



Institute for Tribal Environmental Professionals: Southwest Tribal Climate Change Project



The San Francisco Peaks near Flagstaff, Arizona are sacred to tribes in northern Arizona.

In August 2010, the Institute for Tribal Environmental Professionals (ITEP), at Northern Arizona University, and the USDA Forest Service (USFS) Rocky Mountain Research Station (RMRS) began collaborating on a project focused on tribal climate change issues in the Southwest. Goals of the project include identifying work being done by tribes in Arizona and New Mexico on climate change, assessing their climate change research and information needs, making tribes aware of resources and opportunities that might assist them in their work, and sharing research results of the project with tribes, the USFS and other agencies.

Early in the project, ITEP produced a report about climate change projects and initiatives by tribes in AZ and NM, established the Southwest Tribal Climate Change Network, and held the Southwest Tribal Climate Change Workshop. Other project activities include the development of tribal profiles highlighting work by tribes on climate change, outreach material for tribes to use with their communities, and a template for a tribal climate change resolution. The project has supported ITEP's participation in climate change meetings and conferences, the National Climate Assessment, and most recently, the Southern Rockies Landscape Conservation Cooperative. The project continues to add new tasks as needs and opportunities are identified.

Sue Wotkyns, ITEP's Climate Change Program Manager, has been working on the various project activities, with input from the USFS project officer, Carol Raish, a research social scientist at the Rocky Mountain Research Station. Sue has also received assistance from Northern Arizona University students in the M.S. in Climate Science and Solutions program and recent NAU graduates. She says, "This has been a win-win situation—ITEP has received some excellent and much-needed assistance with the project, and the students and graduates have gained experience and awareness of tribal issues and put their knowledge of climate change to use."

US Forest Service Coordinated Approach to Tribes and Climate Change Research

Over the last few years, the US Forest Service, through its Research Stations, has provided support to and collaborated with tribes, tribal organizations, and other entities on regional, tribally focused projects. The primary objectives are to identify key tribal climate change research and information needs, build a robust portfolio of integrated and collaborative research projects on climate change with Native American, Alaska Native, and Native Hawaiian communities, tribal colleges, and intertribal organizations, and to share research results with forest managers, tribes, and research scientists.

Accomplishments include developing and facilitating networks of tribes and intertribal organizations for exchange of information on climate change, workshops to provide training on climate change policy and support tribes' and intertribal organizations' efforts to identify their information needs, the development and dissemination of climate change information resources, and contributions to the National Climate Assessment.

Southwest Tribal Climate Change Network

Itep formed the Southwest Tribal Climate Change Network (SWTCC Network) in early 2011 to provide ongoing engagement among those interested in tribal climate change issues in Arizona and New Mexico. It strengthens communication between tribes, tribal organizations, agencies, and other entities, and it shares information about climate change programs and technical resources, funding, training opportunities, and conferences. The Network also provides input on the project's activities and on the research needs of tribes related to climate change.



Pinyon-juniper forests in Arizona and New Mexico are being impacted.

The Network meets by quarterly conference calls, which often feature a guest speaker sharing information about a particular program or opportunity that might be of interest to tribes. Sue communicates with the Network by email to share additional information about climate change adaptation and mitigation resources and opportunities.

Report: Tribal Climate Change Efforts in Arizona and New Mexico



View from Acoma Pueblo near Sky City in New Mexico.

Itep and USFS staff researched climate change efforts being undertaken by tribes, tribal organizations, and academic institutions in the USDA Forest Service Southwestern region comprised of Arizona and New Mexico. Researchers learned about tribal climate change programs and projects related to climate change adaptation and mitigation, and prepared a report for the USFS that presents the finding. The report identifies existing climate change efforts and serves as a beginning point to engage in an ongoing dialogue related to research, extension, and policy needs for sustainable resource management by tribes. The report is available on the project's website and is referenced in the Resources section of this profile.

Southwest Tribal Climate Change Workshop

Itep, with input from the USFS and the SWTCC Network, planned and offered a 1 ½-day climate change workshop for tribal environmental and natural resource staff that built knowledge about climate change issues in the region and fostered dialogue about the needs of tribes in Arizona and New Mexico regarding climate change.

On September 13-14, 2011, approximately 60 representatives from nine tribes, several tribal organizations, universities, and government agencies convened on the Northern Arizona University campus in Flagstaff, AZ, for sessions on topics including traditional knowledge and Western science, climate change in the Southwest and impacts on tribal lands, and issues and opportunities related to water and land-based resources such as forests.



The workshop included engaging small-group discussion sessions about impacts of climate change on tribal lands, water, and land-based resources.



Amanda Stan, NAU, Charles Murphy, Hualapai Tribe, Melvin Hunter, Jr., BIA, and Pete Fule', NAU, co-presented on forestry issues.

The workshop included presentations, some of them tribal case studies, and small-group discussions. Recurrent themes during the discussions were the importance and need for more education and outreach about climate change at various levels (youth, college, community, tribal leadership), for more tribal environmental and natural resource professionals, and for the development of partnerships with different entities (tribal, intertribal, university, regional, state, federal) to address climate change issues. Many other needs and concerns were also expressed during the workshop.

ITEP staff developed a workshop report that provides an overview of the proceedings, including the small group discussions about climate change impacts, adaptation strategies, and tribal resource and research needs. The report is available on the project's website and is referenced in the Resources section of this profile.



Drought has been impacting agriculture and livestock on tribal lands in Arizona and New Mexico. This photo was taken on the Navajo Nation in the Four Corners area.

Other Project Activities

In addition to the accomplishments detailed above, this project has supported the following activities:

- **Tribal profiles for the Tribes & Climate Change website:** The project has supported the development of several tribal profiles that focus on the Southwest region. These profiles and others that are posted on the Tribes & Climate Change website (<http://www4.nau.edu/tribalclimatechange/>) highlight work that tribes and tribal organizations are doing to address climate change. The profiles help to increase the understanding of effective tribal adaptation and mitigation efforts and share lessons learned.
- **Tribal Climate Change Resolution Template and Guide:** ITEP staff developed a template to help tribes draft resolutions for climate change adaptation initiatives. The template provides general language that might be included in a tribal climate change resolution, and it is paired with a guide to help tribes expand and personalize their resolutions to meet the needs of their communities. The template is available by request.
- **Outreach Materials:** The project is supporting the development of outreach materials that tribes can use with their communities. These materials include Fact Sheets about climate change impacts in the Southwest and a Powerpoint presentation about climate change and its impacts on tribes.
- **Participation in the National Climate Assessment:** Led by the United States Global Change Research Program, the National Climate Assessment (NCA) is a resource for understanding and communicating climate change impacts in the United States. Sue is contributing to the 2013 NCA as a member of the author team for the chapter on Tribal, Indigenous, and Native Lands and Resources. This will be the first time the NCA has included a chapter on tribes.
- **Oral History project:** ITEP and David Flores, Presidential Management Fellow and RMRS research social scientist, recently started a project in which they are reviewing archived Native American oral history interviews (AZ and NM tribes) that are available at the Northern Arizona University's Cline Library and other institutions, to identify changes to tribal lands and natural resources that may be related to climate change. With assistance from a U.S. Geological Survey scientist, they will try to integrate the observations from the oral history interviews with relevant meteorological data to provide a more complete picture of climate change impacts on tribal lands.
- **Participation in the Landscape Conservation Cooperatives:** The project is supporting Sue's participation in the Southern Rockies Landscape Conservation Cooperative. Through her participation in the LCC, Sue will become more aware of the



Vermillion Cliffs and Marble Canyon of the Colorado River in northern Arizona.

resources and opportunities that are available for tribes, which she can share with the SWTCC Network, and she will help bring tribal needs and concerns regarding climate change to the attention of the LCC.

About ITEP

The Institute for Tribal Environmental Professionals (ITEP) was created in 1992 to act as a catalyst among tribal governments, research and technical resources at Northern Arizona University, in support of environmental protection of Native American natural resources. ITEP's mission is "*To serve tribes through outstanding, culturally-relevant education and training that increase environmental capacity and strengthens sovereignty.*"

ITEP is a national organization based at Northern Arizona University, in Flagstaff, AZ, and it has served over 500 federally recognized tribes with training courses, environmental education, technical assistance and other resources. ITEP's programs include air quality, waste management, K-16 environmental education and outreach, and climate change.

ITEP's Climate Change Program provides training, assistance and educational resources to tribes on climate change issues. The program's accomplishments include the development and delivery of climate change courses for tribal environmental and natural resource professionals, the Tribes & Climate Change website, and the monthly Tribal Climate Change Newsletter. ITEP's Climate Change Program is collaborating with and receiving financial support from the USDA Forest Service Rocky Mountain Research Station for the Southwest Tribal Climate Change Project described in this profile.

Resources

Institute for Tribal Environmental Professionals, Southwest Tribal Climate Change Project website:
http://www4.nau.edu/itep/climatechange/tcc_SWProj.asp

Institute for Tribal Environmental Professionals, Tribes & Climate Change website:
<http://www4.nau.edu/tribalclimatechange/index.asp>

USDA Forest Service, Tribes and Climate Change Research. Fact Sheet. http://www.fs.fed.us/ccrc/factsheets/pdfs/Tribes_cc_research_1.pdf

Wotkyns, Susan, 2011. *Southwest Tribal Climate Change Workshop: Workshop Report*. Institute for Tribal Environmental Professionals.
http://www4.nau.edu/itep/climatechange/docs/SWTCCWrkshpReport_12-15-11.pdf

Wotkyns, Sue, 2010. *Tribal Climate Change Efforts in Arizona and New Mexico*. Institute for Tribal Environmental Professionals.
http://www4.nau.edu/itep/climatechange/docs/SWTCCEffortsAZNM_12-14-11.pdf

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Photos in this profile are courtesy of the Institute for Tribal Environmental Professionals.

Sue Wotkyns, ITEP's Climate Change Program Manager, with assistance from Matt Cohen, graduate of Northern Arizona University's M.S. in Climate Science and Solutions program, developed this profile with support from USDA Forest Service, Rocky Mountain Research Station.

The tribal climate change profiles featured on the Tribes & Climate Change website are intended as a pathway to increasing knowledge among tribal and non-tribal organizations about climate change mitigation and adaptation efforts.

For more information, contact:

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