and Teaching) and a cadre of native student interns to report on climate impacts and tribal resilience. In June 2022, the DLN indigenous collaboration team hosted an in-person drought response workshop in collaboration with the Pueblo of Santa Ana. Resource managers from 15 Pueblos attended and received more than 50 rain gauges to expand citizen science monitoring. This effort will continue via partnership with the National Drought Mitigation Center on a drought and conservation planning project with New Mexico Pueblos.

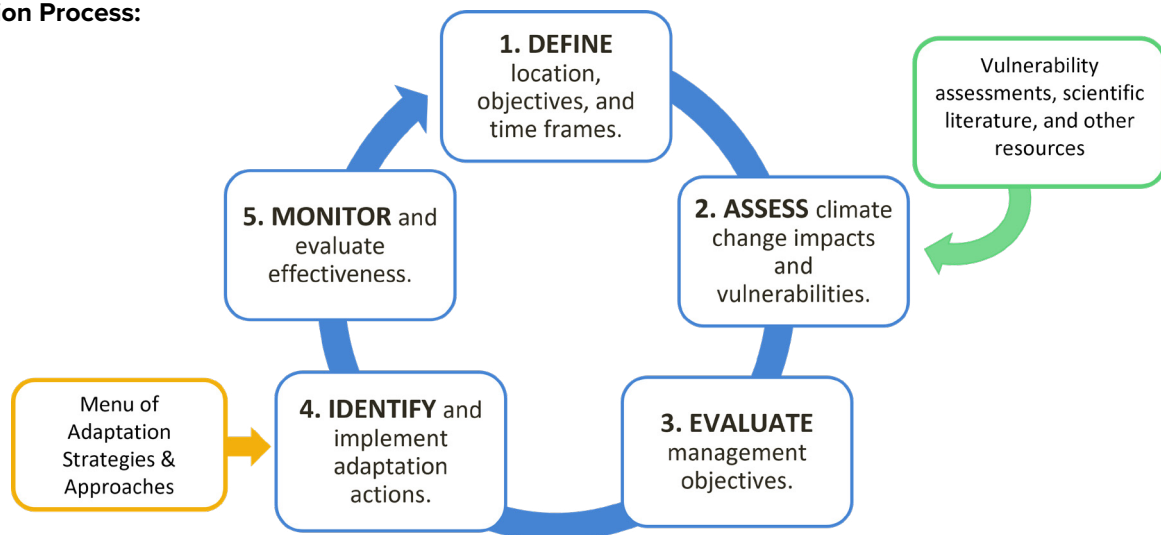


The SWCH works in three functional areas:

Research and Science Synthesis: As research scientists, we conduct climate vulnerability and equity assessments synthesizing the knowledge in our region and sharing the historic and emerging climate change and climate impact science with partners and stakeholders. Dr. Elias was an author on the 6th IPCC Assessment Report, the 4th National Climate Assessment and is currently the federal Coordinating Lead Author on the Southwest Chapter of the 5th National Climate Assessment (NCA5). Dr. Steele is a member of the NCA5 Southwest Chapter author team focused on the agriculture and water Key Messages.

Decision-Support: Our team builds and shares data-driven decision-support tools and leads groups through decision processes to build climate adaptation and mitigation into planning.

Adaptation Process:

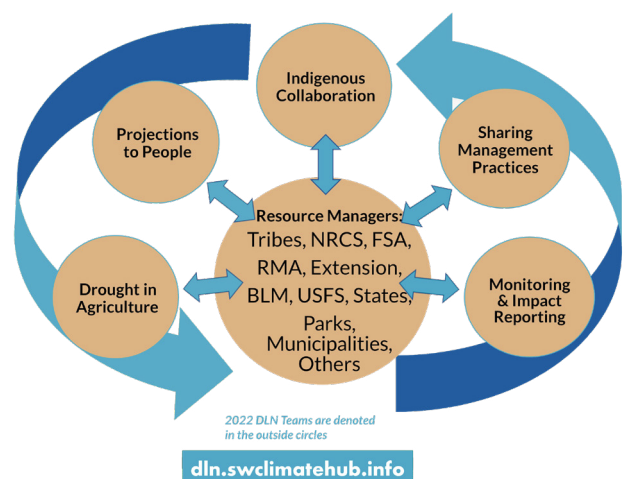


After-Fire: A toolkit where Southwest land managers, landowners, or communities can find guidance for assessing and preventing damage due to post-fire flooding and related events.

AgRisk Viewer: Managing Agricultural Risk in a Changing Climate. The AgRisk Viewer is an accessible web platform for visualizing crop insurance loss data from the USDA Risk Management Agency (RMA). These data provide an important window that can reveal the nature, severity and frequency of weather and climate events impacting commodity crops across the U.S.

Tools for the Beef Industry: The Sustainable Southwest Beef team curated more than 550 resources into a library of decision support tools for beef cattle production and management.

Convening Scientists and Partners: We specialize in building networks and convening partners to advance climate solutions. A prime example is the Southwest Drought Learning Network (DLN), formed in response to the 2018 exceptional drought by the SWCH, the National Drought Mitigation Center and the National Integrated Drought Information System. The DLN currently has five teams with members from institutions across the region. The teams work on indigenous collaboration, sharing management practices, improving communication of climate information to stakeholders, drought in agriculture and drought impact reporting.



We partnered with the NRCS to host Climate Conversations designed to expand agency personnel climate literacy. Following the Climate Conversations, 97% of the field staff reported increased knowledge of climate resilience.