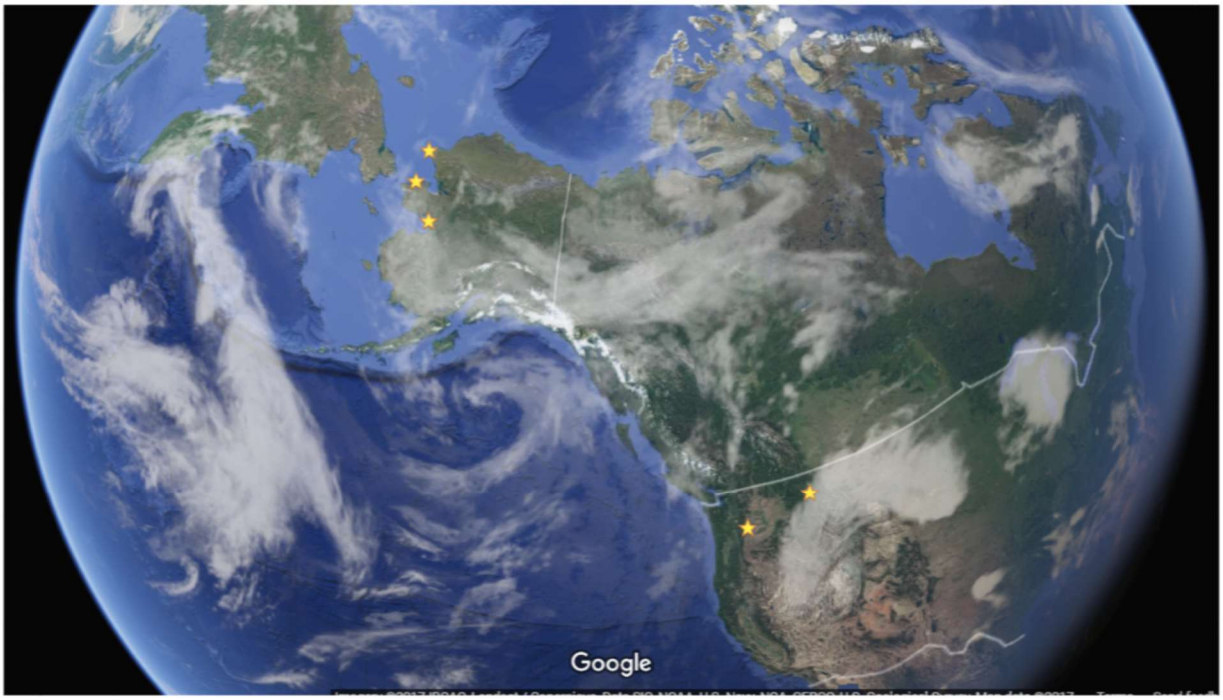

PLANNING IN TRIBAL COMMUNITIES

AN EVALUATION OF CLIMATE ADAPTATION PLANNING PROCESSES

Roben Itchoak |Final Project |2017
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University of Oregon - Planning, Public Policy, and Management

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ACKNOWLEDGEMENTS

I give many thanks to the climate adaptation planning participants who spoke with me, and all those who helped develop the following plans:

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- Climate Adaptation Plan for the Territories of the Yakama Nation
- Climate Change in Point Hope, Alaska: Strategies for Community Health
- Shaktoolik, Alaska: Climate Change Adaptation for an At-Risk Community Adaptation Plan
- Climate Adaptation and Action Plan for the Norton Bay Watershed, Alaska
- Shishmaref Strategic Management Plan

This work is an important and valuable contribution to the well-being and future of Indigenous communities. Without it, this project would not be possible.

This project is intended to improve the planning field. It is not intended to minimize, degrade, or misrepresent the planning work that was studied. I acknowledge all the work was completed with good intentions, to help Indigenous communities protect lives and property.

Through interviews, it was revealed that the planning processes in this study were learning experiences. Some of the issues identified in the findings related to worldviews and values have already been addressed and planning processes were modified.

I am especially grateful for the academic freedom, guidance, and support I received from Robert Parker, AICP, Director Community Service Center and Research Associate/Instructor, University of Oregon; Kathy Lynn, MCRP, Pacific Northwest Tribal Climate Change Project and Environmental Studies Program, University of Oregon; and Kyle Powys Whyte, Associate Professor of Philosophy and Community Sustainability, Michigan State University.

I and my work are the result of many people who have invested in me and taught me to be grateful, work with joy, and do my best, for all of us.

My heritage defines me and guides my work. I am Inupiaq and Yupik from Nome, Alaska. My Inupiaq and paternal grandparents, are Louis Azeukluk Jack of Mary's Igloo and Daisy Muktoyuk (Noyakuk) Jack of Shishmaref. My Yupik and maternal great grandma is Annie Moller of St. Michael. She married Henry Moller of Anacortes, Washington. My parents are Charmi and John Olson, Jim Eyuk Jack, and Ralph Mike Kowchee. I was named after my mom's brother Robert Dale Childs and Inupiaq elder Nuiluk Fannie Walluk. I have been raised, supported, and loved by many people from, and in, Alaska, Washington, Oregon and Mexico.

I have great appreciation for Dee Olin, Loretta Bullard, Debi Bye, and Joe Mason. They inspired me to use words to engage in the world, and to seek and write answers. Their influence gave me the courage to leave Nome.

I am thankful as a university student my worldview was challenged and expanded. I was gently, respectfully and lovingly mentored, guided, and supported by Robin Smith, Rebecca Dobkins, Mark Henkels, Robert Parker, Madeline Fisher, Marta Calderon, Alvaro Cervantes, Wayne Palmer, Maurine Warner, UO Native Strategies members, my parents, siblings, Noralee Itchoak, and my friends. Their confidence and faith in me gave me the courage to pursue this master's degree. As an Indigenous scholar, I was often homesick, afraid, and uncertain. They all helped me see a path.

I am blessed and thankful to have my husband Irvin and five precious children Chelsea, Jack, Andrew, Aisonna, and Qunuyuk. I appreciate their patience and the many sacrifices they made for me to study and accomplish my goals.

ABSTRACT

Climate change in Indigenous communities threatens Native peoples' existence (Norton-Smith, et al., 2016). Through content analysis of six climate adaptation plans in tribal communities—four in Northwest Alaska and two in the Lower 48, interviews with planning participants, and a literature review—I sought to find out if those plans support core Indigenous cultural values.

The literature shows exclusion of Indigenous values and worldviews in planning perpetuates colonial oppression (Willox, 2013), (Whyte K. P., 2016). I hypothesized plans created by tribes should better incorporate tribal worldviews and values, be better implemented, and lead to better outcomes, including improving the tribes' capacity, or ability and power (Merriam-Webster, 2017) to respond to climate change. My work confirms the literature, and by comparing tribal with non-tribal plans, it reveals, tribal plans do lead to better outcomes but, even with tribal participation, oppressive and racist planning practices still exist and interferes with Indigenous peoples' ability to respond to climate change impacts.

The purpose of this project is to encourage Indigenous and non-Indigenous planners to include Indigenous peoples, their worldviews and values throughout the planning processes.

INTRODUCTION

"There existed a time when Indigenous communities were intact and whole. They had a distinct and profound sense of being and a philosophy that articulated the relationships of the physical and spiritual world (Ortiz 1969)" (Jojola, 2013).

This is an Indigenous study, one that is designed, performed, and reported by an Indigenous person for the benefit of Indigenous communities. As an Indigenous scholar, I am contributing to the decolonization of planning and planning research.[1] My research is necessary because the planning field is dominated by non-Indigenous perspectives and methods. It is my goal to help redevelop – where necessary, and protect "intact and whole" (Jojola, 2013) Indigenous communities based on needs identified by Indigenous people.

Recently, an Indigenous elder declared, "we have a division of planners, we need a division of doers" (Resilience, 2016). I am obligated to listen to my elders. They are our historians, teachers, counselors, advisers, and leaders. Elders who are safe, loving, and predictable are not to be questioned. They guide us to protect the land, people, and natural resources, into perpetuity, just as their

[1] see Appendix A for a personal biography

elders did for them. They show us how to adapt to societal and environmental changes, and, teach us to do the same for future generations.

When I heard, "we need a division of doers," I understood this meant there is a lot of adaptation planning occurring but not enough action. So, I began to question what is preventing the implementation of climate adaptation plans and what is needed to establish and encourage tribal "doers." After a quick review of a few climate adaptation plans in tribal communities, it was obvious to me that some actions did not align with inherent tribal values. Inherent tribal values are those that are instilled within us because of who we are, where we come from, and how we live - within Indigenous communities and with other Indigenous people, anytime and anyplace.

An example of an action that contradicted a value involved a plan to infill a fish habitat with boulders to counteract shore erosion (Swinomish, 2010). Fighting nature and creating a potential harm to fish counteracts an inherent value of protecting, and living in harmony with nature. I realized I needed to thoroughly study more plans to find out if this type of value conflict was common.

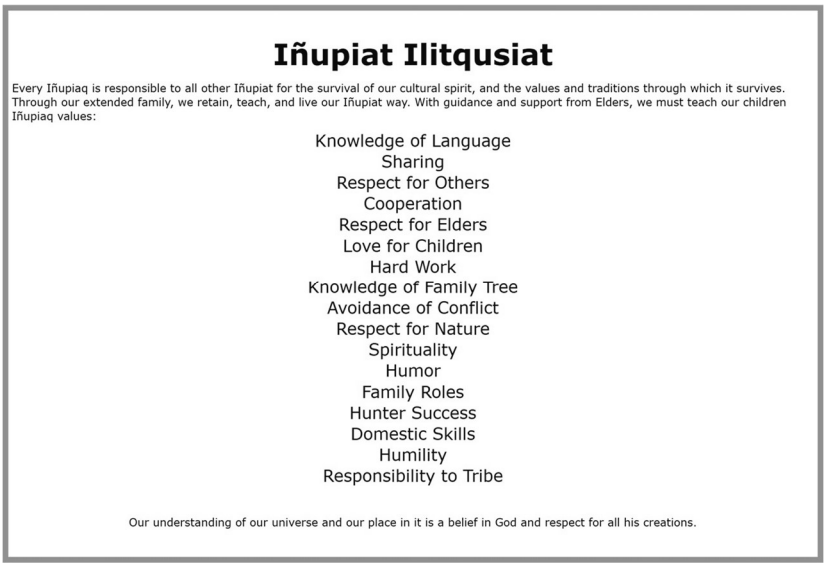
Although each tribe has its own distinct, unique, and specific values, traditions and beliefs, we all have a similar respect, responsibility, and love for the land, each other, and natural resources. For example, we know not to harm the land in irreversible ways; not to take all of any resource because if we do it cannot come back, or will be depleted; to share and be generous to everyone;

and respect our elders. I learned these lessons by watching and doing, not by lecture or special instruction. However, now that western culture is predominant in Indigenous communities, Indigenous families need to heal from oppression. Because of these changes, elders have found different ways to teach and maintain Indigenous values.

In Alaska, Inupiaq elder Reggie Joule from Kotzebue states, "Sometimes traditional values and Western values conflict and we feel we have to choose one over the other, rather than utilizing both at the appropriate time and place" (Greenbank, 2006).

To help other Inupiat navigate through these conflicting values systems, Reggie Joule and other Indigenous leaders established the Inupiat Ilitqusiat program. This program researched, recorded, digitized, and shared Inupiat values (Figure 1) so they can be referenced when knowledgeable elders are not available. Although the purpose of the program was to help address social problems related to unhealthy lifestyles caused by poor role modeling in communities (Greenbank, 2006) it has allowed me to present the differences between Inupiaq and western values and given me permission to integrate those when it is necessary or useful. I am sharing the Inupiaq Cultural Values to share the Indigenous lens I used to analyze the plans in this study, and my biases. It is my duty to do my best to live the Inupiat way.

Figure 1: Inupiaq Cultural Values from the Alaska Native Knowledge Network



Iñupiat Ilitqusiat

Every Iñupiaq is responsible to all other Iñupiat for the survival of our cultural spirit, and the values and traditions through which it survives. Through our extended family, we retain, teach, and live our Iñupiat way. With guidance and support from Elders, we must teach our children Iñupiaq values:

Knowledge of Language
Sharing
Respect for Others
Cooperation
Respect for Elders
Love for Children
Hard Work
Knowledge of Family Tree
Avoidance of Conflict
Respect for Nature
Spirituality
Humor
Family Roles
Hunter Success
Domestic Skills
Humility
Responsibility to Tribe

Our understanding of our universe and our place in it is a belief in God and respect for all his creations.

The Inupiaq value, "Respect for Nature," means there is an understanding that one is to respond to nature, not fight it. This value can be seen in the shape, size, and materials used in the architecture of Indigenous dwellings. In the Arctic, Indigenous people developed many different kinds of sustainable domed structures that are part of the harsh environment (Lee, 2003) verses structures that permanently change the environment by melting the permafrost, the permanently frozen ground (Permafrost, 2017). In relation to climate adaptation planning, this "Respect for Nature" value was demonstrated in the Swinomish Climate Change Initiative.

The Swinomish Indian Tribal Community of Western Washington is experiencing coastal erosion, ocean acidification, and rising water temperatures. Those changes are impacting water habitats and tribal infrastructure. One of their cautious and value laden adaptation actions was called armoring. "Armoring: Shoreline erosion control practices using hardened structures intended to stabilize the shore; examples include bulkheads, revetments, concrete walls, and rip-rap. *Armoring inhibits natural processes,*

leading to conflict between protection of built structures and protection of the environment" (Swinomish, 2010), [emphasis added]. Through that definition of "armoring" in this adaptation initiative, the Swinomish acknowledged and considered the values conflict between responding to and fighting nature.

I combined my indigenous knowledge and values with my community and regional planning education to analyze if and how the omission of Indigenous or tribal values contributed to plan implementation barriers in six other climate adaptation plans in Tribal communities.

BACKGROUND

Indigenous cultures, who we are based on our values, traditions, and the land, so far, have survived displacement, forced assimilation, genocide, and policies that support white supremacy through colonization. But colonialism still prohibits our freedom and ability to thrive and live in ways that are meaningful to us. There are deep rooted barriers, around racism, discrimination and colonialism that interfere with tribal self-determination and the continuation of traditional ways of life (Castro Diaz, 2008). Colonial oppression is being intensified by climate change.

Climate change is having disproportionate and negative physical and non-physical impacts on Indigenous communities which "threatens traditional knowledges, food security, water availability, historical homelands, and territorial existence, and may undermine Indigenous ways of life that have persisted and adapted for thousands of years" (Norton-Smith, et al., 2016).

Impacts are connected to changes in sea ice, extreme temperatures, storm intensity, increased precipitation and other climate change factors are affecting tribal peoples' health and changing the landscapes and cultural practices in tribal communities (TCCP, 2016). Extreme impacts include emergency evacuations and relocation due to homes being washed out to sea (AECOM, 2016).

Evaluating climate adaptation plans can show how the western planning field perpetuates colonial oppression. Adaptation plans identify climate related issues, solutions, and goals with specific actions, or strategies, to achieve those goals. Issues are environmental, social, political, and economical (Program, National Climate Assessment: Overview and Report Findings, 2014), (Mimura, 2014) and (NOAA, 2017). However, Indigenous people are routinely excluded from decision making processes (Castro Diaz, 2008).

Indigenous or tribal sovereignty, at a minimum, "ensures that any decisions about the tribes with regard to their property and citizens are made with their participation and consent" (DOI, 2017). More specifically, David E. Wilkins explains sovereignty, "Tribes, as preexisting polities, exercise a number of political and legal powers that only sovereigns may wield, such as the power to adopt a form of government; to define the conditions of tribal citizenship/membership; to regulate the domestic relations of the tribe's citizens/members; to prescribe rules of inheritance with respect to all personal property; to levy dues, fees, or taxes on tribal citizens and non-Indian residents; and to administer justice" (Wilkins, 1998).

Plans, whether developed by Indigenous or non-Indigenous planners, that disregard Indigenous sovereignty and core cultural values perpetuate colonialism. Although tribes have the right to govern themselves and act according to their own standards and priorities, oppression prevents some Tribes

from embracing their sovereignty before adopting and implementing plans. Consequences of colonialism and oppression creates barriers to implementing tribal climate change adaptation plans (Whyte K. P., 2016).

As the experts of Indigenous culture, values, and traditions, Indigenous people must be able to adapt in culturally relevant ways. Indigenous people know what is needed in their communities to live equitable and just lives, in equality with non-native neighbors, friends and families. But plans that poorly integrate their worldviews, values, and priorities in the purposes, goals, strategies and actions, undermine Indigenous peoples' power and authority over our lives and our communities.

Because of this, Indigenous communities need to know if current climate change adaptation plans and planning processes are effective in supporting their communities' capacity to address climate change or if the plans or processes are perpetuating colonial oppression and interfering with our ability to respond to the changing climate.

RESEARCH PURPOSE

This report explores community and regional planning theories and frameworks to help improve the planning field to meet the needs of Indigenous people threatened by climate change. The foundation of good planning is the inclusion of peoples' worldviews and values, so more effective, or doable, plans are created in ways that are relevant and meaningful to them (Parker, 2017). These considerations should not be excluded when planning with and for Indigenous communities.

I studied climate adaptation plans from six tribal communities in Alaska and the Lower 48 to find out if those plans support core cultural worldviews and values. Because the literature shows that oppression and racism leads to plan implementation barriers (Whyte K. P., 2016), I hypothesized plans created by tribes should better incorporate tribal worldviews and values, be better implemented, and lead to better outcomes, including improving the tribes' capacity, or ability and power (Merriam-Webster, 2017) to address climate change.

- **Primary research questions**: Did the planning processes align with and incorporate tribal worldviews, values and goals? Did the plans develop realistic strategies? Are those strategies being implemented?

This research intends to help climate adaptation planners understand how and why including Indigenous planning methods in planning processes is critical,

especially when it comes to plan implementation. I hope more Tribes and planners will be aware that Indigenous worldviews, values, goals, and priorities are relevant and plannable when they are shared and used.

METHODS, MATERIALS, AND ANALYSIS

My research builds on existing Indigenous planning literature. My methodology included a literature review of race and oppression and Indigenous planning methods to understand the history and recent sustainability planning developments of this field. In addition to a literature review I used content analysis and open ended interviews to identify planning trends in Indigenous communities.

I used content analysis to study climate adaptation plans for six tribal communities to identify themes related to Indigenous planning. The analysis included a review of each plan's community's governance structure, tribal goals and values, climate change concerns and priorities, planning purpose and process, strategies and actions, and implementation and evaluation strategies. The steps included designating whether a plan was tribal or non-tribal; identifying tribal goals and values; and if and how those were incorporated into the planning processes, and strategies and actions.

Because the purpose of this study is to encourage planners use Indigenous planning methods to develop more culturally inclusive and effective plans; and to make Indigenous peoples aware of academically validated Indigenous planning methods. To help fulfill this purpose, I used tables to compare the similarities and differences between tribal and non-tribal plans.

The results of the content analysis were used to develop the interview questions for the planners and Tribal leaders.

The plans reviewed included four Alaska plans for: Point Hope, Shaktoolik, Shishmaref, and the Norton Bay Inter-Tribal Watershed which included the communities of Elim, Shaktoolik, Unalakleet and Koyuk, and two plans from the Lower 48: The Confederated Salish and Kootenai Tribes of the Flathead Reservation and the Climate Adaptation Plan for the Territories of the Yakama Nation.

Figure 2: Communities with climate adaptation plans studied

I chose the coastal communities in Northwest Alaska because that is the region I am from and especially concerned about. More directly related to my research questions is the fact that Northwest Alaska is experiencing extreme climate changes: increased storm surges, storm intensity and duration, melting permafrost, and increased water and air temperatures that are impacting the quality of life and living conditions of people and animals. Several communities are facing relocation due to unstable land and infrastructure, including Shishmaref and Shaktoolik.

I also selected these plans because they were developed by different entities for different reasons. The Shaktoolik and Norton Bay Inter-Tribal Watershed (NBITW) plans are two separate plans but both include Shaktoolik. The Shaktoolik plan was developed by the Alaska Sea Grant Program while the NBITW plan was developed by an outside consultant from the Lower 48. Shishmaref is a community that has been planning for climate change since the 1970s but the plan reviewed for this study was developed by the State of Alaska. The plan for Point Hope, the farthest North community in this study, was much different from the other plans because it was a public health strategy that was developed by the Alaska Native Tribal Health Consortium.

The plans in in the Lower 48 were from the Confederated Salish and Kootenai Tribes and Yakama Nation. They were selected because the Confederated Salish and Kootenai Tribes have a well-known plan that thoroughly incorporates

Indigenous values. The Yakama Nation plan was selected because they had a well-developed plan, and the community was close to Oregon, my residence during this study.

Interviews were the heart of this study. I attempted to interview one planner and one Tribal leader from each of the plans but only spoke with six people representing four plans. Two plans are not included in the interview study because of unforeseen and unavoidable circumstances.

Interview results are reported as anonymous and aggregated. For comparison purposes, interviewees were referred to as either tribal, one who is an Indigenous person or a non-Indigenous tribal staff member, or non-tribal partner who was not asked about their ethnicity.

Interviewees were asked about the planning purpose and process, how the plan aligns with tribal values and goals, and about implementation. They were also given the opportunity to share lessons learned, which they all did.

I used a structured interview process using open ended interviews with questions designed for this specific study.[2] Each participant engaged in one 60-minute telephone interview. Data collection was through hand written notes.

[2] see Appendix B: Interview Guide.

LITERATURE REVIEW

Indigenous communities are developing climate adaptation plans to respond to extreme changes in temperature, precipitation, storms, flooding, erosion, drought, and wildfires, that are having impacts on their built environments and quality of life (ANTHC, 2010), (CSKT, 2013), (Cox, 2016), (Johnson, 2014), (Murray et al, 2013), (Yakama Nation, 2016).

The reason for engaging in this research is to better understand Indigenous Planning and to encourage planners, including those in academia, to include other ways of planning in their work and in their curriculum. As a planning student at the University of Oregon, none of my planning classes mentioned planning in or for Indigenous or Tribal communities. As an Inupiat student, I could see how the planning material I was learning was often irrelevant to the communities and people important to me because the academic material failed to consider or address the environmental, social, economic, and political issues indigenous communities face. The curriculum did, however, help me understand how and why communities are planned as they are, which is predominately to meet economic needs and desires of non-Indigenous people.

As I questioned how I could reconcile my indigeneity with my planning education to make my education relevant for indigenous communities, I became aware of the strong, growing, and academically valid field of Indigenous Planning (Jojola, 2008). This awareness led me to literature

specifically produced by Indigenous scholars for the benefit of Indigenous communities.

This literature review analyzes and summarizes indigenous planning theories and frameworks relevant to climate adaptation planning in Indigenous communities. Because Indigenous Planning is not a specific field taught at the University of Oregon and racism and oppression are difficult topics to discuss, this literature reviews race and oppression, the history of Indigenous Planning, and current Indigenous sustainability frameworks. Those topics were reviewed to understand racism and oppression in society and the planning field; understand the Indigenous Planning field; and review solutions or alternatives to unjust and inequitable planning methods.

The literature showed racism and "race neutrality" interferes with social equality (Lung-Amam, 2015); oppression continues to plague people of color's capacity to govern themselves (Young, 2011); and that Indigenous Planning increases tribal communities' capacity to develop climate adaptation plans and can reverse and resist oppression through Indigenous frameworks based on Indigenous values and world views (Jojola, 2008), (Matunga, 2013), (Robin, 1995) and (Whyte K. P., 2016).

The literature, however, failed to analyze these different dynamics in current climate adaptation plans. Therefore, this research attempts to identify the gaps between western and Indigenous planning methods.

Before continuing with the literature review, it is necessary to review how the climate is changing and the impacts in Indigenous communities.

CLIMATE CHANGE AND INDIGENOUS COMMUNITIES

Almost everywhere in the world, communities and their economies are experiencing harm from climate change. The 2014 United States National Climate Assessment reports, "Sectors affected by climate changes include agriculture, water, human health, energy, transportation, forests, and ecosystems" (USGCRP, 2014). Significant changes include extreme weather including high temperatures and drought, heavy rain and flooding, colder temperatures, and shorter freezing periods (USGCRP, 2014).

In response to these significant changes and threats to indigenous living, some Indigenous communities, in collaboration with various partners, are developing tribal climate adaptation plans (TCCP, 2016). Adaptation is the process of developing actions to prepare for or adjust to the changing climate (Program, 2017).

Climate adaptation planning is the process of identifying societal vulnerabilities to climate changes and developing and selecting actions to deal with them (Mimura, 2014), (NOAA, 2017). Vulnerability is "a person's or community's likelihood of exposure, as well as sensitivity to climate change impacts," (Vinyeta, Powys Whyte, & Lynn, 2015).

Indigenous communities are vulnerable to climate change and are experiencing "disproportionate and negative impacts," (NCAI, 2016). "Climate change endangers delicate ecosystems upon which many indigenous peoples rely for housing, livelihoods and spiritual and cultural practices. It may also contribute to conditions that exacerbate the marginalization of indigenous peoples leading to loss of land and resources, discrimination, and unemployment" (OHCHR, 2016).

When considering climate change and its impacts, anywhere, it is essential to understand there are both physical and cultural impacts and responses. Neil Adger in *Cultural Dimensions of Climate Change Impacts and Adaptation*, emphasized most research and adaptation policies focus on life and economic related costs, but cultural impacts are equally important. He advocated that climate change mitigation and adaptation planning needs to include cultural dimensions so plans connect "with what matters to individuals and communities" (Adger, 2012).

Indigenous people must be able to adapt in culturally relevant ways for their own well-being, with plans that are equitable, just, and support indigenous sovereignty. Indigenous or tribal sovereignty, at a minimum, "ensures that any decisions about the tribes with regard to their property and citizens are made with their participation and consent" (DOI, 2017).

More specifically, David E. Wilkins explains sovereignty: "Tribes, as preexisting polities, exercise a number of political and legal powers that only sovereigns may wield, such as the power to adopt a form of government; to define the conditions of tribal citizenship/membership; to regulate the domestic relations of the tribe's citizens/members; to prescribe rules of inheritance with respect to all personal property; to levy dues, fees, or taxes on tribal citizens and non-Indian residents; and to administer justice" (Wilkins, 1998).

Although Indigenous Planning exists, and Tribes are participating in planning processes, oppressive tendencies exist. "Indigenous people are routinely excluded from decision making processes" (Castro Diaz, 2008) and "continued injustices create barriers to implementing tribal climate change adaptation plans" (Whyte K. P., 2016).

Furthermore, "Indigenous peoples continue to be among the most marginalized, oppressed, discriminated against, poverty-stricken, dispossessed, and exploited communities in the world today" (Matunga, 2013). Therefore, Indigenous planning is needed to plan Indigenous communities "out of this state" to "refuse/reject their continued oppression" (Matunga, 2013).

For some individuals, it might be difficult to imagine that people, systems, and institutions in America are racist, promote white supremacy, and oppress Indigenous people, among others, but that is what is happening.

RACE AND OPPRESSION

Race and oppression are critical concepts that determine whether planning activities are just or equitable. Race is a complex concept that is used to categorize people who have similar "historical aspects of racial dynamics" (Hartigan, 2015). One's understanding and definition of race is based is on one's culture (Hartigan, 2009). This means culture determines what race is, who it applies to, and how society responds to race, in and out of that society (Hartigan, 2015). Since culture helps people identify, "belonging and difference, how things are said and done, what has meaning, and how to interpret life" (Hartigan, 2015) for planning activities to be inclusive, just, and equitable, race should not be ignored, but it is.

Planning schools and society promote the ideology of "race neutrality" or "race does not matter" (Lung-Amam, 2015). Advocacy and equity planning challenges "race neutrality" by seeking to teach planning students to evaluate their own understanding of race and ethnicity so they can better serve communities of color by being sensitive to those communities' needs and by making sure those communities have an "equal seat at the table" (Lung-Amam, 2015). But from an Indigenous perspective, that counter measure to race neutrality and racism is inadequate because of oppression. Unless Indigenous people are also allowed to design the table in which they are seated, planning risks perpetuating racism and oppression.

Considering planning or planner's actions as oppressive might seem inaccurate, offensive, or appalling, but it is true. Iris Marion Young identified "Five Faces of Oppression" (Young, 2011) that are in operation throughout society. She recognized a departure of tyrannical oppression, in which power from one group was used to overpower another group, to five other forms of oppression. Now, "In its new usage oppression designates the disadvantage and injustice some people suffer not because a tyrannical power coerces them, but because of the everyday practices of a well-intentioned liberal society" (Young, 2011). This means, in addition to tyrannical oppression, oppression is structural, exploitive, creates marginalization, powerlessness, and promotes cultural imperialism (Young, 2011).

In Indigenous communities, oppression is prolific and destructive (Whyte K. P., 2016). Examples include tyrannical governmental attacks or limitations on Indigenous sovereignty (Matunga, 2013); exploitation of vital natural resources used by or cared for by Indigenous people (Jojola, 2008); and planning processes designed by non-Indigenous people are a form of cultural imperialism. Cultural imperialism is the "universalization of a dominant group's experience and culture, and its establishment as the norm" (Young, 2011), or as supreme.

The intersections between colonialism, race, and white supremacy is explained by "three pillars of white supremacy" (Smith, 2012). The three pillars of

white supremacy support capitalism, colonialism, and war. The pillars are "(1) slaveability/anti-black racism, which anchors capitalism; (2) genocide, which anchors colonialism; and (3) orientalism, which anchors war." (Smith, 2012). I am focusing on genocide pillar.

"The logic of genocide", represents the "disappearance" of Indigenous people so their lands can be owned. This is considered the "anchor of colonialism" because colonizers, non-Indigenous people take over and claim to "own the land when the Indigenous people are gone" (Smith, 2012). White supremacy led to the westernization of Indigenous lands, which resulted in the imposition of western planning practices and capitalist planning activities in Indigenous communities, including the partitioning and economic based development of tribal lands (Jojola, 2008).

Based on oppressive and racist development of the United States and negative outcomes for Indigenous people, planning and planners working in or for Indigenous communities that do not use Indigenous planning methods, or who "do not question the norms, habits, and symbols, in the assumptions underlying institutional rules and the collective consequences of following those rules" (Young, 2011) are participating in structural oppression (Young, 2011).

Indigenous Planning includes and incorporates Indigenous values and worldviews in planning (Matunga, 2013), and, planning that excludes those values and worldviews perpetuates colonial oppression (Whyte K. P., 2016).

Fortunately, for Indigenous peoples, Indigenous scholar Ted Jojola affirms, "If Indigenous peoples were planned into oppression, equally they can be planned out of it" (Jojola, 2013).

Because climate change threatens the environment, health, treaty rights and sovereignty of Indigenous people, this is a critical time to resist racism and oppression and to embrace Indigenous planning.

INDIGENOUS PLANNING

Indigenous planning incorporates Indigenous worldviews and values in planning processes. Through an Indigenous worldview, land is to be protected and cared for to "sustain the productivity of the land for those who will inherit it" (Jojola, 2008) whereas the western worldview emphasizes "raising capital and dispensing of or selling land, when the land value is capitalized" (Jojola, 2008). Indigenous values recognize "all people and communities are connected" (Dockry, 2015) opposed to the western value that recognizes the "environment, economics, and society, as the triple bottom line" of business (Dockry, 2015).

Defined, "Indigenous communities, peoples and nations are those which have a historical continuity with pre-invasion and pre-colonial societies that developed on their territories, consider themselves distinct from other sectors of the societies now prevailing on those territories, or parts of them" (United Nations, 2004).

One of the unique characteristics of Indigenous planning is the seven-generation model. It is the planning model that looks three generations behind one's self and three generations ahead (Jojola, 2013). Whereas Western planning generally uses a one generation or 20-year model (Parker, 2017).

Three critical principles of Indigenous Planning are outlined by Ted Jojola in *Indigenous Planning: Towards A Seven Generations Model*. One principle requires that the planning "process must be informed by the Indigenous worldview which is the meaning and significance of what is done and why it is done" (Jojola, 2013). A second principle is "Indigenous voices need no translation" (Jojola, 2013). This means planners must seek to understand what Indigenous people are saying by engaging in the "transfer or knowledge, sharing information, and building collaborative ways of engagement" (Jojola, 2013). Because "Individuals already carry the weight of their education through lived experience," (Jojola, 2013) a third principle is, "the essence of Indigenous scholarship is Native self" (Jojola, 2013). This means others do not need to tell Indigenous people what they need, what they should do, or why.

Additionally, Hirini Matunga explains, Indigenous Planning is an evolving process, outcome, and methodology that has existed since time immemorial" (Matunga, 2013). The process is the connectedness of Indigenous people, places, knowledge, values and worldviews, decisions, and practices. There are five critical outcomes of Indigenous planning that improve Indigenous

communities and their environments. The five outcomes are: "improved environmental quality and quantity; political autonomy and advocacy; social cohesion and well-being; economic growth and distribution; and cultural protection and enhancement" (Matunga, 2013). Indigenous planning, simplified as a methodology is, "Indigenous peoples making decisions about their lives, their environments, and their futures" (Matunga, 2013).

Matunga explains decisions through Indigenous planning are "contextual" decisions that are based on Indigenous knowledge, worldviews, beliefs, values, and how the community "sees itself and its future" (Matunga, 2013). According to Matunga, "ultimately the test is whether the action or activity leads to an enhanced state of well-being of/for the Indigenous community concerned, or indeed undermines pursuit of that goal" (Matunga, 2013).

Similar to Jojola and Matunga's Indigenous Planning theories, in 1992, a group of MIT students identified "five basic elements of Indigenous planning: a belief system" which has been called "the birth of Indigenous planning at MIT" (Robin, 1995). The five basic elements are:

> (1) People thrive in community: although each one of us is unique, we are also who we are because of our ancestors, our parents, and all the people around us we are connected to;
>
> (2) Ordinary people have all of the answers, meaning people have the capacity to solve their own problems.
>
> (3) People have the basic right to determine their own future with a controlling voice that shapes how their future will be.
>
> (4) Oppression continues to be a force that devastates people

> (5) The people are beautiful. Already. As Indigenous Planners, we must act out of love and compassion, and in a manner which gives people dignity…We must always call into questions our motives for wanting to help others. Let it be out of compassion for a fellow human being, just as intelligent and as deserving of a good life as ourselves; not out of pity for some creature deemed as ugly and inferior.

Indigenous Planning is helping Indigenous communities respond to climate change in ways that are relevant and meaningful to them and building their community capacity and improving their lives and environments.

INDIGENOUS SUSTAINABILITY

Indigenous worldviews are concerned with the interconnectedness of society. This unique form of planning is valuable for combatting oppression and climate adaptation. With Indigenous Planning, Indigenous communities can "repatriate traditional planning approaches as well as adapt those western practices that make them more culturally resilient" and allow for "rebuilding their local capacity for governance" (Jojola, 2008).

The College of Menominee Nation Sustainable Development Institute developed an Indigenous model of sustainability that includes values and components that are important to Indigenous people and recognized to be missing from other sustainability frameworks (Dockry, 2015).

The SDI model is based on "six dimensions of sustainable development." Sustainable development is "balancing and reconciling the inherent tensions among six dimensions of sustainability which are: land and sovereignty; natural environment (including human beings); institutions; technology; economy; and human perception" (Dockry, 2015).

Figure 3: Six Dimensions of Sustainable Development,
College of Menominee Nation Sustainable Development Institute

The SDI model "encourages groups to understand their own cultural beliefs and values that could be used to balance the six SDI model dimensions and requires recognition that all people and communities are connected" (Dockry, 2015).

This is different from western sustainability models that focus on "environment, economics, and society" (Dockry, 2015). Dockry states mainstream, usually referred to as western, sustainability models fail to "develop integrated place-based models" (Dockry, 2015). Whereas, the SDI Model, using the Menominee Indian Tribe of Wisconsin's "profound sense of place and relationship with the land allows communities to substitute 'sense of place' as a value used to balance the SDI model dimensions" (Dockry, 2015).

Because the six dimensions are interconnected, there are "inherent tensions and a change in one dimension causes a change in another" (Dockry, 2015). Therefore, discussions are encouraged to "identify the relationships among different dimensions, identify the tensions, and seek solutions to relive those tensions" (Dockry, 2015).

Michigan State University's Great Lakes Integrated Sciences and Assessment Center (GLISA), used the SDI model to perform collaborative projects and coalition building strategies between tribal, governmental, research, and education organizations. GLISA indicated this type of coalition building and collaboration allowed the process to "respect tribal sovereignty, protect interests, cultures, cultural resources, integrate scientific resources, address social problems and negotiate jurisdictional and legal challenges" (Whyte K. M., 2014).

Using the Menominee Nation's SDI Model, GLISA helped three Tribes use scenario planning as a tool to connect and talk about climate adaptation strategies. Significant results of this processes included: methods for establishing respectful and trusting relationships between collaborators; creation of meaningful engagement strategies between tribal and non-tribal entities; activation of inter-departmental and inter-tribal frameworks for dialogue about climate change impacts and adaptation, beyond scientific data; and identification of tribally preferred methods of interaction that increased tribal capacity and involvement for climate adaptation planning (Whyte K. M., 2014).

Finally, "Climate Change Adaptation is a response to multiple stresses… There is no single approach to adaptation planning because of the complex, diverse, and context-dependent nature of adaptation to climate change. Although top-down and bottom-up approaches are widely recognized, the actions in practice are combinations of these approaches" (Mimura, 2014).

This literature review summarizes indigenous planning theories and frameworks relevant to climate adaptation planning in Indigenous communities; exposes how racism and oppression is manifested and perpetuated in society and the planning field; and presents frameworks for equitable, just, and culturally relevant planning.

The literature does not assess whether Indigenous Planning is being routinely used to develop current climate adaptation plans in Indigenous communities. This research seeks to fill that gap and evaluate whether Indigenous Planning and Indigenous worldviews and values, are incorporated or present in those types of plans.

METHODS: PLAN REVIEW

The literature review revealed three significant planning realities: (1) racism and "race neutrality" interferes with social equality (Lung-Amam, 2015); (2) oppression continues to plague people of color's capacity to govern themselves (Young, 2011); and (3) Indigenous Planning increases tribal communities' capacity to develop climate adaptation plans and can reverse and resist oppression (Jojola, 2008), (Matunga, 2013), (Robin, 1995) and (Whyte K. P., 2016). In an attempt to understand how these realities occur, this research evaluates how they were manifested in current climate adaptation plans.

I hypothesized that plans that incorporate Indigenous values lead to better outcomes. To test this, I used content analysis to study climate adaptation plans for six tribal communities to identify themes related to Indigenous planning. An important step was to use the plan's purpose statements to designate a plan as either a tribal plan or non-tribal. I used this designation to compare the similarities and differences between tribal and non-tribal plans to identify whether there were major distinctions between the two. Although I reviewed the entire plan[3], I focused on the how tribal values and worldviews were incorporated into the planning processes, strategies and actions.

[3] see Appendix C: Plan Summaries

I searched for evidence of what Jojola calls the "tenets of Indigenous planning" (Jojola, 2013) which are three principles that state the Indigenous worldview determines what is done and why; planners and community members engage in the "transfer or knowledge, sharing information, and building collaborative ways of engagement" (Jojola, 2013). And, Indigenous people determine what they need or what they should do. The following plans were reviewed:

- Confederated Salish and Kootenai Tribes of the Flathead Reservation Climate Change Strategic Plan
- Climate Adaptation Plan for the Territories of the Yakama Nation
- Climate Change in Point Hope, Alaska: Strategies for Community Health
- Shaktoolik, Alaska: Climate Change Adaptation for an At-Risk Community Adaptation Plan
- Climate Adaptation and Action Plan for the Norton Bay Watershed, Alaska
- Shishmaref Strategic Management Plan

The next section summarizes an overview of each community, its governance and its planning purpose and process as gleaned from each plan. Tribal values, climate change concerns and impacts, and strategies and actions are presented in the findings section.

PLAN A: SALISH AND KOOTENAI

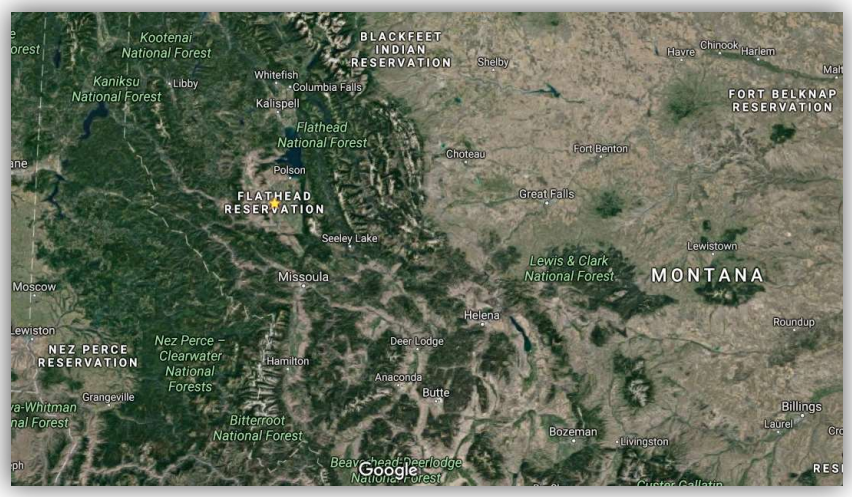


Figure 4: Confederated Salish and Kootenai Tribes of the Flathead Reservation

OVERVIEW

The Confederated Salish and Kootenai Tribes of the Flathead Reservation includes the Salish, Kootenai, and Pend d'Oreilles Tribes (CSKT). Their traditional lands are 20 million acres between the Cascade Mountains and the Rocky Mountains in what is now western Montana, northern Idaho, and southern Canada. Today the Tribes have 1.3 million acres of fragmented (non-contiguous) mountainous reservation lands along rivers and streams in rural western Montana, but near growing and large urban and trade centers. The Tribes generate income from timber and hydropower industries. Native fish, wildlife, healthy plant communities and clean air and water are critical natural resources.

PLANNING PURPOSE AND PROCESS

The Confederated Salish and Kootenai Tribes of the Flathead Reservation Climate Change Strategic Plan was to developed to improve the community and its lands' resiliency by informing climate change impact planning decisions with the goal to initiate collectively beneficial climate change impact mitigation and solutions.

The planning process was Initiated by the Tribes' Office of Environmental Protection and confirmed through Tribal resolution and Tribal Chairman Proclamation. It was led by a seven-member planning team. Contributors included a twenty-one-member planning committee, and several local, state and federal agencies. The planning process included meetings, trainings, collaborative planning sessions, community surveys online and in-person, inter-departmental collaboration, and purposeful and intentional consideration of traditional ecological knowledge.

GOVERNANCE

The Confederated Salish and Kootenai Tribes are "recognized as a model of a self-sufficient sovereign nation of the United States" because if their self-governance, society, economy, global self-representation, and preservation of their "right to determine our own destiny" (CSKT, 2013). The Tribes are governed by a ten-member Tribal Council who represent ten districts in Montana. CKST employs about 1,400 people and provides Tribal government services to tribal members.

PLAN B: YAKAMA NATION

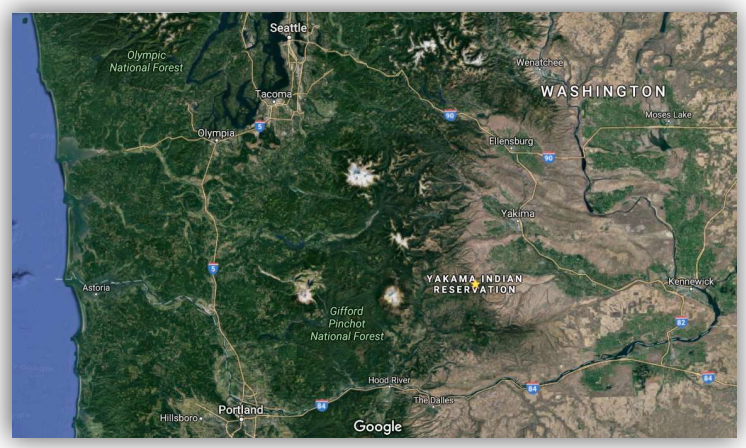


Figure 5: Confederated Tribes of Yakama Nation

OVERVIEW

The Confederated Tribes and Bands of Yakama Nation include Kah-miltpah, Oche-Chotes, Palouse, Wenatchapam, Klickitat, Pesquose, See-ap-Cat, Yakama, Klinquit, Shyiks, Sk'in-pah, Kow-was-say-ee, Li-ay-was, and Wish-ham. Traditional lands are almost all of central Washington.

Today Yakama Nation includes about 1.2 million acres between the lowlands around the Columbia River to the peaks of the Cascade Mountains. This includes 72,000 acres of tribally owned agricultural lands and 650,000 acres of productive forests and woodlands. The reservation is located within the Yakama River basin and has forest, range and desert landscapes. The tribe has access to the ceded lands and all the usual and accustomed places to fish, hunt, gather foods and medicines, beyond the reservation. See Figure 5.

PLANNING PURPOSE AND PROCESS

The Climate Adaptation Plan for the Territories of the Yakama Nation was developed to preserve and protect Yakama Nation resources and build resiliency.

The planning process had three phases. Phase I was the completion of the Climate Adaption Plan through a series of administrative and community meetings and workshops.

Phase II, in process at the time of this study, was to develop a vulnerability and risk assessment for tribal resources. Phase III, will implement actions identified in phases one and two, and updating the plan. Yakama Nation acknowledged that these are the first steps "on a long path forward."

GOVERNANCE

Tribal Council directs programs and staff, engages in government to government relations with local, state and federal governments and their agents.

PLAN C: POINT HOPE

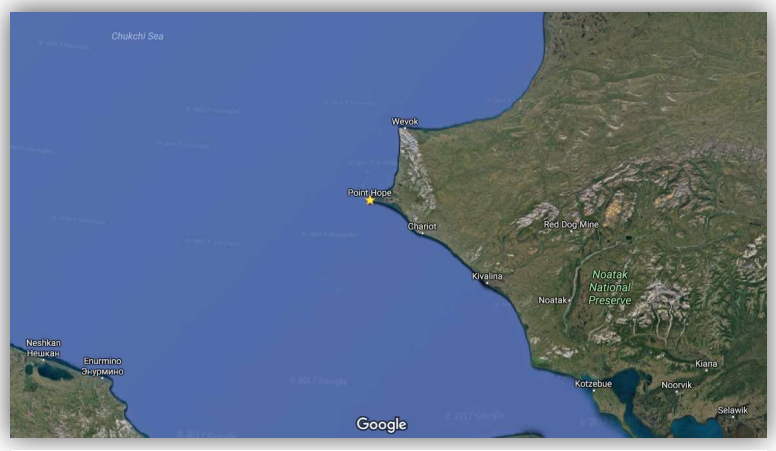


Figure 6: Figure 6: Point Hope, Alaska

OVERVIEW

Point Hope, Alaska, is a mostly an Alaska Native community of 757.It is "the oldest continuously occupied Inupiaq community" (ANTHC, 2010). It is on a gravel peninsula, with three sides surrounded by the Chuckchi Sea, on the western most point of Northwest Alaska, above the Arctic Circle. Residents rely on a year-round harvest of subsistence foods including marine and land mammals, birds, fish and plants. Previous erosion in the 1970's forced relocation two miles east to the current location.

PLANNING PURPOSE AND PROCESS

The "Climate Change in Point Hope, Alaska: Strategies for Community Health" plan was developed to raise awareness about current, emerging, and potential future climate change affects. It presented observed climate changes, health concerns, projected change and potential adaptation recommendations for Point Hope. The plan was developed as a strategy with suggestions and recommendations for the community.

The planning process was not stated. The report was created by the Alaska Native Tribal Health Consortium and funded by Indian Health Services. Methods for community participation were not stated but a list of community contributors was included in the appendices. Individual community observations, concerns, and quotes were gathered and incorporated throughout the document. Appendix A of the plan lists government agencies, elders, hunters, teachers, health providers, youth and artists as contributors. The report was published in 2010.

GOVERNANCE

Point Hope is governed by the City of Point Hope, Native Village of Point Hope, and Tikigaq Corporation.

PLAN D: SHAKTOOLIK

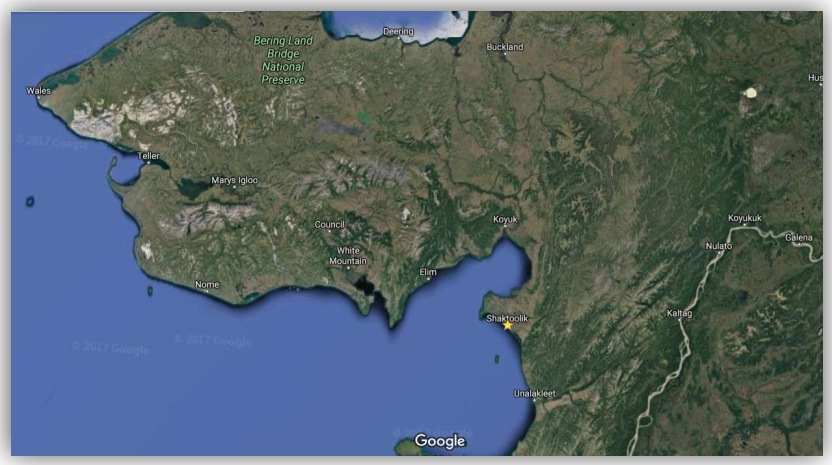


Figure 7: Shaktoolik, Alaska

OVERVIEW

Shaktoolik, Alaska is a small coastal Malemuit Inupiaq and Unalit Yupik community with a population of 250.

It is located on the end of a sand spit and in a 100-year flood plain, between the Norton Sound and Tagoomenik River, in Northwest Alaska.

Shaktoolik is an "at-risk" community, "an extreme storm without adequate prior warning could lead to loss of life because currently there is no safe refuge in the community" (Johnson, 2014).

The community was relocated to its current location in the 1970's because of erosion. Shaktoolik has a mixed economy which means cash supplements a predominately traditional lifestyle of harvesting natural resources including, fish, crab, whales, seals, moose, caribou, birds and plants.

PLANNING PROCESS AND PURPOSE

The plan, "Shaktoolik, Alaska: Climate Change Adaptation for an At-Risk Community" was developed as part of a two-year Alaska Sea Grant Project, consultant, in collaboration with the Community of Shaktoolik. This plan built upon four existing planning projects performed between 2009 and 2012 by different public and private entities.

The Alaska Sea Grant project and local government established a community planning committee, by resolution, then hired a part time project coordinator. Planning committee, community, and expert meetings were held. The Sea Grant team visited the site, identified funding sources, adaptation measures and provided outreach to other at-risk communities.

GOVERNANCE

Shaktoolik is governed by the City of Shaktoolik, Native Village of Shaktoolik and Shaktoolik Native Corporation. Some individuals serve in multiple positions.

PLAN E: NORTON BAY INTERTRIBAL WATERSHED COUNCIL

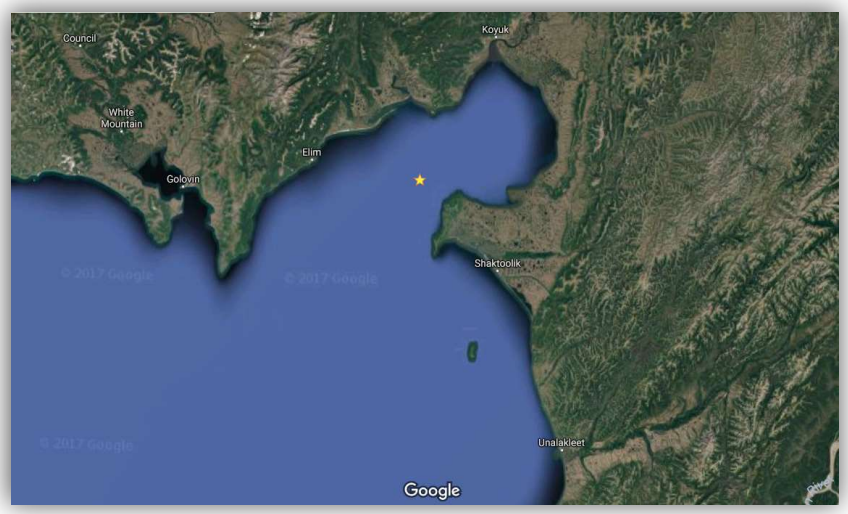


Figure 8: Norton Bay Intertribal Watershed

OVERVIEW

Norton Bay Inter-Tribal Watershed (NBITW) includes four Alaska Native villages: Elim, Koyuk, Shaktoolik and Unalakleet, on the Seward Peninsula of Northwest. The combined population is 1,370. This area relies on food harvested from natural resources which increases the vulnerability to climate change. The economy is "subsistence with a cash overlay" which means cash supplements hunting, fishing and wild plant and berry gathering. The changing climate is interfering with "the subsistence practices of the Villages" (Murray et al, 2013).

PLANNING PURPOSE AND PROCESS

The Climate Adaptation and Action Plan for the Norton Bay Watershed, Alaska was considered the first step in the long-range goal of addressing consequences of climate change. The purpose was to "protect the Watershed's natural resources and preserve a centuries-old way of life" (Murray et al, 2013) and enhance local resiliency and environmental conservation.

Through a one-year process of assessment and planning with the Climate Solutions University, climate change impacts, adaptation responses, and non-climate stressors were identified. A local team assessed local risks and opportunities related to climate and non-climate stressors, forest, water and economics. Findings were analyzed, adaptation strategies and plans were performed, then public support to implement the plan was built. How public support was built is not discussed.

GOVERNANCE

The Native Villages of Elim, Shaktoolik, Unalakleet and Koyuk govern the Norton Bay Intertribal Watershed.

PLAN F: SHISHMAREF

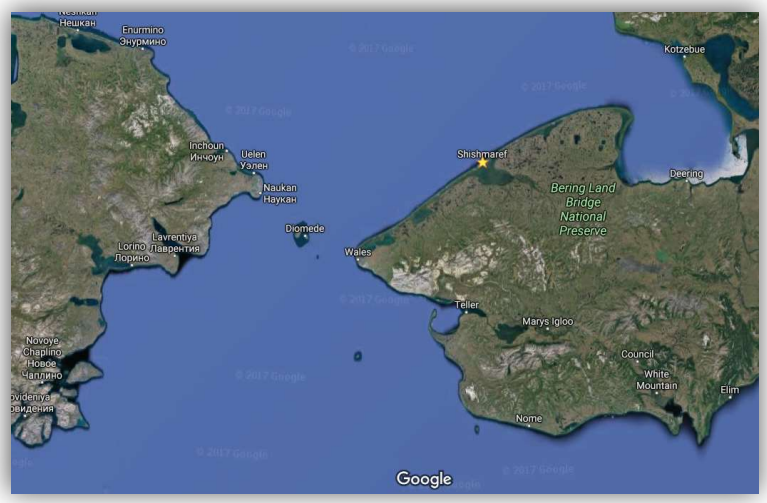


Figure 9:Shishmaref, Alaska

OVERVIEW

Shishmaref, Alaska, is an Inupiat community with 579 people (city-data.com, 2016). It is 0.25 miles wide and three miles long and located on a sandy island in Norton Sound that is quickly being eroded.

The community voted to relocate in 1973 and 2002 but they were unable to do so because "several events have caused the relocation efforts to lose momentum" (Cox, 2016). A community survey respondent stated, "we need to relocate soon so we don't have to leave our children responsible for moving the village. They need somewhere some [sic] to live with no worries of falling in to the ocean" (Cox, 2016).

PLANNING PURPOSE AND PROCESS

The Shishmaref Strategic Management Plan was created as a blueprint for the community and agencies to make Shishmaref a more resilient community. Planning occurred in two phases, (1) issue identification, review of background information, development of guiding principles, and creation of the Background Planning Report; (2) the Shismaref Management Plan was developed.

Community and agency meetings with local, regional, state and federal agencies and organizations were held; surveys with feedback to community leadership occurred; and the Strategic Action Plan (SAP) was created.

The SAP identified adaptation activities and responsible actors for each action item, along with a timeline, scale of financial resources needed, and implementation partners for strategic focus areas.

GOVERNANCE

Shishmaref is governed by the Native Village of Shishmaref, City of Shishmaref, and the Shishmaref Native Corporation.

FINDINGS

The purpose of this research is to find out if the plans studied had planning processes that aligned with and incorporated tribal worldviews, values, and goals; if the plans developed realistic strategies; and if those strategies were implemented. I also wanted to know if the planning processes were effective in supporting Indigenous communities' capacity to address climate change.

Planning methods that increase community capacity include Indigenous people, their worldviews and values; their own problem identification; and solutions (Jojola, 2013).

These findings are from a combination of content analysis and interviews. The content analysis included a general review of each plan's planning processes and climate concerns and priorities. Those findings led to the development of interview questions designed to gather additional data for a detailed analysis of the plans' purposes and goals; processes; strategies and actions; Tribal goals and values; and implementation barriers.

A significant finding helped to distinguish whether a plan was tribal or non-tribal based on whom the plans were developed for. This distinction is important because although every plan was developed for an Indigenous community, not all were specifically developed for the Indigenous people. In this study, two plans included language that indicated they were clearly prepared for the Tribes, tribal community or tribal programs. I grouped those two as tribal plans. The four other plans were considered non-tribal plans because they lacked

language that connected the plan to the tribal people. Of those four, two indicated each was prepared of a specific community, the place not the people. One was prepared for the Norton Bay Inter-Tribal Watershed Council. The other was prepared for the State of Alaska. Following are statements from each plan:

Prepared for the Tribes

- **Confederated Salish and Kootenai Tribes:** "This initiative's purpose is to improve the Tribal community and Natural Resources resiliency by effectively informing climate change impact planning decisions made by the Tribes" (CSKT, 2013);
- **Yakama Nation**: "This plan is more than just words and pictures. It describes much of our understanding of potential climate change impacts and establishes preliminary recommendations for our tribal programs to consider and evaluate and for our tribal leadership to act upon appropriately" (Yakama Nation, 2016);

Prepared for a specific community

- **Point Hope**: "Point Hope will need to facilitate the adaptation process by increasing communication and cooperation with resource agencies…" (ANTHC, 2010);
- **Shaktoolik**: "This Adaptation Plan outlines next steps for the community of Shaktoolik as it responds to threats, primarily erosion and flooding, resulting from climate change" (Johnson, 2014).

Prepared for the watershed council

- **Norton Bay Intertribal Watershed Council**: "This climate adaptation plan was developed by the Norton Bay Intertribal Watershed Council (NBIWC) to address the climate stressors, risks, and adaptation opportunities related to the native villages of Norton Bay and the forests and watershed resources upon which they depend" (Murray et al, 2013).

Prepared for the State

- **Shishmaref**: "Prepared for the State of Alaska Department of Commerce, Community, and Economic Development (DCCED) Division of Community and Regional Affairs on behalf of the Community of Shishmaref" (Cox, 2016).

The "prepared for" statements, as presented, reveal how the non-tribal plans lack language that connect the plans to the communities' Indigenous people. That omission is an example of how "race neutrality" (Lung-Amam, 2015) contributed to the "disappearance" (Smith, 2012) or invisibility of the Indigenous people within the plans studied. The rest of this report attempts to highlight the presence, or opportunities to present, Indigenous people in the plans studied.

The following findings transition from a general analysis of the climate concerns, tribal values, plan purposes and goals, and planning processes to a more detailed analysis of plan strategies and actions. The layout of the findings is to show what the plans addressed, what was important to the Tribes – tribal

values, and how the planning was done to determine whether it met the needs of the Tribes.

CLIMATE CONCERNS AND IMPACTS

Indigenous communities experience similar climate changes but the impacts can be extremely different. Each plan studied was experiencing changes in temperature, precipitation, storms, and hydrology or water related changes. Table 1 presents the major climate changes considered in each plan studied:

Table 1: Climate Changes Considered in Plans

	Tribal Plans			Non-Tribal Plans		
	Plan A: Salish and Kootenai	Plan B: Yakama Nation	Plan C: Point Hope	Plan D: Shaktoolik	Plan E: Norton Bay	Plan F: Shishmaref
Temperature increases and decreases	X	X	X	X	X	X
Increased storms or intensity	X	X	X	X	X	X
Hydrology including sea level rise, flooding, or drought	X	X	X	X	X	X
Precipitation including rain or snow	X	X	X	X	X	
Ocean acidification				X	X	

Each of these climate changes threatened the health and safety of the communities, negatively impacted infrastructure, flooding, and a diverse range of other impacts. All but one plan reported impacts on ecology. Four communities reported impacts related to drought and wildfire, pollution, and impacts on cultural activities. Three plans reported experiencing an intensification of negative non-climate stressors. Coastal communities experienced changes in sea ice, shore erosion, and melting permafrost. Table 2 shows climate impacts considered in each of the plans:

Table 2: Climate Impacts Considered in Plans

	Tribal Plans		Non-Tribal Plans			
	Plan A: Salish and Kootenai	Plan B: Yakama Nation	Plan C: Point Hope	Plan D: Shaktoolik	Plan E: Norton Bay	Plan F: Shishmaref
Health and Safety	X	X	X	X	X	X
Infrastructure loss or needs	X	X	X	X	X	X
Flooding	X	X	X	X	X	X
Ecology including plants and animals	X	X	X	X	X	
Cultural activities	X	X	X	X		
Drought or wildfire	X	X	X	X		
Increased pollution	X	X	X		X	
Intensification of non-climate stressors		X	X		X	
Shore erosion			X	X	X	X
Decreased sea ice			X	X	X	X
Melting permafrost			X	X	X	X

The climate impacts in Table 2 were addressed in each plans' purposes, goals, or priorities.

TRIBAL VALUES

Values express the "principles or standards of behaviors" (Oxford, 2017) that are physically, spiritually, and ethically important to people (Adler, 1956). Hirini Matunga writes, "Indigenous worldviews and values are based on a deep and abiding physical and spiritual connection as kinfolk with their place, land, territories, environment, and resources since time immemorial" (Matunga, 2013). Because of these spiritual and physical connections, when planning impacts Indigenous peoples, their values should be known, understood, and used to develop plans.

This finding presents examples of tribal values found in the plans studied. I sought words and phrases throughout the plans that expressed spiritual or physical connections, as described by Matunga. Table 3 presents examples of tribal values found in the plans:

Table 3: Examples of tribal values found in the plans

Tribal Plans	Non-Tribal Plans	
Plan A: Salish and Kootenai	**Plan C: Point Hope**	**Plan E: Norton Bay**
"Everything in nature is embodied with a spirit. The spirits are woven tightly together to form a sacred whole (the earth). Changes that affect one part of this web affect other parts." "Cultural resources are precious Tribal resources. They encompass the Tribes' elders, languages, cultural traditions, and cultural sites." "Land based resources include native fish, wildlife and their habitats, food and medicinal plants and the areas where they grow, and other land areas where Tribal members currently practice cultural traditions." "Humanity has the capacity to re-learn how to live sustainably."	"traditional values should guide local and regional decision making" Plan mentions: • Traditional knowledge • language: sigl-uaqs (ice cellars) traditional foods • elders	"Centuries old subsistence," commercial and subsistence fishing. "Subsistence with cash overlay." "Land, wildlife, customary laws related to access to territory's resources such as trapping lines, fishing camps, common hunting areas, mentors in traditional systems of knowledge, beliefs, and values regarding the natural world" (www.culturalsurvival.org). "Cultures have a strong connection to the landscape and its resources. Respect for salmon and other wildlife, traditional knowledge of the environment, subsistence based economy and way of life is a key element of Indigenous identity." (www.culturalsurvival.org).
Plan B: Yakama Nation	**Plan D: Shaktoolik**	**Plan F: Shishmaref**
"We held our land as a trust given to us by the Creator for the use of the living and as a heritage to be held and protected for unborn generations." "Water is the very fabric of life. Water is central to our religion, our culture, and our heritage, and it is essential to our health and our economy. Water is all things to all that are living and all yet to be born." "We must carry forward our culture and traditions for our tribes' future and for your own families' well-being." "Climate change affects our everyday life, because we are connected to all of these natural resources. What affects them affects us."	"Subsistence provides Shaktoolik residents with food and wood for heating. In addition, subsistence is a way of life that provides cultural identity and a way to express traditional values of sharing."	• Safety • Respect and honor each person's views and ideas. • Make decisions openly and as a community. • Include local input in the process. • Protect the natural environment. • Respect our traditional culture. • Use funds wisely. • Develop in a manner that strengthens the community. • Encourage local hire.

As Table 3 shows, the plans from Yakama Nation, Salish Kootenai, and Shishmaref included numerous value laden statements such as, "Everything in nature is embodied with a spirit" (CSKT, 2013), "We must carry forward our culture

and traditions for our tribes' future and for your own families' well-being" (Yakama Nation, 2016), and "Protect the natural environment. Respect our traditional culture" (Cox, 2016).

The three other plans made a general or vague references to some values but did not identify the community's unique tribal values, or indicate the importance of those values in the planning processes, like the Salish and Kootenai, Yakama Nation, and Shishmaref plans did.

The Point Hope plan indicated an awareness of tribal values associated with traditional language, activities, and elders. The plan used the Inupiaq word sigl-uaqs (ice cellars) which indicated a value for the Indigenous language. The plan also mentioned traditional foods and processing methods which indicated values for traditional knowledge, activities, and connection to the land and its natural resources. The plan also mentioned the health of elders. In most Indigenous communities, elders are often knowledge keepers and disseminators and are generally given specialized attention and are revered. So, mentioning elders inferred an awareness of that value.

The Shaktoolik plan's background section stated, "According to a subsistence researcher who lived in the community for a period of time, subsistence 'links the harvester to heritage of countless generations of ancestors who harvested the same species, often in the same geographical location' (Thomas 1982, p. 290). Interviews conducted in 2010 revealed that most Shaktoolik residents have strong ties to the area, that is, both of their parents

were from the community or its surrounding area (Glenn Gray and Associates 2010)" (Johnson, 2014).

The Norton Bay plan only included quotes about Indigenous values and culture from www.culturalsurvival.org, an international Indigenous peoples' advocacy website, opposed to unique and community based values the planned community might express as their own. These last three plans acknowledged values exist but did not indicate whether those were considered as important principles or standards to incorporate into the planning activities. Because the content analysis revealed an absence of tribal values in some of the plans, I asked interviewees, "What are the best planning processes for aligning and incorporating Tribal values, goals, and priorities into plans? What worked well?" Following are the anonymous responses:

"Do homework before going out. Materials were taken out to the people. They were asked what they wanted, why, and how to follow up. I served as conduit for information." "What is inherently obvious to someone not involved, may not be so for the people whom that is their life. What is obvious depends on each individual." "Tribal government values and goals do not always align with City or community member goals. My vision of goals are different. They are talking about something passed down. It's a totally different world. Anything helps."

As this finding shows, values cannot, and should not, be briefly summarized or presented. Values are multi-dimensional and connected to people, places, nature, and the spiritual, among other things.

PLAN PURPOSES, GOALS, AND PRIORITIES

This finding includes each plan's purpose, goals, and priorities, and whether those items reflect and express Indigenous worldviews; enhance Indigenous capacity to respond to climate change; and the implications of the findings.

The purpose of a plan is the reason it is developed and for whom, whereas, goals indicate the specific desired outcomes of plans. Plan priorities are issues that have been identified as most important (Merriam-Webster, 2017).

Distinguishing between western and Indigenous worldviews especially pertaining to planning is significant. Matunga writes, "world-views are endowed with ideas that integrate the past with the present and are associated with cultural identity, land-tenure, and stewardship" (Matunga, 2013). Western planning is economy based and is focused on, "raising capital and dispensing of or selling land, when the land value is capitalized" (Jojola, 2008). While Indigenous planning, focuses on sustaining Indigenous land, culture and natural resources, into perpetuity. Ted Jojola explained, through an Indigenous worldview, "land is to be protected and cared for to sustain the productivity of the land for those who will inherit it" (Jojola, 2008).

Table 4 provides examples of planning elements that demonstrated the differences between Indigenous and western worldviews from the plans studied:

Table 4: Examples of differences between tribal and western worldviews

Planning Element	Indigenous or Tribal worldview	Western worldview
Timeframe	"plan remains in effect indefinitely"	had a completion date or deadline
Partnerships	"learn to work together"	identified agreeable partners to recruit
Scope	Included "other" goals: community food assessment; communication with potential future residents; and substance abuse programs	limited and specific scope

Table 4 provides a perception of time, partnerships, and scope in planning projects from both an Indigenous and western worldview shows a glimpse of the drastic differences between the two worldviews. The differences in perception reinforces why it is important to use an Indigenous worldview when planning for Indigenous people.

In this study, the scope of the Shishmaref plan provided an example of specific differences in perception. That plan included a unique goal that probably would not be considered in a typical non-Indigenous plan. It included an "other" goal to have substance abuse programs "to encourage residents to choose healthy lifestyles" (Cox, 2016). The inclusion of that goal, in a plan that primarily addresses climate adaptation, demonstrated how the goal setting process was informed by the Indigenous worldview that valued culture or people. If that plan was developed solely based on a western worldview, that goal most likely would have been excluded and deemed outside of the scope of the project.

The following findings show additional types of differences between Indigenous and western worldviews, or absence of Indigenous worldviews, in each plan's purpose, goals, and priorities.

PLAN PURPOSES

The purpose of all the climate adaptation plans studied was to help preserve life and property, and increase safety. Although that purpose increases every person's capacity to respond to climate change, it does not mean it was specifically intended to increase Indigenous peoples' capacity and according to their own preferences.

For example, an anonymous interviewee reported the purpose of the plan was to preserve life and property, and increase safety. The interviewee stated the solution or strategy was "common sense" and a "no brainer" (Anonymous, 2017). However, when it was presented to the community, the community responded by saying, "No way! Absolutely not!" (Anonymous, 2017). At that point, the planner became aware of the values and strong preferences the Indigenous people had. Later, the planner reflected, the "no brainer" solution was a solution, not the only solution. After listening to the community, the planner stated about their resistance, "it was not a mystery to me. What is inherently obvious to someone not involved, may not be so for people for whom that is their life. An entity might have a solution and state, 'this is what we are going to do,' but it may not be appropriate for the community" (Anonymous, 2017).

Since Indigenous perceptions and preferences are often left out of planning processes (Castro Diaz, 2008), I evaluated if the plan purposes indicated whether they were based on what Indigenous peoples said they needed. I combed through the plans, and, asked interviewees "what was the purpose and goal of the plan?" and "who initiated the plan?"

Following are purpose statements found in plans, and, interviewee responses to the purpose and goals questions. Purpose statements included:

- **Salish and Kootenai Tribes'** plan was "to improve the tribal community and its lands' resiliency by informing climate change impact planning decision with the goal to initiate collectively beneficial climate change impact mitigation and solutions" (CSKT, 2013).
- **Yakama Nation's** purpose was to "begin the conversation about climate change and planning for adaptation throughout all of the territories of the Yakama Nation" (Yakama Nation, 2016).
- **Point Hope's** report was to raise "awareness about current, emerging, and potential, future climate change affects in Point Hope. It is hoped that this will help citizens make informed planning decisions, within community appropriate development strategies to achieve a safe, healthy, and sustainable future for the people of Point Hope" (ANTHC, 2010).
- **Shaktoolik's** plan's purpose was to preserve life and property threatened by flooding and erosion. The purpose of the plan and its initiatives were

developed by the non-tribal Alaska Sea Grant, in cooperation with a Shaktoolik Planning Committee (Johnson, 2014).

- **Norton Bay Intertribal Watershed Council's** plan purpose was "the first step in the long-range goal of addressing the many serious consequences of climate change and other non-climate stressors to the landscape and waters of the Norton Bay Watershed…In addition, this plan can serve as a model for similar adaptation efforts needed across the Alaskan landscape." (Murray et al, 2013).
- **Shishmaref's** plan was to create a blueprint for the community and agencies to make Shishmaref a more resilient community.

Following are the anonymous interviewee responses to the question: "What was the purpose and goal of the plan?":

- The purpose "grew as we asked the planning team, how do we to go forward? We needed to develop a conversation document. A goal was to bring Tribes together to pull in good ideas, synthesize new information, not new analysis, adapt and make it our own to build collaboration."
- The purpose "was to create model plans to access, coordinate, and help leverage FEMA funding."
- The purpose "was to create a climate change planning framework."
- The purpose was "to respond to climate change effects already occurring and to identify what was being done to help people think

through and adapt to those changes. And, to save time and money by gathering minimal background information and cut to the chase to identify concerns, possible solutions, pros and cons of approaches."

- A goal was to "align department work and start a conversation about climate change, the impacts, why the impacts are important, and what can be done in response. We needed to make the community aware of the severity of the impacts."

Following are responses to "who initiated the plan?":

- "The Tribes."
- "The Tribe. We trained the Tribe and developed the planning process. The cultural committee was included because they know the value of the natural resources."
- A consultant who "was in contact with the Tribe in response to a call to participate that was published in a newsletter."
- A concerned "agency neighbor was referred to the community from a consultant who knew people and worked on a project that ran out of money. They [the Tribes] didn't solicit help."

As the finding shows, only three of the plans, Salish Kootenai, Yakama Nation, and Point Hope had plan purposes solely concerned with and motivated by the needs expressed by the Tribes. This is significant because for Indigenous capacity to increase, Indigenous people and their worldviews must be included

in problem identification and solutions (Jojola, 2013). A component of that is establishing the purpose of the plan. When Indigenous people do not help establish the purpose of a plan, planners risk wasting valuable resources creating plans that do not meet the needs of the people in the communities.

Another consequence of plans with a purpose other than one that is intended to meet the needs of Indigenous people may cause harm to them. Three of the non-tribal plans studied, in addition to working on improving the safety of the community, had other purposes including serving as a planning model or creating a planning blueprint. Those purposes although notable, do not emphasize what is important to the community and why. Instead those purposes reveal a scope of work that is beyond meeting the need of the Tribe, which can be considered a form of exploitation of the Tribe because the planning work is using the Tribe to accomplish a purpose outside of the Tribes' needs. In addition to plans having an Indigenous based purpose, it is crucial to have culturally based and clear goals.

GOALS

Goals indicate the specific desired outcomes of a plan. For planning in general, clearly articulated goals improve the quality of a plan which can encourage and support community engagement (Brody, 2003). Furthermore, "identity, culture, and development goals are interactive and mutually reinforcing" (Hibbard, 2013). So, in Indigenous communities, it is critical that plan goals incorporate Indigenous worldviews and reflect the desired outcomes

expressed by the Indigenous people, otherwise a plan can be considered poor quality and fail to engage the people most impacted by the plan.

This finding reports how different plan goals reflected or expressed Indigenous worldviews. There is an emphasis on the presence of tribal goals, or goals that reflect or express Indigenous worldviews, verses general goals, goals that one would expect to see in any "race neutral" (Lung-Amam, 2015) plan. Table 5 presents examples of goals in the tribal and Table 6 presents of examples of goals in the non-tribal plans:

Table 5: Goals identified in the Tribal plans studied

Tribal Plans		
	Plan A: Salish and Kootenai	**Plan B: Yakama Nation**
General Goals	• Develop policies, strategies, programs and regulations that reduce climate change and causes • communicate and coordinate • assess how to implement and incorporate actions into programs and activities	Unidentifiable
Tribal Goals	• Initiate collectively beneficial climate change impact mitigations and solutions • integrate TEK • remain in effect indefinitely	• Involve youth • Participate in national and international discussions • Protect, enhance and secure sources of fresh water to meet the Tribe's future needs. • Work with other tribes • learn to work together • learn how to adapt, as we have done for thousands of years on "these lands which have always been our home."

Table 6: Goals identified in the Non-Tribal plans studied

	Non-Tribal Plans			
	Plan C: Point Hope	**Plan D: Shaktoolik**	**Plan E: Norton Bay**	**Plan F: Shishmaref**
General Goals	• Participation in weather, coastal zone and wildlife observation and monitoring programs • Collaboration with researchers • increased local capacity for climate change coordination and management	Protect human life, buildings, and infrastructure	Set precedent for data collection, watershed assessment, and climate adaptation planning	• Safe and healthy housing • Jobs • Relocation • Adaptable built environment • Proactive emergency management
Tribal Goals	Help citizens make informed planning decisions that encourage a safe, healthy, and sustainable future for the people of Point Hope.	Unidentifiable	Unidentifiable	• Value Inupiaq culture and traditional values, cooperation • "preserve and enhance our community for us and future generations." • strengthened traditional culture • leadership for the future • other: including food assessment, communication with potential future residents, and substance abuse programs

The presentation of the differences between general and tribal goals in tribal and non-tribal plans, in tables 4 and 5, demonstrate some obvious differences between the worldviews. General goals were structural and focused on a specific process or outcome while tribal goals "remain in effect indefinitely," were "collectively beneficial" (CSKT, 2013), "preserve and enhance our community for us and future generations" (Cox, 2016), and were focused on people, values, and culture among other things.

When interviewees were asked how tribal goals and values were identified, responses included:

- "Conventional approaches were used to identify community goals and desires, discussions." Conventional approaches included community meetings, with low attendance. "A community member reported that he was listening to the waves pounding against the house, and his son asked, 'Daddy, are we going to die?'"
- "Right off the bat I didn't focus on values. Initially I was driven by the process. The result or outcome is a draft of a completed plan. It didn't incorporate tribal knowledge or values. This was the biggest lesson."
- "We brought a decision guide to the community and said, 'now you decide what to include. Rank and order the options.' After one night of no decision, the next day, we said, 'You have to decide. Our money is running out. Our involvement is ending. We're not leaving until a decision is made.' They needed someone to tell them that."
- "We had discussions with each other and the cultural department and adjusted our methods as guided by tribal members. Interviewees said 'I don't like to be interviewed.' So, we agreed, we're talking."

Some of these responses blatantly reveal Indigenous worldviews were not considered, "Right off the bat, I didn't focus on values… [The draft plan] didn't incorporate tribal knowledge or values" (Anonymous, 2017). Another interviewee referred to the economic aspect of planning and used it as leverage to force the people to make a decision, "You have to decide. Our money is running out. Our involvement is ending. We're not leaving until a

decision is made" (Anonymous, 2017). That interviewee followed up that statement with a common, colonial, and oppressive belief, often experienced by Indigenous people, "They needed someone to tell them that" (Anonymous, 2017). These examples contradict Indigenous planning which promotes "Indigenous peoples making decisions about their lives, their environments, and their futures" (Matunga, 2013) and, "the essence of Indigenous scholarship is Native self…By giving voice, people are poised to take their rightful roles as enablers of their own community" (Jojola, 2013).

This finding reinforces how and why including tribal goals in plans is needed, supports Indigenous peoples' capacity to respond to climate change, and promotes Indigenous autonomy. By having discussions about tribal goals, planners create an opportunity to share knowledge, learn about Indigenous people and what is important to them, while collaboratively and respectfully developing culturally relevant goals. The next section reveals how prioritization of goals is equally important as to what the goals are.

PLAN PRIORITIES

Again, although every plan studied sought to protect life and property, the different plan priorities reveal distinct differences between tribal and non-tribal worldviews. Table 7 presents each of the plans' priorities:

Table 7: Examples of plan priorities

Tribal Plans	Non-Tribal Plans	
Plan A: Salish and Kootenai	**Plan C: Point Hope**	**Plan E: Norton Bay**
Preserve cultural resources for future generations. Preserve the cultural foundation of the Tribes as it is the spirit and foundation that provides a "sense of orientation to the people."	Permafrost food cellars, safe drinking water, flooding.	"Address primary climate risks and opportunities related climate and related non-climate stressors to forest, water, and economic resources."
Plan B: Yakama Nation	**Plan D: Shaktoolik**	**Plan F: Shishmaref**
Enhance existing programs and develop new ones. Protect community resources: Cultural heritage, human health and public safety Protect natural resources which provide essential foods and medicine. Protect environmental resources.	"Defend in Place." Protect lives; low cost; partner with agencies and organizations; funding; monitor impacts from future storms, including flood levels and erosion.	Health and safety procedures, training, and equipment for safe evacuation or shelter Relocation decision Emergency drills and exercises Water and Sewer upgrades Evacuation Center Coastal flood analysis Seawall Improved housing Leadership development Improve government to government relations Blend traditional knowledge and western science so organizations can develop a better understanding of climate change and community impacts.

Like Tables 5 and 6 in the goals section, Table 7 shows there is a significant difference in each of the plan's priorities that can be attributed to the differences in worldviews. The two tribal plans established priorities that protect people and natural resources for current and future cultural reasons whereas the non-tribal plans established priorities associated with infrastructure.

DISCUSSION

As these findings showed, the four non-tribal plans for Point Hope, Shaktoolik, Norton Bay, and Shishmaref, either omit or inconsistently reflect and express Indigenous worldviews in the scope of the plans. This means the specific plan purposes, goals, and priorities are not based on the preferences and needs of the individuals who will be impacted the most by the implementation of those plans. This has three major implications.

First, whom the plans were prepared for important. In this study, two plans were clearly prepared for the Tribes; two were prepared of the general community; one was prepared for the watershed council; and one was prepared for the State of Alaska.

Whom the plans were prepared for indicates the problem was identified and addressed because of concerns, standards or values from outside of the Indigenous community and not because of the unique needs and concerns as expressed by the Indigenous people. That type of problem identification, homogenizes communities, or expects them to meet non-Indigenous standards which is a form community assimilation and acculturation, it's oppressive.

Second, the purpose of the plans revealed planning purposes other than protecting life and property, and increasing safety of the specific communities facing climate changes. The other purposes included serving as a planning model or creating a planning blueprint for other communities. That scope of work was beyond meeting the needs of the Tribe the planner was working with.

That is a form of exploitation of the Tribe because the planning work was using the Tribe to accomplish a purpose outside of that Tribes' needs. It also perpetuates a stereotype that all Tribes are the same and solutions to Indigenous problems are one size fits all.

A third implication of this finding is related to plan goals. Although most of each plan's goals sought to increase community capacity, only four plans stated goals in language that reflected tribal worldviews. Examples included goals to "initiate collectively beneficial climate change impact mitigation and solutions" (CSKT, 2013), "involve youth in cultural education and climate change adaptation" (Yakama Nation, 2016), "work with other Indigenous nations to protect treaty rights" (Yakama Nation, 2016), "develop and implement strategies to unite tribes and communities" (Yakama Nation, 2016), "Shishmaref is a safe and resilient community. We want to be a viable community that respects and honors our Inupiat culture and traditional values…" (Cox, 2016), and "help citizens make informed planning decisions that encourage safe, healthy, and sustainable future for the people" (ANTHC, 2010).

Those goals are reflective of Indigenous worldviews because they "identify relationships among different dimension, identify the tensions, and seek solutions to relieve those tensions," (Dockry, 2015) as is recommended in the literature for planning with Indigenous worldviews.

For example, the goal "initiate collectively beneficial climate change impact mitigation and solutions," is concerned about solutions for the collective benefits

caused by climate, or environmental, tensions. Similarly, "involve youth in cultural education and climate change adaptation," is a goal that spans across generations by including youth, addresses educational tensions and institutions by including culture, environmental dimension because of climate, and adaptation which is a form of "human perception, activity, and behavior," (Dockry, 2015) an SDI dimension.

The other two plans acknowledged tribal worldviews were important, but lacked language that indicated the goals were established by the tribes or were based on their worldviews.

For example, a goal to, "use traditional ecological knowledge (TEK) with Tribal sovereign status, the federal trust relationship, and state and federal environmental justice policies to protect native villages in Alaska's water related interests and those of the general public in a manner that exceeds the most potent environmental laws" (Murray et al, 2013), lacks a multiple dimensional approach which is important in Indigenous Planning (Dockry, 2015). In addition, it is unclear whether this goal was established by the tribes because the language is reflective of colonial oppression and exploitation.

The language, "*use TEK*" [traditional ecological knowledge, emphasis added] with political powers "to protect native villages in *Alaska's water* [emphasis added] related interests and *those of the general public*," [emphasis added] (Murray et al, 2013), exploits Indigenous knowledge and political power to protect the general public. Although protecting the general public might be

an Indigenous value, it did not seem to be directly related to the political tension often associated with Indigenous sovereignty.

Therefore, as it is written, that goal oppresses the Indigenous communities' sovereignty because it indicated and perpetuated the "native villages" (Murray et al, 2013) position of submission to the State of Alaska, or "Alaska's water" (Murray et al, 2013). The goal also minimized and undermined the Indigenous relationship with water by indicating water is something to be possessed, "Alaska's water" (Murray et al, 2013), rather than being cared for and protected as believed through an Indigenous worldview.

The next section reports whether Indigenous worldviews and values were found in the different planning processes presented in the plans studied.

PLANNING PROCESSES

Planning processes are a vast array of complex and sometimes controversial planning methods and practices used to prepare and implement plans (Cullingworth, 2014). In this study, a western planning process, as outlined by Cullingworth and Caves, in *Planning in the USA,* was identifiable in each of the plans and was implemented through in person and teleconference meetings. A western planning process typically includes the following components:

- Identification of issues
- Statement of goals, objectives, and priorities
- Data collection and interpretation
- Plan preparation

- Plan implementation and evaluation

Planning processes are influenced and designed by values, goals, and worldviews (Hibbard, 2013), (Jojola, 2013), (Dockry, 2015), and determine how problems are defined, planning participants are identified and engaged, and solutions or actions are developed (Cullingworth, 2014).

This finding presents how Indigenous values, goals, and worldviews were incorporated into the planning processes by identifying evidence of Ted Jojola's Indigenous planning principles. Because Indigenous planning is based on planning methods that have existed since time immemorial (Matunga, 2013), and each of the plans studied were developed for Indigenous communities with some form of engagement with Indigenous people, it was reasonable to expect evidence of Indigenous planning principles in each of the plans.

And, although Indigenous people, or in this case, their worldviews, are frequently excluded from decision making processes (Castro Diaz, 2008), I believed, in the plans I studied, as Iris Marion Young expressed, that type of injustice was not intentional. She said in *Five Faces of Oppression*, "In its new usage oppression designates the disadvantage and injustice some people suffer not because a tyrannical power coerces them, but because of the everyday practices of a well-intentioned liberal society" (Young, 2011).

Ted Jojola's three Indigenous planning principles focus on Indigenous people and their worldviews versus the economy, which is a primary concern in western planning processes. Cullingworth and Caves state, failing to "gain consensus"

on the nature of the issue, planning activities, and prioritization of goals and objectives "could result in a great deal of wasted time, energy, and resources" (Cullingworth, 2014). Cullingworth and Caves further instructed planners to "look at an agency's mandate" (Cullingworth, 2014). In this study, I considered the Tribes as the agency and looked for their mandates, or Jojola's planning principles, within each plan's planning processes.

Jojola's three principles are, (1), the planning "process must be informed by the Indigenous worldview which is the meaning and significance of what is done and why it is done" (Jojola, 2013).

(2), "Indigenous voices need no translation" (Jojola, 2013). This means planners must seek to understand what Indigenous people are saying by engaging in the "transfer of knowledge, sharing information, and building collaborative ways of engagement" (Jojola, 2013). Following is an example of a transfer of knowledge and building of a collaborative way of engaging.

An interviewee I spoke with reported that while doing a community interview, their interviewee, an Indigenous elder, stated they were uncomfortable being interviewed. So they discussed what that meant and what could be done to help the community member share their valuable information. The interviewee learned the elder was uncomfortable with the western approach of transferring knowledge through an interview, but was comfortable "just talking". So, the

interviewee and the community member had a talk, instead of an interview (Anonymous, 2017).

(3), "The essence of Indigenous scholarship is Native self" (Jojola, 2013). This is based on the awareness that "individuals already carry the weight of their education through lived experience," (Jojola, 2013). Which means, Indigenous people are autonomous. Others do no need to tell Indigenous people what they need, what they should do, or why.

The following table shows whether these Indigenous planning principles were incorporated into the planning processes of the plans studied:

Table 8: Evidence of Jojola's Indigenous planning principles in the planning processes of plans studied

	Tribal Plans		Non-Tribal Plans			
	Plan A: Salish and Kootenai	Plan B: Yakama Nation	Plan C: Point Hope	Plan D: Shaktoolik	Plan E: Norton Bay	Plan F: Shishmaref
Process informed by an Indigenous worldview	Yes	Yes	Yes	**No**	**No**	Yes
Transfer of knowledge	Yes	Yes	Yes	**No**	**No**	Yes
Collaboration	Yes	Yes	Yes	Yes	Yes	Yes
Indigenous autonomy	Yes	Yes	**No**	**No**	**No**	Yes

As seen in Table 7, the Salish and Kootenai, Yakama Nation, and Shishmaref plans were the only planning processes that had evidence of all of Jojola's Indigenous planning principles. The following presents how I made that determination.

Informed by an Indigenous Worldview - I evaluated if and how an Indigenous worldview was used to design the process. This was easily identified in the plans from Salish Kootenai and Yakama Nation. Those planning processes clearly stated what the Tribes wanted done, and why, in Tribal Proclamations. The Yakama Nation proclamation stated, "This plan is more than just words and pictures. It describes much of our understanding of potential climate change impacts and establishes preliminary recommendations for our tribal programs to consider and evaluate and for our tribal leadership to act upon appropriately" (Yakama Nation, 2016). Salish Kootenai proclamation stated, "We pursue every opportunity to take back control of our lands, our government, and our resources. This report is another example of our pursuit for a better homeland for our future generations" (CSKT, 2013).

More evidence the Salish Kootenai and Yakama Nation planning processes were informed by the Tribes included how tribal resources and programs provided the tribal history and background, culture and values, and observed climate changes and impacts. In contrast to the other plans, in which the planning processes were informed by "background information" (Cox, 2016), "previous planning projects" (Johnson, 2014), or research on "climate change background and impacts in Alaska" and "indigenous culture," (Murray et al, 2013) rather than depending on information generated by the Tribes or location specific issues, impacts, and culture.

The Shishmaref planning process was informed by a combination of a Government mandate with an emphasis on securing funding mixed with an Indigenous worldview based Vision Statement. The introduction of the Shishmaref plan, stated:

> Government agencies consider Shishmaref to be one of four communities in immediate need of relocation (GAO 2009), and the State of Alaska Immediate Action Workgroup included it in the six top priority communities referenced in this document as 'at-risk communities.' A clear plan of action with widespread community support will increase Shishmaref's chances of receiving future funding to relocate the community. The community voted to relocate in May 1973 and again in July 2002…The community is currently undertaking a study to identify a suitable site for relocation. Pending the results of the study, the community will decide if they will continue to pursue relocation or adopt a 'defend in place' approach" (Cox, 2016).

The Vision Statement "to provide direction to the Strategic Management Process" (Cox, 2016), was, "Shishmaref is a safe and resilient community. We want to be a viable community that respects and honors our Inupiat culture and traditional values. We will work together and with partners to develop projects and policies to protect our residents, infrastructure, natural environment, and subsistence resources. We will preserve and enhance our community for us and future generations" (Cox, 2016).

Similarly to the Yakama Nation and Salish Kootenai plans, the Shaktoolik plan, "established the Shaktoolik Planning Committee through a joint resolution approved by the City of Shaktoolik, the Native Village of Shaktoolik and the

Shaktoolik Native Corporation" and deemed, "Participation by representatives of all three organizations ensured that the community spoke with one voice" (Johnson, 2014). However, the plan did not include a copy of the resolution or express whether that "one voice" reflected an Indigenous worldview. And, although a local coordinator was hired, "to provide a single point of contact with the community" (Johnson, 2014) it is unclear what that person did, in or for the community.

The Shaktoolik, Point Hope and Norton Bay planning processes mirrored the western process described by Cullingworth and Caves. There was no evidence those planning processes were informed by an Indigenous worldview. Instead, those plans mention meetings were arranged and documents were prepared by the planners, initiatives were develop by committee (Johnson, 2014), the process "assessed and reviewed information about Norton Bay watershed, fisheries and wildlife, Alaska Native cultures…" (Murray et al, 2013), and for Point Hope, the planning process is not discussed. For these reasons, there was not enough evidence in these three plans to declare the planning processes were informed by an Indigenous worldview.

For Jojola's second principle, "transfer of knowledge, sharing information, and building collaborative ways of engagement" (Jojola, 2013), I assessed transfer of knowledge and sharing of information separately because those were more difficult to identify in the plans. The purpose of this principle is for

planners to understand what Indigenous people are saying they want and need so planning processes are meaningful and relevant to them and are designed to foster their participation.

Transfer of Knowledge in the planning processes - the two tribal plans, and two non-tribal plans: Point Hope and Shishmaref, engaged in a transfer of knowledge by defining and considering Traditional Ecological Knowledge (TEK). This was done through community interviews, surveys, and different types of feedback sessions (Cox, 2016), (CSKT, 2013), (ANTHC, 2010), (Yakama Nation, 2016).

The tribal plans shared information by providing training and workshops. The Salish Kootenai plan stated, "The climate change strategic planning process included a series of meetings, trainings, and collaborative planning sessions… Local impact assessments were completed by Tribal departments and local organizations… Surveys… were administered… Inter- and intra-departmental collaboration and consideration of Traditional Ecological Knowledge was highly encouraged during the research process. This information establishes the preliminary foundation of the plan – guiding the direction and scope of its mitigation and adaptation strategies" (CSKT, 2013).

The Yakama Nation plan stated, "Perhaps most importantly, our approach emphasizes the engagement of tribal members and our tribal natural and community resources programs…The technical workshops provided the basis for

understanding climate science, climate change projections, and some of the anticipated impacts on key resources and habitats in our region. The planning workshops enabled participants to brainstorm and discuss potential adaptation measures" (Yakama Nation, 2016).

The Shishmaref plan utilized meetings, interviews, and surveys to develop the Vision Statement and Guiding Principles. Although the Point Hope plan does not state its planning processes, it documented interview findings and used Indigenous quotes throughout the report which indicates a transfer of knowledge between the Indigenous people and the planner.

The last two planning processes, for Shaktoolik and Norton Bay, reported a one-way information exchange in which the planner led. For Norton Bay, "The planning group was led through the 2013 curriculum conducted by the Model Forest Policy Program's Climate Solutions University (CSU) adaptation planning process" (Murray et al, 2013). That was a 10-month learning and coaching process with four steps (1) form a team, (2) assess risks and opportunities, (3) analyze findings and develop strategies, and (4) build public support to implement the plan.

For the Shaktoolik plan, the Alaska Sea Grant team developed the process and nine initiatives, "in close cooperation with the Shaktoolik Planning Committee and the local Sea Grant Coordinator" (Johnson, 2014). Those two

plans did not present enough evidence to show there was a transfer of knowledge in the planning processes.

Regarding collaborative ways of engagement, all the planning processes recruited participants from the tribal governments, local communities, and various County, State, and Federal agencies. However, the interview data revealed that some of these meetings were routine or mandatory, and not necessarily a method for truly engaging with the Indigenous people. When asked about the planning processes, anonymous interviewee responses included:

- "Three people [two out of town and non-tribal people, and one local tribal person] participated in [climate and planning] training."
- "We articulated a philosophy and said 'this is our approach, do you agree?'"
- "We held committee meetings with few in attendance. Of the twelve people there [at the meetings], six were on the planning committee. Meetings were inclusive with people free to express themselves."

Interview responses also acknowledged the limitations of these meetings when asked, "what they would do differently during a plan update?" Their responses included:

- "I would try harder to bring more people in. I assumed more people cared but didn't feel it was their place to participate."

- "We are doing in person gatherings, now, face to face with individual localized action plans for each community."
- "If anything needs to be done, it needs to come from the community. They need to put their blood, sweat, and tears into it. If they don't work, it becomes a dependency."

Following are interview responses that were more aligned with Jojola's Indigenous planning principles:

- "We are teaching the tribal members about climate change. From our homes, it is difficult to see the impacts of climate change. We tell the tribal members…look up. Where you see dead trees, that is climate change."
- "We are asking why are the impacts important, not just what are the impacts"
- "The team lead was identified and that person built a local stakeholder group and wrote the plan with coaching. It is a living document that is their plan, not ours. It is not as detailed or specific as people want but it is community driven."

Indigenous Autonomy - Only three plans, from Salish Kootenai, Yakama Nation and Shishmaref, recognized or developed processes that allowed for the Indigenous people to develop their own rules for planning. The Salish Kootenai and Yakama Nation did this by having the Tribal Council or Tribal Programs

initiate and control the planning processes. The State of Alaska Department of Commerce acknowledged Indigenous sovereignty in the Shishmaref plan by having the community develop the previously mentioned "guiding principles" (Cox, 2016). Those principles included these guidelines, "make decisions openly as a community. Everyone's participation is valuable as each person brings a different insight, perspective, and knowledge," "protect the natural environment," and "respect our traditional culture" (Cox, 2016).

The three other plans for Point Hope, Shaktoolik, and Norton Bay, did not mention or acknowledge Indigenous autonomy in the planning processes. Instead they used their own planning processes and relied on their own research to design the process and the plans, as previously discussed in the transfer of knowledge section.

In addition to Jojola's planning principles, there were two other important planning process steps mentioned in the plans. They were securing funding to plan and evaluating the Tribes' capacity to plan.

About the Tribes' capacity to plan, some Interviewees stated they determined if the Tribes and planning partners needed leadership training or climate change education, then provided it as part of the planning process (Anonymous, 2017). The Norton Bay plan established, "Goal 5: Increase education and outreach opportunities for native villagers to learn about climate

change impacts with a focus on local issues and adaptation strategies" (Murray et al, 2013).

About securing funding, which was necessary to make the planning projects possible, interviewees reported:

- "The difference between $200,000 and $700-800,000 determined how we went forward."
- "The Tribe received technical support and funding then hired me."
- Another interviewee reported a request for proposals was announced so the interviewee found a community to collaborate with and applied for the funding.

As this finding shows, there are several different approaches to planning in Indigenous communities. Some approaches better reflect and include Indigenous values, goals, and worldviews than others. Planners can incorporate Indigenous planning principles by designing planning processes in which (1) Indigenous people identify and define the issues based on their own worldviews, values, concerns and knowledge; (2) maintaining an environment in which learning and sharing is two-way, and, collaboration means creating meaningful ways of engagement opposed to typical forms such as a town hall meeting; and (3) acknowledging Indigenous people are their own experts.

STRATEGIES AND ACTIONS

A strategy is the overarching plan of actions that are developed based on a plan's purpose and goals. Actions are specific steps or activities planned to achieve that purpose or goals.

There are significant differences between Indigenous and western methods for developing actions. In western planning, effective plans include actions that are clear and can be implemented, related to a strategy or purpose, and identify a responsible party with capacity and authority to implement the actions (Cullingworth, 2014). Indigenous planning includes those criteria along with additional ones. Hirini Matunga writes, "clarity of logic or rationale between decisions and specific actions and activities is critical" (Matunga, 2013). And, in his reference to "the ultimate test", he states actions or activities should "lead to an enhanced state of well-being of/for the Indigenous community concerned" (Matunga, 2013).

To help achieve that enhanced state of well-being, Matunga identified "five aims or preferred outcomes of Indigenous planning" (Matunga, 2013). According to him, planning in/for Indigenous communities should lead to:

(1) "improved environmental quality and quantity", actions should be constructive not destructive;

(2) "political autonomy and advocacy" with more equitable participation of Indigenous people in planning;

(3) "social cohesion and well-being" with a commitment to group and consensus based decisions;

(4) "economic growth and distribution" natural resources should be returned to the Indigenous people along with an asset base to regrow the economy; and

(5) "cultural protection and enhancement," which includes worldviews, values, beliefs, and all that is seen and unseen (Matunga, 2013).

With an awareness of the differences between these methods, I analyzed each plans' strategies and actions. This finding presents: an overview of each plan's strategy; reports whether the actions in the plans studied aimed to achieve each plan's purpose and goals; if those appeared to support the Tribes' cultural well-being, and had a "clarity of logic and rationale" (Matunga, 2013) related to the strategies; and if the actions appeared to lead to Matunga's "five aims or preferred outcomes of/for Indigenous planning" (Matunga, 2013).

The plans were developed by well-intentioned planners and involved Indigenous communities and Indigenous peoples. Because of that, I hoped the actions and strategies would reflect Indigenous planning methods and criteria. In some way, each did.

This finding reveals some of the gaps between western and Indigenous planning as seen in the actions, and the significance of those gaps.

The first part of this finding is an overview of the strategies presented in each of the plans:

Table 9: Strategies in the plans studied

Tribal Plans	Non-Tribal Plans	
Plan A: Salish and Kootenai	**Plan C: Point Hope**	**Plan E: Norton Bay**
Developed preparedness goals and preparedness actions with priority ratings of high, medium, and low, with timeframes for the following nine sectors: • Forestry • Land • Fish • Wildlife • Water • Air Quality • Infrastructure • People • Cultural	Identified three threats to public health: food storage, water quality, and flooding. Developed 14 recommendations and encouraged the community to facilitate the adaptation process to help the community develop sustainable, social and economic health. The recommendations "raise awareness about current, emerging, and future climate change affects in the community to help citizens make informed planning decision, within appropriate development strategies" (ANTHC, 2010).	Aimed to address the urgent needs for the benefit of the four native villages living in the Norton Bay. Addressed primary climate risks and opportunities related to climate stressors and other related non-climate stressors.
Plan B: Yakama Nation	**Plan D: Shaktoolik**	**Plan F: Shishmaref**
Identified existing programs that contribute to resilience, anticipated climate impacts, and vulnerability. Identified actions and information needs to develop research and monitoring, management, and implementation actions.	Developed nine initiatives to protect life, help avoid or minimize structural damage, and priorities based on costs and ability to use local resources and labor.	Aimed to establish priorities, simplify decision making, maintain focus, lend credibility to actions, enhance communication, promote efficiency, and create accountability. Each climate impact had a specific set of strategies. For example: Adaptable Built Environment strategies included: reliable and affordable infrastructure; strong, safe, and healthy environment; responsible growth; strategic, collaborative partnerships.

All the strategies in Table 9 developed, or prioritized climate related information needs, goals, and actions to protect life, infrastructure, or increase resiliency in each community. All of those had the potential to enhance *any* community's physical well-being. Because I am concerned about the tribal communities' physical and cultural well-being, I analyzed whether each plan's

actions were clearly related to the strategy and had the potential to enhance the Indigenous communities' cultural well-being. I consider enhancement of cultural well-being to mean Indigenous worldviews and values were acknowledged, utilized, and protected. The following table presents the results:

Table 10: Matunga's test for clarity of logic and enhancement of Tribes' well-being

	Tribal Plans		Non-Tribal Plans			
	Plan A: Salish and Kootenai	Plan B: Yakama Nation	Plan C: Point Hope	Plan D: Shaktoolik	Plan E: Norton Bay	Plan F: Shishmaref
Clear actions, related to the strategy	Yes	Yes	**No**	Yes	**No**	Yes
Actions enhanced or supported Tribes' cultural well-being	Yes	Yes	**No**	**No**	**No**	Yes

Table 10 shows only the Salish and Kootenai, Yakama Nation, and Shishmaref plans had actions that demonstrated "clarity of logic or rationale" between the strategies and actions, AND, appeared to support the Tribes' "enhanced state of well-being" (Matunga, 2013). The Shishmaref plan did not have a statement that expressed the intention to enhance the Indigenous peoples' well-being like the Salish and Kootenai and Yakama Nation plans, but overall, the 98 different actions sought to contribute to it and included specific actions focused on well-being. Some of the 98 actions planned to improve health, education, strengthen culture, and leadership. Following are examples of the Salish and Kootenai, Yakama Nation, and Shismaref plans' statements of commitment to enhance the Tribes' well-being:

Salish and Kootenai: "5. Goals and Actions – This section provides the recommended preparedness goals and actions for addressing climate change impacts. Preparedness goals are priorities that the Tribes' want to accomplish in

the planning sectors. Preparedness actions are activities that the Tribes could take to achieve the climate change preparedness goals…Given the importance and nature of these efforts, considerations for Traditional Ecological Knowledge are provided" (CSKT, 2013)

Yakama Nation: "The protection, preservation, and perpetuation of cultural resources cannot be complete without the utilization of Ichi Skin Sinwit [the words we speak]. Therefore, to meet the goals and objectives of the Yakama Nation Cultural Resource Program, professionally trained archeologists are partnered with fluent, traditionally-raised Yakama tribal members. This ensure that the Yakama Nations' scientific and cultural paradigms are reflected in the management of tribal resources…" (Yakama Nation, 2016).

Shishmaref: "3.5 Strengthened Traditional Culture – Having a strong traditional culture means residents know where they come from, know who they are, and are proud to be Inupiat. Shishmaref's traditional culture is an important part of who they are; it is an essential part of their identity. Their traditional culture is the basis for their shared values, beliefs, attitudes, and way of life… A community with a strong culture is more resilient…A resilient community can preserve and embrace its heritage while evolving to meet current needs" (Cox, 2016).

The Point Hope and Shaktoolik plans had clear actions that supported the strategies, but did not appear to intentionally and purposefully support or enhance the Tribes' cultural well-being. Those plans did not have evidence that those plans' actions utilized Indigenous knowledge, worldviews, beliefs, or values.

The Norton Bay plan had a strategy to "address the urgent needs for the benefit of the four native villages living in the Norton Bay" (Murray et al, 2013), but it was difficult to clearly relate actions to the strategy or identify evidence that Indigenous knowledge, worldviews, beliefs, or values were utilized or considered in the actions.

Next, I evaluated whether each plans' actions had the potential to lead to Matunga's "five aims or preferred outcomes of/for Indigenous planning" (Matunga, 2013). The following table presents whether the Matunga's five aims of Indigenous planning were identifiable in each of the plans' actions.

Table 11: Evidence of Matunga's five aims or preferred outcomes of Indigenous planning in plans studied

	Tribal Plans		Non-Tribal Plans			
	Plan A: Salish and Kootenai	Plan B: Yakama Nation	Plan C: Point Hope	Plan D: Shaktoolik	Plan E: Norton Bay	Plan F: Shishmaref
Improved environment	Yes	Yes	Yes	**No**	Yes	Yes
Political autonomy and advocacy	Yes	Yes	Yes	Yes	Yes	Yes
Social cohesion and well-being	Yes	Yes	**No**	Yes	**No**	Yes
Economic growth and distribution	Yes	Yes	**No**	**No**	Yes	Yes
Cultural protection and enhancement	Yes	Yes	**No**	**No**	Yes	Yes

As Table 11 shows, the Salish and Kootenai, Yakama Nation, and Shishmaref plans demonstrated the potential to lead to Matunga's five preferred outcomes of Indigenous planning. The actions in those plans sought to improve the environment, included Indigenous people in the implementation, required collaboration within the community and with outside entities, addressed natural resources and economic growth, and expressed a concern for cultural protection and enhancement.

The other plans did not do this as thoroughly. The Norton Bay plan did not include actions or language that aimed for social cohesion and well-being in a

way that expressed a commitment to group and consensus building. Instead, the actions included objectives that repeatedly stated, "Obtain buy-in from tribal councils and communities" and "Obtain buy-in from federal, state, and local governments" (Murray et al, 2013). Seeking "buy-in" appears to exploit the Tribes and their power, rather to empower them.

The other two plans from Point Hope and Shaktoolik lacked three of the five aims of/for Indigenous planning. The Point Hope plan lacked recommendations that aimed to improve "social cohesion and well-being," "economic growth and distribution," and "cultural protection and enhancement" (Matunga, 2013). That plan did not address the economy or culture. And, recommended actions emphasized developing collaborations and communications outside of the community without planning to do those things within the community.

The Shaktoolik plan also did not address culture or the economy. Additionally, this plan had a clarity of logic and rationale gap between the long-term safety and resiliency of the Indigenous community and the plan's "defend in place" strategy.

It was unclear why the Indigenous people chose to continue living in a place that was predicted to flood and erode. The plan recognized that the "current site is probably untenable in the long-term" but "people like where they live and don't want to move" (Johnson, 2014) so a "defend in place" strategy was developed.

The "defend in place" actions were intended to be life-saving actions, but appeared to fight nature and were destructive to the environment. Three actions were developed to construct a vegetative berm and storm surge mound. In a community experiencing destruction from flooding and erosion, construction in that area did not seem to lead to "improved environmental quality and quantity" (Matunga, 2013). Instead, it seemed to be adding infrastructure that could eventually be destroyed by the climate changes already occurring.

Lastly, each plan attempted to enhance Indigenous peoples' well-being in one way or another, but the strategies and actions were very different. Because of that, this portion of the finding presents randomly selected actions to show those differences and to provide examples of what was analyzed in this study.

As mentioned before, the actions from Salish and Kootenai, Yakama Nation, and Shishmaref had actions that demonstrated "clarity of logic or rationale" between the strategies and actions, and, appeared to lead to the Tribes' "enhanced state of well-being" (Matunga, 2013). Figures 10, 11, and 12 below show what that looked like:

Figure 10: Salish Kootenai action: 5.3 Fish Goals and Actions (CSKT, 2013)

5. 3 Fish Goals and Actions

Responsible: Natural Resources Department - Fish

Purpose: Ensure the health of fish through improved planning and use of ecological principles.

Priority: The priority of fish and fish habitat is high.

Fish sector's preparedness goal includes:

- Improve integration of ecological principles into tribal agricultural leases that negatively affect native trout.

Fish sector's preparedness action and its timeframe include:

- Develop comprehensive fish habitat restoration plans (0-10 years).

Required and Existing Authority/Capacity

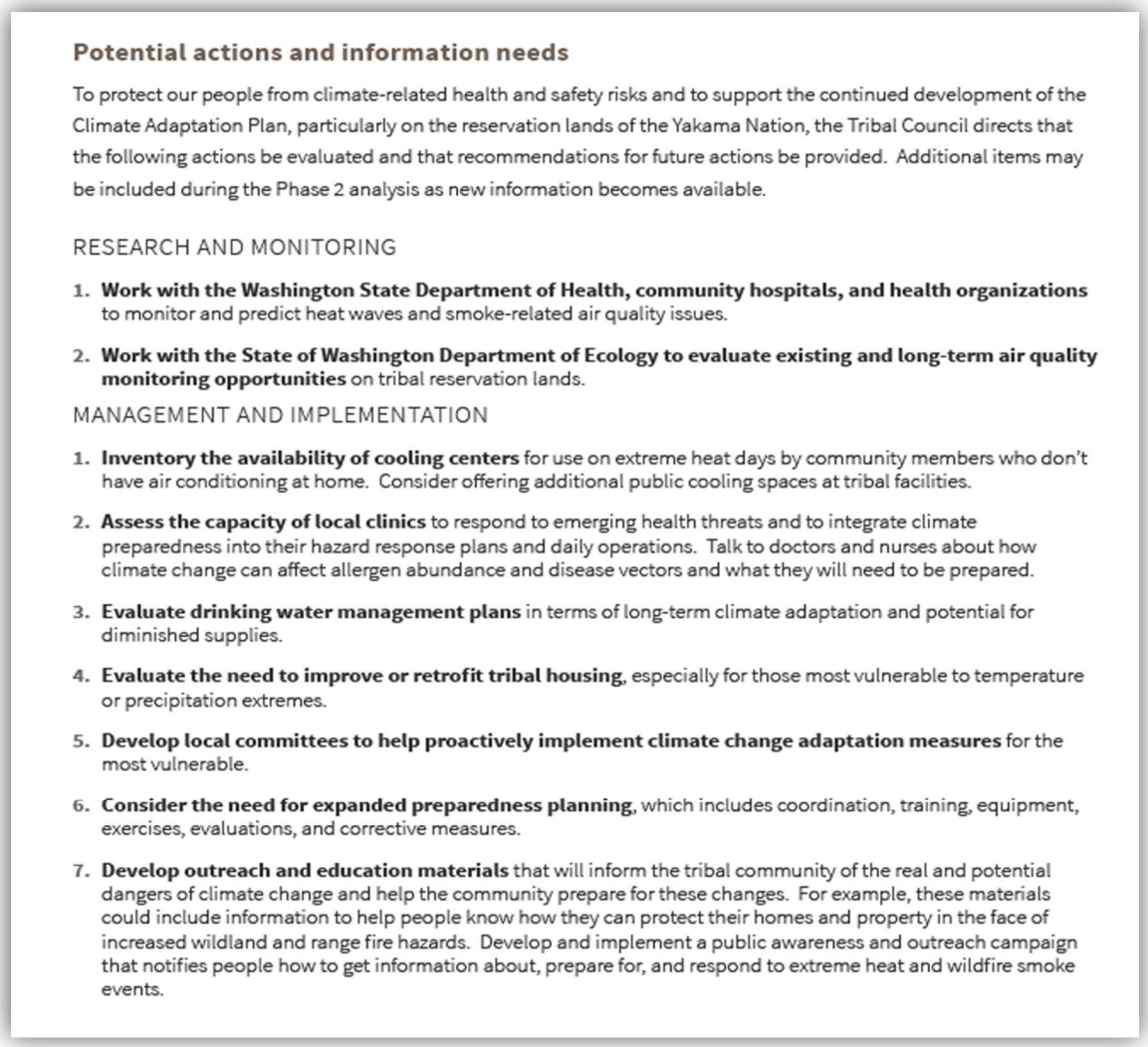
Tribal Council has the required and existing capacity to implement the preparedness actions.

Partners and Potential Funding Sources

Partners capable of assisting with the preparedness goals and actions include:

- Montana Fish Wildlife and Parks
- US Fish and Wildlife Service

Figure 11: Yakama Nation action: Community Resources, Health and Safety – Air Quality (Yakama Nation, 2016)



Potential actions and information needs

To protect our people from climate-related health and safety risks and to support the continued development of the Climate Adaptation Plan, particularly on the reservation lands of the Yakama Nation, the Tribal Council directs that the following actions be evaluated and that recommendations for future actions be provided. Additional items may be included during the Phase 2 analysis as new information becomes available.

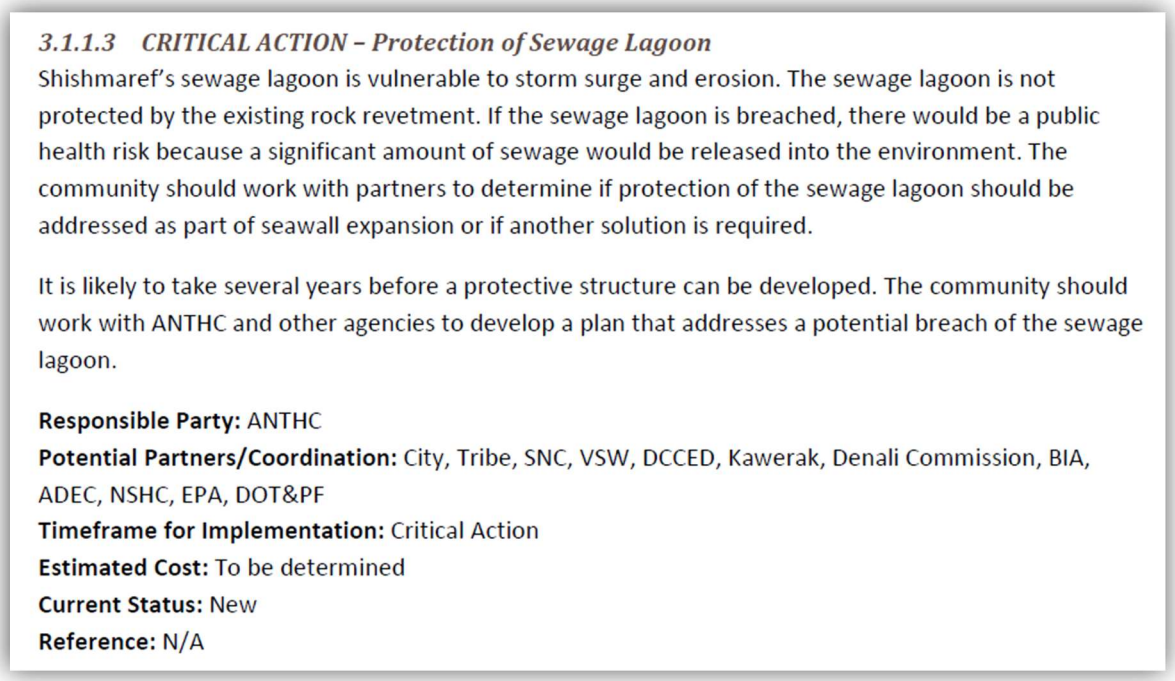
RESEARCH AND MONITORING

1. **Work with the Washington State Department of Health, community hospitals, and health organizations** to monitor and predict heat waves and smoke-related air quality issues.
2. **Work with the State of Washington Department of Ecology to evaluate existing and long-term air quality monitoring opportunities** on tribal reservation lands.

MANAGEMENT AND IMPLEMENTATION

1. **Inventory the availability of cooling centers** for use on extreme heat days by community members who don't have air conditioning at home. Consider offering additional public cooling spaces at tribal facilities.
2. **Assess the capacity of local clinics** to respond to emerging health threats and to integrate climate preparedness into their hazard response plans and daily operations. Talk to doctors and nurses about how climate change can affect allergen abundance and disease vectors and what they will need to be prepared.
3. **Evaluate drinking water management plans** in terms of long-term climate adaptation and potential for diminished supplies.
4. **Evaluate the need to improve or retrofit tribal housing**, especially for those most vulnerable to temperature or precipitation extremes.
5. **Develop local committees to help proactively implement climate change adaptation measures** for the most vulnerable.
6. **Consider the need for expanded preparedness planning**, which includes coordination, training, equipment, exercises, evaluations, and corrective measures.
7. **Develop outreach and education materials** that will inform the tribal community of the real and potential dangers of climate change and help the community prepare for these changes. For example, these materials could include information to help people know how they can protect their homes and property in the face of increased wildland and range fire hazards. Develop and implement a public awareness and outreach campaign that notifies people how to get information about, prepare for, and respond to extreme heat and wildfire smoke events.

Figure 12: Shishmaref Critical Action - Protection of Sewage Lagoon (Cox, 2016)



3.1.1.3 CRITICAL ACTION – Protection of Sewage Lagoon

Shishmaref's sewage lagoon is vulnerable to storm surge and erosion. The sewage lagoon is not protected by the existing rock revetment. If the sewage lagoon is breached, there would be a public health risk because a significant amount of sewage would be released into the environment. The community should work with partners to determine if protection of the sewage lagoon should be addressed as part of seawall expansion or if another solution is required.

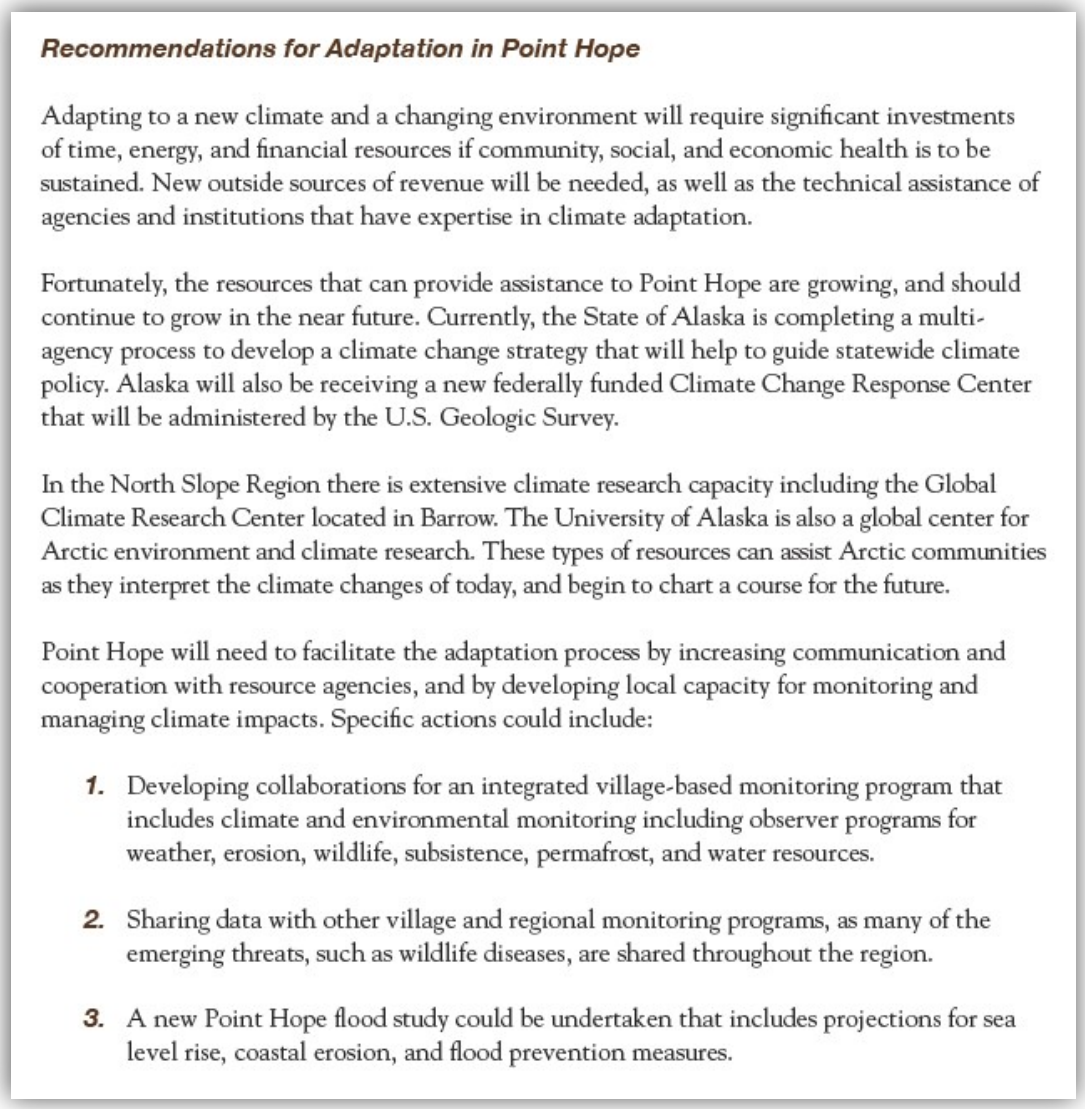
It is likely to take several years before a protective structure can be developed. The community should work with ANTHC and other agencies to develop a plan that addresses a potential breach of the sewage lagoon.

Responsible Party: ANTHC
Potential Partners/Coordination: City, Tribe, SNC, VSW, DCCED, Kawerak, Denali Commission, BIA, ADEC, NSHC, EPA, DOT&PF
Timeframe for Implementation: Critical Action
Estimated Cost: To be determined
Current Status: New
Reference: N/A

Figures 10, 11, and 12 show how the Salish and Kootenai, Yakama Nation, and Shishmaref actions had a clear purpose and the actions sought to enhance to the Tribes' physical and cultural well-being.

This was not the case for the other plans. The Point Hope and Shaktoolik plans expressed clear and rational actions, but did not appear to intentionally and purposefully support the Tribes' cultural well-being. There was no evidence in those plans' actions that Indigenous knowledge, worldviews, beliefs, or values were utilized. Following is an example of an action from each of those plans:

Figure 13: Recommendations for Adaptation in Point Hope (ANTHC, 2010)



Recommendations for Adaptation in Point Hope

Adapting to a new climate and a changing environment will require significant investments of time, energy, and financial resources if community, social, and economic health is to be sustained. New outside sources of revenue will be needed, as well as the technical assistance of agencies and institutions that have expertise in climate adaptation.

Fortunately, the resources that can provide assistance to Point Hope are growing, and should continue to grow in the near future. Currently, the State of Alaska is completing a multi-agency process to develop a climate change strategy that will help to guide statewide climate policy. Alaska will also be receiving a new federally funded Climate Change Response Center that will be administered by the U.S. Geologic Survey.

In the North Slope Region there is extensive climate research capacity including the Global Climate Research Center located in Barrow. The University of Alaska is also a global center for Arctic environment and climate research. These types of resources can assist Arctic communities as they interpret the climate changes of today, and begin to chart a course for the future.

Point Hope will need to facilitate the adaptation process by increasing communication and cooperation with resource agencies, and by developing local capacity for monitoring and managing climate impacts. Specific actions could include:

1. Developing collaborations for an integrated village-based monitoring program that includes climate and environmental monitoring including observer programs for weather, erosion, wildlife, subsistence, permafrost, and water resources.

2. Sharing data with other village and regional monitoring programs, as many of the emerging threats, such as wildlife diseases, are shared throughout the region.

3. A new Point Hope flood study could be undertaken that includes projections for sea level rise, coastal erosion, and flood prevention measures.

The Point Hope "*Strategies for Community Health*" had fourteen recommendations. Public health was the plan's priority. The three threats to public health identified in the plan were food storage, water quality, and flooding. The introduction stated, "Point Hope will need to facilitate the adaptation process…" (ANTHC, 2010), but it did not indicate who or what entity in Point Hope should act. This is problematic because as each action was

reviewed, it was unknown who was responsible for implementation. There were other problems too.

Each action was vague and the connection to the public health issues was not clear. For example, Action 2, "Sharing data with other villages and regional monitoring programs, as many of the emerging threats, such as wildlife diseases, are shared throughout the region" (ANTHC, 2010) was not clearly connected to food storage, water quality, or flooding.

Another problem was each action planned to gather and share data about the threats from climate change but did include actions to protect the community or enhance the Tribes' well-being from those threats. Eight of the fourteen actions started with "developing collaborations, sharing data, surveying changes, working with…, exploring options…, increasing dialogue, advocating for, establishing a…" (ANTHC, 2010).

The Shaktoolik plan had nine initiatives, with a set of associated actions. Figure 14, "Action 4.1.6" (Johnson, 2014) is an example. The actions in the plan were clear, related to the strategies, and identified partners, but the actions did not identify a responsible entity for implementation or a connection between the strategy and the Tribes' well-being.

Figure 14: Shaktoolik action: 4.1.6 Tank Farms (Johnson, 2014)

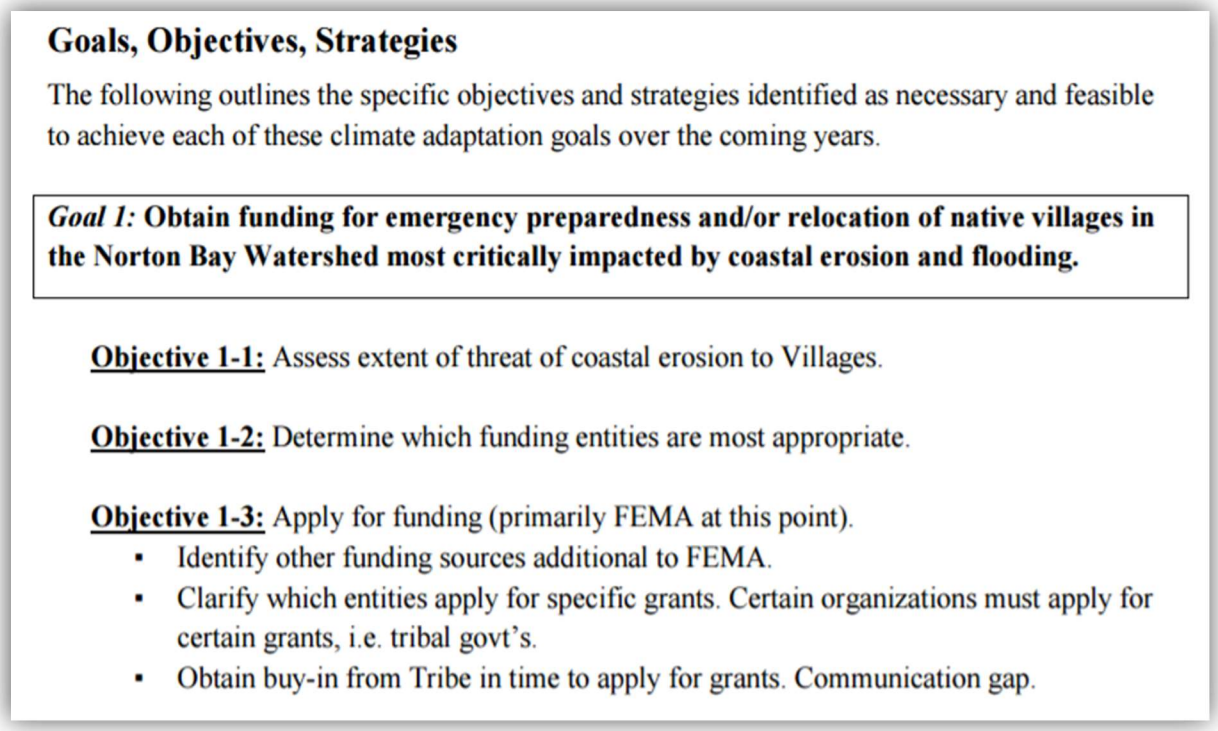
4.1.6 Tank Farms

Initiative: Work with tank farm owners and potential funders to finance relocation of the two major tank farms further from the coastline, possibly on the storm surge evacuation mound.

Table 6: Construct New Tank Farm further from the Coast		
Strategy	**Actions**	**Partners**
1. **Schedule Meeting**	a. Schedule a meeting with tank owners, Alaska Department of Environment Conservation (ADEC) and the Coast Guard (USCG) to explore options for a coordinated approach to relocate the tank farms.[17]	City, Corporation, School District, AVEC, ADEC and USCG.
2. **Explore Options**	a. Complete an evaluation of potential sites for a new tank farm.	
3. **Develop Plan**	a. Develop a written plan for moving the tank farms that specifies commitments of current tank owners. Consider development of a joint resolution of tank owners supporting plan.	

The Norton Bay actions are the last example. The strategy was to address the urgent needs of the villages. The plan had seven goals each with a set of associated objectives.

Figure 15: Norton bay action, Goal 1: Obtain funding (Murray et al, 2013)



Goals, Objectives, Strategies

The following outlines the specific objectives and strategies identified as necessary and feasible to achieve each of these climate adaptation goals over the coming years.

***Goal 1:* Obtain funding for emergency preparedness and/or relocation of native villages in the Norton Bay Watershed most critically impacted by coastal erosion and flooding.**

Objective 1-1: Assess extent of threat of coastal erosion to Villages.

Objective 1-2: Determine which funding entities are most appropriate.

Objective 1-3: Apply for funding (primarily FEMA at this point).

- Identify other funding sources additional to FEMA.
- Clarify which entities apply for specific grants. Certain organizations must apply for certain grants, i.e. tribal govt's.
- Obtain buy-in from Tribe in time to apply for grants. Communication gap.

Figure 15 shows how the Norton Bay objectives, or actions, were clear but broad and not clearly related to the strategy.

Goal 1 stated, "Obtain funding for emergency preparedness and/or relocation of native villages in the Norton Bay…" (Murray et al, 2013). Emergency preparedness and relocation could be two separate and very different goals. Objective 1-1 stated, "Assess extent of threat of coastal erosion to Villages" (Murray et al, 2013). The actions did not mention which of the four

villages in Norton Bay needed assessment, how or by whom. It was also unclear how the action supports the Tribes' cultural well-being.

As this finding shows, strategies and actions are developed in different ways and each way has the potential to enhance or undermine the well-being of Indigenous people. In this study, the major gaps between western and Indigenous planning involved the omission of Indigenous wolrdviews, values, and failure to meet Matunga's outcomes that can "lead to an enhanced state of well-being of/for the Indigenous community concerned" (Matunga, 2013).

Three of the six plans appeared to meet western and Indigenous planning criteria. The Salish and Kootenai, Yakama Nation, and Shishmaref plans had actions that were consistently clear and related to the plan's strategy, appeared to support the Tribes' well-being, and had the potential to lead to Matunga's outcomes. The other plans could have done the same by incorporating Indigenous worldviews and values in the strategies and actions and by asking the Indigenous people what each of Matunga's five outcomes means to them and what types of actions they think will help lead to those outcomes.

Failure to use Indigenous planning methods in Indigenous communities causes planners to risk developing plans that do not meet the needs of the community based on what they say they need, and could lead to implementation barriers.

IMPLEMENTATION BARRIERS

At the time of this study it was confirmed through interviews that four of the six plans were in the process of implementation. Interviewees were asked, "What challenges or barriers have prevented action?" Most barriers were related to inadequate funding, staffing, and capacity.

Through these interviews, I learned both tribal plans were being implemented as planned, and two of the non-tribal plans were being implemented, but not as planned. Instead, in one community, the planners and community are building community capacity by focusing on grant writing to increase climate education. In another community, an interviewee reported actions were being completed because of previous planning work that was done, not because of the plan I studied. Following are their anonymous challenge or barriers responses:

Funding – "Action items are in plans but need to raise funds." "Need to know funding rules before able to apply." "Need legislative funding to get things done."

Staffing – "Requires a full-time staff member," and "having an entity to follow up on the plan." "There is too much turnover." "Not enough time."

Capacity – "[Tribes] need small scale assessments that can be localized. Need large scale materials that are easily accessible to tribes. Currently tribes need to find information and figure out how it applies to them." "There is a knowledge

gap in how identify, interpret, adapt and use scientific models." "Underdeveloped infrastructure." "Little planning experience."

Community – "Inaction." "Conflicts in data validity. The community does not believe what the engineers say." "Lack of community commitment and investment." "Different adaptation goals between consultant and tribe." "We need more community involvement and smaller scale plans that do not rely on government."

Other – "Tons of work needs to be done. Climate change work will never be done." "There is a need for more collaboration to minimize wasted or separate efforts." "Stewardship conflicts between upstream and downstream. A need to encourage others about looking beyond jurisdictional lines." "A lot of stressors: human, water, non-climate, invasive species." "Expectation for the government to build something new rather than remodel or take small steps in the direction."

DISCUSSION

Planning processes are influenced and designed by values, goals, and worldviews (Hibbard, 2013), (Jojola, 2013), (Dockry, 2015), and determine how problems are defined, planning participants are identified and engaged, and solutions or actions are developed (Cullingworth, 2014).

From the very beginning of this study, and continuously thereafter, three of the six plans studied, from Point Hope, Norton Bay, and Shaktoolik did not align with or incorporate each community's unique tribal worldviews, values and

goals. Those plans provided little or no evidence that tribal worldviews or values were used to design or guide the planning processes or activities. The absence of tribal values and goals in the planning purposes and processes led to the development of unrealistic strategies and actions that did not reflect the cultural needs and desires of the community, and were not implemented.

Based on interviews, two of the three plans that incorporated Indigenous worldviews and values were being fully implemented. Representatives of those plans reported implementation barriers were related to technology rather than barriers associated with the community such as "inaction" and "lack of commitment," that the others reported.

These findings support my hypothesis, plans that incorporate tribal values and worldviews lead to plans that increase the Tribes' capacity to respond to climate changes.

CONCLUSION

This research validates the literature by (1) confirming western planning processes are oppressing Indigenous worldviews and values in climate adaptation plans in Indigenous communities and are contributing to implementation barriers; (2) fills a perspective gap within the planning field by providing an Indigenous analysis of existing plans; and (3) reports gaps between western and Indigenous planning processes.

Indigenous people are experiencing harm from climate change at higher rates than other populations (Norton-Smith, et al., 2016), but they are routinely being excluded from decision making processes (Castro Diaz, 2008) which is perpetuating colonial oppression (Whyte K. P., 2016).

Inclusion of Indigenous worldviews is not a best practice, or an act of politeness, it is a legal duty and responsibility of all planners. Tribal Sovereignty "ensures that any decisions about the tribes with regard to their property and citizens are made with their participation and consent" (DOI, 2017). As this study shows, each plan impacts an Indigenous community, but not every plan designed planning processes, activities, or strategies and actions that included, reflected, or expressed Indigenous worldviews and values.

Failing to plan to specifically meet the needs of the Indigenous people perpetuates colonialism and oppression, and is poor planning. Tribes need to know they have a plan specifically prepared for them that addresses issues they

identified, to improve their communities. Specifically acknowledging the Tribes, or the Indigenous people, the plans are meant to benefit, is a characteristic of good planning. It also counteracts white supremacy and what Andrea Smith recognizes as the "logic of genocide" (Smith, 2012), the death or invisibility of Indigenous people. Exclusion of Indigenous values, worldviews, and concerns threatens to keeps us invisible.

The plans studied show the gap between western and Indigenous planning is the absence of Indigenous worldviews and values. For Indigenous people to have culturally relevant and positive benefits from plans, they must be based on tribal worldviews and values. In addition, for the long-term transformation and rebuilding of healthy and vibrant Indigenous communities, planners working with tribal communities must help Tribes express their worldviews and find ways to incorporate those into every component of plan development. Inclusion of Indigenous people, their worldviews, values, problem identification, strategies and actions supports and enhances tribal capacity to respond to planning issues, including climate change

This evaluation of the climate adaptation plans in the six tribal communities demonstrated how inclusion and incorporation of Indigenous worldviews led to better plans that supported Indigenous communities' capacity to respond to climate changes. Three of the plans from Salish and Kootenai, Yakama Nation, and Shishmaref incorporated Indigenous worldviews and values and had strategies and actions that reflected those. The Norton Bay, Shaktoolik and Point

Hope plans did not. Interviews revealed one or more of those three plans without the incorporation of an Indigenous worldview, had implementation barriers that included "inaction" and "lack of community commitment."

To develop plans based on the unique tribal values for each community, values should be known and presented in the plans as they are understood and expressed by the community, and not assumed or generalized by planners.

Tribes can do this by internally identifying their worldviews and values, and selecting planning partners who can and will incorporate those into their plans. Planners can begin to understand Indigenous worldviews first by asking the Indigenous people what is important to them, and why. Those questions will help create the space for the Indigenous people to share their worldviews and values. If the Indigenous people are unable to express their worldviews, planners can help by studying the SDI Model's six dimensions for sustainable development to gain a general understanding of tribal worldviews and values and use each dimension as a starting point for conversations with tribes.

This is especially important because tribes have experienced oppression for a long time and have developed coping mechanisms that resist oppression and sometimes interfere with the tribe's interest or ability to participate in planning processes in meaningful ways.

The College of Menominee Nation Sustainable Development Institute's model of sustainability presents "six dimensions of sustainable development" for "balancing and reconciling the inherent tensions among six dimensions of

sustainability which are: land and sovereignty; natural environment (including human beings); institutions; technology; economy; and human perception" (Dockry, 2015).

To fully understand and incorporate an Indigenous worldview in plans, planners should also strive to achieve Matunga's five "aims or preferred outcomes" of Indigenous planning outcomes which seek (1) "improved environmental quality and quantity," (2) "political autonomy and advocacy," (3) "social cohesion and well-being," (4)"economic growth and distribution," and (5) "cultural protection and enhancement" (Matunga, 2013).

By integrating Indigenous planning methods and frameworks with western planning methods, planners can support tribes' development out of oppression and into communities that better reflect their worldviews, values, and preferred lifestyles.

APPENDICES

APPENDIX A: ROBEN ITCHOAK BACKGROUND

I am Inupiaq, an Indigenous person from Northwest Alaska. My grandpa, Azeukluk, given the American name Louis Jack, is from Kawerak, westernized, and now called Mary's Igloo, near the Kigluaik, also known as the Sawtooth Mountains. Born in 1899, throughout his life he had to adapt to colonization in ways that I can hardly imagine. After non-natives arrived he no longer had regular, open, or regulation free, access to foods on the land or at sea. He had to change his religion, name, clothes, language, and way of life to incorporate the cash economy.

My grandpa witnessed his dad and brother die from the Spanish Influenza in 1918. In response, his mom retreated to the hills and lived in grief, fear, and isolation in a sod house.

When he was in his forty's, my grandpa with my grandma, was forced to move his family to the city or face legal charges for not registering their children into the western school. By doing this he lost his right to raise his children as he was raised, living with the land, in traditional homes, where this entire part of the earth serves as a natural fridge, freezer, and pantry. He had to witness his son have night terrors and succumb to alcoholism after returning from Vietnam.

My grandpa was judged by the old corner house he lived in. A home that he remodeled to make his own, which was then torn down and replaced by a small Housing and Urban Development (HUD) home. The new little house was set

back from the streets and a fire hydrant anchored in a large concrete ring. The modernity of it all included new zoning ordinances that forbid affordable and logical expansion. So when his grandchildren wished to live with him, like we did, he had to put bunk beds in two of the three rooms, and two twin beds in the master room. This configuration allowed the nine of us grandchildren to double and triple up in beds, sometimes with our parents. Almost 20 years after my grandpa's death, that home was condemned and grabbed by the City.

The development of the City of Nome was another major adaptation my grandpa had to make. The City was founded and incorporated in 1901 after gold was discovered. This means my grandpa's existence, and the existence of those who raised him and he loved, was erased, and replaced by western people and their culture. We were fiercely told by non-native citizens and leaders that no Indigenous people lived in Nome until after it was settled. My grandpa responded to those claims by bringing us to the special places of "the old people." In 2006, during expansion of city infrastructure, two dwellings that my grandpa had taught us about were accidently excavated (Richardson, 2007). Since then, the City has re-written their history on their website (Nome).

The most recent threat to Indigenous communities is climate change. Climate change is having disproportionate and negative impacts on Indigenous communities. Sea level rise, changes in sea ice, extreme temperatures, storm intensity, increased precipitation and other climate change factors are

affecting tribal peoples' health and changing the landscapes and cultural practices in tribal communities (TCCP, 2016). Some communities are facing emergency evacuations and relocation due to homes being washed out to sea (AECOM, 2016).

As a result of these drastic and devastating changes and threats to Indigenous living, there is an urgent and aggressive movement by the tribes, with some support from the U.S. Government, to perform vulnerability assessments and develop tribal climate change adaptation plans (TCCP, 2016). However, Indigenous elders have declared there is a need to implement plans (Resilience, 2016). I am obligated to listen to my elders. My work will help make better tribal plans.

APPENDIX B: INTERVIEW GUIDE

1. **Confirmation of the planning process**
   a. What was your role in the planning process?
   b. Who initiated the planning process?
   c. Who developed the planning process? (Tribe, Consultant, etc)
   d. What were the goals of the planning process? To increase tribal participation in climate change adaptation planning? To build tribal capacity or experience?
   e. How were the other planning participants identified?

2. **Confirmation of the purpose of the plan**
   a. Why was the plan developed?
   b. What was the purpose and goal of the plan? (To meet government guidelines; identify needs, partners, gaps; develop actions; document climate change; etc.)
   c. How were the planning needs identified?
   d. How does this plan meet those needs?
   e. Were there additional needs revealed during this planning project that were not related to the scope of this plan?
      a. How were those addressed?

3. **How the planning process aligns with and incorporates tribal goals and values**
   a. How did the plan goals align with the Tribe's goals?
   b. How were tribal goals and values identified? (Already identified and reviewed existing material; by the Tribal council; engaged with leadership or the community i.e. interview, surveys, meetings; none.)
   c. How were tribal goals and values incorporated into the plan?

4. **Implementation**
   a. Please tell me about the plan implementation process. What was the intended implementation process when the plan was written/completed? (Were resources: staff, money, time allocated?)
   b. Were potential implementation barriers identified during the planning process?
   c. What is your role in the implementation process?
   d. The plan identifies the following as priority actions/objectives:
      1. Action:
         a. Are these actions being done?
         b. Is there a target date for completion?

c. Who is collecting and storing the findings and recommendations?
d. What are the next steps?

2. Action:
    a. Is this being done?
    b. How and by whom?
3. Action:
4. What challenges or barriers have prevented action?

5. Quality of the Plan

a. Has the plan been effective at identifying and representing the Tribes' needs?
b. Are there critical actions that were not included in the plan?

Why or why not?

6. Lesson Learned

a. If you had to update the plan, what would you do differently?
b. What are the best planning processes for aligning and incorporating Tribal values, goals, and priorities into plans? (What worked well?)

APPENDIX C: PLAN SUMMARIES

PLAN A: SALISH AND KOOTENAI

Overview - The Confederated Salish and Kootenai Tribes of the Flathead Reservation includes the Salish, Kootenai, and Pend d'Oreilles Tribes (CSKT). Their traditional lands are 20 million acres between the Cascade Mountains and the Rocky Mountains in what is now western Montana, northern Idaho, and southern Canada. Today the Tribes have 1.3 million acres of fragmented (non-contiguous) mountainous reservation lands along rivers and streams in rural western Montana, but near growing and large urban and trade centers. The Tribes generate income from timber and hydropower industries. Native fish, wildlife, healthy plant communities and clean air and water are critical natural resources.

Planning Purpose and Process - The Confederated Salish and Kootenai Tribes of the Flathead Reservation Climate Change Strategic Plan was to developed to improve the community and its lands' resiliency by informing climate change impact planning decisions with the goal to initiate collectively beneficial climate change impact mitigation and solutions.

The planning process was Initiated by the Tribes' Office of Environmental Protection and confirmed through Tribal resolution and Tribal Chairman Proclamation. It was led by a seven-member planning team. Contributors included a twenty-one-member planning committee, and several local, state and federal agencies. The planning process included meetings, trainings, collaborative planning sessions, community surveys online and in-person, inter-departmental collaboration, and purposeful and intentional consideration of traditional ecological knowledge.

Governance - The Confederated Salish and Kootenai Tribes are "recognized as a model of a self-sufficient sovereign nation of the United States" because if their self-governance, society, economy, global self-representation, and preservation of their "right to determine our own destiny" (CSKT, 2013). The Tribes are governed by a ten-member Tribal Council who represent ten districts in Montana. CKST employs about 1,400 people and provides Tribal government services to tribal members.

Climate Concerns and Impacts - changes in temperature, precipitation, storm events, snowpack, hydrology, forest and vegetation, wildfire, snow events, air quality, fish and wildlife impacts water quantity and quality, decrease in forests, increase in insect and disease outbreaks, wildfire, decrease in air quality,

changes in fish and wildlife, and their habitats. Each of these impacts threaten the Tribes' cultural heritage.

Actions, Implementation and Evaluation - The plan strategies focused on preparedness goals and actions with priority ratings of high, medium, and low and timeframes for nine sectors: Forestry, Land, Fish, Wildlife, Water, Air Quality, Infrastructure, People, and Cultural. Specific actions addressed needs to update and revise departmental plans; develop and implement monitoring and habitat management plans; conduct needs assessments for planning, monitoring, operations, greenhouse capacity, research, communication, staff education, and funding initiatives.

CSKT implementation is an "ongoing and evolving adaptive management process" (CSKT, 2013) that requires the Tribes to establish and maintain an oversight committee to coordinate funding and collaboration with partners; monitor and measure progress; "review basic assumptions" including those in vulnerability and risk assessments associated with goals and priorities; applications of traditional ecological knowledge in planning; incorporating the planning results into other CSKT plans; and update the plan regularly.

PLAN B: YAKAMA NATION

Overview - The Confederated Tribes and Bands of Yakama Nation include Kah-miltpah, Oche-Chotes, Palouse, Wenatchapam, Klickitat, Pesquose, See-ap-Cat, Yakama, Klinquit, Shyiks, Sk'in-pah, Kow-was-say-ee, Li-ay-was, and Wish-ham. Traditional lands are almost all of central Washington.

Today Yakama Nation includes about 1.2 million acres between the lowlands around the Columbia River to the peaks of the Cascade Mountains. This includes 72,000 acres of tribally owned agricultural lands and 650,000 acres of productive forests and woodlands. The reservation is located within the Yakama River basin and has forest, range and desert landscapes. The tribe has access to the ceded lands and all the usual and accustomed places to fish, hunt, gather foods and medicines, beyond the reservation. See Figure 5.

Purpose and Process - The Climate Adaptation Plan for the Territories of the Yakama Nation was developed to preserve and protect Yakama Nation resources and build resiliency.

The planning process had three phases. Phase I was the completion of the Climate Adaption Plan through a series of administrative and community meetings and workshops.

Phase II, in process at the time of this study, was to develop a vulnerability and risk assessment for tribal resources. Phase III, will implement actions identified in phases one and two, and updating the plan. Yakama Nation acknowledged that these are the first steps "on a long path forward."

Governance - Tribal Council directs programs and staff, engages in government to government relations with local, state and federal governments and their agents.

Climate Concerns and Impacts – the changing climate is impacting the Yakama Nation community and environmental resources. Areas of concern are community resources which effect cultural heritage identified as health and public safety, tribal infrastructure, and lands and agriculture. Impacts on environmental resources effect forestry, water and wetlands, fisheries, shrub-steppe and rangelands, and wildlife and vegetation. There are also concerns about impacts on the distribution and toxicity of contaminants.

Community Resources are land, air, water, natural and cultural resources are defined by "Ichi Skin Sinwit (the words we speak) (Yakama Nation, 2016). They include but are not limited to legends, monuments, ceremonies, petroglyphs/pictographs, burial, ancestral use and archeological sites. Water is the "fabric of life…all things to all that are living and all yet to be born" (Yakama Nation, 2016). Fish are "the most important of our first foods…The salmon's spirit

has not changed over the years; what has changed is the environment that once is the environment that once sustained that powerful spirit" (Yakama Nation, 2016). One way Tribes "ensure scientific and cultural paradigms are reflected in management of cultural resources" (Yakama Nation, 2016) is to partner non-tribal workers with fluent and traditionally raised tribal members.

Actions, Implementation and Evaluation – The plan had two categories of actions: research and monitoring, and management and implementation. An example of a research and monitoring action is, "Continue to inventory, identify, and prioritize stream reaches, floodplains, riparian areas, and wetlands for protection and for restoration" (Yakama Nation, 2016).

A management and implementation action example is to: "work with the State of Washington, the U.S. Forest Service, and other appropriate entities to evaluate the need and establish priorities for removing roads" (Yakama Nation, 2016).

For evaluation, this plan is a "living document that will be revisited and adjusted over time to reflect new information, new understandings, and new priorities" (Yakama Nation, 2016). The phases of this plan supported the plan's life by using current steps to build on future steps. For example, Phase I of the adaptation process created the purpose and framework of the plan. Phases II and III add information and develop new actions based on research and completion of previously planned actions.

PLAN C: POINT HOPE

Overview - Point Hope, Alaska, a mostly Alaska Native community of 757, is "the oldest continuously occupied Inupiaq community" (ANTHC, 2010). It is situated on a gravel peninsula, with three sides surrounded by the Chuckchi Sea, on the western most point of Northwest Alaska, above the Arctic Circle. Everyone relies on a year-round harvest of subsistence foods including marine and land mammals, birds, fish and plants. Previous erosion in the 1970's forced relocation two miles east to the current location.

Purpose and Process - The "Climate Change in Point Hope, Alaska: Strategies for Community Health" plan was developed to raise awareness about current, emerging, and potential future climate change affects. It presented observed climate changes, health concerns, projected change and potential adaptation recommendations for Point Hope. The plan was developed as a strategy with suggestions and recommendations for the community.

The planning process was not stated. The report was created by the Alaska Native Tribal Health Consortium and funded by Indian Health Services. Methods for community participation were not stated but a list of community contributors was included in the appendices. Individual community observations, concerns, and quotes were gathered and incorporated throughout the document. Appendix A of the plan lists government agencies, elders, hunters, teachers, health providers, youth and artists as contributors. The report was published in 2010.

Governance - Point Hope is governed by the City of Point Hope, Native Village of Point Hope, and Tikigaq Corporation.

Climate Concerns and Impacts - Climate changes are effecting air and water temperatures, precipitation, sea level, erosion, permafrost, snow and ice, water and sanitation, and food safety and security. Health and safety impacts include flooding, erosion, loss and contamination of drinking water, unsafe and unpredictable hunting conditions, habitat and species changes, and increased exposure to infectious disease from the exposure of mass graves due to permafrost melting.

Actions, Implementation and Evaluation - Fourteen actions and implementation strategies were presented as recommendations for Point Hope. "It is hoped that this will help citizens make informed planning decisions…to achieve a safe, healthy and sustainable future for the people of Point Hope." Appendix D of this plan is titled "General Climate Change Adaptation Guidelines." It was recommended the guidelines be incorporated into local decision-making.

PLAN D: SHAKTOOLIK

Overview - Shaktoolik, Alaska is a small coastal Malemuit Inupiaq and Unalit Yupik community with a population of 250. It is located on the end of a sand spit and in a 100-year flood plain, between the Norton Sound and Tagoomenik River, in Northwest Alaska.

Shaktoolik is an "at-risk" community, "an extreme storm without adequate prior warning could lead to loss of life because currently there is no safe refuge in the community" (Johnson, 2014).

The community was relocated to its current location in the 1970's because of erosion. Shaktoolik has a mixed economy which means cash supplements a predominately traditional lifestyle of harvesting natural resources including, fish, crab, whales, seals, moose, caribou, birds and plants.

Purpose and Process - The plan, "Shaktoolik, Alaska: Climate Change Adaptation for an At-Risk Community" was developed as part of a two-year Alaska Sea Grant Project, consultant, in collaboration with the Community of Shaktoolik. This plan built upon four existing planning projects performed between 2009 and 2012 by different public and private entities.

The Alaska Sea Grant project and local government established a community planning committee, by resolution, then hired a part time project coordinator. Planning committee, community, and expert meetings were held. The Sea Grant team visited the site, identified funding sources, adaptation measures and provided outreach to other at-risk communities.

Governance - Shaktoolik is governed by the City of Shaktoolik, Native Village of Shaktoolik and Shaktoolik Native Corporation. Some individuals serve in multiple positions.

Climate Concerns and Impacts - There are two primary climate change impacts in this plan: flooding and erosion primarily from storm surges. Both threaten life and property. The impacts are caused by warmer temperature and loss of sea ice as a protective barrier between ocean, rivers and the community. In Alaska, the temperature has increased 4°F and is expected to increase another 1.5°F to 5°F by 2030.

An extreme storm, without warning, "could lead to loss of life because currently there is no safe refuge in the community…it would not be safe to evacuate…and there is no facility at higher ground to evacuate" (Johnson, 2014).

Other climate change risks identified but not planned for included: thawing permafrost, unpredictable weather, drying tundra, drying and draining of lakes,

wildfires, concern for potential sea level rise, ocean acidification, changing plant and animal communities, decreased populations, marine mammal behavioral changes, increased geese populations and invasive plant species, and potential health and safety risks.

Additional impacts not planned for include: infrastructure that does not meet government standards and is at risk of damage; water contamination from sand spit erosion; sewer seepage and noncompliant sludge disposal; landfill flood risk; bulk fuel tanks do not meet U.S. Coast Guard standards and are at risk of erosion; and the airport is at risk of fall storm flooding. A flood is anticipated to damage electric and communication systems.

Actions, Implementation, and Evaluation - Implementation was anticipated to be overseen by the Alaska Division of Community and Regional Affairs with assistance from a local coordinator, consultant and an interagency committee. The plan was designed to be reevaluated and revised periodically and as new information is available.

PLAN E: NORTON BAY INTERTRIBAL WATERSHED COUNCIL

Overview - Norton Bay Inter-Tribal Watershed (NBITW) includes four Alaska Native villages: Elim, Koyuk, Shaktoolik and Unalakleet, on the Seward Peninsula of Northwest. The combined population is 1,370. This area relies on food harvested from natural resources which increases the vulnerability to climate change. The economy is "subsistence with a cash overlay" which means cash supplements hunting, fishing and wild plant and berry gathering. The changing climate is interfering with "the subsistence practices of the Villages" (Murray et al, 2013).

Purpose and Process - The Climate Adaptation and Action Plan for the Norton Bay Watershed, Alaska was considered the first step in the long-range goal of addressing consequences of climate change. The purpose was to "protect the Watershed's natural resources and preserve a centuries-old way of life" (Murray et al, 2013) and enhance local resiliency and environmental conservation.

Through a one-year process of assessment and planning with the Climate Solutions University, climate change impacts, adaptation responses, and non-climate stressors were identified. A local team assessed local risks and opportunities related to climate and non-climate stressors, forest, water and economics. Findings were analyzed, adaptation strategies and plans were performed, then public support to implement the plan was built. How public support was built is not discussed.

Governance - The Native Villages of Elim, Shaktoolik, Unalakleet and Koyuk govern the Norton Bay Intertribal Watershed.

Climate Concerns and Impacts - Climate change in the watershed communities is effecting the safety and quality of life of the people and animals in the area. The plan addressed forests and water resources, current conditions, reported current ecological stressors and responses. Impacts included increased water and air temperatures, increased storm intensity and frequency, ocean acidification, changes in hydrology including flows and early break up of ice, and impacts on infrastructure.

Actions, Implementation, and Evaluation - Strategies were defined through interactions with regional stakeholders and the local community. They included a one year of activities that addressed seven goals with one to five objectives. Correlation between the assessment findings, risks and potential solutions was unclear. For example, Goal 1 was to obtain funding for emergency preparedness and/or relocation of native villages because of erosion and flooding but the action of Objective 1-1 is to "Assess extent of threat of coastal erosion to Villages" (Murray et al, 2013), it seemed premature to obtain funding for emergency preparedness or relocation before the threats were known. A better goal might have been to secure funding for the assessments to determine which villages face relocation.

PLAN F: SHISHMAREF

Overview - Shishmaref, Alaska, is an Inupiat community with 579 people (city-data.com, 2016). It is 0.25 miles wide and three miles long and located on a sandy island in Norton Sound that is quickly being eroded.

The community voted to relocate in 1973 and 2002 but they were unable to do so because "several events have caused the relocation efforts to lose momentum" (Cox, 2016). A community survey respondent stated, "we need to relocate soon so we don't have to leave our children responsible for moving the village. They need somewhere some [sic] to live with no worries of falling in to the ocean" (Cox, 2016).

Purpose and Process - The Shishmaref Strategic Management Plan was created as a blueprint for the community and agencies to make Shishmaref a more resilient community. Planning occurred in two phases, (1) issue identification, review of background information, development of guiding principles, and creation of the Background Planning Report; (2) the Shismaref Management Plan was developed.

Community and agency meetings with local, regional, state and federal agencies and organizations were held; surveys with feedback to community leadership occurred; and the Strategic Action Plan (SAP) was created.

The SAP identified adaptation activities and responsible actors for each action item, along with a timeline, scale of financial resources needed, and implementation partners for strategic focus areas.

Governance - Shishmaref is governed by the Native Village of Shishmaref, City of Shishmaref, and the Shishmaref Native Corporation.

Climate Concerns and Impacts - Climate change concerns include relocation, erosion, melting permafrost, flooding, and sea level rise. These changes have impacts on health and safety including evacuation, water and sewer, housing, traditional ecological knowledge and integration of western science to better understand climate change and community impacts.

Actions, Implementation, and Evaluation - The plan strategies were to establish priorities, simplify decision making, maintain focus, lend credibility to actions, enhance communication, promote efficiency, create accountability.

The plan developed 98 critical, imminent and actions for: adaptable built environment, safe and healthy housing, jobs, proactive emergency management, strengthened traditional culture, leadership for the future, relocation, other.

The community of Shishmaref was responsible for implementation. The planning process identified a need for a community coordinator. This person would implement the plan and coordinate other resiliency projects. Additional implementation steps included accountability – a need to identify responsible people for taking action; monitoring – and keeping the plan "living" by assessing and updating the plan annually and changing it when needed; support by continuing to hold meetings with partners; communicate with residents and agency partners; and celebrate accomplishments to maintain excitement and engagement.

APPENDIX D: PLANNING APPROACHES IN PLANS IN THIS STUDY

	Tribal Plans	
	Plan A: Salish and Kootenai	**Plan B: Yakama Nation**
Process initiator, planner	Tribal Department	Tribal Department
Process designer: goals, plan preparation	Tribal Department	Tribal Department
Planning team and participants	7 on planning team; 21 on committee; 29 local, state and federal agency contributors	3 on team; tribal, local, state, and federal governments; department program managers
Goals, objectives and priorities determined by:	Tribal staff lead, multi-agency team	Tribal staff lead, multi-agency team
Data collection	Tribal staff researched Tribal documents, plans, climate change and other vulnerability and risk assessment resources	Tribal staff incorporated new and existing tribal projects Tribal members, and tribal programs
Planning approach	On-going Meetings/training Community surveys	Long term, collaborative, three phases Workshops and training on climate change and tribal leadership Detailed management structure
Implementer	Tribe	Tribe

	Non-Tribal Plans			
	Plan C: Point Hope	**Plan D: Shaktoolik**	**Plan E: Norton Bay**	**Plan F: Shishmaref**
Process initiator, planner	Agency	Agency	Agency	Agency
Process designer: goals, plan preparation	Agency	Agency	Agency	Agency
Planning team and participants	5 preparers; 10 advisors; 112 people credited for assisting including: 30 interviewees; 23 organizations.	3 on planning committee; 1 project coordinator; 9 Village representatives; 8 City representatives; 7 Native Corporation representatives	Contributions from Native Villages of: Elim, Shaktoolik, Unalakleet and Koyuk; 12 CSU team members	68 working group meeting participants from tribal, local, state, and federal governments and non-government organizations. Included: 1 State Project Manager; 1 Community Coordinator; 8 village representatives; 7 City representatives; 7 Native Corporation representatives
Goals, objectives and priorities determined by:	Agency	Agency lead with local project coordinator	Agency lead with local project coordinator	Agency, literature review and community feedback
Data collection	Agency performed issue research and community interviews	Agency performed issue research and reviewed existing plans	Agency performed research on climate change in Alaska, economic analysis, natural resource assessments	Agency identified issues; reviewed of background information
Planning approach	Unknown	Two-year collaboration with Agency, City, Village, and Native Corporation Six public meetings. Agency developed initiatives for collaborators to adopt	Year-long assessment and planning	Two phase process. Phase 1: Issue identification; review of background information; developed guiding principles; created the background report. Phase 2: Developed plan with community and agency meetings; surveys; and feedback to community leadership.
Implementer	Community	Community/State	Community	Community

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