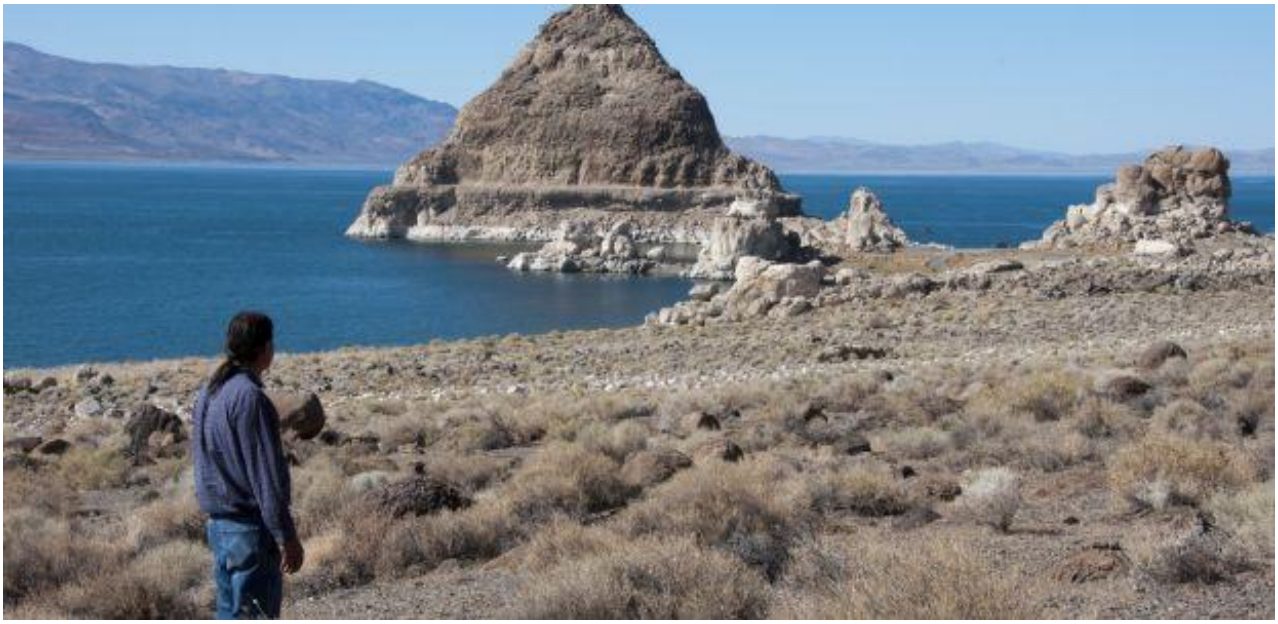
CLIMATE CHANGE ADAPTATION PLANNING TRAINING, ASSISTANCE, AND RESOURCES FOR TRIBES

REPORT DEVELOPED FOR US FEDERAL AGENCIES WORKING ON TRIBAL CLIMATE CHANGE PROGRAMS & INITIATIVES



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Thank you for your interest in tribal climate change adaptation planning. We hope that the recommendations provided in this document will help to inform management and funding strategies on the federal level that can in turn provide much needed support to our tribal partners who are already experiencing the impacts of a changing climate.

Indigenous peoples in the United States and elsewhere around the globe are among those most severely impacted by climate change, to a large extent because of their deep connectedness and reliance on the natural environment. The habitat ranges for subsistence species have begun shifting; the timing of culturally important, seasonally-dependent events are changing and becoming more unpredictable; native homelands are being lost to coastal erosion. The time for speculation about climate change has passed, and the time for planning is upon us.

As tribes brace for the climatological uncertainties that lie ahead, they will require support from federal agencies and from one another. The forthcoming need for tribal adaptation support poses an opportunity for federal agencies to honor and uphold their tribal trust responsibility, by not only assisting with mitigation of existing impacts, but also working diligently with tribes to prevent further impacts in the future.

This report outlines adaptation efforts by tribes as well as the challenges that tribes have reported in their efforts to undertake adaptation planning. Finally, the report offers specific recommendations in several key adaptation planning areas, including training, technical assistance, and research.

Cultural diversity and wellbeing, much like the earth's biodiversity, is being threatened by climate change. If tribes act quickly, they can better protect their native lands and resources from the imminent climate impacts that are waiting on the horizon. These preventive and protective climate adaptation measures, however, can only be realized with the support of federal agencies. On behalf of ITEP, thank you once again for reviewing this report and recommendations herein provided.

Sincerely,

Ann Marie Chischilly, Esq.
ITEP Executive Director

I. INTRODUCTION AND PURPOSE

Earth's climate system is changing, and many of the observed changes since the mid-1950s are unprecedented over decades to millennia. The atmosphere and oceans have warmed, the amounts of snow and ice have diminished, sea level has risen, and the concentrations of greenhouse gases (GHGs) have increased markedly (IPCC, 2013). The human influence on the climate system is clear, and continued emissions of GHGs will cause further warming and changes in all components of the climate system. Substantial and sustained reductions of GHG emissions are required to limit the deleterious impacts of climate change (IPCC, 2013).

Many tribes live in small, rural communities, in some cases with substandard infrastructure

Climate change impacts affect individual tribes variably because tribal lands and resources are location-specific and because Native American tribes each have their own unique cultural features. Nonetheless, many tribes are particularly vulnerable to climate impacts because of their cultural and spiritual ties to the land as well as their resource-based livelihoods (Wildcat, 2013). Vulnerabilities are increased by the geographic isolation that is characteristic of many tribal lands. Throughout the United States, tribes often live in small, rural communities, under conditions that typify low socioeconomic conditions and political marginalization (Cozzetto et al., 2013). The special issue of the journal Climatic Change, titled *Climate Change and Indigenous peoples in the United States: Impacts, Experiences, and Actions* (Climatic Change, 2013), and other publications, such as the recently published Third National Climate Assessment (Bennett et al., 2014), have highlighted some of the ways that tribes are being impacted and the challenges they face in addressing climate change. For instance, climate change has led to shifts in habitable ranges for a variety of animal and plant species on which tribes rely for subsistence, as well as medicinal and cultural applications. In addition to changes in the natural environment, tribes face impacts to their built infrastructure from extreme weather events, flooding, and erosion.

The circumstances for tribes today are different than in the past. By living closely in their natural environments for many generations, tribes developed an intimate knowledge of the natural resources, ecosystems, and land on which they depended, and they learned to adapt to changes in order to survive. In the past, tribes could move more freely and even relocate in response to changes in climate. However, the historic aboriginal land base of tribes has, through treaties and other means, shrunk to a loose patchwork of scattered reservation boundaries[1] that now represent a fraction of those aboriginal lands, making relocation a difficult or entirely infeasible adaptation strategy. For instance, in 2003, the U.S. Government Accounting Office (GAO) reported that flooding and erosion is affecting 184 out of 213 (over 86%) of Alaska Native villages to some extent, and that coastal villages are becoming more susceptible to flooding and erosion due in part to rising temperatures (GAO, 2003). A subsequent GAO report indicated that some of these villages

[1] In Alaska, the jurisdictional issues are different in that most Alaska tribes do not have reservations, but instead land is owned and managed by Alaska Native Corporations.

are in imminent danger and must be relocated. Sadly, the costs of relocation are extremely high and, in the case of Alaska Native Villages, there is no mechanism in place for identifying approved or acceptable relocation sites, no funding identified to support relocation, nor any designated federal or state agency to work with tribes to provide guidance, coordination, and funding assistance (GAO, 2009).

This report discusses adaptation planning by tribes and the challenges that some tribes encounter in the development and implementation processes. It also offers recommendations to federal agencies for the types of capacity building activities and programs that are needed to support tribes in their efforts to plan for climate change impacts. These recommendations are drawn primarily from feedback and suggestions from participants of ITEP's climate change trainings, from publications focused on tribal climate change issues, as well as the results of several feedback forms in which ITEP sought input from its tribal climate change contacts.

II. Adaptation Planning by Tribes

Over the last several years, ITEP has noted a growing interest among federally recognized tribes in climate change issues and planning for climate change impacts. Tribes have been seeking training, information, technical assistance, and funding to support their climate change initiatives. ITEP has also learned that many tribes face challenges in proceeding with climate change assessments and adaptation planning.

Flooding in Togiak, Alaska. Photo credit: B. Abraham

Since 2010, when the Swinomish Indian Tribal Community published their Climate Adaptation Action Plan (2010), several other tribes have developed and published climate change adaptation plans, including the Nez Perce Tribe (2011), the Confederated Salish and Kootenai Tribes (2013), the Jamestown S'Klallam Tribe (2013), and the Saint Regis Mohawk Tribe (2013). Other tribes are at various stages in the general adaptation planning process, from getting tribal leadership support, to conducting assessments, to writing adaptation plans, and implementing adaptation strategies. Some tribes have decided to incorporate climate change considerations into their existing programs and plans, such as a strategic plan or hazard mitigation plan, instead of, or in addition to, developing a separate adaptation plan. For a variety of reasons, many tribes have not yet begun planning for climate change impacts, though some have indicated that they are likely to proceed with adaptation planning in the next year.

III. Challenges Tribes Face in the Adaptation Planning Process

Course participants and other tribal representatives have shared with ITEP some challenges that make it difficult to proceed with adaptation planning. In addition, some publications about tribes and climate change,

such as the Special issue of *Climatic Change* mentioned previously (Climatic Change, 2013), have discussed challenges. The more commonly voiced challenges are summarized below:

Inadequate funding—There is a great need among tribes for funding to support climate change initiatives, but the level of federal funding has been consistently inadequate. In some instances, the tribal government has provided support, and in others, tribes have been piecing together small grants from federal agencies to sponsor adaptation efforts. However for many tribes, the lack of funds has slowed or hindered progress with adaptation planning.

Limited capacity and staff time—Tribes often have limited administrative support from planning, natural resource, environmental, and other departments, and staff routinely have multiple roles to fill. It can be challenging to find the resources to build additional organization capacity and to find time to work on climate change issues when the staff are already overextended. If funding were available, perhaps tribes could add the needed administrative capacity and positions to actively proceed with their climate change initiatives.

Competing priorities—Competing priorities can be a challenge at several levels within a tribe. At the leadership level, other important ongoing issues facing the tribe may take precedence (i.e. substandard housing may receive much more attention and financial backing than climate change initiatives).

Tribal leadership support—The level of leadership and general political support for addressing climate change varies among tribes, from unsupportive to fully supportive. It can be challenging for a tribal department to begin and sustain a climate change initiative if the tribal leadership does not endorse it, whether it be through a tribal council resolution or a less formal type of approval. Sustaining a climate change project can be equally challenging in the face of transitions in tribal leadership and political perspectives.

Identifying and synthesizing relevant climate data—One of the initial steps in developing an adaptation plan is determining climate-related impacts to resources and specific sectors. Tribal staff have requested support in finding the most relevant and accurate local and regional climate information and projections. Tribes have also expressed a desire for training on development of a climate monitoring network that would provide location-specific monitoring data.

Navigating through the adaptation process—In working and speaking with tribal staff, one considerable challenge is navigating through the adaptation process, from knowing where to begin, to executing the subsequent steps. More specifically, tribes have mentioned difficulties with coordinating adaptation planning across multiple tribal departments.

Limited technical expertise—Tribal departments sometimes have staff with inadequate knowledge about climate change, climate change impacts, and adaptation planning, which limits their ability to contribute to adaptation planning efforts.

Frequent employee turnover—Some tribal departments experience frequent employee turnover, which can cause a disruption in the progress of climate-related projects as new employees often require training.

Difficulty securing buy-in from tribal community members—Community members may be more concerned about other immediate issues related to poor socioeconomic conditions and may not understand how climate change could affect them and their community. The potential for climate change to exacerbate existing concerns for tribal infrastructure is not always clear among community members (i.e. increased severity of flooding and damage to road ways).

IV. RECOMMENDATIONS

Based on the feedback received, ITEP believes that a variety of training and networking opportunities, assistance, and resources should be made available to tribes to help them address climate change issues and increase their resilience to climate change impacts. Whenever possible, these resources should include tribal perspectives, traditional knowledge, and a consideration of climate change impacts on cultural resources. Again, based on feedback from participants of ITEP's climate change trainings, from other tribal representatives, and from other sources such as publications, we believe that the following mechanisms are needed to support tribes:

A. TRAINING

A series of trainings that will provide tribal environmental and natural resource professionals with a better understanding of the impacts of climate change and how to plan and prepare for those impacts. We recommend that the trainings be stand-alone workshops (2-3 days long) as well as shorter work sessions at tribal conferences and meetings. Online trainings should also be developed and offered for those who cannot attend in-person trainings.

Webinars offer another venue for learning about climate change, its impacts, and planning. We recommend that regular webinar series be offered to tribal environmental and natural resource professionals.

Providing training would help address the following challenges identified in Section III: Identifying and synthesizing relevant climate data; Navigating through the adaptation process; and Limited technical expertise.

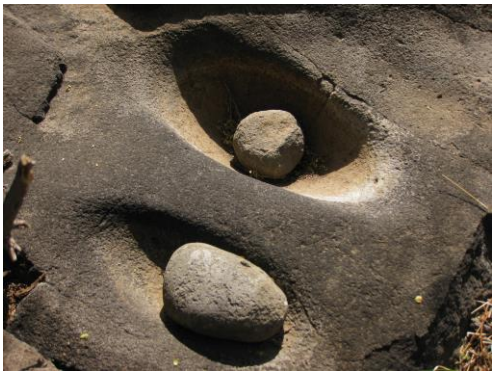
POSSIBLE TRAINING AND WEBINAR TOPICS	
Introductory Climate Change Adaptation Planning	Provides an introduction to planning for climate change impacts, with examples of tribes that have been going through the adaptation planning process. Offer it in different regions to provide regional perspectives on issues and adaptation strategies. The training could also be adapted into an online format for those who cannot attend in-person trainings.
Advanced Climate Change Adaptation Planning	Extends beyond the introductory level training. This might include trainings structured as focused work sessions in which participants engage in peer review of each other's draft adaptation plans.
Sector-specific Climate Change Adaptation Planning	A series of trainings, each training focusing on a different sector, such as water resources, forest resources, fish and wildlife, etc. These could showcase certain stages of adaptation planning, such as impact and vulnerability assessments or adaptation strategies.
Climate Change Monitoring and Data Analysis	Methods for monitoring changes in climate and its impacts; would include case studies of tribes who have collected baseline information on climate and what said tribes have done with the resulting data. Teach participants how to analyze tribal data sets that relate to climate change metrics.
Emergency Planning and Response	How to plan for extreme weather events.
Grant Writing and Funding for Climate Change	Training on climate change-focused grant proposal writing.

B. Technical Assistance, Tools and Informational Resources

We recommend that technical assistance be provided to tribes to help them move forward with climate change assessments and the development of adaptation plans. This might include a technical assistance program in which tribal representatives who have expertise provide assistance to other tribes through a peer network. We also recommend that support be provided for the development of tools and informational resources that tribes can use in the adaptation planning process.

Providing technical assistance (see table below), tools, and informational resources would help address the following challenges identified in Section III: Inadequate funding, Limited capacity and staff time, Identifying and synthesizing relevant climate data; Navigating through the adaptation process; and Limited technical expertise.

TECHNICAL ASSISTANCE	
Facilitation of adaptation planning process	Multiple tribes have expressed a desire for assistance with the adaptation planning process. This could take the form of experienced professionals providing guidance and assistance to the tribe through conference calls, email, and in-person meetings to help them through the adaptation planning process.
Climate change monitoring, research, and data analysis	Technical assistance to help build a tribe's capacity to conduct their own climate change monitoring, research, and data analysis.
Impact and vulnerability assessments	Provide assistance to tribes conducting impact and vulnerability assessments.
Technical writing assistance	Provide assistance to a tribe in writing their adaptation plan, with the content and focal points (i.e. priority species, major infrastructure concerns) provided by the tribe.
Review of draft tribal adaptation plan	Experienced professionals who can review a tribe's draft plan and provide feedback and suggestions. This might also include peer-review of plans by tribes that have already developed adaptation plans.
Tribal climate change liaisons	Funded government staff (climate change tribal liaisons), perhaps at regional BIA offices or the DOI Climate Science Centers, that serve as a source of information about regional climate resources, initiatives, meetings, etc.



TOOLS AND INFORMATIONAL RESOURCES	
Website	Provide support for a website that serves as a centrally located source of information and resources on tribal climate change issues.
Newsletter	Provide support for a newsletter that disseminates information about climate change impacts on tribes, tribal climate change projects, technical resources and information, upcoming events and funding opportunities that can be utilized by tribes in addressing climate change
Tribal case studies	Provide support for the research, development, and dissemination of tribal case studies. Providing case studies of tribes and tribal organizations that are engaged in climate change adaptation and mitigation initiatives benefits not only other tribes, who can learn from other tribes' experiences, but also federal agencies and other organizations who must remain abreast of advances in tribal climate initiatives
Tribal climate change impacts database and interactive map	Provide support for the creation and maintenance of a national database highlighting the impacts of climate change on tribal lands and resources. This could be similar to the Alaska-focused Local Environmental Observer (LEO) Network, in which tribal representatives are trained to be "observers" who document climate change impacts in their communities. The LEO Network is available at: http://www.anthc.org/chs/ces/climate/leo/.
Fact sheets	Provide support for the development of 2-page climate change fact sheets, on topics such as outcomes of adaptation and impacts to natural resources to be used by tribal staff in their outreach with their leadership and community.
Funding and resource database for tribes	Provide support for an easily searchable, centralized federal website maintained on a long-term basis with clear explanations of eligibility and other proposal requirements for climate change related grant opportunities for which tribes and tribal organizations are eligible.

C. MATERIAL FOR EDUCATING AND ENGAGING TRIBAL LEADERSHIP

Having leadership support for a tribal climate change initiative can make it easier for tribal departments or climate change working groups to move forward with climate change planning. We recommend that support be provided for training and educational materials geared towards tribal leadership. This might include the following:

Trainings: Provide training about climate change and adaptation at tribal leader meetings such as the National Congress of American Indians (NCAI) or regional meetings.

Webinars: Provide webinars for tribal leaders; Topics might include climate change impacts on tribes, as well as how to start and fund climate change initiatives

Outreach material: Provide support for the development of Tribal Case Studies and Fact Sheets (mentioned in section above) that can be used in outreach to tribal leadership, and for template PowerPoint presentations that tribal staff members can modify and use for outreach with their tribal leadership. In addition, provide funding for the development of a tribal leadership primer document that can be used to educate tribal leadership on the benefits of adaptation planning.

Providing training, webinars and outreach material geared towards tribal leadership would help address the following challenges identified in Section III: Tribal leadership support. The outreach material might also be used or modified for outreach to tribal community members, which relates directly to the identified challenge: I. Difficulty securing buy-in from tribal community members.

D. NETWORKING AND COLLABORATION

We recommend that opportunities be provided for tribes to network and learn from each other, to share information, and to develop collaborations. These might include participation of non-tribal groups, such as federal agencies, universities, and other organizations, but the focus should be on tribal issues. We recommend that the following venues be provided and facilitated for networking purposes:

National tribal climate change conference: Provide support for the planning and offering of a national tribal climate change conference focused on climate change adaptation, and include funding for tribal travel scholarships. Perhaps this could be a Tribal Adaptation Forum offered in the off years of the biennial National Adaptation Forum (which is not tribally focused).

Regional tribal climate change meetings: Provide support for the planning and offering of regional tribal climate change meetings focused on adaptation, and include funding for tribal travel scholarships.

Online discussion board: Provide support for the creation and moderation of an online discussion board where tribal representatives and others working on tribal climate change issues can share information. For example, a Tribal Climate Change Adaptation group could be formed on LinkedIn.

Trainings: Discussed previously, trainings also serve as a networking opportunity for the participants and instructors.

Providing opportunities for networking and collaboration would help address the following challenges identified in Section III: Tribal leadership support, Identifying and synthesizing relevant climate data, Navigating through the adaptation process, and Limited technical expertise.

E. RESEARCH

We recommend that support be provided to tribes for research projects and to facilitate collaborations with non-tribal researchers. For example, support research and assessments of climate change impacts and vulnerabilities of tribal natural resources and cultural resources. Support research projects that include traditional knowledge, but ensure that strict protocols are employed for the protection of this unique category of proprietary knowledge. We also recommend that mechanisms be developed for tribes to communicate their monitoring and research interests and needs with federal agencies and universities.

Providing support for tribal research projects and collaborations with non-tribal researchers would help address the following challenges identified in Section III: Limited capacity and staff time, Identifying and synthesizing relevant climate data, Navigating through the adaptation process, and Limited technical expertise.

F. INTERNSHIPS

We recommend that support be provided for a tribal climate change internship program that places Native American college students with tribes and tribal organizations to give them experience working on climate change projects and to provide tribal staff with assistance.

Providing support for a tribal climate change internship program would help address the following challenges identified in Section III: Limited capacity and staff time.

G. FUNDING

We recommend that federal agencies provide ongoing and increased funding support for tribal capacity-building activities and programs, and an ongoing funding stream that supports tribal climate change assessments, adaptation planning, and implementation.

Providing funding support would help address the following challenges identified in Section III: Inadequate funding and Limited capacity and staff time.

H. TRIBAL RELOCATION

We recommend that a federal agency be designated to work with tribes and Alaska Native Villages in providing guidance, coordination, and funding assistance to the tribes and Alaska Native Villages that are being severely impacted by climate change (i.e. flooding and erosion). Priority processes and authority should be established to assist tribes and native villages that are in a dire situation and require immediate assistance.

Providing guidance, coordination, and funding assistance for relocation would help address the following challenges identified in Section III: Inadequate funding, Limited capacity and staff time, Navigating through the adaptation process, and Limited technical expertise.

V. CONCLUSION

Climate change represents a very real crisis for Native American tribes and conditions will most likely worsen in the coming decades. Tribes have demonstrated tremendous resilience in the face of change throughout millennia. Nonetheless, the unprecedented rates of change brought about by climate change necessitate capacity building for tribes as well as support on adaptation planning. Tribes are trying to find ways to maintain their cultural and spiritual practices, their traditional knowledge, and place-based ways of life that are being threatened and affected by climate change.

The federal government must honor and act on its trust responsibility to tribes to ensure that tribal treaty rights, lands, assets, and resources are not degraded by climate change. Furthermore, the government must ensure that tribes have the capacity to address the changes impacting their communities, cultural and natural resources, and lands.

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