



Cultures Under Water:

Climate Impacts on Tribal Cultural Heritage

**SUMMARY OF THE PROCEEDINGS FROM
CULTURES UNDER WATER:
CLIMATE IMPACTS ON TRIBAL CULTURAL HERITAGE CONFERENCE
DECEMBER 6-8, 2017
TEMPE, AZ**

INDIAN LEGAL CLINIC
UNDER THE SUPERVISION OF PATTY FERGUSON-BOHNEE
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Our World Today

Extreme weather and climate events have increased over the past 50 years and Indigenous peoples are among the most vulnerable to the adverse effects because they are often inextricably tied to their land. As a result, climate change not only threatens the landscape, but also cultural identity. Indigenous peoples have used traditional knowledge to mitigate climate disruptions and to adapt to the changing environment. However, policy discussions have failed to adequately address climate impacts on cultural heritage, and the rapid rate of climate disruptions continues to threaten indigenous cultures and communities with alarming speed.

Purpose

The purpose of this conference was to build on the discussions of climate change, adaptation, and traditional knowledge by focusing specifically on climate impacts on tribal cultural heritage. By bringing together tribal leadership and members, scientists, scholars, attorneys and activists to discuss climate change threats and challenges faced by Indigenous communities, our hope was to share knowledge and resources in order to elevate tribal cultural heritage in climate discussions at tribal, local, state, national, and international levels. Conference participants discussed the following: Is cultural heritage a human right, and why is tribal cultural heritage important? How does climate change impact tribal cultural heritage? How can tribal communities maintain cultural heritage in the face of changing climate risks?

Acknowledgements

In the Fall of 2017, Tyson Yazzie ('18) and DesiRae Deschine ('19) participated in a research course entitled Climate Impacts on Tribal Cultural Heritage with Professor Patty Ferguson-Bohnee. In addition to substantive review of climate change policy and issues affecting Tribes, the students assisted in developing topics, identifying speakers, and planning panels for the conference as part of the course. The students also served as notetakers during the conference. Additional notetakers included Althea Walker-Ortiz, Environmental Education and Outreach Specialist for the Gila River Indian Community Department of Environmental Equality, and Indian Legal Clinic students Brian Curley-Chambers ('18) and Rani Williams ('18). This report was prepared by Indian Legal Clinic students DesiRae Deschine ('19), Ana Laurel ('19), and Rellani Ogumoro ('20), under the direction of Professor Patty Ferguson-Bohnee at the Sandra Day O'Connor College of Law.

Special thanks to the Conference Committee Adam Markham Deputy Director of Climate and Energy for the Union of Concerned Scientists; Ann Marie Chischilly, Executive Director of the Institute for Tribal Environmental Professionals; and Patty Ferguson-Bohnee, the Director of the Indian Legal Clinic at the Sandra Day O'Connor College of Law. We would also like to acknowledge the Conference Coordinator Jennifer Williams, Legal Assistant at the Indian Legal Clinic. Thank you to the participants, panelists, and moderators for the important discussion that makes up the body of this report. Of course, this event would not have happened without the financial sponsors—the Gila River Indian Community, the Salt River Pima Maricopa Indian Community, the Yocha Dehe Wintun Nation, and the Shakopee Mdewakanton Sioux Community.

Cultures Under Water Report

This report summarizes key information from each panel, presentation, and breakout session shared at the *Cultures Under Water: Climate Impacts on Tribal Cultural Heritage Conference* held on December 6-8, 2017 at the Arizona State University Tempe Campus. The conference was kicked off on December 6, 2017 with a showing of *Before the Flood*, a film which features Leonardo DiCaprio and scientists discussing the reality of climate change across the world. The first full day of the conference, December 7, 2017, focused on the impacts of climate change, and the second full day of the conference discussed solutions. On the evening of December 7, 2017, there was a staged reading of Mary Kathryn Nagle's play *Fairly Traceable*, a play about two young Native attorneys who are both fighting to save their Tribal Nations and families from climate change.

I. Introductory Remarks

Patty Ferguson-Bohnee, the Faculty Director of Indian Legal Program, the Director of the Indian Legal Clinic and a Clinical Professor of Law at the Sandra Day O'Connor College of Law, Arizona State University (ASU), explained how the idea for a Climate Conference was developed during a gathering held in 2015 at Pocantico, New York. At this gathering, a group of people came together to discuss strategies and develop an agenda for preserving and continuing cultural heritage in a changing climate. The resulting Call to Action, signed by several Tribes, included a commitment whereby ASU would host this conference focused on climate change impacts on tribal cultural heritage.¹ Dean Doug Sylvester from the Sandra Day O'Connor College of Law offered a welcome from the law school. Lieutenant Governor Robert Stone of the Gila River Indian Community offered a traditional O'odham blessing.

Vice Chairman Gabriel Lopez of the Ak-Chin Indian Community offered opening comments. He discussed how climate change has impacted their himdak, or way of life. One example he shared was how climate change impacted the way Ak-Chin tribal members receive their traditional baptismal names. Vice Chairman Lopez was named after March's spring winds, but those winds have ceased coming in the spring, so subsequent generations would not be so named. While each Tribes' cultural traditions and practices may differ, these traditions and practices depend on the seasons. As climate change affects the seasons, these traditions and practices are at risk. Vice Chairman Lopez warned about weighing economic development opportunities against their potential to spoil and exploit the land because the ripple effects of these decisions impact not only tribal communities but animals as well. Finally, he remarked upon the relationship native people have with their environments, mother earth and father sun, and how as the earth changes, so, too, will these relationships. Vice Chairman Lopez began the conference with the quote, "Our mother earth is speaking to us. It's time for us to start listening. The recorded introductory remarks may be accessed online at <https://vimeo.com/247195760>.

¹ Pocantico Call to Action on Climate Impacts and Cultural Heritage (2016), available at <https://www.ucsusa.org/sites/default/files/attach/2016/04/Pocantico-Call-to-Action-on-Climate-Impacts-Cultural-Heritage-4-11-2016.pdf>.

II. Climate Overview

The main goal for this presentation was to present the findings from the draft Fourth National Climate Assessment Report² and illustrate the ways that the changing climate impacts indigenous people living on and off reservations.³ Gregg Garfin, the Director of the Southwest Climate Science Center, and Deputy Director for Science Translation and Outreach, Institute of the Environment, and Associate Professor and Associate Extension Specialist, School of Natural Resources and the Environment at the University of Arizona, discussed the draft Fourth National Climate Assessment⁴ as an overview of the effects of climate change on the United States (U.S.) and the American continent. Following the presentation, Garfin responded to questions from the audience. The recorded presentation may be accessed online at <https://vimeo.com/247196013>.

First, Garfin illustrated how the climate is a tiny part of a complex system with many human (non-climate) factors involved. To demonstrate this, Garfin used the work he has been doing with land managers in the western Great Basin.⁵ The land managers were concerned about the spread of cheat grass. Garfin explained that to even begin to approach a solution required a holistic perspective that focused on the many factors involved in climate change.

Next, Garfin relayed the general climate concerns, such as having too much or too little water as well as the temperature being too hot. Garfin referenced a Climate Science Special Report⁶ which demonstrated how global and national temperatures continue to rise annually along with heat-trapping gases in the atmosphere, resulting in a decrease in cold waves and an increase in heat waves. Garfin discussed how increasing ocean temperatures affect ocean life, such as on the west coast where warmer ocean temperatures encourage algae blooms, which increase toxicity, insects, pests, pathogens, and deer ticks. These temperature changes outpace plant species' abilities to adapt to changes. Garfin explained how sea levels and oceans are rising globally, between 1-4 degrees over the course of the next century. Garfin described the devastating impact this has on coastal regions when combined with stronger storms. Garfin referenced how this impacts Tribes. For instance, in recent years, strong storm surges have caused massive flooding, so much so that the Quinault Indian Nation is considering resettling further inland. Strong storms are partially caused by heavy precipitation, which results from a warmer atmosphere caused by human and non-human caused climate change. While there is no connection between drought and human-caused climate change, the increased temperatures and evapotranspiration has caused decreased

² United States Global Change Research Program (USGCRP) To Announce the Availability of a Draft Fourth National Climate Assessment Report for Public Comment, 82 Fed. Reg. 214 (Nov. 7, 2017).

³ Tribes and Indigenous Peoples, Impacts, Risks, and Adaptation in the United States: Fourth National Climate Assessment, Volume II (2018), available at https://nca2018.globalchange.gov/downloads/NCA4_Ch15_Tribes-and-Indigenous-Peoples_Full.pdf.

⁴ Fourth National Climate Assessment (2018), available at https://nca2018.globalchange.gov/downloads/NCA4_2018_FullReport.pdf.

⁵ The Great Basin encompasses the states of Nevada, Oregon, Utah, California, Idaho and Wyoming.

⁶ Climate Science Special Report (2017), available at https://science2017.globalchange.gov/downloads/CSSR2017_FullReport.pdf.

soil moisture, which exacerbates drought and conifer forest mortality. Garfin stated how increased temperatures and a longer snow freeze season increase the risk of large fires, which affect indigenous lands. Finally, Garfin asserted how these issues are compounded and affect the food web in regions like the Arctic, as well as cause many unknown possibilities to how these issues impact our ecosystems.

Last, Garfin noted that there are solutions and technological advancements that could abate these affects. He suggests relying on cultural and spiritual practices and letting our well-being and lifestyles lead the way we think about climate change challenges.

Questions/Comments

Question 1: What is the review for National Climate Assessment, and is there a way to support the work of the team who composed the document? Is it useful to review it and acknowledge the accuracy of their processes?

Garfin responded that people can support the authors of the assessment by spreading the word about the document and the process; additionally, even if reviewers are not capable of reviewing the technical details, they could focus on an issue important to them and/or raise that issue if it is not included in the document. Public input and commentary are important because the assessment is not yet finalized.

Question 2: In this climate assessment, were indigenous nations/native nations consulted or was their input included?

Garfin answered that he is not aware of whether Tribes were consulted on the Climate Science Special report. However, in the second volume dealing with sectors and regions and adaptation and mitigation, there was tribal consultation and input, including contributions from Dr. Valerie Small.

Question 3: Recognizing growth in rapid climate changes, what is the difference between climate change and climate crises? Are we actually in a climate crisis now?

Garfin said there are crises related to climate change, but that the main challenge is averting more crises. Whether climate change situations amplify into crises depends on the particular situations occurring, such as a people's ability to adapt and resist changes. We will be able to adapt and resist better once we begin preparing for potential crises.

Question 4: In response to Garfin's comment that a warmer atmosphere retains more moisture, in a place like Arizona, does that mean the atmosphere with increased moisture will hold more dust particles, particularly here in the Valley?

Garfin answered that the major factor contributing dust to the atmosphere is disturbing the soil, which illustrates how non-climate factors affect climate factors.

III. Cultural Heritage as a Human Right

The main goal for this panel was to present the impact of climate change on natural resources and cultural heritage. Although there seems to be a separation between natural resources and cultural heritage, for many indigenous peoples however, there is no separation. Adam Markham, Deputy Director of Climate and Energy for the Union of Concerned Scientists, served as the panel's moderator. F. Henry Lickers, Environmental Science Officer for the Mohawk Council of Akwesasne, Mohawk Nation discussed the ways in which the Haudenosaunee have dealt with and adapted to climate change in their thousand-year history. Jeff Altschul, Principal, Statistical Research, Inc. and co-organizer of the 2015 Pocantico gathering, defined cultural heritage using an example based on work he did in Mongolia, and discussed the mechanisms in place to protect cultural heritage and how those mechanisms can be used and resourced. Rebecca Tsosie, Regents' Professor of Law, Faculty Co-Chair, Indigenous Peoples Law and Policy Program and Special Advisor to the Provost for Diversity and Inclusion at the University of Arizona School of Law explained how cultural heritage informs the ways communities adapt to climate change, and how preserving cultural heritage within the law helps to preserve and protect communities.⁷ Following the speakers, the panel was opened up for questions from the public. The recorded panel discussion may be found online at <https://vimeo.com/album/4915308/video/247350523>.

Panelist Presentation Summaries

F. Henry Lickers began his presentation by sharing how his Tribe has recognized climate change by the way their traditions and ceremonies have adapted over time. Haudenosaunee Nations have six growing seasons which have changed as a result of climate change. For example, one can no longer plant beans during the bean moons because the seasons have shifted. The Haudenosaunee know the seasons have shifted because of the Grandfather ceremony, which is generally celebrated at the arrival of the first thunderstorm in spring (May/June). Lickers explained how his Tribe sends the grandfather away in late August/early September, but have noticed that the last thunder does not happen until well into December, and begins again now in late February. As a result, the Grandfather ceremony and the ceremony welcoming the spring are occurring closer together. This serves as a warning to the Tribe to be prepared to adapt to protect their society and their future.

Lickers explained that in the Haudenosaunee's long history of over 30,000 years, they have encountered and adapted to climate change before, and how their traditions contain notes and observations documenting the changing climate. Lickers referenced oral traditions that discussed the extent of ice on the North American continent over 20,000 years ago. According to oral

⁷ See Rebecca Tsosie, *Climate Change and Indigenous Peoples: Comparative Models of Sovereignty*, 26 TUL. ENVTL. L.J. 239 (2013) and *Indigenous People and Environmental Justice: The Impact of Climate Change*, 78 U. COLO. L. REV. 1625 (2007).

traditions and beliefs, there was a period of water for about 50,000 years before the ice. During this time, his people lived in the south with people of the stone. The stone people's society collapsed because the stone people were unable to adapt as the ice moved south. The Haudenosaunee moved north as the Tribe followed the ice. The Tribe migrated north and settled on Akwesasne, the land where they have been since. The Tribe has a long history of welcoming additional Tribes onto their lands and peace with neighboring Tribes. When the non-natives arrived, the ecology quickly changed. The Haudenosaunee had laws that included responsibilities to everything in the world around them. In 1976, the Mohawk Council started the Department of the Environment, around the same time the U.S. and Canada established the Environmental Protection Agency (EPA) and Environment Canada. In 1985, the Haudenosaunee co-hosted the first hazardous events/climate change conference with the EPA in Syracuse, New York.

Lickers concluded by sharing a traditional teaching about the chickadee, a little bird found in the surrounding forests. The chickadee offered up three of its heads. The chickadee had a black head on one side and a white head on the other. When all three heads line up, either black or white, the world is good and will not end. The ultimate message conveyed by the chickadee teaching is to show the fragility of the world. The world we are living in is fragile and being disturbed by climate change. Lickers concluded that this is the time to bring together both scientific with the traditional knowledge, to solve the world's problems, like that of climate change.

Jeff Altschul began his discussion referencing his own cultural heritage from Eastern Europe and how it has informed his life and his belief in the importance of cultural heritage. Though cultural heritage is relatively defined, it encompasses: who a community says they are, how they choose to behave with each other, and what they have to transmit to future generations to ensure their survival as a community. Altschul mentioned a group of directors at the National Museum in Afghanistan and how, when the Taliban came in to destroy it, the group worked together to their detriment under Taliban rule to preserve the museum. Today it bears a plaque which states: "A nation stays alive when its culture stays alive."

Altschul referenced the United Nation's approach where you cannot separate cultural heritage from other human rights. Cultural heritage encompasses many things and needs to be discussed within a holistic approach. Further, heritage is not a thing, but rather a process of negotiation between people, which is defined in the discussions between the various and competing groups within a community. It is not static, but rather changes over time and across communities. Groups can define what they think is important, which may be different than a neighboring community or group. Altschul then referenced an International Criminal Court ruling wherein for the first and only time, the court held that the destruction of cultural heritage is a crime against humanity.⁹ In this case, Islamic fundamentalists systematically destroyed historical and sacred manuscripts in Timbuktu, which were critically important to early Islam. The court reasoned the acts constituted

⁸ Jeff Altschul, PowerPoint Presentation, *Cultural Heritage as a Human Right: Theory to Practice*, December 7, 2017, Arizona State University, Cultures Under Water: Climate Impacts on Tribal Cultural Heritage.

⁹ *Prosecutor v. Ahmad Al Faqi Al Mahdi*, Case No. ICC-01/12-01/15, Judgment & Sentence (Sept. 27, 2016), available at https://www.icc-cpi.int/CourtRecords/CR2016_07244.PDF.

a crime because it destroyed the shared memories and precluded the transmittal of Islamic values to future generations. Altschul explained that losing places robs a community of its social and psychic identity. For this reason, cultural heritage generally arises in conflicts over distribution and access to resources as well as control over the past/history. Altschul remarked that part of the problem with the issue of cultural heritage is tied to its solution. For instance, because there are many national/international protections, people do not see a problem with cultural heritage. However, protections of cultural heritage require enforcement, which requires work. Therefore, legal protections have become easy to circumvent and difficult to enforce.

Altschul shared and provided a professional example wherein he participated in a partnership between the University of Arizona and the Mongolian government to create a solution for defining and protecting Mongolia's cultural heritage. Mongolia is a country that is located between Russia and China. It is one of the world's poorest countries and home to nomadic herdsman. Mineral resources are abundant in Mongolia. Mongolia's economy has not changed much in a thousand years. In public meetings to develop the mining sector, Mongolian people were asked about what they wanted to protect and conserve so that the government could determine ways to protect those things. Results showed that the preservation of Mongolian cultural heritage (which they defined as their dress, their language, and their dinosaur eggs) was just as important as their access to jobs, healthcare and education. As a result, to obtain a license to mine, mining companies must pay a tax that is used to protect intangible cultural heritage, such as values and lifeways. The partnership's research changed Mongolian law and established public programs as well as a funding mechanism for cultural heritage. The latter of which is important because in countries like the U.S., funding comes from a "polluter pays" model, which historically works for tangible assets, but does not translate well to intangible ones.

Altschul concluded his discussion by stating that when human rights and cultural heritage are viewed holistically and as indistinguishable, as is the case with the United Nations approach, there are three fundamental pillars: land (sense of place); law (align law with community values); and, community empowerment. This approach ensures there is a holistic method when dealing with issues related to cultural heritage.

Rebecca Tsosie began her discussion by reiterating Licker's comments about building upon the power of unity and using that to move forward. She briefly referenced Patty Ferguson-Bohnee's article, *High Water and High Stakes*.¹⁰ In the article, Ferguson-Bohnee describes her community, the Pointe-au-Chien Indian Tribe, and how the changing climate has impacted tribal land over time. Using Ferguson-Bohnee's Tribe as an example, Tsosie described how Tribes often stand on the brink of adaptation or extinction as a result of climate change. While most people would respond that adaptation is the only path forward, Tsosie argued that it is rather a choice of cultural extinction. Tsosie explained how the climate impacts felt by indigenous communities are so vital that it has been compared to a process of cultural genocide.

¹⁰ Patty Ferguson-Bohnee, The Impacts of Coastal Erosion on Tribal Cultural Heritage, 29 FORUM J. 58, 62 (2015), available at <https://muse.jhu.edu/article/587542/pdf>.

Tsosie then proceeded to tie the concept of cultural heritage within the law to climate change. She briefly recounted the history and concept of cultural heritage law beginning in the Nineteenth Century to the present. Alternatively, the discussion of what happens to cultural property is relatively ancient by comparison, dating back to the Roman Empire. The juxtaposition between cultural heritage protection and cultural property represents the disconnect for indigenous communities because this juxtaposition supposes cultural heritage is only material. Tsosie argues instead that “cultural heritage is a rich, robust composite of the tangible and intangible aspects of culture and the practices of human beings are what tie that together into an intergenerational matrix.”

Tsosie then explained how the concept of the right to culture in the U.S. deviates from the human rights conception that culture is inherent to our identities because culture and the environment ties our identities to our lands. While the U.S. recognizes the International Covenant on Civil and Political Rights, which are a bundle of economic rights, it does not ascribe to the Covenant of Economic, Social and Cultural Rights, which are optional.

Tsosie described how the lack of protection for native culture results in the distillation of it by others outside of that cultural heritage/tradition/practice. Tsosie referenced a report from the United Nations Special Rapporteur in the field of Cultural Rights.¹¹ Tsosie explained how it acknowledges that the intentional destruction of cultural heritage is a grave human rights problem because it: (1) Destroys the objects of cultural (tangible), as common, heritage of all mankind, and (2) Destroys the ability of members to transmit their cultures (intangible) to subsequent generations.¹² Tsosie explained the destruction of culture with a discussion on the Bear’s Ears National Monument. Bear’s Ears is a contemporary example of cultural heritage destruction in the United States. Under the Obama Administration, the Antiquities Act was used to set aside land that is culturally significant to several Tribes. During the Trump Administration, an executive order called for the monument’s land base to be diminished by 85% and permitted resource extraction and development. Tsosie emphasized that these intentional acts of destruction are a form of cultural genocide. Tsosie reiterated the United Nations Special Rapporteur’s definition of cultural genocide as the act of intentionally destroying the cultural heritage that belongs to a people.

Finally, Tsosie related the history of the rights of indigenous peoples as a category of international human rights law within the United Nations Declaration on the Rights of Indigenous Peoples (2007). According to Tsosie, the rights of indigenous peoples are set apart because of their unique and distinctive status as peoples of places. Although U.S. created laws that govern the process by which Tribes are officially recognized under it, international human rights law is inherent, whether the nation state formally recognizes them. Likewise, the rights of indigenous peoples for self-determination includes the right to protect and promote their cultural integrity. Respecting and

¹¹ Report of the Special Rapporteur in the field of cultural rights (August 2016), *available at* <https://undocs.org/en/A/71/317>.

¹² *Id.*

protecting the living entity on which we live allows us to progress and to survive. Tsosie emphasized that indigenous communities are often the most vulnerable and most resilient, having survived catastrophic events over countless centuries. However, because of indigenous teachings and cultural heritage, indigenous communities are able to survive. Tsosie reminded that those ways of knowledge enabled their survival, and that is what is at stake.

Questions for the Panel

Question: Should the discussion include those who may never return to their homes in specific locations?

Tsosie responded that the whole category of “climate refugees” within the law is new and questioned whether it includes the responsibility and need for countries to accept climate refugees. Countries are struggling because while they acknowledge their responsibilities to their own citizens, they fail to understand their similar responsibilities to others. Tsosie discussed island nations in danger of losing their entire land bases. Tsosie explained that it is a justice inquiry that still challenges the current political and economic structure. Lickers answered that governments are used to borders because they draw these lines on maps. For the First Nations people, those fine lines were miles thick, meaning when people migrated, they were welcomed by the Haudenosaunee without the expectation that the migrants become Haudenosaunee. Now, there is an imposition of laws and regulations from cultures that are completely different than the Haudenosaunee. As a result of the differing cultures, many have taken claim to Haudenosaunee land and resources, which is not what Haudenosaunee Nations understood when welcoming others onto their land. Finally, Altschul responded by sharing an anecdote from when he worked at the World Bank. Altschul mentioned that the World Bank initially thought of cultural heritage as an impediment to issuing loans. However, the World Bank shifted its position when resettling hundreds of thousands of people from the Amazon. The shift occurred because after discussing the economics, most people wanted to know when and how they could return to their ancestral lands. Many needed to get back to their traditional lands to perform ceremonies and practice their culture. As a result of these conversations, the World Bank started discussions around cultural heritage as something critical to peoples’ lives.

IV. Protecting Tribal Cultural Heritage in a Post-Paris Conference Climate¹³

This panel discussion was moderated by Patty Ferguson-Bohnee and included panelists who discussed how Tribes can protect their cultural heritage when the U.S. has claimed it is withdrawing from the Paris Agreement. Daniel Bodansky, a Regents' Professor of Law and Co-Director at the Center for Law and Global Affairs at the Sandra Day O'Connor College of Law, Arizona State University, discussed the international communities' response to climate change and the Paris Agreement. Bodansky has been part of the development of the United Nations Climate Regime since 1991. Next, Adam Markham highlighted the importance of cultural heritage to climate policies and presented opportunities for protecting cultural heritage within the international context. Finally, Andrea Carmen, the Executive Director at the International Indian Treaty Council, talked about her experiences as one of two representatives from North America on the global steering committee working at the United Nations on the Indigenous Peoples' Forum on Climate Change and lessons learned as a result. The panel discussions were followed by questions from the public. A video of the discussion may be accessed online at <https://vimeo.com/247395302>.

Panelist Presentation Summaries

Dan Bodansky discussed the context and controversy surrounding the Trump Administration's comments regarding the United States' withdrawal from the Paris Climate Agreement. The Paris Agreement was a development of the United Nations Climate Change Regime. Bodansky detailed

¹³Referenced materials:

UNFCCC COP21 Adoption of the Paris Agreement, U.N. Doc. FCCC/CP/2015/L.9/Rev/1 (Dec. 12, 2015), available at <https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf>; Daniel Bodansky, *The Paris Climate Change Agreement: A New Hope?*, 110 AM. J. INT'L LAW 269 (2016); Adam Markham, *How Will the National Park Service Protect America's Heritage from Climate Change?*, (2017), available at <http://blog.ucsusa.org/adam-markham/new-national-park-service-climate-change-strategy>; Adam Markham, *President Trump's Assault on the Antiquities Act Signals Trouble for National Parks and Monuments*, Union of Concerned Scientists Blog (2017), available at <http://blog.ucsusa.org/adam-markham/president-trumps-assault-on-the-antiquities-act-signals-trouble-for-national-parks-and-monuments>; Adam Markham, *US Withdrawal from UNESCO Will Undermine Collaboration on Science and Culture*, Union of Concerned Scientists Blog (2017), available at <http://blog.ucsusa.org/adam-markham/us-withdrawal-from-unesco-will-undermine-collaboration-on-science-and-culture>; Local communities and indigenous peoples platform at COP 23, U.N. Doc. FCCC/SBSTA/2017/L.29 (Nov. 15, 2017), available at <https://cop23.com.fj/wp-content/uploads/2018/01/Local-and-Indigenous-Peoples-Platform-.pdf>; International Indigenous Peoples Forum on Climate Change, Discussion Paper on Operationalization of the Local Communities and Indigenous Peoples' Platform, available at https://static1.squarespace.com/static/5627862ce4b07be93cfb9461/t/5ae708291ae6cfa83d743ad4/1525090346547/2017_IIPFCC_Ottawa_Lobby_Paper_English+.pdf; Adam Markham, *Climate Change and Cultural Heritage: Impacts and Responses*, (2017) available at <http://conferences.asucollegeoflaw.com/climate-impacts/files/2017/05/Markham-ASU-Indian-Law-Program-Dec-17.pdf>. Supplemental Material: U.N. Doc. FCCC/CP/2015/L.9/Rev/1 (Dec. 12, 2015); The Paris Agreement, available at <https://unfccc.int/resource/docs/2015/cop21/eng/l09r01.pdf>; Adam Markham, published blogs with Union of Concerned Scientists, available at http://blog.ucsusa.org/author/adam-markham?_ga=2.251754953.171911435.1511926112-398141148.1507320410#.Wh4pcUqnG5s.

the background and historical development of the United Nations Climate Change Regime into four acts: the United Nations Framework Convention on Climate Change; the Kyoto Protocol; the Copenhagen Accord; and finally, the Paris Agreement.

Briefly, the United Nations Framework Convention was negotiated in 1991, adopted in 1992, and went into effect in 1994. It served as a global constitution calling for an effort to address climate change; establish governance and principals; create modest obligations related to transparency; and set annual conferences, which would serve as meetings for parties involved to come together and continue shaping its framework.

The Kyoto Protocol (1997) attempted to negotiate a treaty that required countries to reduce their emissions. It had three central features: (1) internationally-negotiated targets for each country to reduce their emissions; (2) legally-binding; and (3), a high degree of differentiation between developed and developing countries, where the latter had fewer to no obligations under the Protocol. The Kyoto Protocol was followed by the Copenhagen Accord (2009). Since the Kyoto Protocol featured high differentiation between developed and developing countries, the U.S. rejected it. The Copenhagen Accord attempted to make the United Nations Climate Change Regime more global in effect. Though it was intended to be the culmination of the efforts, it was not ultimately adopted.

However, the Copenhagen Accord is still important because: (1) it is a nonbinding political statement that established a target to hold temperature increase to less than 2 degrees; (2) garnered emission pledges from more countries than the Kyoto Protocol; (3) established a more robust transparency regime for developed/developing countries; and, (4) developing countries agreed to have pledges in exchange for financial compensation. The Copenhagen Accord was different from the Kyoto Protocol because it employed a bottom-up approach where emission pledges were nationally determined. Although it was not legally binding, emission pledges came from a wide body of countries.

In 2015, the Paris Agreement embodied a hybrid approach, combining features from the previous two iterations. This included adopting the bottom-up approach used in the Copenhagen Accord, where countries had the freedom to determine their own commitments. The Paris Agreement established multilateral rules to include more accountability, such as setting certain international goals, ways to track compliance with goals, and ways for peers and experts to review a country's compliance with those larger goals. The Paris Agreement is legally-binding as a treaty, though not every provision by itself is legally-binding. The United Nations Climate Change Regime has been focused on mitigating and reducing emissions rather than on adapting to climate change.

In 2017, President Trump announced that the U.S. has withdrawn from the Paris Agreement. However, Bodansky stated that this comment merely evidenced his intent to withdraw since the actual withdrawal process takes a year to go into effect. Therefore, the U.S. will remain a part of the Paris Agreement until at least 2020. There exists a concern that if the U.S. withdraws from the Paris Agreement, other countries will also withdraw because the U.S. has one of the richest

economies and is one of the largest emitters. Bodansky warns it is still too early to speculate over the potential effect of a U.S. withdrawal. As a result of President Trump's statement, a pledge called, "We're Still In," was launched. The pledge involves a coalition of states, cities, organizations, and universities within the U.S. committed to support the Paris Agreement's climate change initiatives. Under this pledge, states will independently continue to meet the emission levels even if the U.S. as a nation will not.

Finally, Bodansky discussed the Paris Agreement and its relationship to and effect on indigenous peoples. Though climate change has a direct effect on indigenous people because of their close connections to land and natural resources, indigenous people were only afforded a small presence in climate change initiatives at the United Nations. In 2008, the United Nations established the International Indigenous People's Forum on Climate Change. Though there is relatively little focus on indigenous peoples/issues in the Paris Agreement, to the extent it is successful in the long term in reducing climate change, the Paris Agreement could have a huge benefit for indigenous peoples. This is because while the Agreement is adopted and in force, countries are currently negotiating rules for how it will be applied in the future. Specifically, there are several provisions in the rulebook proposals focused on indigenous peoples, including integrating traditional knowledge, developing technologies, and involving indigenous peoples in the planning process for Nationally Determined Contributions. Going forward, there is a United Nations platform for indigenous and local community climate action, the purpose of which is to exchange information and share best practices to strengthen the involvement of indigenous peoples throughout the Paris Agreement and climate change process.

Adam Markham began by discussing the Union of Concerned Scientists' role as a science advocacy organization involved in climate change and cultural heritage. The organization became involved in the confluence of cultural heritage and climate change after witnessing the damage to Ellis Island and the Statue of Liberty caused by Hurricane Sandy in 2012. The costs associated with such important national cultural artifacts highlighted the potential costs for restoring damage to cultural heritage and even relocating entire communities.

After Hurricane Sandy, several collaborators organized the Pocantico meeting. During the meeting, a call to action was created. The Pocantico Call to Action recognizes cultural heritage as a human right and the potential damage to heritage as a result of climate change. The Pocantico Call to Action recognizes that neither the costs addressing climate change impacts on cultural heritage, nor the knowledge gained from understanding our cultural heritage, have been comprehensively incorporated into climate policy at any level. The Pocantico Call to Action includes a pledge to ensure indigenous voices are empowered and included. The Call to Action highlights the importance of cultural heritage as it creates social cohesion, links to traditions of past, and serves as a driver for economic growth. The Call to Action also recognized that cultural heritage preserves traditional knowledge as tools for resilience and contributes to cultures' abilities to rapidly adapt to the changing climate. Markham draws on an example of the Inuit Circumpolar Conference in Alaska, where they are working to identify how climate change can affect traditional food webs and integrating it into western sciences.

Next, Markham discussed current climate impacts and their effects, such as the rising sea levels, thawing permafrost, the loss of winter sea ice, and wildfires and the subsequent flooding due to the loss of forests from wildfires. Additionally, warming oceans intensify storms, such as the case of Hurricane Maria, which made landfall in Puerto Rico and destroyed archaeological sites including over 50% of its historical buildings. The sites were exposed after the storm and then ultimately looted. Markham noted how the loss of long term traditions renders communities more vulnerable, citing “deep term vulnerabilities” over the last 60 years to include: a shift from a subsistence economy to rigid market economy; disintegration of traditional networks; and a resulting increased sensitivity to climate and global change.

Markham referred to a report created for World Heritage and Tourism in a Changing Climate, featuring case studies on thirty-one sites in twenty-nine countries that possess outstanding universal value to humankind.¹⁴ The U.S. has twenty-three sites listed. Then, Markham described how climate impacts affect the sites’ cultural heritage, including the Kakadu National Park in Australia, an indigenous site where subsistence practices are affected by climate change; the Ifugau Rice Terraces in the Philippines, which were farmed for over 2,000 years, but are threatened by extreme rainfall and changes in season/temperature; the San People from the Kalahari Desert across Botswana and Namibia, South Africa, one of the oldest, continuous indigenous populations who have lived and managed their lands for 49,000 years, but whose subsistence lifestyles are being threatened by the desert growing hotter and drier; and the Tegano Lake, East Rennell from the Solomon Islands, where the rising sea level has prevented people from growing traditional crops.

Finally, Markham highlighted potential solutions being decided by the international community. During the World Heritage Meeting in Krakow, Poland in July 2017, the committee agreed to review and update its climate change policy document, which offers the potential to integrate indigenous rights, climate change, and cultural heritage. Additionally, regarding World Heritage Climate Policy, there is a push to first decide whether a site is vulnerable to climate change before the committee adds it to the list.

Another opportunity includes engaging with the UN Framework Convention on Climate Change, where government bodies are present, to highlight the importance of world and cultural heritage. Lastly, Markham reminded the audience of the National Climate Assessment, which includes a chapter on indigenous impacts and climate change. The draft National Climate Assessment, acknowledges that many Tribes still experience historical trauma associated with loss of homelands; how climate change adversely affects cultural identities, food security and the determinants of physical and mental health, threatens livelihoods and economies; and how there is

¹⁴ Markham, A., Osipova, E., Lafrenz Samuels, K. and Caldas, A. 2016. World Heritage and Tourism in a Changing Climate. United Nations Environment Programme, Nairobi, Kenya and United Nations Educational, Scientific and Cultural Organization, Paris, France, *available at* <https://portals.iucn.org/library/sites/library/files/documents/2016-022.pdf>.

a need for integrating indigenous knowledge into adaptation strategies. The draft is open for public comment until January 31, 2018.

Andrea Carmen began her discussion by explaining why she prefers to refer to a community's traditional knowledge as "our ways of knowing," because the latter nomenclature captures the process by which communities know things, intergenerationally and over time, while traditional knowledge focuses specifically on the knowledge itself. As an example, she discussed the Corn Conferences she attends annually, which are held as a tribute to the four sacred colors of corn shared by indigenous groups in Oaxaca (Zapotecas) and the Diné (Navajo). To her, the conference is spiritual, but also practical.

Carmen shared her experiences as one of two North American representatives to the 21st Conference of Parties at the UN Framework Convention on Climate Change in Paris, France (COP 21). While the Conference hosts countries, rather than "parties," the indigenous people who attend can bring information to ultimately impact outcomes decided. Carmen received a grant before attending COP 21 to host consultations with indigenous peoples in North America (Canada, US, Mexico), allowing her to share insights she acquired by engaging with tribal leaders. She shared that 96% of tribal leaders affirm their own people's traditional knowledge could be useful in addressing climate change impacts.

The preamble to the UN Paris Agreement recognizes the Rights of Indigenous Peoples. The preamble calls parties to "respect, promote and consider their respective obligations on ... the rights of indigenous peoples."¹⁵ These inherent rights include rights to economic and social structures; political and spiritual traditions; histories and philosophies; and, lands, territories and resources. Further, the UN Declaration on the Rights of Indigenous Peoples (UNDRIP) provides the internationally accepted minimum standard by the UN General Assembly. UNDRIP recognizes inherent rights that must be respected by international parties. The Paris Agreement preamble recognizes this framework while it is being implemented. Carmen also referenced the Paris Agreement's exchange platform which "recognizes the need to strengthen knowledge, technologies, practices and efforts of local communities and indigenous peoples related to addressing and responding to climate change."¹⁶

Carmen reminded attendees of the importance of the inclusion of indigenous people in the Paris Agreement by sharing examples of how indigenous people are impacted by climate change: warming river conditions negatively impacting salmon health in the Columbia River; climate change impacting traditional corn in parts of Mexico; and the destructive hurricane forces in Boriken, Puerto Rico.

Carmen concludes by discussing potential solutions. First, she recommends re-implementing traditional trade routes for corn. Carmen also describes the role buffalos play in preventing,

¹⁵ The Paris Agreement, U.N. Doc. FCCC/CP/2015/L.9/Rev/1 (Dec. 12, 2015).

¹⁶ *Id.* at 19.

mitigating, and adapting to climate change because of their ability to withstand a range of climate conditions and support native grasses. Next, she warns to protect Tule Marshes in California because they absorb more than ten-times more carbon than a pine forest. Finally, she reminds the audience to continue teaching the youth our traditions and practices.

Questions for the Panel

Question 1: For Tribes that are not federally recognized, such as Tribes in California where there are no federally recognized Tribes on the coast, wetlands are very important to the mitigation of climate change. At first the U.S. resisted ratifying the UNDRIP, and then when it finally decided to comply, it followed federal Indian policy, which cuts off non-federally recognized Tribes from fully participating in these policy discussions. What is needed for the U.S. to fully accept UNDRIP? How can cultural knowledge for coastal Tribes that are not federally recognized be protected?

Carmen agreed that the UNDRIP does not distinguish whether a Tribe is federally recognized and that the concept of recognition is limited to Canada and the U.S. In every other country, indigenous people do not need external recognition. The National Congress of American Indians (“NCAI”) has a taskforce on federal recognition, but some Tribes do not want to have that sort of relationship with the U.S. because they see it as a subordinating one to the U.S. Ultimately, the U.S. does not have a right to limit a Tribe’s participation within the UN.

Question 2: Is there a role for lawyers in the climate change arena, or is it still at a stage for just the development of law?

Bodansky responded that there is a role for promoting new legal norms and reinforcing existing ones, such as developing legal protections (*i.e.*, Bear Ears and the Antiquities Act), and using the law to prevent the federal government from rolling back existing EPA protections. He said lawyers can also affect the development of international rules of climate change. Likewise, lawyers may also serve roles as political mobilizers because the law responds to political pressure. Ferguson-Bohnee answered that many lawyers serve as in-house counsels for Tribes, and they should be using their roles to inform leadership about what is going on and guiding tribal leadership to include that type of information within their tribal codes. Markham stated that relocation is a major gap where lawyers may seek to contribute. Relocation is an issue in the U.S. because there is not a legal governance structure in place to help determine how it should and could be done. Finally, Carmen suggested that lawyers could help write tribal ordinances and argue tribal law to reflect the UNDRIP so that it becomes customary law and integrated into legal systems.

Question 3: What type of statement could we give to U.S. and Canada to recognize unrecognized Tribes and communities? How do we tell the U.S. to recognize their responsibilities to Tribes?

Carmen responded that the Haudenosaunee continuously reminds the U.S. about its responsibilities to the Tribes. Ferguson-Bohnee responded that the right to self-determine within the U.S. is limited to a list of federally recognized Tribes. Therefore, the public should continue pushing for extending recognition to more indigenous groups in the U.S.

Question 4: In what ways have different nations come together to provide input for sustainable development goals? What might that input yield in terms of adoption and best practices?

Carmen answered that there is a listserve for international coordinating partners put in place in 2015, which are goals for all the countries to participate in for the next fifteen years. Two of the main goals listed there are climate change and food sovereignty.

V. Specific Impacts of Climate Change on Native Peoples¹⁷

¹⁷Referenced materials:

Obama White House, Fact Sheet: Recommendations of the President's State, Local and Tribal Leaders Task Force on Climate Preparedness and Resilience and New Executive Actions, (Nov. 17, 2014), *available at* https://obamawhitehouse.archives.gov/administration/eop/ceq/Press_Releases/November_17_2014; Climate Change Impacts in the United States, Chapter 12: Indigenous Peoples, Land, and Resources, (2014), *available at* http://conferences.asucollegeoflaw.com/climate-impacts/files/2017/05/NCA_-Chapter-on-Indigenous-Peoples.pdf; Climate Change Impacts in the United States, Chapter 20: Southwest, (2014), *available at* http://conferences.asucollegeoflaw.com/climate-impacts/files/2017/05/NCA_Chapter-on-SW.pdf; Exec. Order No. 13,175, 65 Fed. Reg. 218 (November 9, 2000), *available at* <https://www.gpo.gov/fdsys/pkg/FR-2000-11-09/pdf/00-29003.pdf>; Exec. Order No. 13,653, 78 Fed. Reg. 215 (November 6, 2013) *available at* <https://www.gpo.gov/fdsys/pkg/FR-2013-11-06/pdf/2013-26785.pdf>.

Supplemental materials:

National Climate Assessment (2014), *available at* <http://nca2014.globalchange.gov/>; Obama White House, President's State, Local and Tribal Leaders Task Force on Climate Preparedness and Resilience: Recommendations to the President, (Nov. 2014), *available at* https://obamawhitehouse.archives.gov/sites/default/files/docs/task_force_report_0.pdf; Michael Brubaker, Jacob Bell, Alicia Rolin, CCH Bulletin No. 1: Climate Change Effects on Traditional Inupiat Food Cellars, (Oct. 19, 2009), *available at* https://www.researchgate.net/publication/237655457_Climate_Change_Effects_on_Traditional_Inupiaq_Food_Cellars_Center_for_Climate_and_Health; Louise Dettman, Climate changes tribal and indigenous health, (Nov. 1, 2017), *available at* <http://www.publichealthnewswire.org/?p=18878>.

NCAI Resolutions:

MOH-17-053: Continued Support for the Paris Climate Agreement and Action to Address Climate Change <http://www.ncai.org/resources/resolutions/continued-support-for-the-paris-climate-agreement-and-action-to-address-climate-change>

PHX-16-058: United States Federal Agency Consultation, Consent, Funding, and Actions to Address Climate Change Impacts to Tribal Treaty and Trust Resources <http://www.ncai.org/resources/resolutions/united-states-federal-agency-consultation-consent-funding-and-actions-to-address-climate-change-impacts-to-tribal-treaty-and-trust-resources>

REN-13-020: Adopting Guidance Principles to Address the Impacts of Climate Change <http://www.ncai.org/resources/resolutions/adopting-guidance-principles-to-address-the-impacts-of-climate-change>

This panel discussion was moderated by Derrick Beetso, Senior Counsel at NCAI, and included panelists who discussed climate change impacts on two specific regions and what those regions are doing about it. Karen Diver, Faculty Fellow for Inclusive Excellence for Native American Affairs at The College of St. Scholastica, the former Special Assistant to the President – Native American Affairs under President Obama, and the former chairwoman for the Fond du Lac Band of Lake Superior Chippewa (2007-2015). Diver discussed climate change impacts in Minnesota. Maija Lukin, Superintendent of the National Park Service (NPS) Western Arctic National Parklands. Lukin oversees protecting natural and cultural resources in the National Park as well as community relations and subsistence management. Lukin was also the former mayor of Kotzebue, Alaska. Lukin discussed climate impacts faced by Alaskan Native villages and the solutions to mitigate climate impacts. The panel discussions were followed by questions from Beetso and then from the audience. A video of the discussion may be accessed online at <https://vimeo.com/247533263>.

Panelist Presentation Summaries

Karen Diver described how Minnesota was not prone to natural disasters but has seen a drastic change to the natural environment. During her time as Chairwoman, the Tribe's traditional foods were substantially altered by climate and man-made impacts. For instance, Fond du Lac's warming weather affected the moose population and the wild rice harvest. Further, the warming spring seasons affected the sap of the maple sugar bush, making it too bitter. In addition, these factors were compounded by state actions that destroyed the Lake Mille Lacs ecosystem. The state planted foreign fish species in the lake for sport fishermen. The foreign fish species ultimately ate baby walleye and other fish that is protected by treaties. Further, although the state and Tribe are supposed to be co-managers, the state has primarily focused on managing the economics of the environment rather than the natural resources.

Diver also discussed a flooding event that lasted over 4-5 days as a result of a deluge of rain. The Tribe managed the immediate danger to the lives of their members but was not able to mitigate the destruction caused to their infrastructure and housing. The Tribe also learned that it was not looped into emergency management systems and as a result, was not able to obtain assistance from emergency management organizations. The organizations were "too busy" assisting those affected within their pre-existing partnerships.

As Chairwoman, the Tribe ratified the Kyoto Protocol and reduced its carbon footprint. The Tribe also began efforts to protect food security and traditional cultural practices. Diver was appointed to the Obama Administration's State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resiliency. Diver represented tribal interests and led the effort to produce Indian Country Recommendations. The recommendations would be used to develop national policy on climate change. Diver discussed the needs of Tribes as: access to data or in the alternative,

PDX-11-036: Traditional Ecological Knowledge and Climate

Change http://www.ncai.org/attachments/Resolution_MZlrscMWUDNfPdJGEIQVODCZZtiNPdZRrWVaNmDdEYtmqgYqTat_PDX-11-036_final.pdf

partnerships with federal agencies who have access to scientific data; resources for Tribes to take over regulatory processes surrounding air and water quality; direct funding for Tribes instead of having to access federal resources through states; adequate mechanisms for tribal input; opportunities and career pathways for tribal members in the scientific fields; research based on tribal law and customs; and protecting traditional ecological knowledge from being used for profit or other purposes beyond traditional teachings and wisdom. Diver emphasized the need for tribal inclusion, cultural competence, equal partnerships and self-determination.

Maija Lukin discussed the important role of being an indigenous person in a federal land-managing position. Lukin has a responsibility to preserve cultural traditional knowledge and protect National Park lands from the impacts of climate change. Lukin focuses on climate impacts in Northwestern Alaska and the subsistent livelihood of the region. For instance, the oldest archaeological site (dated 13,000 years ago) with caribou hunting remains was recently found near the Noatak National Preserve. Caribou hunting is still practiced today.

Lukin noted that some of the most visible effects of climate change are in the areas of food security (loss of natural resources), coastal erosion, and diminishing sea ice. Lukin discussed how climate change is impacting food security. For instance, the collapse of the permafrost caused silt to destroy a spawning area and created unsafe hunting conditions. Further, warmer temperatures caused a decline in caribou and parasites in salmon which then negatively impact commercial fishing, a major contributor to the region's economy. A reduced berry harvest and invasive weeds also threatens food security. For coastal erosion, Lukin discussed how the melting permafrost is damages infrastructure and causes the loss of archaeological resources. In addition, diminishing sea ice negatively impacts bearded seal hunting as thick ice is needed for hunting. Further, subsistence hunters must travel further away for food because of the changing conditions. With the sea ice diminishing, cultural traditions are at risk of no longer being passed down.

Lukin discussed the importance of tribal input at important discussions such as the federal subsistence board. Tribes have imposed regulations to increase caribou population. The NPS closed major roads for the caribou herd migration. Lukin discussed other adaptation planning such as replacing diesel with renewable energy. Lukin stressed doing construction during the winter and using infrastructure special foundations to prevent the thawing of the permafrost. Lukin emphasized the importance of being proactive in decision making to mitigate the impacts of climate change.

Questions for the Panel

Question 1: Is there a difference between a Tribe co-managing with a state versus a Tribe co-managing resources with the federal government? How do you navigate the local community's education?

Diver mentioned that because the federal government is abdicating responsibility of co-managing natural resources to the state, Tribes must work with states. Further, ally organizations such as environmental groups often become predatory on tribal leadership

because the organizations want to co-opt Tribes' political status. However, Tribes are leading their own land management and natural resource protection efforts. In addition, Tribes are partnering with each other and continuing to act regionally. Diver warned about the anti-treaty rights and anti-sovereignty rhetoric that continues to place natural resources at risk and the need to defend tribal resources.

Lukin discussed the need to broaden people's interpretation of laws to help educate the community. Lukin recited the enabling legislation of the various national parks in Alaska to stress the importance of preserving the landscapes and the subsistence resources. Lukin stressed the need for more indigenous people in management positions.

Question 2: Regarding the Arctic National Wildlife Refuge, does the current tax bill include the drilling permissions? Can you talk about Gwich'in versus Inupiaq positions on the Wildlife Refuge and that tension?

Lukin mentioned that her role in the Park Service does not give her insight into matters related to the Arctic National Wildlife Refuge. Lukin discussed the distance between the Inupiaq community and the Wildlife Refuge. As a result of the distance, the Tribe's caribou herds will not be impacted by potential drilling and the Tribe does not have an official position because the activities will not impact their subsistence resources.

Beetso discussed the tax bill and how the bill's version of the Senate includes the ANWAR provision, but it is not included in the House version of the Bill. The bill will go to conference. NCAI is disappointed that the tax bill does not include tribal provisions. NCAI is fighting for inclusion of taxes and bonding authority, as well as other legislative language that promote economic development on reservations or help boost tribal economies.

VI. Solutions Unwrapped

The main goal for the panel was to present overarching government and policy solutions to climate impacts such as resources that are available from the federal government or non-governmental organizations and to describe ways in which these resources can be accessed by Tribes. Karen Diver, Faculty Fellow for Inclusive Excellence for Native American Affairs at the College of St. Scholastica in Duluth, Minnesota, was the panel's moderator and provided a short overview of the differences in the types of solutions and options that are available to Tribes due to the unique differences that Tribal nations have across the country. Garrit Voggesser, National Director for Tribal Partnerships with the National Wildlife Federation, a non-profit conservation organization, spoke about existing federal climate programs and the access or inability to access federal funding programs that are available to states and local municipalities. Andrew S. Potts, Partner at Nixon Peabody LLP in the firm's Tax Credit Finance & Syndication practice, spoke about potential funding opportunities that are currently in development and how it is best for Tribes to continue to engage in the international forums through the United Nations ("UN") Platform for Indigenous

and Local Community Climate Action.¹⁸ Following the speakers, the panel was opened up for questions from the public. The recorded panel discussion can be accessed online at <https://vimeo.com/247543341>.

Panelist Presentation Summaries

Karen Diver opened the Solutions Unwrapped Panel with a short overview of the state of climate affairs as it relates to the relationship of tribal governments and the federal government. Diver briefly reviewed the importance of making federal policies flexible for Tribes so that the policies can address and impact the diversity that is inherent to American Indian peoples as each Tribe and each region deals with climate change differently not only due to the unique differences amongst the multitude of tribal governance styles but also the unique differences of how climate change is impacting each Tribe due to the Tribe's specific region, needs, and cultural differences. Diver listed only a few examples of the range of diversity that is found within North American tribal communities – i.e., deserts, forests, fresh water, salt water, coastal communities, wildfire risk, and communities losing drinking water. Additionally, each Tribe has a different range of ability to invest and not every Tribe can afford to hire qualified scientists due to the Tribe's funding, and if a Tribe is rural, there is another barrier for those Tribes to obtain experts. Alaskan Native communities have their own unique list of barriers as well related to the communities being small in population, and the complexities which the Alaskan Native Corporations add to the communities social capital and how the corporations affect how Tribes address climate impacts in their communities.

Garrit Voggesser, since 2004, has led the National Wildlife Federation's (NWF) conservation partnership efforts with Tribes across the nation on wildlife and habitat conservation, water policy and riparian restoration, energy and climate issues impacting Tribes, and youth environmental education. In his role with NWF, he has partnered with the Native American Rights Fund, the National Congress of American Indians, and the National Tribal Environmental Council, which is no longer being convened. Between the years 2004 and 2011, Voggesser was working with Tribes and U.S. Congressional staff to have Tribes added to proposed bills where funding was being applied to states but not Tribes.

Beginning in 2011, NWF started a new tactic of addressing existing funding streams and working with Tribes to access those existing funds and agency programs. Additionally, in partnership with Tribes, NWF developed the Tribal Climate Change Principles, which are "eight principles to guide the federal government in the development and implantation of administrative and legislative actions related to Indigenous Peoples and climate change."¹⁹ Voggesser believes that adapting the principles would be helpful in order to address the new political climate due to the current Administration. Voggesser reported the Eight Principles, which were developed from the 2014

¹⁸ United Nations Framework Convention on Climate Change, New UN Platform for Indigenous and Local Community Climate Action, Jan. 2017, <http://newsroom.unfccc.int/paris-agreement/new-un-platform-to-boost-indigenous-peoples-and-local-communities-climate-action/>.

¹⁹ Bob Gruenig, Kathy Lynn, Garrit Voggesser, and Kyle Powys Whyte, Tribal Climate Change Principles: Responding to Federal Policies and Actions to Address Climate Change, p.2, Sept. 2015, available at https://tribalclimate.uoregon.edu/files/2010/11/Tribal-Climate-Change-Principles_2015-148jghk.pdf.

President’s State, Local, and Tribal Leaders Task Force on Climate Preparedness and Resilience (“Task Force”). See Table 1.

Table 1: The Eight Principles²⁰

<p>STRENGTHEN TRIBAL SOVEREIGNTY IN THE CLIMATE CHANGE ERA</p> <ol style="list-style-type: none"> 1. Federally-recognized Tribes and other Indigenous Peoples and Indigenous communities must be partners with full and effective participation in assessing and addressing the problems of climate change at the local, regional, national, and international levels and must be accorded at least the status and rights recognized in the U.N. Declaration on the Rights of Indigenous Peoples and other international standards relevant to Indigenous Peoples. 2. Tribes must have fair and equitable representation on all federal climate committees, working groups, and initiatives in which states, local governments, and other stakeholders are represented. 3. The federal government should establish a high-level interagency Tribal government task force to examine and propose solutions to close gaps across the federal agencies’ relationships and programs with Tribes, and to develop, recommend, and implement Tribal-specific solutions that enable the agencies to support and foster Tribal climate-resilient planning and investment. <p>SUPPORT TRIBES FACING IMMEDIATE THREATS FROM CLIMATE CHANGE</p> <ol style="list-style-type: none"> 4. Indigenous Peoples must have direct, open access to funding, capacity-building, and other technical assistance, with their free, prior and informed consent, to address the immediate and long-term threats from climate change. <p>ENSURE TRIBAL ACCESS TO CLIMATE CHANGE RESOURCES</p> <ol style="list-style-type: none"> 5. Tribes must have fair and equitable access to federal climate change programs. 6. Tribes must be made eligible for existing and future federal natural resource funding programs for which states are eligible, but from which Tribes are currently, or might be, excluded. 7. A fair and equitable set-aside of direct monies or allowances must be made available for distribution to Tribes through legislation, administrative actions, and existing and future federal natural resource funding programs. <p>TRADITIONAL KNOWLEDGES AND CLIMATE CHANGE</p> <ol style="list-style-type: none"> 8. Indigenous traditional knowledges, with the free, prior, and informed consent of Indigenous Peoples, must be acknowledged, respected, and promoted in federal policies and programs related to climate change.

NWF worked with the U.S. Senate Committee on Indian Affairs to conduct a Congressional Resource Study (“CRS”) on current federal funding programs for natural resources of which Tribes were not identified as eligible applicants. The CRS study found that over 40 federal natural resources funding programs did not include Tribes for the following two reasons: (1) Tribal eligibility is not specified in the statute or regulation establishing the funding program, or (2) Tribes may be eligible because the statute does not specifically exclude Tribes but there was not any data available to demonstrate that Tribes were receiving any funding. Some examples of those funding programs are the U.S. Fish & Wildlife Service (“FWS”) Endangered Species Conservation

²⁰ *Id.* at 2.

Fund, the U.S. FWS North American Wetlands Conservation Fund, the U.S. FWS Tropical Migratory Bird Conservation Fund, the U.S. Department of Agriculture Integrated Programs, the U.S. Department of the Interior (“DOI”) Land and Water Conservation Fund, and many DOI Bureau of Reclamation programs. These same programs are the ones that NWF identified for its priority list that aims to add Tribes as eligible to apply.

After identifying the gaps in the existing programs, NWF lobbied for new legislation in the Recovering America’s Wildlife Act (“RAWA”), H.R. 4647, which will redirect \$1.3 billion of existing revenue annually to state-led wildlife conservation efforts and tribal conservation efforts.²¹ Voggesser explained that the funding for this program comes from the \$8-9 billion currently in the U.S. Treasury that was earmarked for conservation but was never allocated to any specific program. RAWA was introduced in the House on December 14, 2017, and was referred to the House Committee on Natural Resources.²² This Act could address climate impacts and overall wildlife and resource management.

Andrew Potts, a historic preservation lawyer and partner at Nixon Peabody LLP, discussed solutions on how to better build collaborations between climate change workers in Indian Country and tribal environmental programs and with the historic preservation sector as well as provide information on funding streams under historic preservation. Mr. Potts defined the historic preservation sector as the institutions and organizations around the country that work under the umbrella of the National Historic Preservation Act of 1966. There are 170 Tribes that have Tribal Historical Preservation Officers (“THPO”).

Potts opined that cultural heritage unites and divides people because it embraces the cumulative wisdom of people, but typically cultural heritage is treated like museum artifacts. Potts learned, while working for the United States International Council on Monuments and Sites (“US/ICOMOS”), that the nature sector and the culture sector need to integrate to form, what he calls, “Nature/Culture.” At the International Union for Conservation of Nature (“IUCN”) World Conservation Congress held in Honolulu, Hawai’i in September 2016 and titled “A Nature-Culture Journey” made the Nature Culture Journey Value Proposition the main theme.

Nature Culture Journey: The Value Proposition

A growing body of experience demonstrates that, in many landscapes, natural and cultural heritage are inextricably bound together and that conservation of these places depends upon better integration. Natural and Cultural values face similar conservation challenges for places with complex biocultural systems and each brings a substantial body of complementary knowledge, ideas, standards and capacities to this issue. So collaboration is essential, and ever more urgent, to advance good practice.²³

²¹ Recovering America’s Wildlife Act, H.R. 4647, 115th Cong. (2017); *see also* National Wildlife Federation, Recovering America’s Wildlife Act, *available at* www.nwf.org/recoveringamericaswildlife.

²² H.R. 4647, 115th Cong. (2017).

²³ Andrew Potts, PowerPoint Presentation, December 8, 2017, Arizona State University, Cultures Under Water: Climate Impacts on Tribal Cultural Heritage; *see also* US/ICOMOS, 2015 Annual Report, US/ICOMOS at 50, Join US/ICOMOS in Honolulu on a Nature-Culture Journey at 4.

The Nature Culture Journey Value Proposition also emphasized the division between nature and culture as a Eurocentric framework. The Proposition embraces the idea that breaking the present Eurocentric framework will make managing nature and culture more efficient.

People from all six continents convened at the IUCN World Conservation Congress Hawai'i in 2016; biologists, foresters, and cultural heritage officers participated in this convening. The following three sectors were identified as the priority sectors: Climate Change, Food Sovereignty, and Urban Resilience. Nature space and culture space have overlapping interests. Preservation tends to target buildings or monuments. Practitioners of Nature Culture will emphasize landscapes, and integration of culture, agriculture and biodiversity. Additionally, this merger would validate diverse knowledge in land management, which could include Indigenous people's traditions.

The Nature-Culture participants of the IUCN World Conservation Congress adopted the Malama Honua ("to care for our island Earth") as a joint statement of commitments. The joint statement is a Call to Action targeting practitioners in both the nature and culture sector to work together to upon practitioners in the nature sector and the culture sector to "achieve conservation outcomes on a landscape scale, while promoting the leadership, participation, resilience, and well-being of associated communities."²⁴

Mr. Potts discussed what it would take to move the American cultural heritage sector in the direction of the Malama Honua call for action. First it is important to acknowledge climate change as a heritage issue and for the historic preservation sector to reflect an appropriate sense of urgency because climate change does not receive the attention it needs. It is also important to be honest about the loss and damage that will result from climate change because whole communities could be lost due to climate change. Further, it is important to be realistic. Practitioners of landscape approaches connect the natural with the cultural values of a place. This merging of values creates a focus equally on intangible heritage, such as traditions and folkways, and not just on "built – heritage" (such as buildings). Lastly, it is important for practitioners to make the process more stakeholder driven by seeking out the community members and allowing the community to identify their own values rather than focusing on the national heritage list.

Questions for the Panel

The discussion following the panel focused on questions asked by conference participants around the differences that are inherently found between allied groups and tribal groups, challenges with protecting cultural heritage, and how the US can make the broad cultural shift with merging culture and nature sectors.

²⁴ United Nations Educational, Scientific and Cultural Organization, World Heritage Convention, The 2016 IUCN World Conservation Congress calls for linking nature and culture for sustainable development, Sept. 5, 2016, available at <http://whc.unesco.org/en/news/1563> ; Malama Honua – to care of our island Earth, A Statement of Commitments from the Nature-Culture Journey Participants at the IUCN World Conservation Congress Hawai'i 2016, at 2, <https://www.iucn.org/sites/dev/files/malama-honua-en.pdf>.

Question 1: How can Tribes and tribal groups educate ally groups on tribal sovereignty? Can an ally group support a Tribe's self-determination when the ally group's interest does not align exactly with the Tribe's own interests and goals?

Mr. Voggeser responded that allied groups must spend more time with the tribal community, must be patient, and must invest in a relationship with the tribal community prior to establishing a partnership. From the NWF perspective, NWF is in the community to assist where they can and want the priorities and action steps to be developed by the Tribe. At times there is not total agreement, but the allied group should focus on commonalities. For example, NWF does not support the diminishment of Bears Ears National Monument but NWF recognizes that the Monument was largely created from the coalition of Tribes and so NWF's position is that the Tribes must be the ones to lead the preservation of the monument.

Question 2: Indigenous People view historic preservation as preserving cultural sites, cultural landscapes and access to treaty resources as well as protecting their traditional beliefs and practices that are a part of their present existence, thus, what can Tribes do to change the narrative that historic preservation is only about protecting ancient or historical sites?

Mr. Potts answered that the current regime within the National Historic Preservation Act is a very Eurocentric regime because it was enacted during an era that did not account for nature and culture together. One solution is to work to merge nature and culture together by communities informing government what is important for them in the regulatory context because currently almost all the funding goes to the historical monuments and buildings.

Question 3: When the National Wildlife Federation began the discussion about the Eight Tribal Climate Change Principles, was the discussion tribally driven?

Mr. Voggeser responded that the process for developing the Principles resulted from a deliberate multi-faceted approach of working with Tribes and tribal organizations directly through a series of panel discussions, presentations, regional tribal meetings, and one-one conversations with Tribes.

Question 4: One issue with the Nature/Culture paradigm in the United States is that the current laws and the definitions for each agency do not align with the concept and that one agency's interpretation of the concept would mean something different in another agency and so the laws must be aligned as well.

Mr. Potts acknowledged the divide between the academic fields and the professional fields and that the philosophies of conservation are embodied in the laws. UNESCO is currently trying to figure out a way for professionals in the same parks to integrate better and that at a very individual level, workers need to come together under the same philosophies and terminologies, then the laws will mirror the custom of the practitioners.

VII. Tribal Adaptation and Resiliency

The goal of the Tribal Adaptation and Resiliency panel was to discuss Traditional Ecological Knowledge (TEK), food sovereignty, resiliency, and explain the process of adaptation strategies. Professor Rebecca Tsosie, Regents' Professor of Law with the Indigenous Peoples Law and Policy Program at the University of Arizona School of Law, moderated the panel. Preston Hardison, Tulalip Tribe's Policy Analyst and Socioeconomic Adaptation Coordinator, discussed TEK and the adaptation guidelines. Nikki Cooley with the Institute for Tribal Environmental Professionals ("ITEP") at Northern Arizona University, discussed the framework for ITEP, and briefly showcased examples of Tribes implementing their own resiliency strategies. Mike Durglo, the Confederated Salish and Kootenai Tribes' Tribal Preservation Department Head, discussed tribal adaptation plans, obstacles and funding. The Panel can be accessed online at <https://vimeo.com/247555271>.

Panelist Presentation Summaries

Preston Hardison is a Watershed Policy Analyst for the Tulalip Tribes in Marysville, Washington, where he provides policy advice on bringing traditional knowledge into natural resource management, climate change adaptation, and treaty rights to biodiversity. Since 1996, he has helped negotiate decisions in the Convention on Biological Diversity (CBD) relating to Indigenous rights to traditional knowledge and biological diversity and their role in conservation, and was a lead negotiator of the Nagoya Protocol on Access and Benefit Sharing, concluded in 2010. He is currently negotiating potential instruments on Indigenous intellectual property rights to traditional knowledge, traditional cultural resources and genetic resources at the World Intellectual Property Organization (WIPO), in which he has participated since 2001.

Mr. Hardison briefly explained the history of international developments as to Indigenous People's intellectual property ("IP"). Understanding how TEK fits into the IP sector is important because western society tends to identify indigenous traditional knowledge as IP, and within an IP framework, TEK is treated like any other Western concept of knowledge and creativity, which can be economically exploited. From the United States' viewpoint, Indigenous Peoples carry an affirmative duty to take appropriate steps to protect their TEK, otherwise the use of the TEK in the public domain is not misappropriation. Under this perspective, Tribes would protect their TEK by copyrighting their knowledge through the U.S. Copyright Office or, at the extreme, do all they can to keep their TEK away from non-tribal persons. Mr. Hardison provided an example of a Tribe's loss of TEK to the public domain for exploitation by a non-tribal member – Author Stephanie Meyer's use of the concepts from the Quileute Tribe's Traditional Oral Stories.

However, Indigenous Peoples do not view their TEK in the same Western perspective. TEK, as viewed by Indigenous Peoples, is not intellectual property because TEK is a permanent right that cannot be transferred into the public domain for profit, and it is a right that cannot be exhausted by a government's IP laws and policies. Indigenous Peoples do not think of their TEK as separate from their way of life, but that TEK is a living tradition, thus it cannot be separated. For example, in the Salish language, this concept of TEK is called, "the living breath of life." Further, American Indian Tribes never ceded their sovereign jurisdiction over their TEK in their treaties and there has not been an act of Congress to abrogate these rights.

In July 2000, a permanent forum on IP was established. Then on September 13, 2007, the UN general assembly adopted the Declaration on the Rights of Indigenous peoples (“DRIP”). Article 31 of the DRIP is often cited for its reference to Indigenous Peoples’ right to maintain, control, protect, and develop Indigenous cultural heritage, traditional knowledge and traditional cultural expressions.²⁵ Mr. Hardison opines that Article 25 of the UN DRIP needs more attention.

Article 25: Indigenous Peoples have the right to maintain and strengthen their distinctive spiritual relationship with their traditionally owned or otherwise occupied and used lands, territories, waters and coastal seas and other resources and to uphold their responsibilities to future generations this regard.²⁶

Though Article 25 does not expressly identify the intangibles, the intangibles are not explicitly separated from the tangibles. Article 25 identifies that there is an on-going and permanent obligation to lands, water, traditional resources, and traditional knowledges.

Although the United States is not a signatory on the International Covenant on Economic, Social and Cultural Rights passed by the UN Committee on Economic, Social and Cultural Rights²⁷ (“CESCR”), Tribes should study the CESCR International Covenant and its accompanying General Comment 3.²⁸ Comment 3 explains States’ obligations under the Covenant, such as obligations that require immediate effect or those that can be progressively realized. Additionally, the Covenant provides a framework for what it means when a state takes “appropriate means” or “appropriate steps.” Mr. Hardison explained that Tribes could use the Covenant’s definition of “appropriate means” to distinguish a state’s use of “as-appropriate” when a Tribe and a state are negotiating for a Tribe’s TEK.

Tribes should get involved in the international IP forum because the U.S. Government will often negotiate the standards to a minimum standard then turn-around and refuse to ratify the agreements. At times these international IP agreements can be legally binding and will create international legal norms. Tribal involvement at these international negotiations could affect the development of stronger international norms that will promote the recognition and respect of pre-existing, inherent, and collective rights as to traditional knowledge. American Indian Tribal representation in the international IP forum could help strengthen the United States’ international position, which in turn could positively affect Tribal sovereignty rights in the national forum. A Tribe can get involved by sending its own Tribal representation to the international forum,

²⁵ United Nations Declaration on the Rights of Indigenous Peoples, Article 31, p.10, *available at* http://www.un.org/esa/socdev/unpfii/documents/DRIPS_en.pdf.

²⁶ *Id.*, at 10, (Article 25).

²⁷ UN Human Rights Office of the High Commissioner, International Covenant on Economic, Social and Cultural Rights, Ratified by General Assembly resolution 2200A (XXI) 16 December 1966, *available at* <http://www.ohchr.org/EN/ProfessionalInterest/Pages/CESCR.aspx>.

²⁸ UN Human Rights Office of the High Commissioner, CESCR, General Comment No. 3: The nature of States parties’ obligations (art. 2, para. 1, of the Covenant), at 1 (1990) <https://www.refworld.org/pdfid/4538838e10.pdf>.

demand consultations and consent from the U.S. State Department and Patent and Trademark Office as to the WIPO negotiations, support workshops and other processes for a national discussion, and engage in strategic discussions on WIPO and other UN processes.

Nikki Cooley is a citizen of the Navajo Nation and currently serves as Program Manager with Dr. Karen Cozzetto. Cooley's responsibilities include planning and delivering climate change trainings and webinars, developing and distributing ITEP's Tribes and Climate Change Newsletter, and helping plan and present climate change sessions at a variety of conferences around the country. ITEP's mission is to strength "tribal capacity and sovereignty in environmental and natural resource management through culturally relevant education, research, partnerships and policy based services."²⁹ ITEP was created in 2009 and is 100% grant funded.

Community members see the effects of climate change everywhere, thus it is important for communities to plan and prepare for these changes. Cooley identified that in her community one example of the adverse effects of climate change is the increasing sand dunes on the Navajo Nation, and these sand dunes affect the day-to-day life the Navajo people. ITEP helps communities plan and prepare by promoting continual engagement and stressing that an adaptation plan is a living document.

ITEP's Adaptation Planning Tool Kit provides the resources, which a Tribe can use to assist them in the climate change adaptation planning process; the Tool Kit provides templates and guidelines.³⁰ ITEP recommends that Tribes take pieces of the Framework that works for its own communities. The Framework does not need to be followed identically. The following nine steps embody the Framework³¹ for the climate change adaption planning:

- 1) Initial scoping/decisions;
- 2) Organize team, partnerships;
- 3) Funding sources;
- 4) Impact assessment and relevant data;
- 5) Traditional knowledge(s), western data/science;
- 6) Prioritization & risks;
- 7) Vulnerability assessment;
- 8) Adaptation Strategies; and
- 9) Implementation.

Ms. Cooley shared the following examples of climate change adaptation planning:

²⁹ Institute for Tribal Environmental Professionals, Northern Arizona University, Mission, 2017, *available at* <http://www7.nau.edu/itep/main/About/>.

³⁰ Northern Arizona University, Institute for Tribal Environmental Professionals, Climate Change Resources, 2017, *available at* <http://www7.nau.edu/itep/main/tcc/Resources/adaptation>.

³¹ NAU ITEP, Climate Change Resources, *Checklist Climate Change Adaptation Planning*, *available at* http://www7.nau.edu/itep/main/tcc/docs/resources/2_ChecklistCCAdaptationPlanning.doc.

- a) The Pala Band of Mission Indians in California opened the Recycling Center and the Pala Transfer Station, both are open to the public.³² The Transfer Station “includes an area for electronic waste collection, a green waste and composting program, and a secured hazardous waste collection location.” The treated wastewater from the Transfer Station is then diverted to the Tribe’s own 90-acre avocado grove to mitigate for drought. The Recycling Center has decreased the number of illegal dumpsites.
- b) The Aroostook Band of Micmacs in Maine established a brook trout fish hatchery with the support from the U.S. Fish & Wildlife Service Grant Fishery,³³ and founded a small-scale garden attached to a farmer’s market.³⁴ The Tribe sells its produce to local restaurants, and the fishery provides the Tribal members with access to their traditional foods.
- c) The Yurok Tribe in California’s first priority is to protect and preserve the Yurok Lifeways, Culture and Traditions. To tackle this priority, the Yurok Tribe established the community as a hub of the Local Environmental Observer Network (“LEO Network”) in order to use the network as a tool to capture, record, and share the environmental changes observed in their local community.³⁵
- d) The Oneida Nation, along with the First Nations Development Institute, hosted a Food Sovereignty Summit in Green Bay, Wisconsin on October 2-5, 2017.
- e) The STAR School located on the Navajo Nation is an Arizona charter elementary school that serves students from pre-school through 8th grade. The STAR School celebrates Navajo traditions, and the students engage in traditional Navajo practices such as grinding corn, farming, picking wild-berries, and learning how to butcher sheep; in addition to their core studies.

Mike Durglo is a citizen of the Confederated Salish Kootenai Tribe and is the Director for his Tribe’s Tribal Preservation Department. Mr. Durglo facilitated the development of a Flathead Reservation Climate Change Strategic Plan for the Confederated Salish Kootenai Tribes (“CSK Tribe”), the third Tribe to do so in the United States. He shared his experience and knowledge of climate adaptation planning at workshops and seminars throughout the U.S. and Canada. After completing the plan, he continued to build on the work by diving deep into the perspectives of the elders and integrating traditional knowledge into the plan. In 2016 Mr. Durglo received the White House Champion of Change award, and in 2017 he received the Climate Leadership Award for Natural Resources.

In September 2013, then updated in April 2016, the Tribe finalized its Climate Change Strategic Plan, which was developed in partnership with the Tribe’s elders. The elders participated in informal interviews and spoke on their own observations of climate change’s impacts on their

³² Pala Casino Spa Resort, Planet Pala, available at <https://www.palacasino.com/about-us/planet-pala/>.

³³ U.S. Fish & Wildlife Service, Conserving the Nature of America, News Release, Nearly \$600,000 goes to three Northeast Tribes for fish and wildlife conservation work, February 25, 2010, <https://www.fws.gov/news/ShowNews.cfm?newsId=059B50DF-B501-DD2D-30E4956837BA3B45>.

³⁴ Unique Maine Farms, Micmac Farms, http://www.uniquemainefarms.com/uniquemainefarms.com/Micmac_Farms.html.

³⁵ U.S. EPA, Science Matters, *Science to Achieve Results: The Yurok Tribe Assess Environmental Vulnerability*, November 20, 2017, <https://www.epa.gov/sciencematters/science-achieve-results-yurok-tribe-assesses-environmental-vulnerability>; see also LEO Network, Yurok Tribe Posts, <https://www.leonetwork.org/en/leo/hubposts/YUOK>.

community and cultural heritage.³⁶ The Tribe hosted the Northwest Tribal Climate Summit on August 31, 2017 in Polson, Montana, which covered “holistic planning for climate change.”³⁷ Mr. Durglo shared with the conference participants a 12-minute video clip of the visitations Mr. Durglo conducted to gather the Tribe’s elders’ observations on the changing weather and the impacts of the climate change. The following is a short list of some of the prominent observations the elders made:

- There is less snow fall each year;
- The Tribe’s usual and accustomed fishing locations used to be so plentiful that people could scoop fish out of the creek;
- Due to the loss of reliable fishing locations, the people no longer see fires lit in the mountains, a sign that people would fish for salmon during the nights;
- The winters are hotter than they were in the past, which allows the deer to feed all year long;
- The huckleberries are disappearing;
- Traditional medicines now need to be cultivated in greenhouses because people cannot find the medicines on the mountains or if they do find the medicines, the medicines are only ripe for picking one or two weeks out of the year; and
- There are now too many wildfires because of the lack of rainfall.

VIII. Climate Justice

Climate change has a disproportionate impact on the most vulnerable communities, and Indigenous Peoples are often on the front lines of these disasters. Often these communities have contributed the least to the causes of climate change. The impacts of climate change are ethical and political issues that links human rights and development in a way that protects the rights of the most vulnerable people by sharing the burden and benefits of climate change and its impacts equitably and fairly.

The panel moderator was Professor Patty Ferguson-Bohnee, Faculty Director of the Indian Legal Program, the Director of the Indian Legal Clinic and a Clinical Professor of Law at the Sandra Day O’Connor College of Law at Arizona State University. Brenda Ekwurzel, Director of Climate Science at the Union of Concerned Scientists, authored a paper that links global climate change to specific fossil fuel companies. Professor Robert Hershey, Professor Emeritus at the Indigenous Peoples’ Law and Policy Program, James E. Rogers College of Law, University of Arizona, discussed an attorney’s ethical obligation of representing a Tribal client competently and the importance of Tribal government’s enacting their own consultation policies. Tom Goldtooth, Indigenous Environmental Network’s Executive Director, discussed the challenges of

³⁶ Confederated Salish and Kootenai Tribes of the Flathead Reservation, Climate Change Adaptation Plan, September 2013 (updated April 2016), *available at* <http://www.csktnrd.org/regulations-applications/all-documents/download?path=CSKT%2BClimate%2BChange%2BAdaptation%2BPlan%2B4.14.16.pdf>.

³⁷ U.S. Dep’t of Energy, Office of Indian Energy Policy and Programs, Northwest Tribal Climate Summit, August 29, 2017, *available at* <https://energy.gov/indianenergy/events/northwest-tribal-climate-summit>.

Tribes dealing with external processes and the ethics of and process for engagement around using the terminology of TEK and Indigenous knowledge. Governor Stephen Lewis of the Gila River Indian Community discussed the importance of incorporating climate change in a Tribal leader's portfolio. The panel can be accessed online at <https://vimeo.com/248166370>.

Panelist Presentation Summaries

Brenda Ekwurzel presented the findings from the study that tracked 90 fossil fuel companies that represent two-thirds (2/3) the world's industrial carbon emissions.³⁸ Scientists have been asked, to show which nations are the largest contributors to the emissions that cause global warming. A recent study, authored by Ekwurzel, examines annual reports from fossil fuel companies between 1855 and 2010 and finds that global warming can be traced back to a number of specific modern fossil fuel companies. Ekwurzel warns that there are limits to climate adaptation and that the only solution is reducing carbon emissions.

Robert Hershey has specialized in Indian affairs for over four decades. Professor Hershey presented on the legal ethics by which an attorney must provide competent legal representation for his tribal client. Professor Hershey discussed that a competent lawyer must know the entire discourse and historical genesis of a Tribe's conquest and colonization before working in that Tribe's community in order to competently represent a tribal client. Understanding a Tribe's history with the United States from that Tribe's perspective is important when a lawyer must work with a Tribe about contracting out its energy resources, making plans for the Tribe's land base, understanding the impacts of the allotment era on whether it would be a benefit to the Tribe to privatize its land or move its land to restrictive fee status. When Congress and worldwide leaders paint broad brushes and do not individualize Tribes, it is the attorney's responsibility to protect the Tribe's interests and find ways to individualize the Tribe. Tribes possess about \$1.5 trillion of the Country's energy resources and there is a global demand for energy. It is important for the lawyer to competently represent his tribal client and understand that the Tribe's energy resources (i.e., coal, oil and gas, uranium) could be the Tribe's main source of economic development and jobs for its tribal citizens. Attorneys must balance the community's needs for economic development for partnering with the extraction industry. An attorney must also understand that mapping a Tribe's assets is not always the best decision because every Tribe has different beliefs and unique concerns with demarcating its assets.

The University of Arizona's Indigenous Peoples Law & Policy Program ("IPLP") provides a reference tool for Tribes and Native Nations to assist Tribes in enacting their own consultation laws,³⁹ and Professor Hershey encouraged Tribes to consider this. The IPLP Program website for Tribal Consultation provides a comprehensive resource page for the applicable federal policies for tribal consultation from the U.S. Executive Office, the DOI, federal statutes, and the like. The website also provides brief case summaries of applicable federal cases and federal agency hearings

³⁸ B. Ekwurzel, J. Boneham, M. W. Dalton, R. Heede, R. J. Mera, M. R. Allen, P. C. Frumhoff, The rise in global atmospheric CO₂, surface temperature, and sea level from emissions traced to major carbon producers, October 2017, *Climatic Change*, Volume 144, Issue 4, pp. 579-590, available at <https://link.springer.com/article/10.1007/s10584-017-1978-0>.

³⁹ The University of Arizona, James E. Rogers College of Law Indigenous Peoples Law & Policy Program, Tribal Consultation web site, 2013, available at <http://www.tribalconsultation.arizona.edu>.

that deal with federal consultation issues with American Indian Tribes. Perhaps most importantly, the website provides a “Model Tribal Law” which is a downloadable template that Tribes can use as a resource to draft and enact their own consultation laws.

Tom Goldtooth, Diné (Navajo) and Dakota, is the Executive Director of Indigenous Environmental Network (“IEN”) and has been awarded with recognition of his achievements throughout the past 37 years as an activist for social change within the Indigenous, environmental and climate justice movements. IEN, established in 1990, works on a variety of issues that affect Indigenous communities and tribal governments, such as, protecting sacred sites, natural resources, and water.⁴⁰ Goldtooth shared that the foundation of IEN is, “Our Prophecies and Teachings tell us that life as we know it is in danger of coming to an end.”⁴¹ Goldtooth identified that climate justice means that people are working towards ending environmental racism. In 2015, IEN participated in the COP 21 in Paris where ambitious goals were made for global climate action with the main goal of keeping the globe’s temperature rise below 2.0 degrees Celsius. IEN advocates for the goal to be 1.5 degree Celsius and that the U.S. Government should also be ambitious with its goals. However, Goldtooth explained that even with the Paris Agreement, world leaders would prefer Tribal nations to resort to climate change adaptation plans because the world’s leaders in the extraction industries and emission producers continue to extract and emit as “business as usual.” The Paris Agreement is not legally binding, and the Agreement allows emission producers to continue at their current levels because of the carbon markets and carbon trading, which allows emission producers to continue to release greenhouse gasses. Goldtooth warned that carbon pricing and carbon trading is not a solution and that Native Nations must reject carbon markets.

Governor Stephen Lewis, citizen of the Gila River Indian Community, attended the conference with the encouragement and approval of the Community’s Elder’s Council. Governor Lewis discussed that Tribes need to adapt to survive but that Tribes must be cognizant of not adapting to the point where they compromise their traditional knowledge and value systems. It is important for Tribes to identify their value systems and determine which values the Tribe will not violate and not compromise. Governor Lewis provided the GRIC’s value system of their land and sacred sites as a value GRIC is refusing to compromise. For example, the GRIC has been fighting the expansion of the Loop 202, 8-lane highway in Chandler, Arizona over their sacred mountain Moahdak Do’ag (also known as South Mountain).

Governor Lewis discussed that it is important for Tribal leaders to support and encourage their citizens to become the subject matter experts, attorneys and scientists because the Tribe’s citizens are invested in the future of their people and they are the best decision makers for complex matters that affect the Tribe’s values and traditional knowledge. Governor Lewis discussed how technology could benefit a Tribe. For example, GRIC has been using geo-mapping technology to assist the Community in protecting its water from up-stream non-native water users who are violating the Gila River Indian Community Water Settlement, which was approved in the Arizona

⁴⁰ Indigenous Environmental Network, About, available at <http://www.ienearth.org/about/>.

⁴¹ Tom Goldtooth, PowerPoint Presentation titled The Paris Agreement: A Critical Analysis for Indian Country, December 8, 2017, Arizona State University, Cultures Under Water: Climate Impacts on Tribal Cultural Heritage.

Water Settlements Act of 2004.⁴² GIS technology is being used by GRIC to map any water diversions from the Gila River. GRIC then uses the GIS map in the Community's on-going tort litigation to prove that upstream water users are diverting water from the Gila River.

IX. Relocation

The main goal of the panel is to present examples of coastal Tribes that in response to rising sea level have chosen relocation and resettlement of their Tribal community. The panel moderator was Professor Robert Miller, Professor of Law at Arizona State University Sandra Day O'Connor College of Law. Stanley Tom lives in the Newtok Native Village in Western Alaska. Wenceslaus "Boyo" Billiot is the Deputy Chief of the Isle de Jean Charles Band of Biloxi Chitimacha-Choctaw Tribe. Both Mr. Tom and Mr. Billiot shared the reasons their communities chose to relocate as a climate change adaptation plan. Additionally, both panelists discussed the obstacles and barriers each of their communities have faced and continue to face as to funding the relocation and challenges brought from the federal government and state governments. Kristina Peterson, Co-Founder of the Lowlander Center discussed steps Tribes should take when creating a relocation plan and how the Lowlander Center has worked with both the Newtok Village and the Isle de Jean Charles. The panel can be accessed online at <https://vimeo.com/248167071>.

Panelist Presentation Summaries

Stanley Tom resides in the village of Newtok and is working on the relocation of the Newtok Village. The Village selected land nine (9) miles south of Newtok, and is called Mertarvik Evacuation Center (MEC). The Village developed the Mertarvik Strategic Management plan in 2011 that details the relocation timeline. The relocation development has been moving very slowly due to lack of funding. In the beginning, the Village was working with the Army Corp of Engineers and 40 other agencies. Mr. Tom reported that working with so many agencies was difficult for the Village because each agency must follow their own policies and procedures. The Army Corp of Engineers informed the Village that if the Tribe does not relocate then the Tribe will be on a co-location plan, meaning that the community would be moved to urban life. In Mr. Tom's opinion that would make the people of the village refugees all their life and they would lose their traditional land and cultural heritage. For these reasons, the Village began the relocation plan by applying for and receiving BIA housing funds. Mr. Tom trained 17 students to become laborers and carpenters with the aim of moving the village on their own. So far, the students and Village members have built three houses at the Mertarvik site.

Mr. Tom provided information on the Newtok's public health issues related to the lack of infrastructure for human waste. The Village does not have access to any water sewage system and no resident in Newtok has access to this infrastructure. In order to dispose of their solid waste, the people of Newtok use what Mr. Tom referred to as a "honey bucket", or could also be referred to as chamber pots, which are then dumped in the river. The 2006 Newtok Public Health Assessment reported:

⁴² U.S. Dep't of Justice, Environment and Natural Resources Division, Gila River Indian Community Water Rights Settlement, May 2015, <https://www.justice.gov/enrd/gila-river-indian-community>.

Assessment found that sanitation conditions, which include inadequate potable water for drinking and hygiene, high levels of contaminations from honey bucket waste, and household overcrowding were “grossly inadequate to protect public health.”⁴³

Mr. Tom explained that the Village asked the federal agencies for help regarding the lack of sewage infrastructure, but since the Village has chosen to relocate instead of implementation an adaptation plan, the agencies have refused the Village’s request. As a result, the community is still dumping the honey buckets in the river. However, the River is quickly encroaching and Newtok has lost about 50-100 feet of coastline per year. The community is now only 20 feet from the eroded coastline due to the rising ocean.

In 2006, the Newtok Planning Group was established with the goal of moving the community. The Tribe was working with the U.S. Fish and Wildlife Service regarding issues of a quitclaim deed, but because they could not come to a consensus the Tribe began lobbying in D.C. to remove the quitclaim deed, which took about 15 years. The native corporation was supposed to move the land title to the Newtok Tribe, but this has not happened. Without the land title, the Tribe cannot move the village. Mr. Tom explained the many issues that the Tribe has faced since the corporation has not transferred the site control and the land title to the Tribe. The Tribe only has a land lease from the corporation and because of the Tribe not having the land title, the Tribe has lost billions of dollars of funding. Mr. Tom explained that the community has faced many barriers.

Wenceslaus “Boyo” Billiot is a citizen of the Isle de Jean Charles Band of Biloxi-Chitimacha-Choctaw Tribe and echoes that his community faces similar challenges with relocation. Isle de Jean Charles is located in Terrebonne Parrish in Louisiana and has lost 98%⁴⁴ of its land due to encroaching sea levels, saltwater intrusion, and climate change.⁴⁵ In 1953, a road was built to access the Island. Before the road, people could only access the Island by boat. When there is a strong southeast wind, the only access road is flooded. When the road is flooded the children cannot go to school and emergency vehicles cannot access the community. The island is being washed away. In 2001, the Island decided to relocate and resettle inland after United States Army Corps of Engineers left the Island out of the Gulf Hurricane Protection Levee.⁴⁶

Two years ago, the federal government awarded the Tribe a grant based upon the Tribe’s resettlement plan, which was developed with assistance from the Lowlander Center. The resettlement plan was awarded 1st place by the U.S. Environmental Protection Agency in the 2017

⁴³ Stanley Tom, PowerPoint Presentation titled 2006 Assessment of Public Health Conditions in Newtok, December 8, 2017, Arizona State University, Cultures Under Water: Climate Impacts on Tribal Cultural Heritage.

⁴⁴ Lowlander Center, Isle de Jean Charles Resettlement, available at <https://www.lowlandercenter.org/isle-de-jean-charles-relocation>.

⁴⁵ Sophia Mariani, *Population Displaced: Culture Affected by Coastal Land Loss of Isle de Jean Charles*, Tulane Hullabaloo, Oct. 25, 2017, available at <https://tulanehullabaloo.com/32017/news/isle-de-jean-charles-impacted-by-coastal-erosion-population-displaced/>.

⁴⁶ Isle de Jean Charles, Tribal Resettlement, <http://www.isledejeancharles.com/our-resettlement/>.

Gulf Guardian Awards in the category for Environmental Justice and Cultural Diversity.⁴⁷ Billiot shared that though the federal government awarded the grant, for reasons not stated, the State of Louisiana took control over the grant and has decided to scrap the Tribe's award-winning plan. The Island cannot begin resettlement until the State develops a new plan, thereby expending more money and resources before the Tribe can resettle. The State recently informed the Tribe that the first house would not be built until 2019.

Kristina Peterson, Co-Founder of the Lowlander Center shared the efforts made in collaboration with the Isle de Charles regarding their resettlement efforts. Peterson discussed the connection between oil extraction and the loss of land for coastal communities such as the Newtok Village and the Isle de Charles. Peterson discussed that if a Tribe decides to begin planning for resettlement, the Tribe must seek enough land to accommodate not just the people but also the necessary flora and fauna for animals like migratory birds that require trees for nesting, as well as enough space for the community to practice their traditions, and space to continue the Tribe's cultural practices. Peterson discussed that governments must invest in land trusts for land invigoration for both humans and non-humans because land speculators are driving the market prices up for inland properties. For example, the inland property that was identified by the Isle de Charles Band two years ago has now doubled in price due to land speculation.

X. Lessons learned from the Front: DAPL Protest Report

The NoDAPL Movement was a movement to stop the construction of the Dakota Access Pipeline to protect cultural resources, and sacred, burial, and historic sites of the Standing Rock Sioux Tribe. The Dakota Access Pipeline was constructed through the Standing Rock Sioux Tribe's historical treaty land. While the NoDAPL movement has often been portrayed as an environmental movement it is in fact a larger movement about tribal sovereignty. In sum, the panelists discussed a framework centered around tribal sovereignty and Native American civil rights to discuss the background of the movement, impacts on tribal sovereignty and treaty rights, the failures of environmental law, the criminalization of dissent, and how the combined force of tribal governance and individual activism was exemplified at Standing Rock.

The panel was made up of three presenters: Mary Kathryn Nagle of Pipestem Law, Chase Iron Eyes of Lakota People's Law Project, and Terry Janis of Water Protector Legal Collective. The panel can be accessed online at <https://vimeo.com/248166776/6a2f7487b9>.

Panelist Presentation Summaries

Mary Kathryn Nagle is a citizen of the Cherokee Nation and partner at Pipestem Law, P.C., where her practice focuses on appellate advocacy on behalf of Tribal nations and their citizens in state, tribal, and federal courts. Nagle provided a brief background of the NoDAPL Movement acknowledging the start of the movement was by Standing Rock youth who ran to the United States Army Corps of Engineers District Office in Nebraska in 2016. Nagle presented a timeline of critical dates surrounding the construction of the Dakota Access Pipeline, demonstrations by

⁴⁷ U.S. Environmental Protection Agency, Gulf of Mexico, 2017 Gulf Guardian Award Winners, <https://www.epa.gov/gulfofmexico/2017-gulf-guardian-award-winners>.

Water Protectors, the Standing Rock Sioux Tribe's litigation, and federal actions and decisions. Nagle stressed the importance of tribal sovereignty in environmental litigation.

Chase Iron Eyes is a member of the Standing Rock Sioux Tribe and Native civil rights attorney with Lakota Peoples Law Project. Mr. Iron Eyes discusses the criminalization of dissent and “indigeneity” by sharing his experience with being charged with inciting a riot for his involvement at Standing Rock. On the word “indigeneity,” Iron Eyes says:

[I]t [corporate state] has criminalized Indianness. It has criminalized indigeneity. We have seen this in the past with the courts of Indian offenses and we don't continue to see the, well kind of the criminalization of indigeneity because of some of our cosmologies, our mythologies, and the DNA knowledge transmitted through ourselves, through our bloodlines, our songs, our ceremonies, and so forth, we are kind of hardwired to be what they call eco-advocacy groups and so forth and you can see the kind of emboldened criminalization. . . .⁴⁸

From the framework of tribal sovereignty, Iron Eyes questions the conceptualization of legal concepts and who gets to define terms such as criminal, terrorist, progress, and prosperity.

Terry Janis is Oglala Lakota and Executive Director of the Water Protector Legal Collective. The Water Protector Legal Collective provides criminal defense and legal advice to protestors of the Dakota Access Pipeline resistance. Terry Janis provided a background on the work of the Water Protector Legal Collective stating that he believes their work is indicative of the peaceful nature of resistance at Standing Rock and that the arrests were wrong and in violation of human rights. Janis discussed how the Standing Rock movement showcased how tribal leadership and community activists came together to protect the environment in peaceful resistance that is culturally and spiritually based. His takeaway from the Standing Rock movement is the importance that tribal governance and tribal sovereignty, authority, and treaty rights in conjunction with the combined power of individual activists, are to protecting land and earth to benefit the people and the communities around them, an example of future collective efforts to come on multiple causes in Indian Country.

XI. Small Group Discussions

In addition to the panel discussions, the conference provided a forum for small group discussions. Day 1 discussions addressed and identified climate impacts on cultural heritage and identified challenges in addressing those impacts. Day 2 discussions focused on identifying potential solutions to address the impacts of climate change on cultural heritage. On each day, the conference attendees participated in assigned small groups. There were four groups and each group had a facilitator and a notetaker. The facilitators for each small group were provided discussion prompts and questions for the group to discuss. Day 1 and Day 2 groups were comprised of the same participants.

⁴⁸ Chase Iron Eyes, Presentation Lessons Learned from the Front: DAPL Protest Report, December 8, 2017, Arizona State University, Cultures Under Water: Climate Impacts on Tribal Cultural Heritage.

Facilitators for small group discussions included Professor Robert Hershey, Clinical Professor of Law at the University of Arizona; Derrick Beetso ('08), Senior Counsel at NCAI; Nikki Cooley co-manager for the Institute for Tribal Environmental Professionals Climate Change Program, and Adam Markham, Deputy Director of Climate and Energy for the Union of Concerned Scientists.

A. Day 1 – Small Group Discussions, Topic: Climate Impacts on Cultural Heritage and Challenges in Addressing these Climate Impacts

The purpose of this session is for all attendees to (1) identify and discuss climate impacts on cultural heritage and (2) identify and discuss barriers to address these climate impacts. Each small group identified many impacts on cultural heritage caused by climate change. Each group also had a robust discussion on challenges in addressing these climate impacts. The following chart outlines the most prominent issues that were discussed. The first day of small group discussions can be viewed online: <https://vimeo.com/248166776/247535198>.

Table 1: Climate Impacts on Cultural Heritage

Seasonal Changes	<ul style="list-style-type: none"> - The seasonal changes alter plant and animal migrations, which in turn affects ceremonies and traditional methods of identifying weather patterns throughout the year - The shift in seasons causes traditional ceremonies to shift to different times of the year - The shift in seasons causes harvesting periods to occur earlier or later in the year - The seasonal changes and weather variability affect the availability of plants for medicinal and other uses - The seasonal changes have also impacted irrigation systems and drought periods
Fish & Wildlife	<ul style="list-style-type: none"> - There is a difference in the amount of fish and wildlife as a result of climate change - Invasive species are impacting the ecosystem - Invasive species are destroying trees and vegetation - With warmer temperatures, fish have entered traditional fishing grounds causing traditional fish to move outside of the usual and accustomed fishing places - Resources are disappearing - Weather events are exposing or spreading invasive species
Sacred Sites	<ul style="list-style-type: none"> - The extreme weather events are exposing cultural sites - Cultural sites are at risk of going under water as the sea level rises
Impact on Health	<ul style="list-style-type: none"> - The unpredictability of storms impacts harvests and ceremonies, which in turn negatively impacts one's ability to practice traditions - As the changing environment alters traditional hunting practices, families have more sedentary lifestyles and ultimately, increases addictions and depression

	<ul style="list-style-type: none"> - The loss of community gatherings and practices also impacts one's mental/physical/spiritual health
Impact to Arts & Crafts	<ul style="list-style-type: none"> - Increased scarcity of materials used traditionally, such as coral
Impact on Relationships	<ul style="list-style-type: none"> - When an indigenous community no longer spends time together harvesting food together, it can impact the kinship-based community
Cultural Stories and Teachings	<ul style="list-style-type: none"> - The changing environment puts culture at risk because the animals in stories and teachings may no longer be around for the next generation to learn about or to identify with - With the sea ice melting, many Alaskan Native teachings and hunting practices are not passed down because of the danger of being on the sea ice
Exploitation of Traditional Ecological Knowledge	<ul style="list-style-type: none"> - The push for including TEK in science is extracting cultural knowledge from Tribes - Tribes have shared traditional knowledge and information to then have their information be used for other purposes - Traditional information is also not returned or no longer owned by the Tribe
Change to Land and Water	<ul style="list-style-type: none"> - Climate change is causing oceanic acidification - It is causing coastal erosion and changing the marsh, as a result it is impacting tradition lifeways such as trapping and fishing

Table 2: Barriers to addressing Climate Impacts

The Next Generation	<ul style="list-style-type: none"> - There is a need to engage with youth on issues of climate change but it there has been difficulty with engaging the younger generation (generation gap) - Children must be exposed to the fight for environmental justice
Shifting the Dialogue	<ul style="list-style-type: none"> - There is a need for better education to help people understand the problems - There is a need to share information and sacred wisdom - There is a need to shift away from the colonized mindset - There is a need to bring awareness to the issue across various communities - There is a need to include more people into the conversation as it can be elitist - There must be an understanding of the financial limitations of workers in the extractive industries, instead of labeling blue-collar workers as the enemy
Limited Resources	<ul style="list-style-type: none"> - Tribes do not have adequate resources and funding - Tribes must also deal with other pressing issues like poverty - States do not provide adequate assistance to Tribes dealing with climate change
Tribal Government	<ul style="list-style-type: none"> - Tribal leaders have other urgent issues

	<ul style="list-style-type: none"> - Tribal leaders are not interested - Tribes fail to acknowledge the problem and continue with resource extraction - Tribes are working on the issue in silos instead of together
Cultural Taboos	<ul style="list-style-type: none"> - Some Tribes are not discussing the issue because of the cultural taboos and fear that discussing bad things will bring it on
State Government	<ul style="list-style-type: none"> - Regulations must with the changing seasons so tribal members can enough time to hunt and gather - There is a need to infuse traditional knowledge into governmental plans and policies - There is a need to be innovative with funding approaches - There is a need to shift away from a state Master Plan (LA) and think of an Earth Plan instead

B. Day 2 – Small Group Discussions, Topic: Solutions

The facilitators were provided the following questions for the purpose of sparking ideas and conversation:

- How can Tribes create change within their own communities, through adaptation planning, mitigation standards, developing policy such as setting carbon limits, and renewable energy development?
- How can we collaborate with other entities and/or governments to develop solutions?
- What options exist with limiting funding and with the federal government's position on climate change and deregulation?
- Are there any legal solutions?
- Are there any specific solutions to impacts identified yesterday – food, health, mental and physical well-being, spiritual, land loss, etc.?

Each group identified many solutions pertaining to education for school children, for community members, and for non-Native tribal employees and advocacy groups. Groups discussed the need for Tribes to be proactive and minimize being reactive. The following chart outlines the most prominent solutions discussed. The second day of small group discussions can be viewed online: <https://vimeo.com/248166776/248166736>.

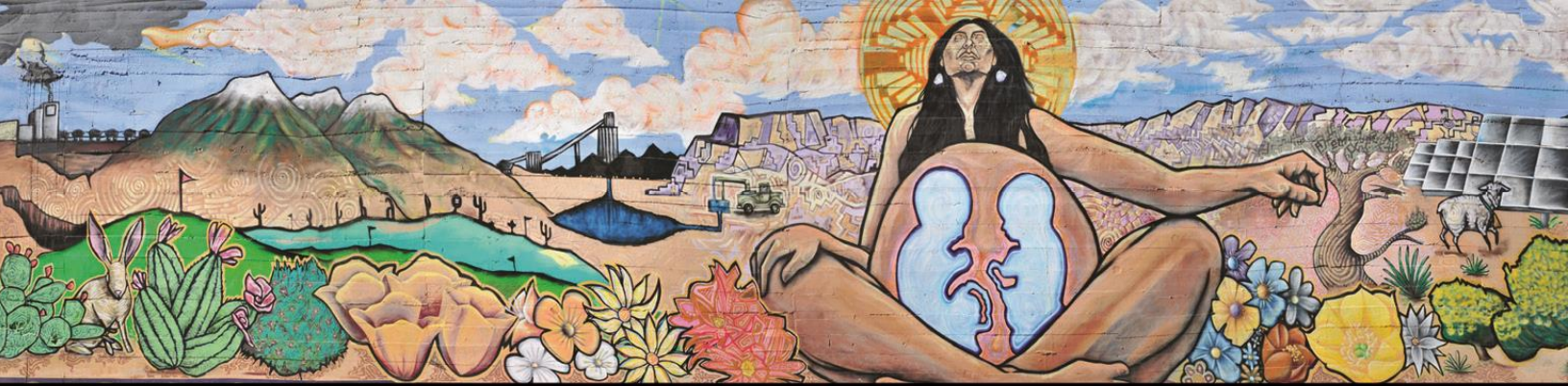
Table 3: Solutions

Research	<ul style="list-style-type: none"> - There is a need for communities to conduct vulnerability assessments in order to prioritize action steps and priority of values, traditions, and cultural heritage - If there is a plethora of research for certain areas and topics, there was a discussion that research must be suspended for actual steps because some communities are currently under water and must be resettled
Infrastructure	<ul style="list-style-type: none"> - Tribes and communities must become self-reliant as to their energy sources by investing in renewable energy sources like solar energy and in order to make this an actionable goal, the Tribe and communities will need to translate renewable energy into an economic source - Tribes should invest in building energy efficient homes; there was some discussion that these homes should be modeled after traditional homes of Native peoples - Carbon sequestration, re-forestry, ways to manage carbon emissions through sequestration - Name roads and structures in Native language
Education	<ul style="list-style-type: none"> - Encourage and engage the Tribe's youth to become leaders because the youth are the future of the Tribe and are invested in the Tribe's existence - Do not isolate STEM ("Science, Technology, Engineering, and Mathematics"); STEM classes and lessons should be combined into other topics and classes - To engage and interest the youth, teachers must find different ways of teaching science - Tribal employees and leaders must take tribal youth under their wing and mentor the youth - Tribes should bring back apprenticeship programs - The Tribes should immerse the community in their Native language by having the community's road signs in Native language, grocery stores should have signs in native language - Curriculum in schools should follow the Tribe's ceremonial calendar - Schools should incorporate traditions and cultures by adding Indigenous arts and science classes - Schools should add Native and Indigenous history classes and Indigenous debate programs - Tribal employers should provide mandatory cultural awareness training geared towards non-Natives
Litigation	<ul style="list-style-type: none"> - Tribes should consider whether it would be beneficial to bring legal action against the climate polluters, i.e., oil companies.
Planning	<ul style="list-style-type: none"> - Climate change needs to be included in all strategic plans such as hazard mitigation, making sure the hazard mitigation deals with climate change - Invite polluters to meetings and conferences in order to inform the polluters of the impacts

	<ul style="list-style-type: none"> - In order to identify a sacred site without disclosing its exact location, the Tribe could code the sacred areas and file the documents with the information the Tribe is willing to share
Culture and Traditions	<ul style="list-style-type: none"> - Language preservation is needed because as natural resources are lost the accompanying words for those natural resources and the cultural practices are lost - Revitalization of traditions - Tribes should invest in seed banks and cultural classes on plant gathering, preservation of traditional foods (i.e., fish)
Technology	<ul style="list-style-type: none"> - Tribes could use modern and emerging technologies to help understand the changes of agriculture. - Digital preservation of Tribe's cultural heritage by video/audio recording, geo-mapping
Policies	<ul style="list-style-type: none"> - Tribes must demand to be involved in all levels of policy discussions at the local, state, and federal governments - Each Tribe can make their own climate compacts, resolutions - Tribes should pass their own research codes that address respect and integrity
Leadership	<ul style="list-style-type: none"> - The elected leaders must work with the youth in order to encourage the youth to be leaders - Tribal citizens must be empowered and encouraged to vote on all levels (local to national) because it is important to choose our leaders wisely

XII. Conclusion

Although they have contributed the least, Indigenous Peoples are on the front lines of climate change and have already been forced to adapt. Climate changes impacts all aspects of life including homelands, cultural heritage, health, food sources, religion, traditional knowledge, and governance. The robust discussion during the conference illustrated the issues, barriers, and need for policy changes to address the climate crisis and the impacts on Indigenous peoples. This conference brought together an impressive group of individuals who continue to work on solutions to the climate crisis. We need to continue to elevate human rights and indigenous rights in the climate context and engage with policymakers to include cultural heritage, human rights, and indigenous rights in climate discussions.



Cultures Under Water:

Climate Impacts on Tribal Cultural Heritage

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