



Native Nations Climate
Adaptation Program



2017

Southwest Tribal Climate Change Assessment Final Report

Prepared for:

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Prepared by:

University of Arizona Native Nations Climate Adaptation Program



Center for **Climate
Adaptation Science
and Solutions**



Southwest Climate
Science Center



THE UNIVERSITY
OF ARIZONA



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LIST OF ACRONYMS

ADEQ	Arizona Department of Environmental Quality
BIA	Bureau of Indian Affairs
BLM	Bureau of Land Management
BOR	Bureau of Reclamation
CCAP	Climate Change Adaptation Plan
CCASS	Center for Climate Adaptation Science and Solutions at the University of Arizona
CCVA	Climate Change Vulnerability Assessment
CLIMAS	Climate Assessment for the Southwest (a NOAA RISA)
CNAP	California-Nevada Climate Applications Program (a NOAA RISA)
DHFP	Drought, Heat and/or Flood Plan
DOE	United States Department of Energy
DOI	United States Department of the Interior
DRI	Desert Research Institute
EPA	United States Environmental Protection Agency
EPA GAP	United States Environmental Protection Agency General Assistance Program
ERP	Emergency Response Plan
FEMA	Federal Emergency Management Agency
GHG	Greenhouse Gas
HPSEJ	Agnes Nelms Haury Program in Environment and Social Justice
IRB	Institutional Review Board
ITCA	Inter Tribal Council of Arizona
ITEP	Institute for Tribal Environmental Professionals
ITERC	Inter-Tribal Emergency Response Commission
LCC	Landscape Conservation Cooperative
LEED	Leadership in Energy and Environmental Design
MOU	Memorandum of Understanding
NCA3	Third National Climate Assessment
NNCAP	Native Nations Climate Adaptation Program at the University of Arizona
NOAA	National Oceanographic and Atmospheric Administration
RISA	Regional Integrated Science and Assessments (NOAA)
SW CSC	Southwest Climate Science Center
TCCA	Southwest Tribal Climate Change Assessment
TROA	Truckee River Operating Agreement
UA	University of Arizona
USFS	United States Forest Service
USFWS	United States Fish and Wildlife Service
USGS	United States Geological Survey

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The Tribal Adaptation Initiative that this grant supported created a framework for a partnership among The University of Arizona’s Center for Climate Adaptation Science and Solutions (CCASS), its Native Nations Climate Adaptation Program (NNCAP), and the SW CSC, which leverages previously existing and newly developing tribal engagement capacity within CCASS and identifies emergent opportunities possible with enhanced investment.

The information included in this report satisfies objective (b) of the grant’s Tribal Adaptation Initiative, which is to “conduct a preliminary assessment of tribal interest and capacity for adaptation across the Southwest.” The grant’s principal investigator, Katharine Jacobs, and co-investigators, Chad Marchand, Karletta Chief, and Alison Meadow, developed the approach to the NNCAP Tribal Climate Change Assessment (TCCA). Marchand, along with NNCAP Graduate Assistants, Schuyler Chew and Lynn Rae, conducted the TCCA from September 2015 to March 2017.

The authors would like to thank the representatives of the 26 Native Nations who responded for their participation in this assessment.

The authors are grateful to representatives of the Pascua Yaqui Tribe and the Tohono O’odham Nation for their feedback on the development of the assessment questionnaire.



1. EXECUTIVE SUMMARY

Of the 567 federally recognized tribes in the United States, 194 reside within the states of Arizona, California, Colorado, Nevada, New Mexico, and Utah. This Tribal Climate Change Assessment will help to inform state and federal agencies as well as researchers on how they can better support climate adaptation planning of Native Nations. This report highlights recent climate-related activities undertaken by Native Nations, needs for science-based support, and potential areas for partnership.

The Native Nations Climate Adaptation Program (NNCAP) was founded in 2015 with the mission to build capacity to work collaboratively with Native American tribes and indigenous populations in the western United States and Mexico. NNCAP received funds from the DOI Southwest Climate Science Center (USGS Grant/Coop Agreement G15AP00172) to carry out a “Tribal Adaptation Initiative.” One of the objectives of this initiative was to conduct a preliminary assessment of tribal interest and capacity for adaptation across the Southwest.

Summary of Key Findings and Recommendations:

Twenty-six Native Nations participated in the NNCAP tribal climate change assessment and reported a wide array of involvement in climate change initiatives. This report highlights various strengths and capacity needs for climate change adaptation among the Native Nations interviewed.

1. Climate Change Adaptation and Mitigation Initiatives:

a. Thirteen Native Nations indicated their involvement in activities

focused on climate change. A number of them noted the importance of tribal council support for and involvement in climate change adaptation.

b. Thirteen Native Nations have conducted some form of engagement, training, outreach, or workshops related to climate change.

c. Four types of plans have been developed or are under development by Native Nations: climate change vulnerability analysis (CCVA), climate change adaptation plan (CCAP), emergency response plan (ERP), and Drought, Heat and/or Flood Plans (DHFP). The ERP was the most common type of plan developed or in development by Native Nations.

d. Sixteen Native Nations have implemented some form of adaptation initiatives and strategies. The most common strategies mentioned in the interviews were associated with wildfire, water, air quality issues, and changes in availability of traditional cultural resources.

e. Eleven Native Nations have actively deployed various mitigation strategies. Of these 11, some have implemented multiple initiatives to mitigate the impacts of climate change in their communities and on their lands.

i. Seven Native Nations are prioritizing the expansion of renewable energy sources on their land. All seven are planning and implementing solar energy projects, which are in varying stages of development.

ii. Six Native Nations are currently implementing or expanding energy efficiency and sustainable infrastructure projects in their communities.

f. Native Nations could benefit from federal policies and programs that promote mitigation initiatives, such as renewable energy resource development, energy efficiency, and sustainable infrastructure.

2. Partnerships:

a. Eighteen Native Nations have existing or previously established partnerships with various groups, including federal and local government agencies, universities, non-profit organizations, private consultants, and other tribal governments and inter-tribal organizations, to address climate change issues. Many of these Native Nations have formed collaborative relationships with multiple groups and organizations.

b. The most common partnership was between Native Nations and universities. Thirteen Native Nations have collaborated with universities in Arizona, California, and Colorado to obtain various levels of education and training, planning support, and technical assistance.

c. Many Native Nations also engaged in partnerships with federal and local government agencies. Eight Native Nations have collaborated with multiple federal government agencies on a range of initiatives, including resource management projects, climate change adaptation planning, and outreach efforts.

d. Some Native Nations have also formed partnerships with non-profit organizations, private consultants, and other tribal governments and inter-tribal organizations. Five Native Nations have worked with consultants to support climate change

initiatives. There is need for partnerships that build capacity, provide opportunities for collaboration, and develop more effective policies and agreements for data sharing.

3. Funding:

a. A majority of the 26 Native Nations have received some level of federal funding to support climate change planning and some have acquired financial support from multiple sources. Of the 26 Native Nations, 17 have utilized various EPA grants and ten of these Native Nations specifically referenced the EPA General Assistance Program (GAP) as their primary source of funding to build capacity.

b. Native Nations could benefit from a simplified grant application process, increased funding timelines, funding opportunities for implementation of strategies, and funding for tribal staff to carry out climate change planning.

4. Capacity and Technical Assistance

a. All 26 Native Nations discussed challenges with initiating or advancing climate change planning due to a lack of resources and capacity. Many Native Nations are in various stages of planning and conveyed a range technical assistance needs (e.g., dedicated staff and strategic planning expertise) to support adaptation planning and implementation.

b. Many Native Nations stated a need for available, accessible and useable scientific information, such as local climate data, modeling and species information, to help analyze impacts and vulnerabilities.

c. A few Native Nations conveyed a need for support for outreach initiatives to communicate information and educate communities and leaders about the local effects of climate change.



INTRODUCTION

Climate change poses a wide range of ecologic, economic, hydrologic, and societal repercussions for the Southwestern United States – an already parched region “expected to get hotter and, in its southern half, significantly drier” (Garfin et al. 2014, p. 463). Changes to the climate will directly affect the region’s 56 million residents, with especially severe impacts on indigenous populations. Of the 567 federally recognized tribes in the United States, 194 reside within the states of Arizona, California, Colorado, Nevada, New Mexico, and Utah. The Third National Climate Assessment (NCA3; Melillo et al. 2014) highlights underlying vulnerabilities for Native Nations in this region, noting that impacts of climate change are exacerbated “by a number of persistent social and economic problems” (Bennett et al. 2014, p. 278). In addition, climate change will have a direct impact on Native American culture and traditions, “such as indigenous food ways, hunting practices, and plant gathering...” (Wotkyns 2010, p. 4).

Accordingly, it will be vital to understand how Native Nations in the Southwest U.S. are coping with climate change and to explore Native Nations’ needs for partnerships, resources, funding, and capacity to address climate change. An assessment of tribal climate change activities will help to inform Native Nations, state and federal agencies, universities, non-profit organizations, consultants, and other groups of some possible steps forward to enhance climate adaptation planning efforts for Native Nations in the Southwest U.S. This report will assist in this process by highlighting current Native Nations’ climate-related activities,

needs for science-based support, and potential areas for partnership.

2.1 Assessment Background

The Center for Climate Adaptation Science and Solutions (CCASS) at the University of Arizona (UA) provides a set of integrated adaptation services and tools to support both science applications and further use-inspired research. The mission of CCASS is to strengthen and support adaptation, risk management and resilience efforts at multiple scales by providing intellectual leadership, training, and engagement with a focus on solutions. Its vision is to promote a more resilient world that incorporates science into sound management choices in the context of global change. CCASS aims to serve as a hub in a network of adaptation activities and help link research-based knowledge, the information needs of managers, and decision-making.

CCASS initiated the Native Nations Climate Adaptation Program (NNCAP) in 2015 with funding from the Agnese Nelms Haury Program in Environment and Social Justice (HPSEJ) and the DOI Southwest Climate Science Center (SW CSC) to build capacity to work collaboratively with Native American tribes and indigenous populations in the western United States and Mexico. NNCAP works to develop and support solutions to tribal environmental concerns, especially those related to climate and climate change impacts.

CCASS and NNCAP received funds from the DOI SW CSC (USGS Grant/Coop Agreement G15AP00172) to carry out a

"Tribal Adaptation Initiative" in order to provide a framework for a partnership among CCASS, NNCAP, and the SW CSC that leverages previously existing and newly developing tribal engagement capacity within CCASS and identifies emergent opportunities possible with enhanced investment. The objectives of this initiative are to: (a) build regional capacity for coordination and assessment in partnership with the Landscape Conservation Cooperatives (LCCs), DOI Climate Science Centers, and other programs; (b) conduct a preliminary assessment of tribal interest and capacity for adaptation across the Southwest; (c) leverage funding provided by the Desert LCC to host a mission operational meeting focused on successful tribal climate adaptation plans and traditional ecological knowledge; and (d) add value to existing projects/relationships with the Pyramid Lake Paiute Tribe and other Southwestern tribes.

2.2 Assessment Objectives

The principal investigator of the Tribal Adaptation Initiative grant, Katharine Jacobs, and co-investigators, Chad Marchand, Karletta Chief, and Alison Meadow, developed the Southwest Tribal Climate Change Assessment (TCCA) to satisfy objective (b) of the Tribal Adaptation Initiative. The primary purpose of the assessment was to obtain input from 194 Native Nations throughout Arizona, California, Colorado, Nevada, New Mexico, and Utah, regarding their current initiatives, programs and resource needs related to climate change.

NNCAP staff are aware of two other academic institutions that have conducted assessment efforts to identify tribal needs related to climate change adaptation. In 2010, The Institute of Tribal Environmental Professionals (ITEP) at Northern Arizona University produced a report that highlights actions taken by Native Nations in Arizona and New Mexico to address climate change (Wotkyns 2010). In 2014, the Northwest Climate Science Center supported Portland State University's Institute for Tribal Government to conduct the Columbia River Basin Tribes Climate Change Capacity Assessment (Sampson 2015). NNCAP staff reviewed these previous reports in the context of developing and conducting this assessment.

2.3 Organization of Report

This report outlines how the TCCA was developed and conducted. The key findings are grouped into six categories: Engagement Activities, Existing Plans, Adaptation Initiatives and Strategies, Mitigation Initiatives and Strategies, Partnerships, and Tribal Resources and Needs. The report concludes with a summary of needs and recommendations related to Tribal climate change adaptation planning in the Southwest U.S. NNCAP staff initiated this effort in September 2015 and completed it in March 2017. This report uses the terms Native Nation, Tribe, and Tribal interchangeably to refer collectively to the Bands, Communities, Nations, Pueblos, Reservations, and Tribes, which participated in the assessment.

3. ASSESSMENT APPROACH

The TCCA provides a survey-based assessment of tribal climate change activities and current resource needs throughout the Southwest U.S. Chad Marchand, the NNCAP Program Coordinator, and two NNCAP Graduate Assistants, Schuyler Chew and Lynn Rae, completed the majority of this work. Additional NNCAP and CCASS staff, including project investigators and undergraduate students, provided oversight and support throughout the development and implementation of the TCCA and preparation of the final report. The TCCA consisted of three primary activities: 1) the collection of Native Nation contact information and development of the questionnaire from September to December 2015; 2) coordination with Native Nation representatives, scheduling of interviews, and data collection from February through December 2016; and 3) review of survey data and report preparation from December 2016 to March 2017. A summary of the TCCA activities is included in Section 3.2. An assessment of the limitations of the TCCA is included in Section 3.2.

3.1 Summary of the Assessment Process

NNCAP staff initially compiled a list of contact information for each Native Nation located in Arizona, California, Colorado, New Mexico, Nevada, and Utah. NNCAP staff focused primarily on identifying contacts in Environmental and/or Natural Resource Departments. Some Native Nations, however, did not have an available website or an Environmental or Natural Resource Department. In these instances, NNCAP staff members attempted

to identify an alternative contact from another department or a tribal council member. NNCAP and CCASS staff members also established contacts with several Native Nations through outreach efforts at regional conferences and during the Tribal Leaders Summit hosted by NNCAP and CCASS on November 12-13, 2015.

In December 2015, NNCAP and CCASS staff developed a questionnaire and coordinated with the UA Institutional Review Board (IRB). Following an evaluation of the survey documentation, IRB program staff determined the TCCA did not meet the conditional requirements for a formal review and approval process and issued a waiver for the assessment. Prior to the initiation of formal interviews, NNCAP staff piloted the survey questionnaire with representatives of the Pascua Yaqui Tribe and Tohono O'odham Nation to obtain feedback and ensure the assessment approach was appropriately structured. NNCAP staff coordinated with the IRB regarding recommended revisions to the survey questionnaire to ensure the final survey met all conditions and requirements. The survey included eight open-ended questions (see Appendix 1) to allow tribal representatives to share information on current climate change initiatives and plans, outreach efforts, partnerships, and funding and resource needs.

In February 2016, the NNCAP Program Coordinator sent an initial email to each of the 194 tribal representative contacts, which included a copy of the survey questionnaire, background information on the assessment and NNCAP, and a request for

a phone interview. In March 2016, NNCAP staff members sent follow up emails to those tribal representatives who did not respond to the initial email. NNCAP staff members also distributed the survey to tribal representatives at the 2016 EPA Region 9 Conference in April 2016 in California. NNCAP staff made an additional attempt to contact tribal representatives by phone from June to December 2016. During each phone call, NNCAP staff provided tribal representatives with a brief overview of the NNCAP program and background information on the assessment and requested their participation in the survey.

Interviews with tribal representatives took place from February to December 2016. NNCAP staff members carried out 27 surveys with 26 Native Nations (listed in Table 1), including eight in Arizona, eight in California, one in Colorado, three in New Mexico, four in Nevada and two in Utah. NNCAP staff conducted phone interviews with twenty-two Native Nation representatives. Five Native Nation representatives completed a written questionnaire (in lieu of a phone interview).

NNCAP staff members emailed the survey questions in advance of each phone interview to allow Native Nation representatives time to prepare and invite additional tribal staff to participate in the discussion. The assessment consisted of an eight-question survey and an approximately 30 to 45-minute-long phone interview (see Appendix 1). NNCAP staff members could not record individual interviews due to IRB requirements, but took detailed notes during each phone call to document the responses and main ideas conveyed during the discussion. Two NNCAP staff members conducted phone interviews, to the extent feasible, with one person engaging in the discussion and the other documenting responses. Upon completion of interviews, NNCAP staff members summarized notes in a narrative format and emailed the responses to participating Native Nation representatives for review and feedback. Brief narrative summaries of each interview are included in Section 6 of this report. The finalized survey responses are included in Appendix 2. Following the completion of all interviews, NNCAP staff organized, coded, and sorted survey responses for each question in Microsoft Excel to identify key findings from information gathered during interviews. These key

findings are included in Section 4.

3.2 Limitations of Assessment

The total number of interviews (27) was significantly lower than the overall 194 Native Nations in the Southwest. Although NNCAP staff made repeated attempts and used various methods (e.g., email, phone, and in-person events) to contact each Native Nation, it was not possible to connect with a representative from each Native Nation who was willing to complete the survey. One of the primary challenges with the TCCA effort was a lack of access to a regularly updated directory of Native Nation government contacts and their Environmental and/or Natural Resource Departments. Many Native Nations did not have an active website and in other instances, only a general email or phone number for the Native Nation could be identified. It is important to note that some Native Nations were interested in participating in the survey but were unable to do so because of other factors, such as the timing, limited staffing capacity, or competing departmental priorities.

The challenges encountered in the TCCA were similar to issues documented in two other tribal climate change assessment reports. The scope for the assessment conducted by Portland State University targeted a smaller set of Native Nations (15) and inter-tribal organizations (3) in the Columbia River Basin (Sampson 2015), whereas the scope for this assessment includes a larger geographic area of 194 Native Nations. ITEP's 2010 assessment documented phone interviews with seven of 43 Native Nations in Arizona and New Mexico (Wotkyns 2010).



4. KEY FINDINGS

This section outlines the key findings of the tribal climate change assessment. NNCAP staff categorized participant responses for each question based on common topics or themes.

4.1 Summary of Native Nation Participation in the Assessment

Twenty-six Native Nations participated in the TCCA. Table 1 lists each Native Nation, the department in which the interviewee works, the location of each Native Nation by state, and the date of the interview. Two different departments from the Pueblo of Acoma participated in the assessment, so there were twenty-seven surveys in total. Five participants submitted written responses at the 2016 EPA Region 9 conference in April 2016 in California; a few of these responses were partially incomplete or provided only brief yes/no answers. Eighteen respondents work in an environmental department, three work in natural resources, two work in a water department, one works in an environment and natural resources department, one works in a restoration department, one works in economic development, and one is a Council Member. Three of the Native Nations have tribal lands in multiple states. Brief narrative summaries of each interview are included in Section 6 and the finalized survey responses are

included in Appendix 2.

4.2 Climate Change Initiatives

Native Nations indicated their involvement in a wide variety of general climate change initiatives. NNCAP staff grouped these initiatives into two categories: 1) General Activities focused on Climate Change and 2) Engagement, Training, Outreach and Workshops.

4.2.1 General Activities focused on Climate Change

Thirteen Native Nations indicated their involvement in activities focused on climate change. The most common of these activities are related to adaptation planning and tribal council initiatives. Some examples of adaptation planning efforts include obtaining funding from BIA and EPA to develop a climate change plan, which was noted by Fort Mojave Indian Tribe, Coyote Valley Band of Pomo Indians and Ute Mountain Ute Tribe, among others, and discussed further in section 4.7 on Tribal Capacity and Resource Needs. Other Native Nations, such as La Jolla Band of Luiseño Indians and Hualapai Tribe, are incorporating climate change adaptation into departmental initiatives. A number of Native Nations noted the importance of tribal council support for and

Native Nation	Department	Location	Date
Ak-Chin Indian Community	Environmental Programs	AZ	5/5/2016,
Fort McDowell Yavapai Nation	Environmental	AZ	3/17/2016,
Fort Mojave Indian Tribe	Environmental Protection	AZ, CA, NV	8/11/2016,
Gila River Indian Community	Environmental Quality	AZ	3/15/2016,
Hualapai Tribe	Natural Resources	AZ	3/14/2016,
Kaibab Band of Paiute Indians	Environmental	AZ	3/16/2016,
Pascua Yaqui Tribe	Council Member	AZ	2/26/2016,
Salt River Pima-Maricopa Indian Community	Environmental Protection & Natural Resources Division	AZ	12/13/2016,
Tohono O'odham Nation	Water Resources	AZ	2/25/2016,
Coyote Valley Band of Pomo Indians	Environmental Protection	CA	6/24/2016,
Fort Independence Indian Reservation	Water Program	CA	4/12/2016,
Ilipay Nation of Santa Ysabel	Environmental	CA	4/12/2016,
La Jolla Band of Luiseño Indians	Environmental	CA	6/19/2016,
Pechanga Band of Luiseño Indians	Environmental	CA	4/12/2016,
Ramona Band of Cahuilla	Environmental	CA	4/12/2016,
Viejas Band of Kumeyaay Indians	Environmental	CA	4/12/2016,
Ute Mountain Ute Tribe	Environmental Programs	CO, NM, UT	7/29/2016,
Confederated Tribes of the Goshute Reservation	Environmental	NV, UT	10/13/2016,
Pyramid Lake Paiute Tribe	Natural Resources	NV	12/8/2016,
Elko Band of the Te-moak Tribe of Western Shoshone	Environmental	NV	7/29/2016,
Yerington Paiute Tribe	Environmental	NV	6/24/2016,
Yomba Shoshone Tribe	Environmental	NV	6/23/2016,
Pueblo of Acoma	Environmental	NM	10/13/2016,
Pueblo of Acoma	Natural Resources	NM	10/18/2016,
Pueblo of Sandia	Environmental	NM	11/30/2016,
Pueblo of Santa Ana	Restoration Division	NM	3/16/2016,
Paiute Indian Tribe of Utah	Economic Development	UT	11/22/2016,

involvement in climate change adaptation. For example, Ute Mountain Ute Tribe's leadership is highly supportive of adaptation planning and indicated their intention to participate in interviews for a climate change adaptation planning effort. Additionally, the Yerington Paiute Tribe hopes to pass a resolution in support of climate change work and the Yomba Shoshone Tribe's council members participated in a climate change meeting with U.S. Forest Service (USFS) and invited agency staff to a subsequent meeting with the entire council.

4.2.2 Engagement, Training, Outreach and Workshops

Thirteen Native Nations have conducted some form of engagement, training, outreach, or workshops related to climate change. Engagement was commonly referenced as collaboration on climate change issues with an external institution, e.g., university, non-profit organization, consultant, federal agency, or another Native Nation. Gila River Indian Community, Ute Mountain Ute Tribe and Pyramid Lake Paiute Tribe, for example, have engaged with universities on climate change work. Engagement is explored in more detail in section 4.6 on Partnerships. Training efforts include tribal staff members' participation in or co-facilitation of a climate change course, often with ITEP, as noted by Ak-Chin Indian Community, Gila River Indian Community, Hualapai Tribe, Yomba Shoshone Tribe, and Pueblo of Sandia. Tribal outreach and workshops were described by Ak-Chin Indian Community, Hualapai Tribe, Coyote Valley Band of Pomo Indians, La Jolla Band of Luiseño Indians, Elko Band of the Te-moak Tribe of Western Shoshone, Pueblo of Acoma, Pyramid Lake Paiute Tribe and Pueblo of Sandia as efforts to share information with and obtain input from tribal members about climate change impacts and adaptation.

4.3 Existing Plans

Figures 1-4 provide summaries of four types of plans developed or under development by Native Nations and the numbers of Native Nations responding similarly. Types of plans include: climate change vulnerability assessment (CCVA), climate change adaptation plan (CCAP), emergency response plan (ERP), and Drought, Heat and/or Flood Plans (DHFP). ERP was the most common plan developed or in development by Native Nations. The Pueblo of Acoma, Pueblo of Sandia, Pyramid Lake Paiute Tribe, Ute Mountain Ute Tribe and Yomba Shoshone Tribe noted that their DHFP was combined within either the tribe's ERP or another departmental management plan.

4.4 Initiatives, Strategies and Plans

4.4.1 Adaptation Initiatives and Strategies

Sixteen Native Nations have implemented some form of adaptation initiatives and strategies. The most common strategies mentioned in the interviews were associated with wildfire, water, air quality issues, and changes in availability of traditional cultural resources.

Wildfire

Kaibab Band of Paiute Indians, La Jolla Band of Luiseño Indians and Yerington Paiute Tribe are considering firebreaks to mitigate the risk of wildfires. Ute Mountain Ute Tribe and Pueblo of Sandia are deploying efforts to protect residences at the wild-urban interface. Several Native Nations noted collaborative efforts to address wildfire risk. La Jolla Band of Luiseño Indians obtained a BIA grant to develop a wildfire management plan. Ute Mountain Ute Tribe emergency preparation department participated in the BIA Fuels and Forestry Management program and the Tribe has worked with the Montezuma County Firewise Program. Yomba Shoshone Tribe has a Memorandum of Understanding (MOU) with the USFS to address wildfire management planning and implementation efforts.

Water

Several Native Nations noted their commitment to ensuring adequate water quantity and quality through a variety of efforts. Hualapai Tribe continues to develop apron catchments to capture rainfall and snowfall and is interested in expanding water storage and delivery capacity efforts. Kaibab Band of Paiute Indian emphasizes conservation through community outreach efforts about water use. La Jolla Band of Luiseño Indians has evaluated their water resource options through well monitoring and contingency planning to ensure a continued water supply. Pyramid Lake Paiute Tribe has worked with upstream users to develop and implement the Truckee River Operating Agreement (TROA) in 2015. TROA addresses enhanced drought storage for the Tribe and modifies the operation of reservoirs within the Truckee River Basin to protect and improve water quality, especially during times of drought. Paiute Indian Tribe of Utah is purchasing water rights, installing wells and building infrastructure in the advent of drought.

Air Quality

Ak-Chin Indian Community's air quality specialist has collaborated with EPA, attended trainings and conducted outreach with community members. Given Ute Mountain Ute Tribe's proximity to two coal-fired power plants, gas and oil development, and wind-blown dust, the Tribe is hiring an air quality program manager to better collect and disseminate air quality information to community members and vulnerable populations. Confederated Tribes of the Goshute Reservation and Pechanga Band of Luiseño Indians have included air quality as an area of concern for their climate change adaptation efforts. La Jolla Band of Luiseño Indians, Pyramid Lake Paiute Tribe, and Yerington Paiute Tribe, among other Native Nations, conduct air quality data monitoring.

Changes in Availability of Traditional Cultural Resources

Yerington Paiute Tribe is working on plans to improve the protection and availability of cultural resources and traditional food sources. Yomba Shoshone Tribe is working to create a pine nut management plan that includes the establishment of

Figure 1. Status of Climate Change Vulnerability Assessment

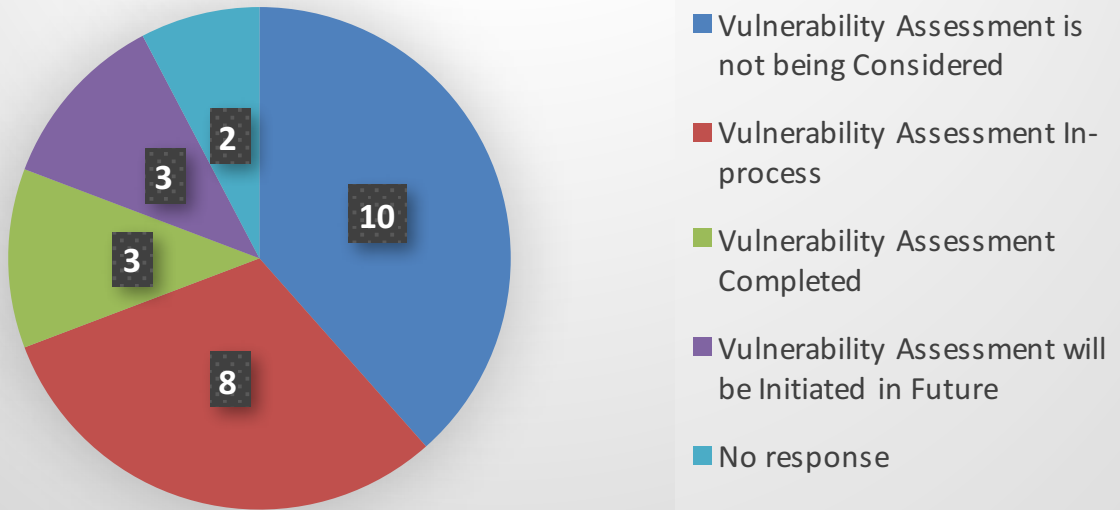


Figure 3. Status of Emergency Response Plan

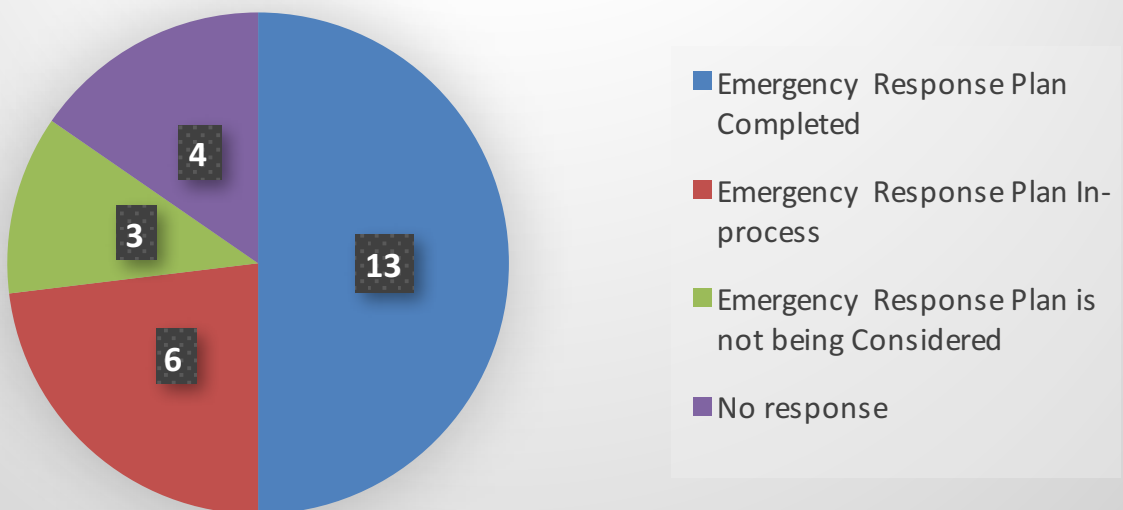


Figure 2. Status of Climate Change Adaptation Plan

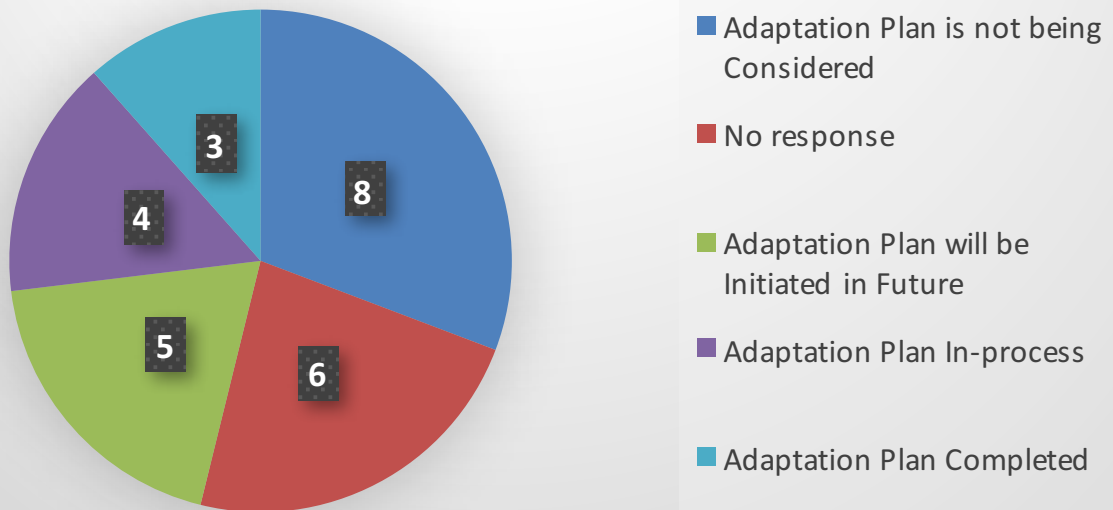
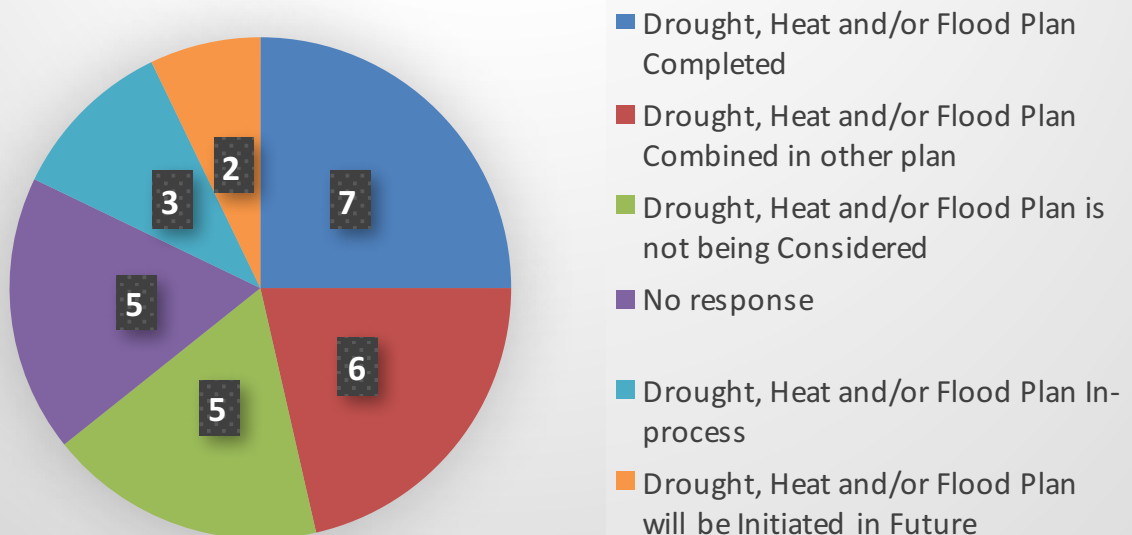


Figure 4. Status of Drought, Heat and/or Flood Plan



a conservation area to restrict commercial use and harvesting. In response to concerns about the effects of heat and drought on traditional and cultural resources, the Pueblo of Acoma is considering a range of planning and management options. The Pueblo has implemented a Forest Management Plan, which addresses traditional and cultural resources, and they are considering taking additional steps to protect these resources. The Pueblo of Sandia is initiating planning strategies for the protection of cultural resources and traditional ecological knowledge. The Pascua Yaqui Tribe's Language and Cultural Department is working collaboratively on a conservation effort with the Bureau of Land Management (BLM) to locate plants that are important for ceremonial use, such as cottonwood.

4.4.2 Tribal Sector Plans

Twenty Native Nations and their tribal sectors have developed a variety of plans and initiatives. The most common of these plans and initiatives are related to emergency response, water availability, and monitoring programs.

Emergency Response

Fort Mojave Indian Tribe has an Emergency Response Plan and Continuity of Government Plan that covers the reconstitution of government in the event of emergencies. Kaibab Band of Paiute Indian and Yerington Paiute Tribe have specific Emergency Response Plans for their water resources. Salt River Pima-Maricopa Indian Community and Elko Band of the Te-moak Tribe of Western Shoshone have both an Emergency Response Plan and a Hazard Mitigation Plan. Paiute Indian Tribe of Utah maintains an Emergency Response Team and Salt River Pima-Maricopa Indian Community has a Tribal Emergency Response Committee, both of which meet on a regular basis to plan and prepare for tribal emergencies. Paiute Indian Tribe of Utah's headquarters has increased its capacity to function in an emergency by building and activating an effective radio communications site, capable of handling local VHF/UHF and worldwide HF traffic.

Water Availability

The Yomba Shoshone Water Resources Department received a U.S. Department of Agriculture (USDA) Rural Facilities Grant to improve water infrastructure for water storage, potable use, and fire response. The Pueblo of Acoma and Pueblo of Sandia have each developed Water Resources Management Plans. Fort McDowell Yavapai Nation is in the preliminary phase of carrying out an alternative water-supply study and sustainability analysis of climate change impacts to the Verde River due to temperature increases and precipitation reductions. The Pueblo of Santa Ana is working on a watershed assessment with the Corps of Engineers, which will consider climate change. As a result of Ute Mountain Ute Tribe's Colorado River water rights settlement, the Tribe has secured reliable drinking water source and opened up a variety of economic development opportunities, including a casino resort and a sophisticated 7,000-acre agricultural facility.

Monitoring Programs

The Elko Band of the Te-moak Tribe of Western Shoshone

maintains a weather monitoring relationship with the National Weather Service and relies on Stormwatch to prepare for extreme events. The Pascua Yaqui Tribe's Health Department conducts ambient air quality monitoring and will develop an air-quality warning system. The Fort McDowell Yavapai Nation conducts water quality sampling of the Verde River and the community's water systems. Pyramid Lake Paiute Tribe maintains a robust water quality monitoring program for the Truckee River and Pyramid Lake. The Hualapai Tribe proactively installed devices to monitor the Tribe's aquifers and fluctuations in groundwater storage.

4.5 Mitigation Initiatives and Strategies

4.5.1 Existing Initiatives and Strategies

Eleven of the 26 Native Nations that participated in the TCCA have actively deployed various mitigation strategies. Of these eleven Native Nations, some have implemented multiple initiatives to mitigate the impacts of climate change in their communities and on their lands. These activities include renewable energy development, energy efficiency and resource conservation efforts, the implementation of sustainable infrastructure design, and efforts to monitor and reduce greenhouse gas (GHG) emissions.

Renewable Energy Development

Seven Native Nations are prioritizing the expansion of renewable energy sources on their lands. The primary initiative for all seven is planning and implementing solar energy projects. Three of the Native Nations, the La Jolla Band of Luiseño Indians, Pyramid Lake Paiute Tribe and Yerington Paiute Tribe, have installed multiple solar panel arrays on government facilities and administrative buildings. The La Jolla Band of Luiseño Indians also received Department of Energy (DOE) funding that allowed them to develop and implement a tribal policy that requires all new homes and government buildings to be equipped with solar technology. In addition to solar energy development, the Pyramid Lake Paiute Tribe is exploring the potential use of geothermal energy across the northern portion of their reservation. They hope to expand their capacity to harness energy from geothermal water over the next ten years.

Energy Efficiency and Sustainable Infrastructure

Six Native Nations are currently implementing or expanding various energy efficiency and sustainable infrastructure projects in their communities. The Fort McDowell Yavapai Nation, Gila River Indian Community, and Ute Mountain Ute Tribe are implementing multiple sustainable building design initiatives. The Gila River Indian Community participates in the EPA's Making A Visible Difference in Communities Initiative, which emphasizes the establishment of sustainability goals for tribal buildings and housing infrastructure. Additionally, the Ute Mountain Ute Tribe has established goals to achieve various levels of LEED certification for tribal buildings and they conduct regular energy audits through the support of a DOE grant. Although the Yerington Paiute Tribe initiated an energy conservation program two years ago, they were unable to continue the initiative because DOE funding was not renewed.

General Conservation and Monitoring

Some Native Nations are implementing other conservation and monitoring strategies. The Fort McDowell Yavapai Nation, for example, is implementing water efficiency initiatives for agriculture and using xeroriparian landscape design (i.e., incorporating plants suitable for desert areas that have access to intermittent or ephemeral stream flows in addition to direct rainfall) to minimize water use. In addition, the Pueblo of Santa Ana established a transit program with a primary goal of reducing GHG emissions and the La Jolla Band of Luiseño Indians is conducting ongoing monitoring of GHG emissions to support the development of long-term sustainable planning strategies.

4.5.2 Future Initiatives and Strategies under Consideration

Although 15 Native Nations have not yet implemented mitigation activities, eight of these Native Nations stated that they are planning or considering mitigation actions. Renewable energy development is the most common strategy under consideration by these Native Nations. Specifically, five of the 15 Native Nations are interested in the expansion of solar and/or wind power on their land. Although the Yomba Shoshone Tribe also expressed interest in renewable energy, the tribe does not currently consider the development of solar to be a priority due to its rural location and small size and GHG emission footprint. As noted by some Native Nations, renewable energy development could also address other issues facing rural and isolated communities, such as the need for affordable, accessible, and reliable power sources. Some of the Native Nations are considering other potential mitigation strategies. The Pueblo of Sandia, for example, is evaluating improvements to its casino solid waste program, while the Hualapai Tribe is exploring the possibility of participating in a carbon-trading program. Most of these Native Nations noted that the biggest obstacle to advancing these mitigation efforts was a lack of technical assistance and funding.

4.6 Partnerships

4.6.1 Existing Partnerships

Eighteen of the 26 Native Nations have existing or previously established partnerships with various groups, including federal and local government agencies, universities, non-profit organizations, private consultants, and other tribal governments and inter-tribal organizations, to address climate change issues. Many of these Native Nations have formed collaborative relationships with multiple groups and organizations.

The most common partnership was between Native Nations and universities. Thirteen Native Nations have collaborated with universities in Arizona, California, and Colorado to obtain various levels of education and training, planning support, and technical assistance. Of these 13 Native Nations, eight have collaborated with ITEP for climate change planning resources, technical information to address water resource issues, and various training and workshops (e.g., air quality). In addition to ITEP, the La Jolla Band of Luiseño Indians has collaborated with the University of San Diego's Climate Education Partners to prepare a vulnerability assessment and the University of California Irvine to engage tribal

youth in traditional cultural practices and climate change planning. The Ute Mountain Ute Tribe is also partnering with Colorado State University on a climate change project. In addition, University of Arizona programs and researchers provided various resources and support to five of the 13 Native Nations, which included initiatives such as climate change vulnerability assessments, adaptation plans, disaster preparedness training and planning, and climate modeling and technical information.

Many Native Nations also engaged in partnerships with federal and local government agencies. Eight Native Nations have collaborated with multiple federal government agencies on a range of initiatives, including resource management projects, climate change adaptation planning, and outreach efforts. The Hualapai Tribe, for example, participated in an EPA Think Tank for green infrastructure and received resource support from the BIA and EPA for the development of a water storage and delivery system. The Tohono O'odham Nation has collaborated with the SW CSC, the Desert LCC and CCASS on climate change adaptation planning issues and participated in regional stakeholder engagement meetings. Although some Native Nations, such as the Pueblo of Acoma and Confederated Tribes of the Goshute Reservation, are not partnering with government agencies to address specific climate change issues, they collaborate regularly with regional USDA Cooperative Extension representatives for support with agriculture and grazing issues. Three Native Nations have also established state and local government partnerships. The Fort Mojave Indian Tribe, for example, has worked with the Mohave County government and created partnerships with multiple federal and state agencies (e.g., EPA, Centers for Disease Control, Arizona Department of Public Health, and Arizona Department of Emergency Management) to address health related issues in their community.

Some Native Nations have also formed partnerships with non-profit organizations, private consultants, and other tribal governments and inter-tribal organizations. Five Native Nations have worked with consultants to support climate change initiatives. For example, the Hualapai Tribe collaborated with a local firm to help design its new 4H straw-bale facility and the Elko Band of the Te-moak Tribe collaborated with McGinnis and Associates on the development of its tribal climate change plan. Three Native Nations have also collaborated with various organizations, including the South Coast Climate Science Alliance, Desert Research Institute (DRI), and Indian Land Tenure Foundation. The Fort McDowell Yavapai Nation and Yomba Shoshone Tribe have collaborated with other tribal communities and inter-tribal organizations. The Fort McDowell Yavapai Nation established a partnership with the Salt River Pima-Maricopa Indian Community and the Inter Tribal Council of Arizona (ITCA) to conduct water quality monitoring on a local river, while the Yomba Shoshone Tribe worked with the Inter-Tribal Emergency Response Commission (ITERC) to advance disaster-planning efforts.

4.6.2 Future Partnerships

Nineteen Native Nations expressed an interest in establishing future partnerships to support climate change planning and the implementation of initiatives. Although the majority of Native Nations did not specify a particular institution or organization,

a few Native Nations indicated an interest in partnering with consultants, federal agencies, universities, and local and regional non-governmental organizations. The Kaibab Band of Paiute Indians and Fort Mojave Indian Tribe, for example, are interested in developing partnerships with federal agencies, such as the BLM, USFS, and EPA. The Yomba Shoshone secured an inter-tribal grant to contract with consultants for climate change initiatives and plan to reach out to local institutions, such as the DRI, for planning support. Other Native Nations, such as the Ak Chin Indian Community and Fort McDowell Yavapai Nation want to collaborate with the University of Arizona. Some Native Nations, however, communicated concerns about data sharing with external organizations and institutions. One Native Nation recommended the development of more effective policies and agreements to address the two-way sharing of data and ensure the protection of traditional knowledge.

4.7 Tribal Resources and Needs

4.7.1 Funding

A majority of the 26 Native Nations have received some level of

federal funding to support climate change planning and some have acquired financial support from multiple sources. Of the 26 Native Nations, 17 have utilized various EPA grants and ten of these Native Nations specifically referenced the EPA General Assistance Program (GAP) as their primary source of funding to build capacity. The Yerington Paiute Tribe and Pueblo of Sandia, for example, are advancing climate change adaptation planning and mitigation initiatives with EPA GAP funding and the La Jolla Band of Luiseño Indians has already completed their adaptation planning using GAP funding. Many Native Nations, such as the Elko Band of the Te-moak Tribe, have utilized EPA GAP grants for more than a decade and some Native Nations, such as the Pueblo of Acoma, rely on it to support general resource management efforts and staffing.

Numerous Native Nations also utilize other common sources of funding, including BIA and DOE grants. Twelve Native Nations obtained various BIA grants to support resource management, research studies, and advance climate change planning. The Pueblo of Santa Ana, for example, was awarded a BIA Climate Change grant to conduct a dendrochronology study and the



Yomba Shoshone Tribe used similar funds to implement mitigation initiatives. A few of the Native Nations, including the Ute Mountain Ute Tribe, Hualapai Tribe and Fort McDowell Yavapai Nation, have used DOE grants to support energy efficiency and renewable energy projects. Other Native Nations, such as the Kaibab Band of Paiute Indians and Pueblo of Santa Ana, supplement federal funding with tribal revenue to advance adaptation planning and activities.

Twelve Native Nations specifically stated a need for funding assistance to support various climate change adaptation planning and implementation efforts. Many Native Nations also noted some of the broad challenges with federal funding programs and a need to improve and/or expand current federal funding programs and opportunities. One issue is that many Native Nations lack the capacity to prepare complicated and time-consuming grant applications and fail to meet deadlines. This has led some Native Nations, such as the Gila River Indian Community, to seek assistance with the development of proposals, while other Native Nations, such as the Ute Mountain Ute Tribe, have used existing federal funding to support grant-writing staff. Alternatively, many Native Nations, such as the Pyramid Lake Paiute Tribe, have applied for various federal grants and were denied funding. A few Native Nations also conveyed a concern that long-term planning is challenging because existing grants typically include limited timelines and insufficient funding. The Confederated Tribes of the Goshute Reservation, for example, is interested in larger grants to expand on current climate change plans and initiatives. Some Native Nations, such as the Fort Mojave Indian Tribe, need additional funding to implement specific resource management plans, while the La Jolla Band of Luiseño Indians requires funding to advance from climate change adaptation planning to the implementation of initiatives. Another challenge is that most current funding is restricted to specific activities such as climate change adaptation training and planning, without providing support for implementation. Although other funding opportunities may be available, one Native Nation noted that securing non-federal resources, such as state-level funding, is challenging because Native Nations may be required to sign a waiver or agreement that is not perceived to be in their best interest.

4.7.2 Capacity and Technical Assistance

All 26 Native Nations discussed challenges with initiating or advancing climate change planning due to a lack of resources and capacity. Many Native Nations are in various stages of planning and conveyed a range of technical assistance needs to support adaptation planning and implementation. Some Native Nations, such as the Yerington Paiute Tribe, recently initiated planning

efforts and want assistance locating resources, while other Native Nations, such as the Hualapai Tribe and La Jolla Band of Luiseño Indians, need support for the implementation and expansion of initiatives. Alternatively, several Native Nations are interested in climate change adaptation, but require dedicated staff to write grants, coordinate with other departments, and advance their planning efforts. The Pascua Yaqui Tribe, for example, stated that a climate coordinator position could help build tribal capacity and meet broader challenges across tribal departments and sectors.

Many Native Nations also stated a need for available, accessible and useable scientific information, such as local climate data, modeling and species information, to help analyze impacts and vulnerabilities. Another concern is that many current resources and tools, such as webinars and website information, are not relevant to specific issues of interest to Native Nations and sometimes difficult to utilize. A number of Native Nations provided recommendations to improve resources and make information more useful. The Pueblo of Sandia, for example, suggested the development of a searchable or interactive spatial database or platform that offers a wide-range of resources, such as funding opportunities, examples of adaptation plans, workshops and trainings, and local and regional organizations and institutions with technical expertise. The Tohono O'odham Nation stated that it would be helpful to have a point of contact at the University of Arizona to provide information and technical assistance as needed.

A few Native Nations also conveyed a need for support with outreach initiatives to communicate information and educate communities and leaders about the local effects of climate change. The Salt River Pima-Maricopa Indian Community, for example, needs assistance planning and implementing workshops to raise awareness in their community. The Yomba Shoshone Tribe also referenced the importance of working with a facilitator or communicator who is sensitive to tribal culture and can translate information to the community using traditional ways.

Numerous Native Nations stated that climate change adaptation requires more collective efforts and opportunities for collaboration, such as meetings and forums, to advance planning. Several Native Nations expressed an interest in learning about the adaptation initiatives and planning efforts of other Native Nations and federal, state and local governments. The Pyramid Lake Paiute Tribe, for example, is interested in participating in a platform to share best practices and exchange ideas on climate change adaptation planning with other Native Nations. A number of Native Nations also expressed a need for partnerships to share resources and support the development of adaptation plans, vulnerability assessments, and various other tribal resource



5. Summary of Recommendations

management and department plans.

The following section offers a summary of recommendations gathered from this assessment. This list of recommendations is not exhaustive or complete, and is primarily informed by the key findings discussed in Section 4.

Climate Change Initiatives:

- Tribal Council and Native Nation governmental support for and involvement in adaptation planning efforts is critical to develop community buy-in of climate change initiatives.
- Engagement with external institutions, co-facilitation of climate change trainings with universities, outreach, and workshops are all critical for encouraging Native Nations' community members to learn about, participate in, and contribute to climate change initiatives.

Adaptation Strategies, Initiatives, and Plans:

- Provide support to Native Nations in development of Vulnerability Assessments, Adaptation Plans, Emergency Response Plans, and Plans that address drought, heat and flooding issues.

Combining and integrating these plans may be more efficient than developing individual plans, as several Native Nations have already done.

- Provide support to Native Nations for development

and implementation of adaptation strategies (e.g., wildfire management, water conservation, and management planning to protect traditional and cultural resources) and for initiatives and plans (e.g., emergency response planning for multiple sectors, water resource planning for drought, weather monitoring for extreme events, and monitoring programs for water quality and air quality).

Mitigation Initiatives and Strategies:

- Establish federal policies that promote the research and expansion of renewable energy resource development on tribal land.
- Expand existing federal programs that promote mitigation initiatives, such as energy efficiency and sustainable infrastructure, to include community housing and private development.

Partnerships:

- Continue to build capacity and increase funding to academic institutions and programs to support collaboration between Native Nations and universities.
- Provide more opportunities for collaboration (e.g., resource co-management and climate change adaptation and mitigation initiatives) between tribal and federal governments.
- Public and private institutions should work with Native Nations

to develop more effective policies and agreements for data sharing.

Funding:

- Native Nations rely on funding from BIA and EPA, among other federal agencies, to support climate change adaptation and mitigation initiatives, and will require additional federal funding in the future.
 - Improve and simplify the grant application process and provide technical resources to support Native Nations with grant writing.
 - Improve and expand funding opportunities for climate change planning.
- Increase funding timelines to support long-term planning.

Provide funding opportunities for the implementation of mitigation and adaptation planning initiatives.

- Increase funding opportunities for dedicated tribal staffing to support climate change adaptation planning.

Capacity and Technical Assistance:

- Native Nations would welcome collaborations with public and private institutions to help them determine their information needs, evaluate available tools for climate change planning, and ensure that climate information is available, accessible, and useable to them.
- Establish platforms or databases for Native Nations to share resources, information, and best practices for climate change adaptation planning and implementation.



6. Brief Summary of Assessment Interviews

The following section provides a brief summary of each assessment interview in narrative format. The full responses to each interview are in Appendix 2.

6.1 Assessment Summaries from Arizona Native Nations

Ak-Chin Indian Community

The Ak-Chin Indian Community is engaged in a variety of efforts to address climate change. The Community's Air Quality specialist attended ITEP trainings, gave a presentation with EPA, and does outreach within the tribe. The Community is considering multiple climate change mitigation efforts, such as solar development and retrofitting diesel engines to reduce emissions. The tribal council is interested in implementing more solar power in their construction projects, including development of solar lighting on parking lots in collaboration with Ak-Chin Indian Community Capital Projects Office. The Ak-Chin Indian Community's emergency response plan addresses flooding issues. The Community partnered with the DOE in 2009 on energy audits of residential homes and two commercial buildings. The Ak-Chin Indian Community has a Clean Air Act Section 103 grant for air quality through EPA and is interested in grant funding from BIA and other sources to support their adaptation efforts including development of a climate adaptation plan.

Fort McDowell Yavapai Nation

The Ft. McDowell Yavapai Nation is conducting a climate change vulnerability assessment of climate change impacts on the Nation. Impacts to the Verde River with regard to reductions in watershed precipitation and increases in average temperatures will be a primary component. The Nation's fire department has an emergency response plan. The Nation monitors air quality and water quality of the Verde River and the community's water systems, and is prepared to take action if air quality measurements of ozone and dust readings exceed EPA standards. The Nation has prioritized efficiency in agriculture with laser-leveled fields that are primarily on drip irrigation and the community's residential areas are desert landscaped, absent of any grass lawns or swimming pools. The Nation is proactive in securing partnerships with the EPA, BIA, ITEP, the Salt River Pima-Maricopa Indian Community, town of Fountain Hills, state of Arizona, CSC, ITCA and other tribes. The Ft. McDowell Yavapai Nation has utilized funding from EPA, BIA and DOE on energy efficiency projects, and is interested in continued funding and technical assistance.

Fort Mojave Indian Tribe

See Section 6.2. California

Gila River Indian Community

The Gila River Indian Community (GRIC) is engaged in various efforts to adapt to climate change. Its Department of Environmental Quality (DEQ) is using funds from the BIA and EPA to inform and involve the Community in climate change mitigation and adaptation. GRIC DEQ is currently in the process of developing a vulnerability assessment that includes adaptation strategies. GRIC DEQ is also the only community in Arizona that is currently collaborating with the EPA in the Making a Visible Difference in Communities Initiative, under which a Zero Waste Plan and Green Building Case Study have been created. The Community has multiple plans and initiatives in place that complement their climate change adaptation planning, which include emergency response, wildfire management and flood planning, and water management planning. GRIC DEQ participated in the NNCAP Tribal Leaders Summit, as well as collaborated with CLIMAS on a climate change profile for GRIC. GRIC is interested in partnerships that would enhance environmental literacy, not only within DEQ, but also among policy makers, decision makers, and Community members. Assistance from universities on writing grants would be helpful to DEQ, as well as a list of potential collaborators, tribes, and resources to support their adaptation efforts.

Hualapai Tribe

The Hualapai Tribe was an early participant in the ITEP program and members of the Tribe were trainers in the program. However, the Tribe expressed frustration because they felt that ITEP focused on whether tribes had adaptation plans in place, rather than if they had the resources to fund, support, and implement plans. The Tribe was encouraged that funds to support resiliency planning are available. The Tribe, in consultation with tribal leadership, recently hired a planner to work on a master plan. They are strong proponents of the alternative energy projects listed in the previous ITEP report and are in favor of ramping up preparedness plans. The Tribe is currently exploring the carbon-trading system; however, this system is complex and requires additional research by the Tribe. The Tribe has previously facilitated climate change workshops and will continue to do so. To date, the Tribe's highest priority is youth education and the challenges of climate change. The Tribe partners with universities out of necessity, but would like the scientists they work with to take a more applied and less academic view. The Tribe wants universities to work with tribes and come up with creative ways to develop solutions using scientific research and tools. The Tribe has collaborated with the EPA and Bureau of Reclamation on projects and received funding to construct a water storage and delivery system.

Kaibab Band of Paiute Indians

The Kaibab Band of Paiute Indians is relatively new to climate change planning. The Tribe's primary climate change mitigation strategy is the development of alternative energy projects. The Tribe completed studies to determine the feasibility of wind and solar projects approximately six years ago and is still exploring

solar as an alternative energy source. The Tribe has implemented some local strategies, such as the use of firebreaks and water conservation programs. The Tribe is interested in outside partnerships and welcomes potential collaboration with the University of Arizona. They understand climate change issues, but recognize that it is not always easy for leaders and the public to understand the local effects of climate change on individuals and communities. The Tribe is interested in "boots-on-the-ground" outreach and assistance with water supply planning.

Pascua Yaqui Tribe

The Pascua Yaqui Tribe conducts climate change planning through a variety of departmental initiatives. The Tribe's Health Department seeks to enhance community wellness planning through documentation of diseases and climate change-related health issues. The Tribe's Language and Cultural Department works collaboratively with BLM on a conservation effort to locate plants that are important for ceremonial use, such as cottonwood. Additionally, the Tribe encourages youth engagement and stewardship through STEM educational opportunities in biology, ecology, and land management. The Tribe is actively looking for opportunities to collaborate and wants to focus on mitigation initiatives to ensure community health and security. The Tribe utilized DOE funds to conduct a photovoltaic solar feasibility study. The Tribal community expressed interest in modifying energy management efforts to ensure the adoption of sound technology and adequate returns on investments. The Tribe also expressed concern about the research relationship between the tribe and universities due to a lack of emphasis on two-way information sharing. The Tribe specifically identified the IRB process as problematic. The Tribe recommends the planning of collaborative workshops to establish data sharing agreements with universities. The extension of the Obama Administration's solar tax credits benefited the Tribe's solar programs, but there are still barriers, such as overcoming rate and deployment issues with the local electric provider. The Tribe indicated that the University of Arizona's Tribal Leaders Summit on Climate Change was a great start to share information and connect with other tribes. The Pascua Yaqui Tribe is exploring ways to work collaboratively with regional entities to plan for climate change. The Tribe seeks to become a leader for the region by expanding existing efforts for greater impact.

Salt River Pima-Maricopa Indian Community

The Salt River Pima-Maricopa Indian Community (SRPMIC) is engaged in a variety of efforts to prepare for climate change. The Emergency Management program is responsible for ensuring safety and preparedness for any emergency within SRPMIC including floods or extreme weather changes. SRPMIC has partnerships with entities or governments such as Maricopa County and the Red Cross, as well as other Tribal Nations. Its Multi-Hazard Mitigation Plan addresses flood, extreme heat, and drought. The Tribal Emergency Response Committee meets quarterly and collaborates with Transportation, Water Resources, Geographical Information Systems, Police and Fire among other

departments. The Community's emergency planning approach recognizes that extreme events will become more frequent and severe, thus their current plans are adaptable and expandable to meet the needs of climate change. SRPMIC is interested in partnerships to assist with research and workshop development to raise awareness of climate change and potential impacts to the tribe and its culture. In order to develop an adaptation plan, SRPMIC needs to identify what ought to be safeguarded. It would be helpful to learn how other tribes have modified their Emergency Management plans to adapt for climate change.

Tohono O'odham Nation

The Tohono O'odham Nation is engaged in a number of efforts to address the impacts of climate change. The Water Resources Department (WRD) has been working with CCASS staff scientist on a draft climate change adaptation plan, which covers drought, wildfire, heat, flooding, and water availability. WRD relies on a network of weather monitoring systems throughout the Nation to monitor rain, temperature, and relative humidity, and intends to add surface evaporation and evapotranspiration to this network. The Nation's Tribal Environmental Protection Office is developing an air quality-monitoring program. The Building Maintenance Program is seeking out assistance for energy efficiency projects related to air conditioning and lighting. The Tohono O'odham Housing Department submitted a HUD funding request to switch from evaporative coolers to A/C systems. WRD participated in the NNCAP/CCASS Tribal Leaders Summit. Useful resources to support climate adaptation include funding and partnerships with the University of Arizona through which the Nation could establish a point of contact to request technical assistance on specific issues such as agriculture and economics.

6.2 Assessment Summaries from California Native Nations

Coyote Valley Band of Pomo Indians

The Coyote Valley Band of Pomo Indians received EPA GAP and BIA funding to conduct climate change vulnerability assessment, adaptation planning, and community outreach through dissemination of pamphlets and youth workshops. The Tribal Council and community elders expressed a desire to provide input on long-term planning and impacts. The Tribe's Drought Plan incorporates emergency response initiatives; flooding will be addressed in the Climate Change Adaptation Plan. The Environmental Protection Department works with the Education Department on youth outreach and anticipates future engagement with the Health Department. The Tribe would like to pursue solar and other projects, but currently lacks funding and resources to implement these activities. The Tribe participated in ITEP training and is looking into the assistance from the DOI CSCs, but remoteness of the community may make it difficult to partner with universities or organizations. The Coyote Valley Band of Pomo Indians expressed a need for specialists to provide impact analyses and technical assistance. The Tribe would be interested in having input from the University of Arizona, with respect to climate profiles and adaption planning support.

Fort Independence Indian Reservation

The Fort Independence Indian Reservation engaged in collaborative climate change activities, but did not offer specifics. The Tribe began developing a Climate Change Vulnerability Assessment, which has not been finished. The Tribe is interested in partnerships, but is unsure of what kinds of assistance and resources would be helpful in climate change adaptation planning.

Fort Mojave Indian Tribe

The Fort Mojave Indian Tribe has finalized an Emergency Response Plan (ERP) that addresses many issues related to climate change adaptation such as drought, heat, and flood. The Tribal Environmental Plan (TEP) is a 5-year planning document, which identifies the future preparation of a Climate Change Vulnerability Plan and Climate Change Adaptation Plan. The Tribe's primary climate change mitigation strategy is to advance renewable energy programs such as solar development. Although the development of solar projects is in the early stage, the Tribe is ready to break ground on the large-scale solar project identified in the ITEP report. The Tribe partnered with many governmental groups, including the EPA, Centers for Disease Control, Arizona Department of Health, Arizona Department of Emergency Management, and the Mohave County Government. The Tribe actively pursues grants and is open to partnerships with universities and non-tribal groups. Specifically, the Tribe is interested in technical assistance to support climate change adaptation planning.

lipay Nation of Santa Ysabel

The lipay Nation of Santa Ysabel developed an Emergency Response Plan and is implementing adaptation strategies to manage risks associated with climate change, but no specifics were given. The Nation is interested in partnerships and would like to develop a plan to manage reservation lands. The lipay Nation of Santa Ysabel would like to acquire funding and technical help to support climate adaptation planning and implementation efforts.

La Jolla Band of Luiseño Indians

The La Jolla Band of Luiseño Indians has an impressive portfolio of adaptation and mitigation efforts. The Tribe's Environmental Department facilitates and conducts most of the climate change planning work and convenes with eight other tribes and local/regional organizations, which includes outreach education to adults in the community. The Tribe has a variety of plans related to climate change, including a vulnerability assessment, a climate change preparedness plan, an emergency response plan, a drought management plan, and a wildfire management plan. The Tribe monitors ozone, air quality, and groundwater. The Tribe is evaluating water resource options through alternative and contingency planning to ensure a continued water supply. The Tribe's mitigation efforts include a greenhouse gas emissions inventory, a policy to install solar panels on newly constructed tribal homes, cooperation with Grid Alternatives to install solar

on existing homes, and solar installation on tribal government buildings. The Tribe partners with numerous entities to advance climate change efforts including University of San Diego's Climate Education Partners, University of California Irvine, ITEP, and Climate Science Alliance – South Coast. The Tribe received funding from BIA, DOE, and EPA, including a GAP grant, to support climate change planning. The Tribe needs technical information about rainfall and snowfall projections, climate modeling, and protected plant and animal species. The La Jolla Band of Luiseño Indians is interested in technical resources to advance existing planning efforts to implementation, as well as understanding the perspectives that other tribes and local and state governments have on climate change adaptation.

Pechanga Band of Luiseño Indians

The Pechanga Band of Luiseño Indians has a variety of plans related to climate change including a vulnerability assessment, a climate change adaptation plan, and a plan focused on drought, heat, and flood. The Tribe is implementing adaptation strategies to manage risks associated with drought, wildfire, air quality issues, and changes in availability of traditional cultural resources. The Tribe's sectors have developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure, but the respondent did not provide specific details. The Pechanga Band of Luiseño Indians has utilized EPA funds to support climate change planning efforts and indicated that technical assistance would be useful, but the respondent did not provide specific details.

Ramona Band of Cahuilla

The Ramona Band of Cahuilla is in the process of developing a climate change vulnerability assessment. The Tribe has deployed climate mitigation strategies, but the respondent did not provide specific details. The Tribe is interested in partnerships, but the respondent did not provide specific details as to what the Tribe would like to accomplish from partnerships. The Ramona Band of Cahuilla indicated that training would be useful, but the respondent did not provide specific details.

Viejas Band of Kumeyaay Indians

The Viejas Band of Kumeyaay Indians is working on a tribal climate vulnerability assessment pilot program. The respondent did not provide any other responses.

6.3 Assessment Summaries from Colorado Native Nations

Ute Mountain Ute Tribe

The Ute Mountain Ute Tribe is engaged in a wide array of climate change adaptation and mitigation efforts. The Tribe recently was awarded BIA climate change funding to obtain perceptions of climate change impacts from elders, tribal leaders, and staff which will support efforts to create a climate change adaptation plan. The Tribe has been proactively managing its water resources

for several decades and has procured reliable drinking water for the community, which has opened up a variety of economic development opportunities, including a casino resort and a sophisticated 7,000-acre agricultural facility. The Ute Mountain Ute Tribe is taking a proactive approach to meeting the growing demand for alternative forms of energy in the Four Corners region. Their impressive array of mitigation efforts include solar installations, efficiency upgrades, technological upgrades to tribal agricultural enterprises, comprehensive water management planning, micro-scale hydroelectric development, and diesel emissions reduction. Tribal leaders are highly supportive of adaptation, renewable energy, and water efficiency initiatives, and have openly acknowledged that the Ute Mountain Ute Tribe has successfully adapted to many changes for centuries and will continue to adapt into the future.

6.4 Assessment Summaries from Nevada Native Nations

Confederated Tribes of the Goshute Reservation

See Section 6.6. Utah

Fort Mojave Indian Tribe

See Section 6.2. California

Pyramid Lake Paiute Tribe

The Pyramid Lake Paiute Tribe is actively engaged in a variety of climate change adaptation and mitigation efforts. The Tribe has worked with researchers at the University of Arizona since 2012 to assess the Tribe's vulnerability to climate change which has been informed by public input through workshops. There are no plans focused specifically on climate, but several of the Tribe's management plans include aspects of addressing climate change, such as water and air quality data monitoring, and noxious weed management. For the past decade, the Tribe has partnered with Black Rock Solar to install more than 1,700 solar panels which power the police department, high school, and tribal administration building. The Tribe has conducted geothermal exploration to harness energy from geothermal water. The Tribe is seeking resources to further develop a nutrient model for Pyramid Lake, which would be critical for guiding water quality standards and adaptation planning efforts. The Tribe would also like to participate in a platform to exchange ideas with other tribes related to climate change adaptation planning.

Elko Band of the Te-moak Tribe of Western Shoshone

The Elko Band of the Te-moak Tribe of Western Shoshone is considering climate change through planning efforts and engagement. The Elko Band has an Emergency Operations Plan, a FEMA-approved Elko Band All-Hazard Mitigation Plan (which addresses drought and extreme weather), as well as a Threat Hazard Identification Risk Assessment. The Elko Band Environmental Department has expressed the need for tribal climate change vulnerability assessment and adaptation planning in several of its reports and is now working with an outside

consultant on a climate change adaptation plan. Additionally, the Elko Band Environmental Department participated in a productive Climate Change Forum – hosted by DRI, GBLCC, WRCC, and CNAP – focused on comprehensive planning for the Great Basin in northeast Nevada where relationships were formed for future activities. These types of multi-stakeholder forums – informed by university or private scientific climate change research – are what the Elko Band feels it needs to develop effective climate adaptation plans. Alternatively, various stakeholders will write independent stand-alone plans that do not realistically address climate change.

Yerington Paiute Tribe

The Yerington Paiute Tribe scheduled the development of a climate change adaptation plan for next year and hopes to pass a climate change resolution in the future. The Tribe's Environmental Department is using an EPA GAP grant to develop an emergency response plan. The Tribal Council is updating ordinances to address some issues with water and flooding. The Tribe's Air Quality Program monitors PM10 (air particulates equal to or less than 10 microns in diameter), which can cause respiratory problems. The Tribe is also working on plans to improve the protection and availability of cultural resources and traditional food sources. The Tribe developed an Emergency Response Plan for the water treatment plant, which is pending EPA approval. The Tribe has solar panels on some government buildings, maintained by outside contractors. The Tribe partnered with NOAA in the past to educate youth and has used EPA GAP funds to support climate change adaptation and mitigation efforts. The Yerington Paiute Tribe is interested in trainings, direction, resources, and technical assistance for climate change adaptation.

Yomba Shoshone Tribe

The Yomba Shoshone Tribe has attended a number of climate change planning workshops and training sessions with USFS and ITEP. The Tribal Council wants to engage more in long-term economic planning issues. The Yomba Shoshone Tribe is in the process of developing a vulnerability assessment, adaptation plan, and emergency response plan, which will address drought, heat and flooding. The Tribe is coordinating with USFS to develop collaborative planning strategies to address wildfire management and create a pine nut management plan that includes the establishment of a conservation area to restrict commercial use and harvesting. The Yomba Shoshone Water Resources Department received a USDA Rural Facilities Grant to revamp water infrastructure and develop water storage for potable use and fire response. The Tribe is also in the process of creating a Wildfire Team and identifying and mobilizing necessary equipment, resources and training. The principal organizational resource for the Tribe has been ITEP. The Tribe works closely with FEMA Inter-Tribal Emergency Response Commission to support disaster response planning. The Tribe plans to utilize more local and regional resources, including the DRI. The Tribe receives funding through the EPA and BIA. The Yomba Shoshone Tribe needs technical assistance, hands-on support in developing

plans and regional partnerships, help identifying and accessing the necessary groups, resources, information, and support. The Tribe also expressed a need for facilitators who are sensitive to tribal dialogue and dynamics and can inform and engage communities and translate information to communities and councils in traditional ways (i.e., using TEK and without using the term "climate change").

6.5 Assessment Summaries from New Mexico Native Nations

Pueblo of Acoma

The Pueblo of Acoma developed a draft Emergency Response Plan, which includes a mitigation plan and FEMA disaster planning and preparation. The Tribe intends to engage the community and build support to further develop and finalize the plan. The Tribe is concerned about the effects of heat and drought on traditional and cultural resources. The Tribe implemented a Forest Management Plan and plans to develop a Fire Management Plan. The Pueblo of Acoma collaborates with the regional USDA extension and local universities on agricultural issues and projects. The Pueblo of Acoma Tribe needs assistance and is interested in establishing new partnerships. The Tribal Environmental Department utilizes EPA GAP funds; however, climate change is not currently part of the department's work plan. The Environmental Department is interested in climate change planning and plans to consider funding opportunities in the future. The Pueblo of Acoma Natural Resources Department is interested in pursuing federal funding opportunities for future planning. At this point, the Environmental Department does not have adequate staffing to initiate climate change planning and identify resources and needs.

Pueblo of Sandia

The Pueblo of Sandia has participated in several climate-related local conferences, workshops, and webinars and obtained climate change planning information from ITEP. The Pueblo of Sandia is in the initial stage of developing a climate change consortium of New Mexico Tribes to provide workshops and opportunities for inter-tribal collaboration. The Pueblo of Sandia Natural Resources Department (NRD) is developing a vulnerability assessment, an adaptation plan that focuses on drought and water resources, and an emergency response plan that incorporates flooding issues. Following completion of the adaptation plan, the NRD will obtain input from other tribal departments and community members before submitting the final plan to the Tribal Council for review. The Tribe has developed and implemented a water resources strategic plan and a drainage and flood control plan. The Tribal Environmental and Economic Development Departments established a plan for new development projects that includes low impact strategies, such as the use of green infrastructure design and engineering. The Tribe's adaptation strategies focus on infrastructure improvements for flooding; implementation of fire management strategies along urban interfaces; development of a water resource strategic plan; and planning strategies for the protection of cultural resources and traditional ecological

knowledge. The Tribe is currently collaborating with CCASS. The Tribe currently receives EPA GAP funding to support climate change adaptation planning initiatives. The Pueblo of Sandia is interested in obtaining technical assistance that extends beyond website resources and webinars to support climate change adaptation. Specifically, the Tribe wants access to an interactive database that includes information such as funding sources for personnel, planning, and implementation; and, examples of tribal, federal, state and local government climate change adaptation plans.

Pueblo of Santa Ana

The Pueblo of Santa Ana is engaged in a variety of efforts to address climate change. The Pueblo has begun partnerships with organizations that focus on carbon credit markets and compost applications for carbon sequestration. The Pueblo of Santa Ana has an Emergency Response Plan. They are not directly implementing any adaptation strategies, but try to work adaptation strategies into natural resource management. They are currently working on a watershed assessment with the Corps of Engineers, which will incorporate climate change considerations. The Pueblo has a range of mitigation strategies. The Pueblo's transit program aims to reduce emissions of greenhouse gases. The Pueblo has begun placing solar panels on new homes to take advantage of renewable energy opportunities. Some of the Pueblo's businesses have energy conservation strategies that have reduced their energy use. The Pueblo's Restoration Division is funded under the BIA Climate Change grants to perform a dendrochronology study. Funding and staff time designated to adaptation planning would be useful. The Pueblo has the knowledge and capability to carry out this type of work; it is just not a priority right now.

6.6 Assessment Summaries from Utah Native Nations

Confederated Tribes of the Goshute Reservation

The Confederated Tribes of the Goshute Reservation Tribal Environmental Program (TEP) is beginning to work on climate change adaptation with assistance from EPA. The main areas of concern are air pollution, endangered species, groundwater pollution, agriculture, irrigation, and the hydrologic impacts of decreasing snowmelt. The TEP will use EPA GAP funding to initiate their climate change adaptation work and hopes to expand their efforts with larger funding sources. The TEP has worked with USDA extension and a private consultant and is interested in partnerships to examine water resource issues and water quality. The TEP has need for a feasibility study that focuses on vulnerability and risk assessment, community outreach and evaluation of needs. The tribe previously began work on renewable solar and wind energy development, but this project did not continue after changes in leadership. There is interest in solar at the residential level, but solar installations through the local utility company are currently not cost-effective. The TEP is also interested in addressing indoor air quality issues by acquiring clean, burning woodstoves for tribal members.

Paiute Indian Tribe of Utah (Cedar City Band, Kanosh Band, Koosharem Band, Indian Peaks Band, Shivwits Band)

The Paiute Indian Tribe of Utah has focused on preparing for climate change through securing water resources and developing emergency response capacity. The installation of deep wells, pumps and pipeline distribution facilities affords the Tribe water security in the event of a serious drought. The Paiute Tribe Emergency Response Team meets regularly to plan and prepare for Tribal Emergencies and meets regularly to plan and prepare for Tribal Emergencies. The Paiute Tribal Headquarters has increased its capacity to function in an emergency by recently building and activating an effective radio communications site, which is presently capable of handling local VHF/UHF and worldwide HF traffic. The Tribe has utilized funding from BIA and other grants to support their adaptation work. It is interested in additional funding to purchase additional water rights and build infrastructure. There is also a need for credible data to show where climate change is heading and what changes to expect on a local level.

Ute Mountain Ute Tribe

See Section 6.3. Colorado



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Appendix 1. NNCAP Tribal Climate Change Assessment Questionnaire

NNCAP is currently conducting a survey assessment of tribal climate change activities, co-funded by the Department of Interior and we would very much value your input. In 2011, The Institute of Tribal Environmental Professionals (ITEP) produced a report http://www7.nau.edu/itep/main/tcc/docs/resources/SWTCCEffortsAZNM_12-14-11.pdf that highlights actions taken by tribes in Arizona and New Mexico to address climate change. Our assessment effort seeks input from tribes in Arizona, California, Colorado, Nevada, New Mexico, and Utah. We would greatly appreciate your time in answering a few questions that will help identify tribal needs related to climate change and potentially inform future policy decisions. We would like to conduct a brief phone interview with you as soon as possible, which should take about 30-45 minutes. Your participation and feedback are essential and we can accommodate your schedule.

Questionnaire:

- 1) Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

- 2) Has your Tribal Nation developed (or are you in the process of developing) any of the following?
 - a. Climate Change Vulnerability Assessment;
 - b. Climate Change Adaptation Plan;
 - c. Emergency Response Plan;
 - d. Plan focused on drought, heat, and/or flood.

- 3) Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

- 4) Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?
 - a. If so, do you know if these plans or initiatives include climate change adaptation strategies?

5) Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

6) Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

a. Are you interested in partnerships and if so what would you like to accomplish?

7) What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

8) What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

Appendix 2A. Assessment Responses from Arizona Native Nations

Ak-Chin Indian Community

Location: Maricopa, AZ

Website: <http://www.ak-chin.nsn.us/>

The Ak-Chin Indian Community had not previously seen the ITEP report before Chad sent it. The energy audit project mentioned it did take place but the respondent was not working in the department at the time in 2009.

1. Has your tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

The tribal government is not engaged in any activities that they are aware of. Ralph Gomez, Air Quality specialist for the tribe, has attended ITEP trainings, did a presentation with EPA in October 15, and is doing outreach within the tribe. He has worked on a model inversion project with fish tanks. With regard to council members engaged in these efforts, Capital Projects Office is talking to Casey Surgeon who previously worked with for the Gila River Indian Community on solar lighting for parking lots and now works for Ak-Chin Indian Community Capital Projects Office. They are not sure if anything like this has been done at Ak-Chin yet. The tribal council does not have a proclamation endorsing climate change work but is interested in implementing more solar in their construction projects.

2. Has your tribe developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

No

b. Climate Change Adaptation Plan?

No

c. Emergency Response Plan?

Yes

d. Plan focused on drought, heat, and/or flood?

Flooding issues are included in the Emergency Response Plan

3. Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

The tribe is not currently implementing any strategies to manage climate risks.

4. Has your tribe or any other tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

Other than the emergency response plan, they are unsure of planning among other tribal sectors.

5. Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

The tribe is looking into solar as mentioned above, as well as retrofitting diesel engines to reduce emissions.

6. Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs? Are you interested in partnerships and if so what would you like to accomplish?

The tribe partnered with the Department of Energy in 2009 on energy audits of residential homes and two commercial buildings. The contracts and grant office does not have the documents readily available pertaining to this project so it is difficult to identify the outcomes of these energy audits. All documents are archived and it will take some time to retrieve. Other than attending ITEP trainings, they have not partnered with universities, CSCs, or LCCs. They are interested in partnerships and in knowing which trainings and conferences that NNCAP staff plan to attend.

7. What type(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

They have a 103 grant for air quality through EPA. They were interested in the BIA grant to support climate change adaptation efforts.

8. What kind(s) of assistance or resources would be useful in helping your tribe develop climate adaptation plans and implementation strategies?

They are interested in grant funding to develop a Climate Adaptation Plan. They are unsure whether they would retain a contractor to conduct the work or complete the work in-house.

Fort McDowell Yavapai Nation

Location: Fountain Hills, AZ

Website: <http://www.fmyn.org/>

The respondent looked over the ITEP report and did not have any questions. The section on Ft. McDowell Yavapai Nation is accurate for the time it was written. The Nation did not approve the major-scale solar projects that were considered but small-scale solar projects were implemented for the air quality monitoring station and the building housing the Environmental Department. The energy audits mentioned in the report did take place and an energy efficiency analysis was carried out which resulted in weather stripping upgrades, lighting replacements with high efficiency bulbs, and motion sensor installations in a number of tribal buildings.

1. Has your tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

The Ft. McDowell Yavapai Nation has not facilitated any workshops. It is in the preliminary phase of carrying out an alternative water supply study. It recently submitted an EPA GAP grant application to do a climate change vulnerability assessment or sustainability analysis on climate change impacts on the Nation. Included in this sustainability analysis will be impacts to the Verde River due to temperature increases and precipitation reductions.

2. Has your tribe developed (or are you in the process of developing) any of the following?

- a. Climate Change Vulnerability Assessment?
- b. Climate Change Adaptation Plan?
- c. Emergency Response Plan?
- d. Plan focused on drought, heat, and/or flood?

They are currently in the first steps of carrying out the climate change vulnerability assessment. Once complete, a climate change adaptation plan will be prepared. The fire department has an Emergency Response Plan.

3. Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

Not at this point.

4. Has your tribe or any other tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

They conduct water quality sampling of the Verde River and the community's water systems. Their air quality monitoring station measures ozone and dust, and they take action if these readings exceed EPA standards.

5. Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

They have solar projects as mentioned above. Since farming accounts for 80% of the Nation's water use, they have prioritized efficiency in agriculture with laser-leveled fields that are completely on drip irrigation. Their residential areas are desert landscaped, and absent of any grass lawns or swimming pools. They previously applied for LEED certification for their casino resort but the award did not proceed because of change in casino management.

6. Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs? Are you interested in partnerships and if so what would you like to accomplish?

They have hired consultants to do water quality analyses and identify new well locations. They have partnered with EPA on four grants and on one grant with BIA. They completed an invasive weed survey and have completed eradication efforts for Giant Reed and Tree Tobacco. They occasionally work with Salt River Pima–Maricopa Indian Community on sampling the Verde River. They have a joint hazardous waste effort with the town of Fountain Hills, AZ. Initial discussions have taken place with University of Arizona Center for Climate Adaptation Science and Solutions regarding technical assistance to the Tribe for the Climate change vulnerability assessment and adaptation plan. They do not have partnerships with an LCC or RISA. They partner with ITEP on air quality training and data transfer. They also get proposals for partnerships with ITCA and other tribes, and almost always follow through on these offers for collaboration.

7. What type(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

They have utilized funding from EPA for climate change studies and solar energy projects, and from the Department of Energy on energy efficiency projects.

8. What kind(s) of assistance or resources would be useful in helping your tribe develop climate adaptation plans and implementation strategies?

Financial and technical assistance to conduct studies and financial and technical assistance to implement adaptation strategies.

Fort Mojave Indian Tribe

Location: Needles, CA (tribal lands in AZ, CA, NV)

Website: <http://mojaveindiantribe.com/>

See Appendix 2B. - California

Gila River Indian Community

Location: Sacaton, AZ

Website: <http://www.gilariver.org/>

They were aware of the ITEP report and while they were not involved directly with that effort, but they work extensively with ITEP on

various projects. The information in the ITEP report needs to be updated because many staff members associated with the activities listed are no longer working for the department. For example, the renewable energy efforts are dormant and there was a previous staff member who obtained LEED certification but no longer works for the tribe. Overall, the information in the report is helpful but there is more to add.

1. Has your tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

The Gila River Indian Community (GRIC) Department of Environmental Quality (DEQ) is planning to carry out climate change projects through BIA funding and with some EPA funding. As part of these efforts, they plan to engage with ITEP to hold two workshops in the community, which is a component of the grant.

2. Has your tribe developed (or are you in the process of developing) any of the following?

- a. Climate Change Vulnerability Assessment?
- b. Climate Change Adaptation Plan?
- c. Emergency Response Plan?
- d. Plan focused on drought, heat, and/or flood?

The Community has various plans that are indirectly and directly related to climate change, such as their emergency response plan and their wildfire management plan. They are in the process of hiring staff in order to carry out a full climate change vulnerability assessment for the tribe and address climate change holistically. The BIA grant was funded for fiscal year 2015 to hire an environmental specialist in climate change. They are willing to share a portion of their work plan for this grant.

3. Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

They are in the process of planning for a vulnerability assessment and developing adaptation strategies. The tribe has an emergency response plan, flood plan, and a drainage assessment, but no drought plan.

4. Has your tribe or any other tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

Many sectors of the tribe have plans, but they could not comment on the specifics.

5. Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

GRIC has deployed many climate mitigation strategies to varying degrees. The renewable energy team is not currently active, but there are efforts to make sure that the community is building sustainably, such as through their housing projects and minimizing greenhouse gases. ADEQ is currently collaborating, as the only community in Arizona, on the EPA Making a Visible Difference Initiative. Other participants include Las Vegas, Portland, and the St. Regis Mohawk Tribe. <https://www.epa.gov/smartgrowth/making-visible-difference-communities>

6. Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs? Are you interested in partnerships and if so what would you like to accomplish?

The Community partnered with NNCAP through the Tribal Leaders Summit and with CCASS scientists Dan Ferguson and Alison Meadow on the climate change profile. They have not worked with CSCs, RISAs, or the Climate Hubs, but they did have some funding from the BIA funneled through the Desert LCC for conference travel. They are interested in partnerships that would enhance environmental literacy not only within their department but also among policy makers, decision makers, and tribal members. They want to collaborate with other organizations in the most efficient way possible, which currently would be to support their efforts to conduct a vulnerability assessment and implement adaptation strategies. They are partnering with EPA on its Making a Visible Difference in Communities initiative.

<https://www.epa.gov/smartgrowth/making-visible-difference-communities>

7. What type(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

The Community has primarily utilized funding from BIA and had some support from EPA. A previous staff member had funding through the EPA Community Action for a Renewed Environment (CARE) grant. They applied to the EPA STAR grant but were unsuccessful and had two proposals that were not accepted. The application process is difficult and time consuming so they have to decide whether to pursue additional grants. They have worked with ASU to draft a funding proposal because of the effort involved with the grant application process.

8. What kind(s) of assistance or resources would be useful in helping your tribe develop climate adaptation plans and implementation strategies?

Assistance from universities on writing grants would be helpful. They are interested in any and all funding that is available to support their climate change efforts. They believe that the blueprint for a climate change adaptation plan should not be the end goal. Thus, the challenge with one-year funded projects like their BIA grant is building momentum and capacity to continue supporting a full-time staff position who could implement adaptation strategies in subsequent years. Additional help similar to what the climate change profile they received from CCASS would also be useful. They look forward to having access to a list of potential collaborators, tribes and resources to support their adaptation efforts.

Hualapai Tribe

Location: Peach Springs, AZ

Website: <http://hualapai-nsn.gov/>

The Hualapai Tribe was an early participant in the ITEP program and members of the Tribe acted as trainers in the program. The basic information in the assessment is still current. The Tribe feels people need to be aware of existing vulnerability assessments. The Tribe expressed frustration that ITEP seemed more focused on whether tribes had adaptation plans in place rather than if they had the resources to fund, support, and implement plans. The Tribe was encouraged that funds to support resiliency planning, such as those available from NOAA, could be utilized develop and implement contingency plans to benefit youth and elderly tribal members. The Tribe is a strong promoter of the alternative energy projects listed in the previous ITEP report and is in favor of ramping up climate change preparedness plans. The Tribe is currently advocating for solar projects that can sustain communities and is actively seeking tribal council support for these efforts. In an effort to educate and prepare future generations, the Tribe is also developing a straw-bale 4H facility.

1. Has your Tribal government engaged in activities focused on climate change?

The Tribe, in consultation with tribal leadership, recently hired a planner to work on a master plan. The master plan will require that a climate change component be included in all future planning programs.

Have you facilitated any climate-related workshops in your community?

The Tribe has previously facilitated climate change workshops and will continue to do so in the future. In an effort to educate communities, the Tribe is actively engaging with elementary school children to increase preparedness for extreme weather events. The Tribe's outreach efforts also focus on helping rural communities and vulnerable populations, such as those individuals on dialysis, plan for extreme weather events. One strategy the Tribe is implementing involves encouraging communities to maintain a three weeks' supply of food and medicine in case of extreme weather conditions or other natural disasters.

2. Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment; Yes, the NRD has developed a plan.

b. Climate Change Adaptation Plan?
Yes, the NRD has developed a plan.

c. Emergency Response Plan?
Yes, the Tribe has a plan, but it may require updating. The Tribe also has an emergency response team in place.

d. Plan focused on drought, heat, and/or flood?

Yes, the Tribe has a drought contingency plan. The Tribe is one of the first nations to have such a plan recognized by Congress, which includes tribal capacity to declare a drought. The Tribe is actively developing a plan to address impacts from extreme heat.

3. Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

The Tribe currently has an aggressive forestry program that includes thinning and a robust uneven forest management strategy. The goal is to reduce and clear understory and the program has produced positive results on tribal lands. The Tribe has and will continue to develop apron catchments across tribal lands to benefit wildlife by capturing rainfall and snowfall.

The Tribe is interested in expanding water storage and delivery capacity efforts, including the dredging earthen impoundments, to maximize storage containment/capacity. The Tribe has implemented these types of initiatives since 2004/2005 to mitigate the effects of climate change.

The Tribal Natural Resource Department has emphasized that each department or program should include a proactive planning component with respect to climate change and the related impacts to service delivery.

4. Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure? If so, do you know if these plans or initiatives include climate change adaptation strategies?

The Tribe has proactively installed devices to monitor all the Tribe's aquifers. This effort affords the Tribe a management tool to monitor fluctuations in groundwater storage. The Tribe has also installed sensors on water storage tanks that electronically track storage capacity. The Tribe is currently exploring and applying for grants to increase water storage capacity.

5. Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

The Tribe is currently exploring the carbon trading system; however, this system is complex and will require additional research by the Tribe. To date, the Tribe's highest priority is youth education and the challenges of climate change. The Tribe has held youth summer camps to promote this effort. The Tribe would like to see an emphasis on development of solar projects and will lobby incoming Tribal leaders to support this effort.

6. Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

The Tribe was involved in NOAA-funded projects and coordinated with the EPA and Bureau of Reclamation to obtain funding for the construction of a water storage and delivery system. They participated in an EPA Think Tank for Green Infrastructure, which helped the Tribe develop a green building code. A private consultant provided design support for the straw-bale 4H facility. The Tribe also partnered with Dr. Larry Stevens at the Museum of Northern Arizona to address technical water resource (e.g., seeps and springs) issues. The Tribe coordinated with the CSCs early on, but were frustrated because they focused primarily on science research and required money to support Tribal planning and implementation efforts. The Tribe wants the CSCs to demonstrate the usefulness of available planning tools and advocate for opportunities for tribes.

Are you interested in partnerships and if so what would you like to accomplish?

The Tribe is interested in partnership opportunities for the development of solar power. They need access to affordable and reliable power and are concerned they will be the last group served. The Tribe is currently evaluating reliable water sources, such as canyon water impoundments, for water storage and hydropower. They are also considering additional alternatives, including the development of straw-bale homes powered by solar or wind energy and fuel generation from biomass. The Tribe is interested in developing new projects, including a renewable energy farm; however, leadership does not currently support the idea.

7. What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

Historically the Tribe has utilized several funding sources, including funds from the U.S. Environmental Protection Agency, Bureau of Reclamation, U.S. Department of Agriculture, Department of Energy, Indian Health Services, and the Department of the Interior. The Tribe has applied for a multi-year NOAA grant and is currently exploring additional funding sources for the development of solar projects.

8. What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

The Tribe partners with universities out of necessity, but wants scientists to take a more applied and less academic view. The Tribe wants the University of Arizona to work with tribes and come up with creative ways to develop solutions using scientific research and tools. For example, the Tribe is trying to develop and implement a number of projects and would like the science community to work with them to help create a model for adaptation and sustainability. The Tribe wants academic institutions to provide technical support for planning their solar farm and water resources (e.g, supply, storage, and filtration). In the future, they also want to expand technology training and outreach for the Tribe.

Kaibab Band of Paiute Indians

Location: Fredonia, AZ

Website: <http://www.kaibabpaiute-nsn.gov/>

The Kaibab Band of Paiute Indians (the Tribe) is relatively new to climate change planning. The Tribe completed studies to determine the feasibility of wind and solar projects approximately six years ago. The studies determined that wind was not a viable alternative energy source for the Tribe. They are still exploring solar as an alternative energy source. The representative from the Tribe was unfamiliar with any home weatherization efforts occurring on tribal lands.

1. Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

To date, the Tribe has not engaged in any activities related to climate change and has not hosted climate change related workshops in the community.

2. Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

No

b. Climate Change Adaptation Plan?

No

c. Emergency Response Plan, Yes, the Water Resources Department developed a plan.

d. Plan focused on drought, heat, and/or flood?

No

3. Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

The Tribe uses firebreaks around villages to mitigate the risk of wildfires. The Tribe is also focusing on conservation and outreach efforts to educate communities about water use.

4. Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

The Water Resources Department has completed an emergency response plan.

If so, do you know if these plans or initiatives include climate change adaptation strategies?

The emergency response plan does include a small section that references potential future studies that may consider climate

change.

5. Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

The Tribe has not deployed any climate mitigation strategies.

6. Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

The Tribe has not partnered with any government institutions, universities or other such entity. The Tribe has received letters from the federal government that include some information on climate change strategies.

Are you interested in partnerships and if so what would you like to accomplish?

The Tribe is interested in outside partnerships and welcomes potential collaboration with the University of Arizona. The Tribe is relatively small and they are concerned that outside institutions and organizations will consider the climate change issues facing larger tribes to be more pressing. The Tribe is also interested in developing agreements with the USFS and BLM.

7. What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

The Tribe has received funding from the Bureau of Indian Affairs and supplemented with Tribal funds. The Tribe has not received any funding from the Environmental Protection Agency.

8. What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

The Tribe is interested in boots-on-the-ground efforts to educate community members and leaders. The Tribe understands climate change issues, but it is not always easy to communicate the local effects of climate change on individuals and communities. The Tribe is also interested in water resource planning support. The Tribe is dependent on wells and water supply is a concern. There is a Mormon community located in the center of Tribal land (on Arizona State Land) and water sharing is an issue. The Tribe would be interested in developing a Memorandum of Understanding (MOU) with federal agencies.

Pascua Yaqui Tribe*

Location: Tucson, AZ

Website: <http://www.pascuayaqui-nsn.gov/>

* The assessment questions were revised after this interview took place.

The Pascua Yaqui Tribe is familiar with the ITEP 2011 report and continuing to consider and develop opportunities for the development of renewable energy and water conservation projects. The Tribe has a U.S Fish and Wildlife Service grant that supports mutually beneficial planning efforts for species preservation. The Tribe is also considering the possibility of incorporating ecological tourism into their golf course management planning. The Pascua Yaqui Tribe could integrate climate change mitigation and adaptation efforts into more diverse tribal activities.

1. Is your tribe or community deploying any climate adaptation strategies (to manage the risks associated with climate change (drought, wildfire, heat, air quality issues, changes in availability of traditional cultural resources) and/or doing planning to manage those risks? Are there any plans that may not directly address climate change, but are related to climate change, such as a drought monitoring plan, emergency response plans, etc.?

The Pascua Yaqui Tribe's Health Department conducts ambient air quality monitoring and is developing an air quality warning system. The Health Department is also focusing on community wellness planning, including the documentation of disease occurrences and the identification climate change-related health issues.

The Language and Cultural Department is having a tougher time locating plants, such as cottonwood, for ceremonial use. They are working collaboratively with the Bureau of Land Management (BLM) as part of a conservation effort. The BLM is removing mesquite from select areas to preserve habitat for prairie dogs and the Tribe is using the mesquite for ceremonial use.

The Tribe is creating youth engagement opportunities and encouraging stewardship and STEM educational opportunities for biology, ecology, and land management.

The Tribe is actively looking for opportunities to collaborate and wants to focus on mitigation initiatives to ensure community health and security.

2. Has your tribe deployed any climate mitigation strategies (efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

The Tribe conducted a photovoltaic (PV) solar feasibility study, funded through a Department of Energy grant. The Tribe also facilitated a community energy-planning event to help set a vision for long-term energy independence.

The Tribal community expressed a need for changes to energy management efforts and organization to ensure the adoption of sound technology and adequate returns on investments. The Tribe needs to utilize high-quality technical information to support decision-making, while improving educational and outreach efforts to Tribal communities.

3. Has your tribe partnered with any governments, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, and USDA Climate Hubs) to research, plan for or implement climate related programs? Are you interested in partnerships and if so what would you like to accomplish?

The Tribe feels that partnerships with organizations are good, but there needs to be more focus on influencing leadership and policy at the state and national levels. In addition, the Tribe wants there to be a consistent message about regional tribal needs conveyed to policymakers Washington D.C.; otherwise, they feel current progress will be impeded.

The Tribe recommends a collaborative workshop to establish data sharing agreements (such as traditional ecological knowledge (TEK)). The Tribe wants to focus on this recommendation because research findings are not typically shared with the Tribe. The Tribe feels the lack of emphasis on two-way sharing has affected relationships with universities. The Tribe specifically identified the IRB process as problematic.

The Tribe said that the extension of the Obama Administration's solar tax credits was beneficial to the Tribe's solar programs. However, there are still barriers to existing programs, such as overcoming rate and deployment issues with their local electric provider, Trico Electric Power Cooperative.

4. What kinds of assistance would be useful in helping your tribe develop climate adaptation plans and implementation strategies?

The Tribe indicated that the University of Arizona's Tribal Leaders Climate Summit was a great start to share information and connect with other tribes. They said that now tribes want to take control of these types of efforts. The Tribe expressed interest in entering into proposals with universities and working with groups like the UA innovations team; Pima County, and the City Tucson. The Tribe is exploring how to work collaboratively with regional entities to plan for climate change and look at economic opportunities at a broader scale. The Tribe wants to become a leader for the region and expand ideas for greater impact, while acknowledging collective efforts are needed.

5. What kind of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

The Tribe has used some grant funds for the planning of web-based applications. The Tribe has community energy plans at regional and state scales. They expressed the need to focus on planning and follow through with implementation efforts. The Tribe has grants in the social/health field. These grants fund the incorporation of cultural knowledge and the center for climate training. These programs are important because they provide information on the uses of cultural knowledge in the workplace.

6. Does your tribe have a climate coordinator? Or has someone been tasked with responsibilities to address climate change?

The Tribe currently does not have a climate change coordinator. The Tribe indicated that they may need to apply for a grant to create the capacity for such a position. The Tribe also expressed a need for sharing job descriptions and organizational structures

across departments when selecting a climate coordinator to meet broader needs.

Salt River Pima-Maricopa Indian Community

Location: Scottsdale, AZ

Website: <http://www.srpmic-nsn.gov/>

1. Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

The Salt River Pima-Maricopa Indian Community (SRPMIC) Tribal government has not directly engaged on any specific climate change. SRPMIC has yet to facilitate any related workshops but may be interested in learning more about the opportunity to host awareness workshops. The Emergency Management program has been involved in workshops with the National Weather Service and other emergency preparedness partners to discuss what data emergency managers need to integrate climate change into their planning process.

2. Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a) Climate Change Vulnerability Assessment?

No, but they are interested in learning more.

b) Climate Change Adaptation Plan?

No, but they are interested in learning more.

c) Emergency Response Plan?

The Emergency Manager is responsible for ensuring safety and preparedness for any emergency within SRPMIC including floods or extreme weather changes. SRPMIC has partnerships with entities or governments such as Maricopa County and the Red Cross, as well as other Tribal Nations. The Emergency Management program is also monitoring possible new requirements from FEMA to integrate climate change into the tribal Emergency Operations Plans and other planning efforts. Once these requirements are clearly defined, planning documents and planning efforts will be adjusted to be in compliance with guidelines and/or best practices.

d) Plan focused on drought, heat, and/or flood?

Flood, extreme heat, and drought are already addressed in the Salt River Indian Community's Multi-Hazard Mitigation Plan as potential hazards to the Community. The Tribal Emergency Operations Plan has specific sections that address these hazards as well.

3. Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

SRPMIC is not implementing adaptation strategies but is interested in learning more. The only aspects they constantly work on are drought, wildfires, and floods. At this time their approach, from the emergency planning perspective, is that climate change will just cause more of these events, and they may be more severe. Their current plans are adaptable and expandable so they should meet the needs of the impact of climate change.

4. Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

SRPMIC has an Emergency Response Plan, Hazard Mitigation Plan, and Tribal Emergency Response Committee (TERC), which meets quarterly to discuss emergency response issues including flood events. TERC works with Transportation, Water Resources, Geographical Information Systems, Police and Fire among other departments to plan for the use of different resources during an Emergency.

a. If so, do you know if these plans or initiatives include climate change adaptation strategies?

These plans currently do not have adaptive strategies for climate change but may in the future depending on new standards that may be established in the area of emergency response and preparedness.

5. Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

There are currently no mitigation strategies.

6. Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

SRPMIC has not partnered with any of these institutions or entities.

a. Are you interested in partnerships and if so what would you like to accomplish?

The Environmental Protection and Natural Resources Division and the Cultural Resources Department would be interested in partnerships to assist with research and planning, if direct funding is available.

7. What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

The Emergency Management Department has received funds from the Department of Homeland Security but it is not specific to climate change. Their grant funding to develop a Hazard Mitigation Plan does discuss climate change.

8. What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

SRPMIC would be interested in learning about climate change as a whole, if funding is available. They would require assistance in workshop development to raise awareness as well as classes on how climate change could impact the tribe and its culture. In order to develop an adaptation plan, SRPMIC needs to understand what they are safeguarding. On the side of Emergency Management, it would be helpful to learn about best practice examples of other Community's changes to their plans in order to adapt for climate change.

Tohono O'odham Nation

Location: Sells, AZ

Website: <http://www.tonation-nsn.gov/>

Upon reviewing the ITEP report, the results are not current because the Tohono O'odham Nation is not doing what is stated in the report.

1. Has your tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

The Tohono O'odham Nation Water Resources Department has been working with CCASS staff scientist Alison Meadow on a draft climate change adaptation plan (CCAP), which covers drought, wildfire, heat, flooding, and water availability.

2. Has your tribe developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

Not at this time

b. Climate Change Adaptation Plan?

Yes, in process

c. Emergency Response Plan?

The CCAP covers drought, wildfire, heat, and water.

3. Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

The Tribal Environmental Protection Office is developing an air quality-monitoring program.

4. Has your tribe or any other tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or

plans, such as emergency response, monitoring, and infrastructure?

The Water Resources Department has a network of weather monitoring systems throughout the Nation that monitors rain, temperature, and relative humidity. Monitoring surface evaporation and evapotranspiration is planned for the future.

5. Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

There are no mitigation efforts at this time. The Building Maintenance Program is trying to get assistance for energy efficiency projects related to air conditioning and lighting. The Tohono O'odham Housing Department submitted a HUD funding request to permanently switch from evaporative coolers in exchange for A/C systems.

6. Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs? Are you interested in partnerships and if so what would you like to accomplish?

The Nation has partnered with NNCAP through the Tribal Leaders Summit and with CCASS on the climate change adaptation plan. WRD Director, Dr. Selso Villegas, talks with Steve Jackson at the SWCSC and is in communication with the Desert LCC, which has asked to collaborate with the Nation. WRD has not been in contact with the Climate Hubs.

7. What type(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

Current funding comes from the EPA through the Water Grant Initiative.

8. What kind(s) of assistance or resources would be useful in helping your tribe develop climate adaptation plans and implementation strategies?

Funding is a useful resource. Another useful resource would be a partnership with the University of Arizona in which the Nation could establish a point of contact to request technical assistance on specific issues such as agriculture, agriculture economics, etc. There is a need for technical assistance and dissemination of scientific information.



Appendix 2B. Assessment Responses from California Native Nations

Coyote Valley Band of Pomo Indians

Location: Redwood Valley, CA

Website: <http://coyotevalleytribe.org/>

Questionnaire:

1) Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

The Coyote Valley Band of Pomo Indians (the Tribe) is currently working on climate change adaptation planning. The Tribe received an EPA GAP and BIA funding to support the development of a climate change adaptation plan and community engagement. The Tribal Council has had limited involvement in the climate change planning initiatives, but will provide input on long-term planning and impacts as it gets further along in the process. Elders also want to provide input on planning strategies. They have conducted outreach to communities, including the dissemination of pamphlets and materials and workshops. The workshops are more focused on youth because adults are often more difficult to convene due to work schedules.

2) Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

Yes, this assessment will be incorporated into the Climate Change Adaptation Plan.

b. Climate Change Adaptation Plan?

Yes, the Tribe is in the process of developing this plan.

c. Emergency Response Plan?

The Tribe is not developing an overall plan at this time due to a lack of resources. They have included some emergency response initiatives into their drought planning efforts.

d. Plan focused on drought, heat, and/or flood.

Yes, the Tribe has a Drought Plan and flooding will be addressed in the Climate Change Adaptation Plan.

3) Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks.

The Tribe is in the process of evaluating long-term climate change adaptation strategies as part of the overall planning process.

4) Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

Yes.

a. If so, do you know if these plans or initiatives include climate change adaptation strategies?

The Environmental Protection Department has reached out to other departments, but there is little response. They are currently working with the Education Department on youth outreach. They anticipate that the Health Department will be more engaged as the process moves forward (i.e., currently considering air conditioning systems and housing modifications).

5) Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

The Tribe would like to pursue solar and other projects, but they do not have the funding and resources to implement these activities at this time.

6) Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

The Tribe participated in an ITEP training, but they are not close to any universities or organizations. The Tribe is small (just over 300 members) and many institutions do not feel it is worth their time to collaborate with smaller tribes. Many tribes located near universities are collaborating with tribes, but distance is an issue; some universities have approached the Tribe, but never followed up. The Tribe is looking into the CSCs, but they are not offering anything close and remoteness may make it difficult to partner.

a. Are you interested in partnerships and if so what would you like to accomplish?

The Tribe does not have specialists to provide technical capabilities and is interested in partnerships to fill in resource gaps (i.e., technical modeling, etc.).

7) What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

The Tribe has received funding through the EPA GAP and BIA. There is some state funding available, but the state requires a sovereignty waiver and the Tribal Constitution prohibits the use of waivers.

8) What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

The Tribe thought the ITEP training and template was helpful and simplified the planning process; however, the Tribe needs specialists to provide impact analyses and technical assistance. The Tribe would be interested in having input from the University of Arizona, including climate profiles and adaptation planning support.

Fort Independence Indian Reservation*

Location: Independence, CA

Website: <https://www.fortindependence.com/>

* Written responses received at the 2016 EPA Region 9 Conference in April 2016 in California

1. Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

Yes, but collaborative and the Tribe is very small.

2. Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

Started but never finished.

b. Climate Change Adaptation Plan?

c. Emergency Response Plan?

d. Plan focused on drought, heat, and/or flood?

3. Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

No

4. Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

a. If so, do you know if these plans or initiatives include climate change adaptation strategies? No

5. Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

No

6. Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

No

a. Are you interested in partnerships and if so what would you like to accomplish?

Yes

7. What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

N/A

8. What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

Unsure

Fort Mojave Indian Tribe

Location: Needles, CA (tribal lands in AZ, CA, NV)

Website: <http://mojaveindiantribe.com/>

1. Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

The Tribe is in the initial phase of developing a solar project, which is the only project listed in ITEP report that is still under consideration. To date, the Tribe has not held any climate-related workshops in the community. The Tribe does have a Tribal Environmental Plan (TEP) (funded by the EPA GAP), which is heavily focused on climate change.

2. Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

The Tribe has not completed a Climate Change Vulnerability Assessment, but they included it in their TEP and plan to prepare the assessment in 2017.

b. Climate Change Adaptation Plan?

The Tribe has not prepared a Climate Change Adaptation Plan, but it is included in the TEP and will be prepared in the future.

c. Emergency Response Plan?

The Tribe does have an Emergency Response Plan.

d. Plan focused on drought, heat, and/or flood?

The Tribe's TEP includes information on drought, heat and/or flood.

3. Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

The Tribe's TEP addresses all the listed potential impacts individually and is a 5-year planning document.

4. Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

The Tribe does have an Emergency Response Plan. The Tribe also has a Continuity of Government Plan that covers the reconstitution of government in the event of emergencies.

a. If so, do you know if these plans or initiatives include climate change adaptation strategies?

The Tribe's Emergency Response Plan currently does not include climate change adaptation strategies. However, in an effort to make planning more comprehensive, the Tribe is currently working on combining EPA and Emergency Response strategies.

5. Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

The Tribe identified solar projects as a current climate mitigation strategy. The development of solar projects is in the early stage, but the Tribe is ready to break ground on the solar project identified in the ITEP report. The project has a different name than referenced in the ITEP report and includes huge solar farms.

6. Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

The Tribe has partnered with the EPA, Centers for Disease Control, Arizona Department of Health, Arizona Department of Emergency Management, and the Mohave County Government. The Tribe also partners with the University of Arizona Mountain West Preparedness and Emergency Response Learning Center. The Tribe has representation as a board member at the Learning Center. The Tribe's Continuity of Government Plan was prepared with the help of a consultant, but the Tribe is not currently utilizing consultants in their planning process. The Tribe has not partnered with the U.S. Department of Agriculture and utilized climate hubs.

a. Are you interested in partnerships and if so what would you like to accomplish?

They are always interested in establishing partnerships. The Tribe's TEP lists resource needs and essential partners to address

those needs. Specifically, needs are broken down by resources (drought, flood, fire, erosion, invasive species, etc.) and potential partners (e.g., EPA, utilities, U.S. Forest Service, U.S. Department of Agriculture, and the U.S. Army Corps of Engineers) are identified to provide the necessary technical assistance to achieve resource goals.

7. What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

The Tribe used an EPA GAP grant to fund the preparation of their TEP. The Tribe will obtain additional GAP funding to prepare specific resource plans.

8. What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

Although the Tribe has an approved and operational TEP, they require additional technical assistance to support the development of a specific climate adaptation plan.

Iipay Nation of Santa Ysabel*

Location: Santa Ysabel, CA

Website: <http://www.iipaynation-nsn.com/>

* Written responses received at the 2016 EPA Region 9 Conference in April 2016 in California

1. Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

2. Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

b. Climate Change Adaptation Plan?

c. Emergency Response Plan?

Yes

d. Plan focused on drought, heat, and/or flood?

3. Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

Yes

4. Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

No

5. Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

No

6. Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

No

a. Are you interested in partnerships and if so what would you like to accomplish?

Yes, to have a plan that helps manage reservation lands

7. What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

8. What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

Funding, Technical help

La Jolla Band of Luiseño Indians

Location: Pauma Valley, CA

Website: <http://lajollaindians.com/lajollatribe/>

1) Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

The La Jolla Band of Luiseño Indians installed solar systems on 26 homes in cooperation with Grid Alternatives, a nonprofit organization. The Tribe has not facilitated any specific climate-related workshops, but they have done a lot of climate change related outreach at their annual Earth Day event since 2007. The Tribe's Environmental Department facilitates and conducts most of the climate change planning work and annually updates their Tribal Environmental Plan (TEP) to include climate change adaptation. The Environmental Department convenes with four other tribes and local/regional nonprofits, which includes outreach education that primarily targets adults in the community.

2) Has your Tribal Nation developed (or are you in the process of developing) any of the following?

- a. Climate Change Vulnerability Assessment;
The Tribe prepared a vulnerability assessment and funded the effort using an EPA GAP grant.
- b. Climate Change Adaptation Plan;
The Tribe developed a Climate Change Preparedness Plan and funded it using an EPA GAP grant.
- c. Emergency Response Plan;
The Tribe has an Emergency Response Plan.
- d. Plan focused on drought, heat, and/or flood
The Tribe has a drought management plan.

3) Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

The Tribe obtained a BIA grant to develop a Wildfire Management Plan that includes strategies such as wildfire breaks. The Tribe monitors ozone and air quality, but has not implemented any adaptation strategies to address air quality adaptation. They are evaluating water resource options, including the monitoring of existing wells and alternative and contingency planning to ensure a continued water supply.

4) Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

The Tribe has developed an Integrated Resource Management Plan, Emergency Response Plan, Forest Management Plan, Comprehensive Community Development Plan, Energy Plan, and Tribal Environmental Plan (TEP).

a. If so, do you know if these plans or initiatives include climate change adaptation strategies?

The Tribe will be incorporating strategies for climate change adaptation into various plans and initiatives in 2018 using the BIA climate resiliency grant funds.

5) Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

The Tribe is in the process of conducting a GHG emissions inventory. The All Mission Indian Housing Authority (AMIHA) has implemented a policy to install solar panels on newly constructed tribal homes. The Tribe is working with Grid Alternatives to install solar on existing homes and received funding from the Department of Energy (DOE) to install solar panels for the tribal government buildings.

6) Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

The Tribe worked with the University of San Diego's Climate Education Partners (CEP) program to obtain technical resources to support the development of their vulnerability assessment. The Tribe has collaborated with the University of California Irvine to engage youth in traditional practices and climate change. The Tribe also received a BIA grant to convene a southern California Tribal climate change summit. In addition, the Tribe collaborates with the Climate Science Alliance – South Coast (CSA), a partnership organization (consisting of local governments, federal and state agencies, tribes and other regional stakeholders) to obtain input on planning documents and relevant climate change science. To date, the Tribe has no partnerships with federal cooperatives but is familiar with CSCs.

a. Are you interested in partnerships and if so what would you like to accomplish?

The Tribe is interested in collaborating with organizations that can provide technical information, outreach and education, and developing Tribal climate change policies. Specifically, the Tribe expressed an interest in collaborating with the University of Arizona and other local agencies.

7) What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

The Tribe has received funding from the EPA Indian General Assistance Program (GAP) grant for developing vulnerability assessment and climate preparedness plan. They also obtained a BIA grant to convene a regional Tribal climate change summit and develop a climate change adaptation plan. The funding the Tribe has received to date was to support climate change planning. The Tribe has already completed the planning phase and needs to secure funding for implementation. They are interested in obtaining technical assistance and financial assistance to make the existing planning documents more relevant and useful for implementation.

8) What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

The Tribe needs technical information about future climate related projections including precipitation, and effects on protected plant, animal species, and other cultural resources. The Tribe is interested in technical resources to advance and implement existing planning efforts and support decision-making. The Tribe is interested in understanding the perspectives and preparedness of other tribes and local and state governments on climate change adaptation. The Tribe wants to identify next steps that will help them move forward in adaptation planning and implementation.

Pechanga Band of Luiseño Indians*

Location: Temecula, CA

Website: <http://www.pechanga-nsn.gov/>

* Written responses received at the 2016 EPA Region 9 Conference in April 2016 in California

1. Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

No

2. Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

Yes

b. Climate Change Adaptation Plan?

Yes

c. Emergency Response Plan?

No

d. Plan focused on drought, heat, and/or flood?

Yes

3. Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

Yes, drought, wildfire, air quality issues, and changes in availability of traditional cultural resources

4. Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

Yes

a. If so, do you know if these plans or initiatives include climate change adaptation strategies?

No

5. Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

No

6. Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

No

a. Are you interested in partnerships and if so what would you like to accomplish?

7. What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

EPA funds

8. What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

Technical assistance

Ramona Band of Cahuilla*

Location: Anza, CA

Website: <http://ramona-nsn.gov/>

* Written responses received at the 2016 EPA Region 9 Conference in April 2016 in California

1. Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

No

2. Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

No, have not developed but are in the process

b. Climate Change Adaptation Plan?

c. Emergency Response Plan?

d. Plan focused on drought, heat, and/or flood?

3. Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

No

4. Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

No

a. If so, do you know if these plans or initiatives include climate change adaptation strategies?

No

5. Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

Yes

6. Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

No

a. Are you interested in partnerships and if so what would you like to accomplish?

Yes

7. What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

None

8. What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

Training

Viejas Band of Kumeyaay Indians*

Location: Alpine, CA

Website: <http://viejasbandofkumeyaay.org/>

* Written responses received at the 2016 EPA Region 9 Conference in April 2016 in California

1. Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

No

2. Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

Working on a Tribal Climate Vulnerability Assessment Pilot Program

- b. Climate Change Adaptation Plan?
 - c. Emergency Response Plan?
 - d. Plan focused on drought, heat, and/or flood?
3. Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?
4. Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?
- a. If so, do you know if these plans or initiatives include climate change adaptation strategies?
5. Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?
6. Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?
- a. Are you interested in partnerships and if so what would you like to accomplish?
7. What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)
8. What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?



Appendix 2C. Assessment Responses from Colorado Native Nations

Ute Mountain Ute Tribe

Location: Towaoc, CO (tribal land in CO, NM, UT)

Website: <http://www.utemountainutetribe.com/>

Since the ITEP report, the Ute Mountain Ute Tribe has expanded on their renewable energy projects.

1. Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

The Ute Mountain Ute Tribe recently applied for and was awarded climate change grant funding from the BIA and is looking to hire a project coordinator, but has had some difficulty in filling the position. The grant's work plan involves collaboration with Shannon McNeeley, an outside consultant from Colorado State University who previously worked with Alaskan Native villages, to interview elders, tribal leaders, and staff to obtain perceptions of climate change impacts on the Tribe. Interview results will enable the Tribe to create a climate change adaptation plan. The Tribe's Environmental Programs Department (EPD) had some involvement with the Mountain Studies Institute (MSI) on a project to identify three basic climate change scenarios, which will be incorporated into the Tribe's adaptation plan. EPD could not continue working with MSI because timelines did not match up, but the Tribe is interested in their efforts. Climate-related workshops will be a part of the BIA grant work plan in order to engage with tribal members. The tribal council is highly supportive of these efforts and will be actively involved in the interviews.

2. Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

The Tribe does not have a Vulnerability Assessment, but this will be part of the BIA grant.

b. Climate Change Adaptation Plan?

The Tribe does not have an Adaptation Plan, but this will be part of the BIA grant.

c. Emergency Response Plan?

The Tribe's Public Safety Programs has an All Hazards Plan which morphed into an Emergency Response Plan (ERP).

d. Plan focused on drought, heat, and/or flood?

The Tribe does not have a specific plan focused on these areas, but the ERP addresses some of them. The Tribe purchased drought insurance after drought in 2002-2003 and the payout supports range improvements, moving livestock off reservation through leasing of grazing land, ground water development, and range management scenarios to reduce herds. The Tribe has a heightened awareness of flooding brought on by violent storm events.

3. Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

The EPD participated in the BIA Fuels and Forestry Management program to reduce wildfire risks. Fuels management has taken place at the wild urban interface around residential homes. The Tribe has worked with the Montezuma County Firewise Program. The Tribe is hiring an air quality program manager to better collect and disseminate air quality information to community members and vulnerable populations, given the Tribe's proximity to two coal-fired power plants, gas and oil development, and wind-blown dust. Tribal leaders have openly acknowledged that the Tribe has successfully adapted to many changes for centuries and will continue to adapt into the future.

4. Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

a. If so, do you know if these plans or initiatives include climate change adaptation strategies?

The Tribe has been proactively managing their water resources portfolio for several decades. As part of the Tribe's Colorado River water rights settlement in the 1980s, rights to the Mancos River were subordinated in exchange for access to the trans-basin Dolores Project which now has provided the Tribe with reliable drinking water and opened up a variety of economic development opportunities, including their casino resort and a sophisticated 7,000-acre agricultural facility. The Tribe is now considering a diversity of water and infrastructure improvements including efficiency repairs to irrigation ditches at an older tribal farm, developing groundwater resources for livestock and wildlife, rangeland improvements through round up of feral horses and cattle, and food sustainability initiatives through community gardens which has the added benefits of delivering healthier foods to community members and reducing the need to drive off-reservation for groceries.

5. Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

The Tribe is pursuing an impressive array of mitigation efforts. Funding from the DOE's Energy Efficiency and Conservation Block Grant Program (EECBG) resulted in a solar demonstration project on the Tribal Administration building, energy audits on tribal office buildings, and a report outlining the steps and return on investment to achieve various levels of LEED certification. The Tribe has worked with Rock Mountain Train – a heating control systems company – on a pre-investment grade audit of several tribal buildings in order to explore possibilities for a performance contract. Under this type of agreement, the amount of money earned through energy savings is used to pay for efficiency upgrades, and since the auditing company can guarantee the energy savings, the money to cover the upgrades can be secured from a bank. This type of investment may be particularly favorable to the Tribe because there are no upfront costs.

The Ute Mountain Ute Tribe has made numerous efficiency and technological upgrades to their tribal farm and ranching enterprises including center-pivot, telemetry controlled irrigation, extensive crop rotations, and USDA-funded experiments with nozzles to maximize water use. The Tribe has a comprehensive water management plan focused on current use, future development and assessing efficiency of a broad array of tribal water resources. Installation of meters has helped to identify leaks in tribal water lines and improve efficiency.

Solar energy development on tribal land has greater prospects than wind, due to limited options for turbine placement. There is also interest in harnessing energy from an existing structure at the tribal farm with a micro-scale hydroelectric project. The Ute Mountain Ute Tribe is taking a proactive approach to meeting the growing demand for alternative forms of energy in the Four Corners region as two local coal-fired plants currently face reduction in production. Their proximity to nearby transfer stations offers opportunities for the Tribe to contribute to commercial energy production throughout the Southwest. The Tribe is also considering clean diesel programs and has applied for diesel emissions reduction funding.

6. Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

a. Are you interested in partnerships and if so what would you like to accomplish?

The Ute Mountain Ute Tribe worked with ITEP on the 2011 Report and will work with Shannon McNeeley at Colorado State University on their current BIA climate change grant. The Tribe has worked with consultants and with the Mountain Studies Institute which is affiliated with NOAA RISA. The Tribe has not yet partnered with the LLCs or the USDA Climate Hubs. The Tribe is interested in partnerships but must be careful of the scope of each project and the manner in which information is shared.

7. What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

The Tribe has utilized BIA funding, EPA GAP funding to support the staff who write grants, DOE's Energy Efficiency and Conservation Block Grant Program, and USDA funding for improving efficiency of tribal agricultural activities.

8. What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

The Ute Mountain Ute Tribe is interested in securing additional funding to support (1) climate change adaptation efforts beyond the one-year long BIA grant, (2) renewable energy initiatives, and (3) water efficiency projects in which the Tribe has invested heavily in, acknowledging that saving water will be critical into the future.



Appendix 2D. Assessment Responses from Nevada Native Nations

Confederated Tribes of the Goshute Reservation

Location: Ibapah, UT (tribal lands in NV, UT)

Website: N/A

See Appendix 2F. - Utah

Fort Mojave Indian Tribe

Location: Needles, CA (tribal lands in AZ, CA, NV)

Website: <http://mojaveindiantribe.com/>

See Appendix 2B. - California

Pyramid Lake Paiute Tribe

Location: Nixon, NV

Website: <http://plpt.nsn.us/>

Questionnaire:

1. Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

The Pyramid Lake Paiute Tribe has worked since 2012 with researchers at the University of Arizona to assess the Tribe's vulnerability to climate change. The Natural Resources Department hosted a kick-off workshop in 2013 for the public, tribal departments, and other agencies to assess what aspects are important to consider for the research. The results of the workshop were published in a report which set the direction for project. The Natural Resources Department worked with the research team to hold another workshop in 2014 to provide updates about the project to the public, tribal departments, and other agencies.

2. Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

The Tribe is currently working on vulnerability assessment through the research project mentioned above which should be completed by 2017.

b. Climate Change Adaptation Plan?

The next step after carrying out the vulnerability assessment is to develop an adaptation plan.

c. Emergency Response Plan?

The Tribe may have an Emergency Response Plan, but it was not verified at the time of the interview.

d. Plan focused on drought, heat, and/or flood?

There are no plans focused specifically on these areas, but the Tribe's management plans that guide their programs include aspects of addressing climate change.

3. Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

Yes, for drought, the Tribe has worked with upstream users to develop and implement the Truckee Operating Agreement (TROA) in 2015. The agreement addresses enhanced drought storage for the Tribe and modifies the operation of reservoirs within the system to protect and improve water quality, especially during times of drought.

As mentioned previously, there are no plans that focus specifically on climate change, however the Tribe conducts water quality data monitoring on the Truckee River and Pyramid Lake, air quality data monitoring at a continuous monitoring station, and noxious weed management which are all relevant to manage risks associated with climate change.

4. Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

a. If so, do you know if these plans or initiatives include climate change adaptation strategies?

There are no specific plans focused on climate change, but several of the Tribe's management plans that guide their programs include aspects of addressing climate change.

5. Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

The Tribe has engaged in a variety of renewable energy initiatives. For the past decade, the Tribe has partnered with Black Rock Solar to install multiple solar panel arrays across the reservation. There are approximately 1,700 solar panels in Nixon, NV, which power the police department, high school, tribal administration building, and other facilities. The Tribe has conducted geothermal exploration in the norther portion of the reservation to harness energy from geothermal water. The development of the Tribe's geothermal capacity will likely take place in the next ten years.

6. Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

a. Are you interested in partnerships and if so what would you like to accomplish?

The Tribe has partnered with Desert Research Institute (DRI) which is a research extension of the Nevada System of Higher Education. The Tribe is also working with researchers from the University of Arizona on the climate change vulnerability project which was funded by the Southwest Climate Science Center and previously worked with Alison Meadow on another project looking at collaboration between climate scientists and tribal stakeholders.

7. What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

In addition to the SW CSC-funded collaboration with the University of Arizona, the Tribe applied to BIA climate change grant to develop their Pyramid Lake Nutrient Model, but was not awarded.

8. What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

The Tribe is seeking resources to further develop a Nutrient Model for Pyramid Lake. Pyramid Lake is particularly vulnerable to the impacts of nutrient loading due to the Lake's position at the end of the Truckee River Basin. The Tribe maintains their own water quality standards to protect the threatened Lahontan cutthroat trout and the endangered, endemic cui-ui sucker fish in Pyramid Lake. The Tribe would like to update a previous Nutrient Model which was developed in collaboration with UC Davis in the 1990s in order to incorporate data that has been collected over the past two decades as well as climate thresholds for the Lake. The output of this model would be critical for guiding tribal water quality standards and informing their adaptation planning efforts.

The Tribe would also like to participate in a platform to exchange ideas with other tribes related to climate change adaptation planning.

Elko Band of the Te-moak Tribe of Western Shoshone

Location: Elko, NV

Website: <http://www.temoaktribe.com/elko.shtml>

1) Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

The Elko Band of the Te-moak Tribe of Western Shoshone has not engaged in any activities focused on climate change. The Environmental Department conducted a study, completed in December 2015, that asked climate change-related questions.

No workshops have been conducted on the Elko Indian Colony. Two climate change outreaches took place the last year at the Elko Western Folk Life Center, one of which was attended by the Elko Band Environmental Coordinator and Elko Band Chairman.

2) Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

Only the need is outlined in the draft EPA Tribal Environmental Plan (ETEP).

b. Climate Change Adaptation Plan?

Working with Dietrich McGinnis from McGinnis & Associates, we met once this past year to start planning this document. McGinnis & Associates received a grant from EPA to assist tribes in California and Nevada with writing climate change adaptation plans.

c. Emergency Response Plan?

The Elko Band has an Emergency Operations Plan (EOP), but there is no drought or climate change section in the EOP. Drought and extreme weather are addressed in the FEMA-approved Elko Band All-Hazard Mitigation Plan and the Threat Hazard Identification Risk Assessment (THIRA).

d. Plan focused on drought, heat, and/or flood?

The Elko Band does not have a plan focused on drought, heat, and/or flood at this time.

3) Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

The Elko Band is not implementing any adaption strategies or measures at this time.

4) Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

a. If so, do you know if these plans or initiatives include climate change adaptation strategies?

The Environmental Department has a weather monitoring relationship with the National Weather Service and uses Stormwatch in case of disaster. The Environmental Department wrote the Elko Band Hazard Mitigation Plan working with FEMA. The EOP and ETEP address climate change and suggest adaption strategies, but none have been implemented.

The Elko Band has a Stormwater Management Plan that addresses extreme weather caused by climate change. There are adaption strategies in the plan but none are being implemented at this time.

5) Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

The Elko Band is not implementing any climate mitigation strategies at this time.

6) Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

a. Are you interested in partnerships and if so what would you like to accomplish?

Aside from their work with McGinnis & Associates on a Climate Change Plan, Elko Band Environmental Department does not have any partnerships with institutions, universities, or similar entities. The Environmental Department attended a Climate Change Forum hosted by the Desert Research Institute (DRI), Great Basin Landscape Conservation Cooperative (GBLCC), Western Regional Climate Center (WRCC), and California-Nevada Climate Applications Program (CNAP). The Environmental Department director has attended climate change breakout sessions at conferences that discuss how to develop a climate change adaptation plan.

7) What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

FEMA All-Hazard Mitigation Planning Grant (FY 2006-2008), EPA GAP Grants (FY 2000 – FY 2018), and BIA Noxious Weeds Grant (FY 2015 – 2016). The Noxious Weeds Grant is vegetation and dust management related to climate change adaptation.

8) What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

The Environmental Department attended a Climate Change Forum – hosted by DRI, GBLCC, WRCC, and CNAP – which was a comprehensive planning for the future of environment in the Great Basin in northeast Nevada. This meeting was productive and relationships were formed for future activities. These types of forums or meetings are what the Elko Band needs to develop climate adaptation plans or else various stakeholders will write separate stand-alone plans that do not realistically address climate change. Getting all the stakeholders in one room, using university or private scientific climate change research is a resource that can get this ball rolling. Another obstacle is getting the tribal leadership to acknowledge climate change. The Environmental Department often has to use alternatives to the phrase “climate change” when proposing these types of projects. The Environmental Director expressed interest in seeing other tribal plans – such as those presented at the NNCAP Tribal Leaders Summit in November 2015. A copy of the TLS report was sent to the Director after the interview.

Yerington Paiute Tribe

Location: Yerington, NV

Website: <http://www.ypt-nsn.gov/>

1) Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

The Tribe has not engaged in any climate change activities; however, they just scheduled the development of a climate change adaptation plan for next year. They have published articles in the newsletters, but have not conducted any formal workshops. The Tribe has an EPA GAP grant and hopes to pass a resolution in the future.

2) Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

No

b. Climate Change Adaptation Plan?

No

c. Emergency Response Plan?

Yes, the Environmental Department is working the plan now and are using an EPA GAP grant.

d. Plan focused on drought, heat, and/or flood?

The Tribe does not currently have a plan, but the council is updating ordinances to address some issues with water and flooding.

3) Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

Although the Tribe is not experiencing any serious air quality issues, they have an Air Quality Program that includes the monitoring of particulate matter (PM) 10. The Tribe is also working on plans to improve the protection and availability of cultural resources and traditional food sources. The Tribe is interested in wetland restoration projects, but so far, these efforts have been unsuccessful. They are also considering the use of fire breaks.

4) Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

a. If so, do you know if these plans or initiatives include climate change adaptation strategies?

The Tribe developed an Emergency Response Plan for the water treatment plant (drinking water source for the Tribe). They are currently waiting for the EPA's approval and acceptance of the plan.

5) Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

The Tribe initiated an Energy Conservation Program two years ago with the DOE, but it was not renewed. The Tribe has solar panels on some government buildings (e.g., administrative building, water treatment plant, gas station, and food program buildings), which are maintained by outside contractors.

6) Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

The Tribe has partnered with NOAA in the past to educate youth, but they have not collaborated on any recent projects.

a. Are you interested in partnerships and if so what would you like to accomplish?

The Tribe is looking into trainings for climate change adaptation and currently coordinate with the Tribal State liaison for resources.

7) What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

The Tribe has used EPA GAP grants to support climate change adaptation and mitigation efforts. They have not applied for BIA funding, but plan to look into it in the future. The Tribe is open to applying for grants, but needs clarification from the council to determine planning priorities and needs.

8) What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

The Tribe is just starting out with climate change adaptation planning and want direction and technical assistance. Specifically, they want to know where they can locate resources.

Yomba Shoshone Tribe

Location: Austin, NV

Website: <http://www.yombatribe.org/>

1) Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

The Yomba Shoshone Tribe has attended a number of climate change planning workshops and training sessions. The Tribe is currently focused on climate education and is facilitating a retreat. The Tribe participated in a USFS (Humboldt-Toiyabe National Forest) workshop focusing on climate change planning in forest ecosystems and a new USFS district ranger workshop/meet-and-greet. The Yomba Shoshone Tribe has attended one ITEP training workshop and is planning to attend another one in the coming weeks. In addition, a consulting firm (Bay Area Consultants) that presented at the ITEP training is meeting with the Tribe to discuss climate planning. Although the Council is typically focused on immediate issues and priorities, they want to engage more in long-term economic planning issues. In response, the Tribal Council attended a recent meeting with the USFS and invited agency staff to participate in a subsequent meeting with the entire Council.

2) Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

The Yomba Shoshone Tribe is in the process of developing a vulnerability assessment. The Tribe has already completed a streamside assessment (e.g., species inventory and water flow data) and received funding to conduct this work through a Section 106 Surface Water Grant.

b. Climate Change Adaptation Plan?

The Yomba Shoshone Tribe is in the process of developing this plan. The plan is funded through a BIA climate change grant and an Inter-Tribal Council of Nevada grant. Another outside consultant will support the development of the plan following the Tribal retreat.

c. Emergency Response Plan?

The Yomba Shoshone Tribe is currently developing an Emergency Response Plan and will be receiving funding for a half time position in the fall to support this effort. The Tribe has advanced this plan further than any other plan.

d. Plan focused on drought, heat, and/or flood.

The Yomba Shoshone Tribe plans to address drought, heat and flooding in their Emergency Response Plan.

3) Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

The Yomba Shoshone Tribe is coordinating with the USFS to develop collaborative planning strategies and partnerships. The Tribe has a Memorandum of Understanding (MOU) with the USFS to address wildfire management planning and implementation efforts. In addition, the Tribe is trying to create a pine nut management plan that includes the establishment of a conservation area to restrict commercial use and harvesting.

4) Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

a. If so, do you know if these plans or initiatives include climate change adaptation strategies?

The Yomba Shoshone Water Resources Department received a USDA Rural Facilities Grant to revamp water infrastructure. Specifically, the Yomba Shoshone is developing water storage for potable use and fire response. The Tribe is also in the

process of creating a Wildfire Team and identifying and mobilizing necessary equipment, resources and training. In addition, the Tribe is preparing documentation for FEMA mitigation and will actively pursue federal funding upon completion.

5) Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

The Yomba Shoshone Tribe is located in a rural area and GHG emissions are relatively low (i.e., stoves and dirt roads are the primary source of emissions). Although the Tribe is interested in renewable energy, conservation and mitigation efforts are not considered a priority and have not been pursued due to their small population size.

6) Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

The biggest go-to resource for the Tribe has been ITEP. The Tribe works closely with FEMA Inter-Tribal Emergency Response Commission (ITERC) to support disaster response planning. The Tribe has also secured an Inter-tribal Agency Grant to obtain consultants. The Tribe plans to utilize more local and regional resources, including the Desert Research Institute. They have not partnered with any CSCs, climate hubs or universities.

a. Are you interested in partnerships and if so what would you like to accomplish?

Yes, the Tribe is interested in partnerships that could provide technical assistance.

7) What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

The Tribe does not have casino or resource revenues and relies 100 percent on grants and private partnerships to fund adaptation initiatives. Many private partnerships are with gold companies, which support the purchase of equipment (e.g., backhoes) and youth education and community workshops. Surplus equipment to support adaptation and mitigation efforts is available directly from the federal government. The Tribe participates in a no-cost federal equipment exchange program, which provides better access to equipment than state programs.

Currently, the Tribe receives funding through the EPA Indian Environmental General Assistance Program (GAP), EPA Section 106 grants, and BIA mitigation funding to control noxious weeds and grasses. The Tribe missed the 2016 BIA application deadline for climate adaptation funding and plans to pursue future funding opportunities offered by the agency.

8) What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

The Tribe needs technical assistance and feels there is a lack of consultants to support planning. They need hands-on support in developing plans and regional partnerships. Specifically, the tribes want help in identifying and accessing the necessary groups, resources, information, and support. There is also a need for facilitators who are sensitive to tribal dialogue and dynamics and can inform and engage communities and translate information to communities and councils in traditional ways (i.e., using TEK and without using the term "climate change").



Appendix 2E. Assessment Responses from New Mexico Native Nations

Pueblo of Acoma

Location: Acoma, NM

Website: <http://www.puebloofacoma.org/>

Environmental Department Responses

1. Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

The Pueblo of Acoma Environmental Department gave a climate change presentation to senior citizens in 2014. The Environmental Department has not conducted any additional community outreach activities focusing on climate change.

2. Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

No

b. Climate Change Adaptation Plan?

No

c. Emergency Response Plan?

The Pueblo of Acoma developed a draft Emergency Response Plan in 2013 and 2014. The Tribe needs to engage the community and build support to further develop and finalize the plan.

d. Plan focused on drought, heat, and/or flood?

The draft Emergency Response Plan includes a mitigation plan and Federal Emergency Management Agency (FEMA) disaster planning and preparation.

3. Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

The Pueblo of Acoma Environmental Department has not implemented any specific strategies related to climate change.

4. Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

The Pueblo of Acoma has not developed or implemented any specific initiatives or plans.

a. If so, do you know if these plans or initiatives include climate change adaptation strategies?

5. Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

The Pueblo of Acoma has not deployed any climate mitigation strategies within the past four or five years.

6. Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

The Pueblo of Acoma collaborates with the regional USDA extension and local universities on agricultural issues and projects. The Tribe does not have consistent partnerships with any other government or research institutions.

a. Are you interested in partnerships and if so what would you like to accomplish?

The Pueblo of Acoma Tribe needs assistance and is interested in establishing partnerships in the future. The Environmental Department is currently re-building and has limited staff. The Tribe will have a better idea about their planning needs after restructuring is completed and a new director is appointed to the department.

7. What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

The Pueblo of Acoma leaders encourage individual tribal departments to seek and secure funding opportunities for program development. The Tribal Environmental Department is currently funded by an EPA GAP grant; however, climate change is not currently part of the department's work plan. The Environmental Department is interested in climate change planning and plans to consider funding opportunities in the future. At this point, the Environmental Department does not have adequate staffing to initiate climate change planning and identify resources and needs.

8. What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

The Pueblo of Acoma Environmental Department is in the process of restructuring and resource needs cannot be determined until this process is complete.

Department of Natural Resources Responses

1) Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

The Pueblo of Acoma Tribe is developing a greenhouse to grow community vegetables. The Natural Resources Department has not conducted any climate change workshops; however, the Tribe is currently planning a workshop to address issues related to flooding.

2) Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

No

b. Climate Change Adaptation Plan?

No

c. Emergency Response Plan?

The Tribe has developed an Emergency Response Plan. The Natural Resources Department is not certain if the Tribe has implemented the plan and if climate change is included in the document.

d. Plan focused on drought, heat, and/or flood?

The Emergency Response Plan focuses on flooding. The Tribe is also developing a Fire Management Plan. Over the past five years, drought has become a more pressing issue and the Tribe needs to evaluate impacts and adaptation options.

3) Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

The Tribe is concerned about the effects of heat and drought on traditional and cultural resources. Some resources are at risk of being lost and the Tribe is considering appropriate planning and management options. Although the Tribe has implemented a Forest Management Plan, which includes traditional and cultural resources, they are considering taking additional steps to protect these resources.

4) Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

The Pueblo of Acoma has an approved Transportation Management Plan in place. The Tribe has also developed a Water Resources Management Plan that is in the approval process.

a. If so, do you know if these plans or initiatives include climate change adaptation strategies?

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The Natural Resources Department is not aware of any existing plans that address climate change.

5) Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

The Pueblo of Acoma has not implemented any climate mitigation strategies.

6) Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

The Pueblo of Acoma collaborates with the regional USDA extension and local universities on issues related to agriculture and grazing, but not specifically climate change.

a. Are you interested in partnerships and if so what would you like to accomplish?

The Tribe wants to focus more on climate change and is interested in developing partnerships. They are currently planning projects (e.g., greenhouse business) and need to understand the effects of climate change.

7) What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

The Pueblo of Acoma Natural Resources Department is not currently using any funding for climate change, but they are interested in pursuing federal funding opportunities for future planning.

8) What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

The Natural Resources Department is interested in funding opportunities. The department has 12 federal contracts, but climate change is not included in the scope and they cannot use current funding sources to support adaptation planning.

Pueblo of Sandia

Location: Bernalillo, NM

Website: <http://www.sandiapueblo.nsn.us/>

1) Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

The Pueblo of Sandia has participated in several climate-related local conferences, workshops and webinars and obtained climate change planning information from ITEP. The Tribe has also applied for a BIA grant to attend future regional and national climate change trainings. The Pueblo of Sandia is in the initial stage of developing a climate change consortium of New Mexico Tribes to provide workshops and opportunities for inter-tribal collaboration. The Natural Resources Department pursued a 2016 BIA climate change grant to advance this initiative and the Tribe did not receive the funding. The Pueblo of Sandia remain committed to this effort and plan to further enhance their proposal and reapply for funding in 2017. The Tribe also plans to organize community workshops in the future, as they advance their climate change adaptation planning.

2) Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

The Pueblo of Sandia Natural Resources Department (NRD) is in the process of developing a vulnerability assessment and plans to incorporate findings into their adaptation plan.

b. Climate Change Adaptation Plan?

The Pueblo of Sandia NRD is in the process of developing an adaptation plan that focuses on drought and water resources. Following completion of the document, the NRD will obtain input from other tribal departments and community members before submitting the final plan to the Tribal Council for review.

c. Emergency Response Plan?

The Tribe has recently initiated preparation of an Emergency Response Plan (ERP). A FEMA specialist in the Tribal Planning Department is leading the development of the plan.

d. Plan focused on drought, heat, and/or flood?

The Tribe is addressing issues with drought and water resources in their adaptation plan and flooding will be included as part of the ERP.

3) Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

The Tribe has focused on: 1) infrastructure improvements for flooding; 2) the implementation of fire management strategies (e.g., vegetation thinning and maintaining of riparian areas) along urban interfaces; 3) development of a water resource strategic plan; and, 4) planning strategies for the protection of cultural resources and traditional ecological knowledge.

4) Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

The Natural Resources Department plans to collaborate with other tribal departments to address climate change issues and future planning. The Tribe has developed and implemented the following plans:

Water Resources Strategic Plan (Water Resources Department)

Drainage and Flood Control Plan (Land Planning Department and FEMA)

a. If so, do you know if these plans or initiatives include climate change adaptation strategies?

The Natural Resource Department is not aware of any existing plans that include strategies for climate change adaptation.

5) Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

The Tribal Environmental and Economic Development Departments established a plan for new development projects that includes low impact strategies, such as the use of green infrastructure design and engineering. The Tribe is also considering improvements to the solid waste program for their casino.

6) Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

The Tribe is currently collaborating with the University of Arizona's Center for Climate Adaptation Science and Solutions (CCASS). Although the Tribe has received information from ITEP and CSCs, they do not have partnerships with these or any other institutions or organizations.

a. Are you interested in partnerships and if so what would you like to accomplish?

The Tribe has ideas for adaptation initiatives and is interested in technical planning and resource support, including the review of documentation prior to council meetings, development of future strategies, and identification and securing of funding opportunities.

7) What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

The Tribe currently receives funding from the EPA GAP to support their climate change adaptation planning initiatives. The Tribe's Natural Resources Department has applied for BIA climate change grants and plans to reapply for BIA funding in 2017 to support the development of a climate change consortium. The Tribe will fund a portion of the inter-tribal collaboration and plans to pursue other federal agency grants (e.g., USFWS).

8) What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

The Pueblo of Sandia is interested in obtaining technical assistance that extends beyond website resources and webinars to support climate change adaptation. Specifically, the Tribe wants access to an interactive database that includes information such as funding sources for personnel, planning, and implementation; and, examples of tribal, federal, state and local government climate change adaptation plans.

Pueblo of Santa Ana

Location: Santa Ana Pueblo, NM

Website: <http://www.santaana.org/>

* Responses received via email March 16, 2016

1. Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

The Pueblo has begun partnerships with organizations that focus on carbon credit markets and compost applications for carbon sequestration. No climate related workshops have been facilitated.

2. Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

Working on a Tribal Climate Vulnerability Assessment Pilot Program

b. Climate Change Adaptation Plan?

c. Emergency Response Plan?

The Pueblo of Santa Ana has an Emergency Response Plan

d. Plan focused on drought, heat, and/or flood?

3. Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

The Pueblo is not directly implementing any adaptation strategies, but tries to work adaptation strategies into natural resource management.

4. Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

The Pueblo is developing plans, but not specifically for climate change. They are currently working on a watershed assessment with the Corps of Engineers and climate change will be a major section of that document.

a. If so, do you know if these plans or initiatives include climate change adaptation strategies?

The Pueblo has not developed plans specifically for climate change.

5. Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

One of the goals of the Pueblo's transit program is to reduce emissions of greenhouse gases. The Pueblo has begun placing solar panels on new homes in order to take advantage of renewable energy opportunities. Some of the Pueblo's businesses have energy conservation strategies that have reduced their energy use.

6. Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

The Pueblo has a current partnership with the Indian Land Tenure Foundation to explore carbon sequestration.

a. Are you interested in partnerships and if so what would you like to accomplish?

They are interested in opportunities for additional partnerships but do not have a specific goal they are pursuing outside of the above partnership.

7. What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

The Pueblo's Restoration Division is funded under the BIA Climate Change grants to perform a dendrochronology study. Tribal funds have been used to send staff to adaptation training. Tribal and EPA funds are also used in developing and carrying out solid waste management, recycling, and composting projects on the Pueblo.

8. What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

Funds are always needed in addition to time for somebody to conduct adaptation planning. The Pueblo has the knowledge and capability to carry out this type of work, it is just not a priority right now.

Ute Mountain Ute Tribe

Location: Towaoc, CO (tribal land in CO, NM, UT)

Website: <http://www.utemountainutetribe.com/>

See Appendix 2C. - Colorado



Appendix 2F. Assessment Responses from Utah Native Nations

Confederated Tribes of the Goshute Reservation

Location: Ibapah, UT (tribal lands in NV, UT)

Website: N/A

1. Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

The Confederated Tribes of the Goshute Reservation Tribal Environmental Program (TEP) is in the process of starting to work on a climate change adaptation plan with EPA – region 9. There have been no climate change workshops.

2. Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

No, because the Tribe just started developing their Tribal Environmental Program.

b. Climate Change Adaptation Plan?

No

c. Emergency Response Plan?

TEP is not sure if there is a plan for hazardous waste, spill prevention, etc. There are no community related response plans.

d. Plan focused on drought, heat, and/or flood?

TEP is just beginning to look at these issues this year.

3. Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

The TEP is just starting to work on climate change adaptation during fiscal year 2017. The areas of concern include air pollution, endangered species, groundwater pollution, agriculture, irrigation, and the hydrologic impacts of decreasing snowmelt.

4. Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

There are no sectors of the tribe that are developing or implementing strategies as of yet. The tribe does not have an emergency response team.

a. If so, do you know if these plans or initiatives include climate change adaptation strategies?

5. Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

The tribe previously began work on renewable energy, but changes in tribal leadership prevented the project from moving forward. The renewable energy project consisted of wind and solar energy development.

6. Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

No, TEP has not consulted with groups other than the USDA Extension program.

a. Are you interested in partnerships and if so what would you like to accomplish?

Yes, TEP would like to focus on water resource issues and water quality.

7. What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

The TEP is using EPA GAP grant funding to initiate their climate change work. They are interested in bigger grants to expand planning initiatives.

8. What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

Funding opportunities would be helpful and knowing what types of funding are available would be useful. The TEP has need for a feasibility study to be completed which consists of vulnerability and risk assessment, community outreach and evaluation of needs. The TEP currently uses Extension services through USDA and works with a private consultant which helps with some technical aspects of their work. The tribe has a hydrologist on their staff and they conduct monitoring. Since many residents of the community burn wood for heat, they are interested in identifying a grant to obtain clean heating stoves to improve air quality. We suggested they look into the National Tribal Air Forum for advice from other tribal air quality managers. The tribe is located in a rural, remote location and has issues with power outages in the winter. There is an interest in solar power for homes, but solar installations through the local utility company are currently not cost effective. They are also considering hydropower development, but are still working to resolve water rights. NNCAP said they would provide links to adaptation and funding resources through the website.

Paiute Indian Tribe of Utah (Cedar City Band, Kanosh Band, Koosharem Band, Indian Peaks Band, Shivwits Band)

Location: Cedar City, UT

Website: <http://www.utahpaiutes.org/>

1. Has your Tribal government engaged in activities focused on climate change? Have you facilitated any climate-related workshops in your community?

The Paiute Indian Tribe of Utah has done several things related to preparation for climate change primarily in securing water

sources that may be tapped into should drought become a serious issue. We have installed two deep wells, pumps, and pipeline distribution facilities. One is redundant to available city water and one is a standalone system serving a new business venture. The Tribe has not engaged in workshops or large scale community involvement or educational activities to this point.

2. Has your Tribal Nation developed (or are you in the process of developing) any of the following?

a. Climate Change Vulnerability Assessment?

The Tribe does not have a Vulnerability Assessment

b. Climate Change Adaptation Plan?

The Tribe does not have an Adaptation Plan

c. Emergency Response Plan?

The Paiute Tribe Emergency Response Team serves the Tribe in the event of an emergency and meets regularly to plan and prepare for Tribal Emergencies.

d. Plan focused on drought, heat, and/or flood?

The Tribe does not have a plan focused on these areas.

3. Is your tribe or community implementing any adaptation strategies to manage risks associated with climate change (e.g., drought, wildfire, heat, air quality issues, or changes in availability of traditional cultural resources) and/or planning to manage those risks?

As mentioned above, the Tribe is purchasing water rights and installing wells and infrastructure in the advent of drought.

4. Has your Tribe or any other Tribal sectors (e.g., Water Resources, Transportation, etc.) developed or implemented initiatives or plans, such as emergency response, monitoring, and infrastructure?

a. If so, do you know if these plans or initiatives include climate change adaptation strategies?

Some emergency response work has been done. The Paiute Tribe Emergency Response Team meets regularly to plan and prepare for Tribal Emergencies, carry out installation of ham radio stations, and train ham radio operators. The Paiute Tribal Headquarters has increased its capacity to function in an emergency by recently building and activating an effective radio communications site, which is presently capable of handling local VHF/UHF and worldwide HF traffic.

5. Has your tribe deployed any climate mitigation strategies (e.g., efforts to manage emissions of greenhouse gases, including development and use of renewable energy or energy conservation programs)?

The Tribe has not deployed any climate mitigation strategies.

6. Has your tribe partnered with any government institutions, universities, consultants, or other entities (such as Climate Science Centers, Landscape Conservation Cooperatives, NOAA Regional Integrated Science and Assessments programs (RISAs) and/or USDA Climate Hubs) to research, plan for or implement climate-related programs?

a. Are you interested in partnerships and if so what would you like to accomplish?

The Tribe is not involved in any of these partnerships at this time.

7. What kind(s) of funding and resources has your tribe utilized to support climate change adaptation and mitigation planning and implementation? (Examples include BIA Climate Change grants, EPA funds, and tribal funds.)

The Tribe has utilized funding from BIA and other grant funding.

8. What kind(s) of assistance or resources would be useful in helping your Tribe develop climate adaptation plans and implementation strategies?

The Tribe is interested in additional funding to purchase additional water rights and build infrastructure. There is also a need for

credible data to show where climate change is heading and what changes to expect on a local level.

Ute Mountain Ute Tribe

Location: Towaoc, CO (tribal land in CO, NM, UT)

Website: <http://www.utemountainutetribe.com/>

See Appendix 2C. - Colorado