

2016 Chugach Regional Resources Commission Climate Change Workshop Outcomes

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Location – Anchorage, Alaska

Document Developed by



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Introduction

CRRC has been working on climate change-related issues as they affect tribal lands, communities, and the subsistence resources upon which the Tribes depend. Currently, tribes do not have a strong connection to the research of the climate science community in spite of their vulnerability to climate change impacts. As such, CRRC has been identifying and addressing climate needs relative to understudied resources of high cultural value to serviced tribes and traditional knowledge.

On March 18, 2016, Chugach Regional Resources Commission (CRRC) held its first annual climate change workshop in Anchorage Alaska. CRRC brought together scientific experts, tribal leaders, community members, and interested public this day-long workshop. The participants enjoyed lectures from the U.S. Fish and Wildlife Service, the Kachemak Bay National Estuarine Research Reserve, the Alaska Center for Climate Assessment and Policy, experienced lawyers and environmental planners, and the Alaska Native Tribal Health Consortium's Healthy Village Environment Program. There were four main topics covered in this initial workshop **Ocean Acidification, Fisheries, Climate Change and Fisheries**. There were 35 participants in the 2016 workshop that provided valuable insight on first-hand climate change observations from their home. The results from this workshop will be incorporated into future CRRC climate change planning efforts.

In the following pages of this document, we provide results of the **graphic facilitation** that occurred during the workshop, results from the **breakout sessions** held during the workshop, and a summary of **workshop evaluations** conducted by our participants.



Some of the workshop participants from left to right, back row: Jeff Hetrick, director of the Alutiiq Pride Shellfish Hatchery, Angela Doroff, Kachemak Bay National Estuarine Research Reserve, Lindsey Olsen, Alaska Center for Climate Assessment & Policy, Patience Anderson Faulkner, Native Village of Eyak, Judy Christiansen, Qutekcak Native Tribe, Jessica Sheperd, Kachemak Bay National Estuarine Research Reserve, John Morton, US Fish and Wildlife Service, Patrick Norman, Port Graham Village Council; Sarjus Moonin, Nanwalek, Christopher Anahonak, Nanwalek, Gordon Kvasnikoff, Nanwalek; from left to right, bottom row, Marie Nichols, Native Village of Eyak, Josie Sam, Alaska Center for Climate Assessment & Policy, Patty Schwalenberg Brow, executive director of CRRC, Willow Hetrick, climate change coordinator for CRRC, Syverine Abrahamson, Kachemak Bay National Estuarine Research Reserve, Barrett Ristroph, lawyer and planner, Naomi McMullen, IGAP representative from Port Graham.



Background

With help from through the Institute for Tribal Environmental Professionals, CRRC completed Phase I of their climate change adaptation planning process which was a high level assessment planning exercise. Much of the work was funded through a BIA Grant “Chugach Region Climate Change Adaptation Project” which resulted in an extensive document detailing the status of regionally-applicable Federal and State Agencies and their climate change planning, a resource guide for tribes specific to CRRC and submission of a grant to support a Climate Change Workshop by Alaska Conservation Foundation. Interviews were conducted at each of CRRC’s villages to identify needs and experiences, and to develop a roadmap to engage with governmental agencies and NGO’s and identified potential funding sources for CRRC’s Climate Change Program.

The next phases of CRRC’s climate change adaptation planning process include Phase II – Vulnerability Assessment of the climate change adaptation planning process. This phase will help us understand how climate change will affect our tribes and resources. In this phase, CRRC will analyze the data & identify scientific information needs, data gaps & priority resources specific to climate change impacts. It is in this phase that we will incorporate the outcomes and evaluation of this workshop to develop a vulnerability assessment. We want to understand *what* things are most vulnerable and what are the least vulnerable, and *why* they are vulnerable or not.

The last phase of the planning process is Phase III – Adaptation Plan. This phase will develop a plan that tells out people what to do to adapt. In this phase, CRRC will summarize the data to inform future funding and research efforts which we anticipate to occur within the next five years.



**Alaska
Conservation
Foundation**



2016 CRRC Climate Change Workshop Graphic Facilitation

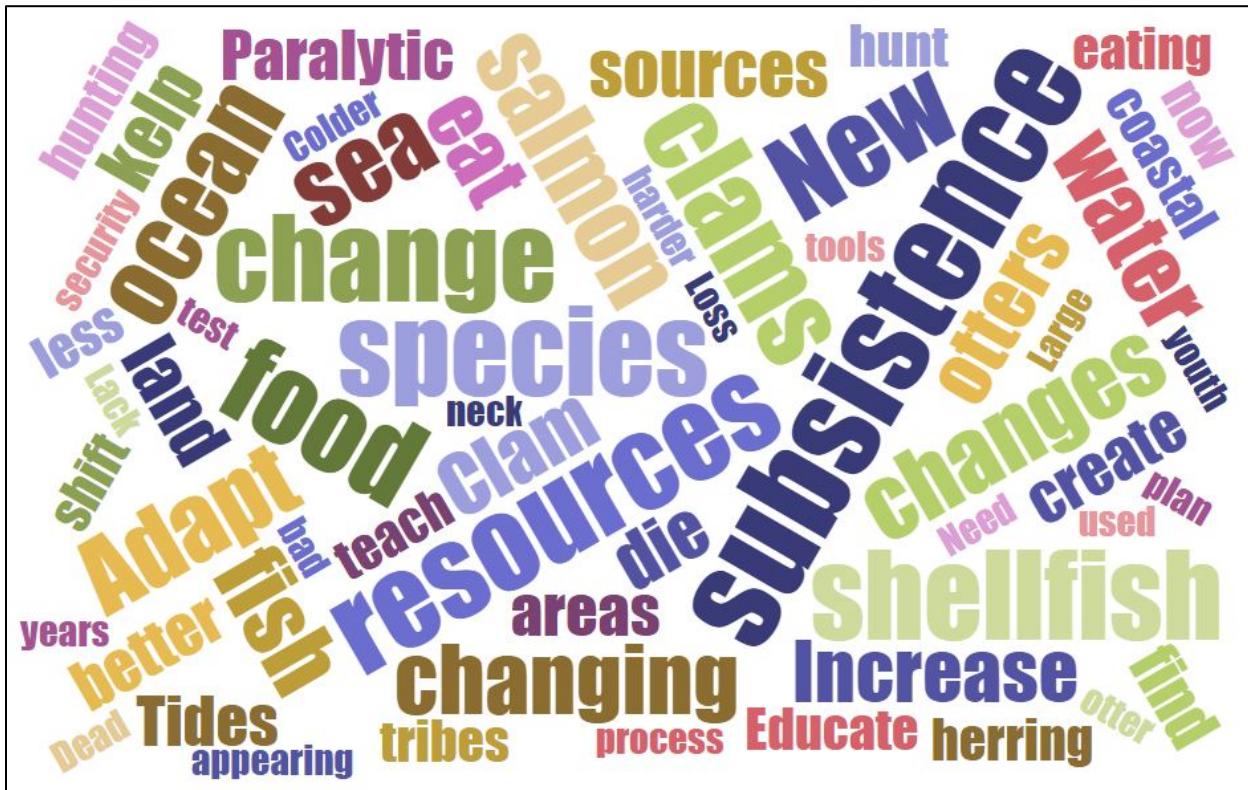


CRRC had the workshop graphically facilitated to visually capture the complexity of climate change and how this complexity relates to multiple stakeholders across the region (see figure on the first page of this document). The content was co-created by the participants of the workshop. This visualization is powerful as it takes the collective wisdom and traditional knowledge that was in the room and gave it a voice and a shared understanding of the work that CRRC is doing now, the wisdom from the past, and hints to the work that needs to be done moving forward. The mural has been digitally preserved so that we can share it with each of the communities. We urge you to find something in that has meaning for you and share a little bit of that story to increase the wisdom and energy around the work that CRRC is doing to expand the insight and participation moving forward. We want to continue to build relationships and share our learnings from this workshop with all who are interested and engage people in a deeper conversation.



2016 CRRC Climate Change Workshop Breakout Sessions

Between each lecture, participants worked in break-out groups to answer key questions of the effects of climate change to their communities, subsistence patterns, recreation, health, and lifestyles. The responses were exceptional so we created the following word cloud to capture the common themes of the people's voices during these break-out sessions.



The statements captured during the breakout sessions were transcribed verbatim into a website that ranks the number of times a word is used and depicts that word larger compared to the rest. We can summarize from this graphic that the participants rank their subsistence resources as the most important issue to consider when facing climate change. They rely on species in the ocean, especially shellfish and salmon, and are seeing drastic changes. They realize that they must adapt and increase their education, in order to continue eating shellfish and salmon. Tribes are concerned with the health of the foods they are eating and what red tides are doing to their resources, namely the presence of paralytic shellfish poisoning. Participants want to be able to continue to hunt and adapt and that is going to take cooperation from fish and game regulators to adapt to changing seasons.

In the pages below are word clouds created specifically for each of the breakout sessions: 1) **Ocean Acidification**, 2) **Fisheries**, 3) **Climate Change**, and 4) **Subsistence**. We've also highlighted comments from each break-out sessions that CRRC believes represent the common voice in the Villages regarding climate change. We hope that the statements selected will also help the readers better understand what our people are witnessing first-hand in their Villages.



Ocean Acidification

What are the effects now, and may be in the future?

How does climate change affect fish and shellfish?

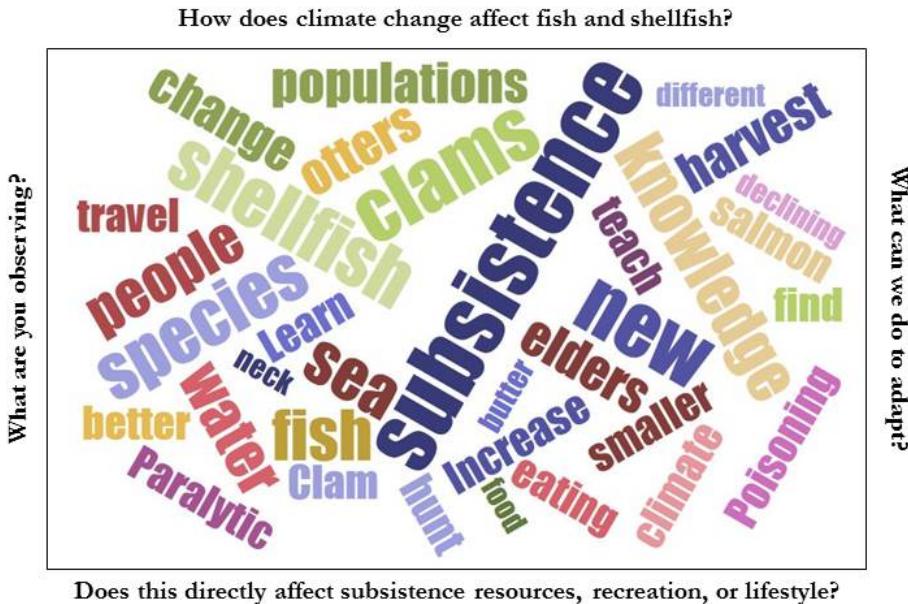


Below are some comments during the break-out session to discuss **Ocean Acidification**:

- Ocean acidification affects fish and shellfish because it changes the ecosystems
 - Ocean acidification could be causing large die offs of butter clams
 - Ocean acidification may be causing bivalve declines
 - Ocean acidification may be the reason steamer clams and sea urchins are gone and/or very hard to find
 - Ocean acidification may be the cause of the lack of large halibut
 - Ocean acidification may be the reason we see the salmon are getting smaller
 - Ocean acidification may be the reason why clams are different sizes and their shells appeared thinner
 - Ocean acidification may be the reason why we observed silver salmon were mushier this year and last summer red salmon were mushier
 - We have trouble communicating the complex process associated with the topic and it's hard to say "this food resource declined because of Ocean Acidification"
 - We need to monitor contaminants so we know when we can eat those resources
 - We need a Better understand ocean acidification and what the dangers are and how people can adapt.
 - Ocean acidification may be a direct threat to our food security

Fisheries

What are the effects now, and may be in the future?

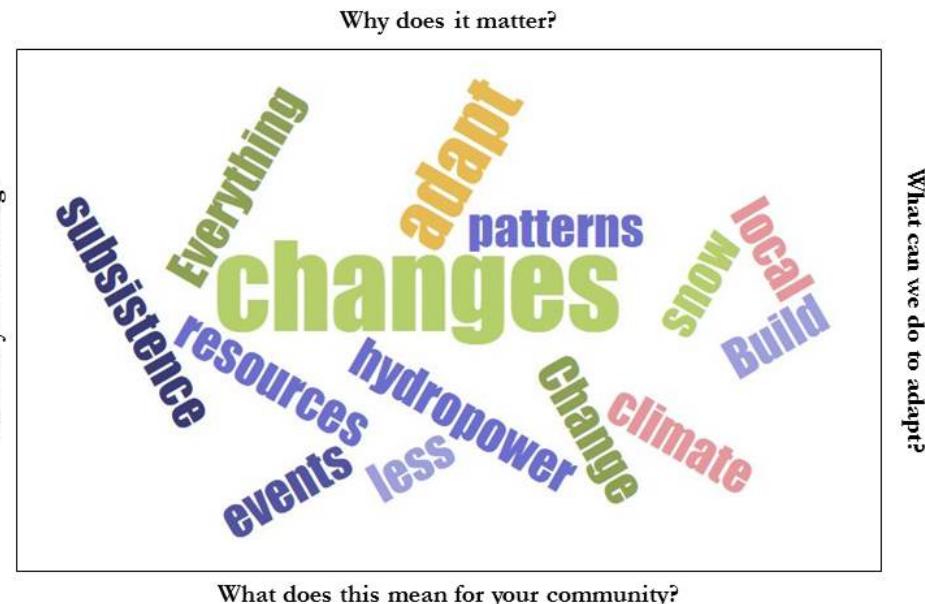


Below are some comments during the break-out session to discuss climate change effects on **Fisheries**:

- 35 years ago we would dig up huge butter clams, after that and up to now there is hardly any harvest of clams on beaches
- Algal blooms cause ecosystem disruption
- Clam populations are decreasing
- Fish will migrate to look for colder waters and the destination to get our food is getting further away because colder waters bring resources closer to the Village
- Bidarki are smaller and deformed; the shells stick out and skin is cracking
- Prey species changing – something has been drilling holes in the steamer clams, maybe snails
- People aren't eating all the things they should eat and there has been a transition to processed food in diet
- Adults are not pushing the youth to participate in subsistence learning
- Loss of traditional knowledge; people are not taking advantage of the opportunities
- Having to learn new locations for shellfish harvesting
- Better communication of knowledge transmission and share traditional knowledge using new technology
- We would have to hunt more land animals or learn to like what is new in the water

Climate Change

What this means and how we can adapt

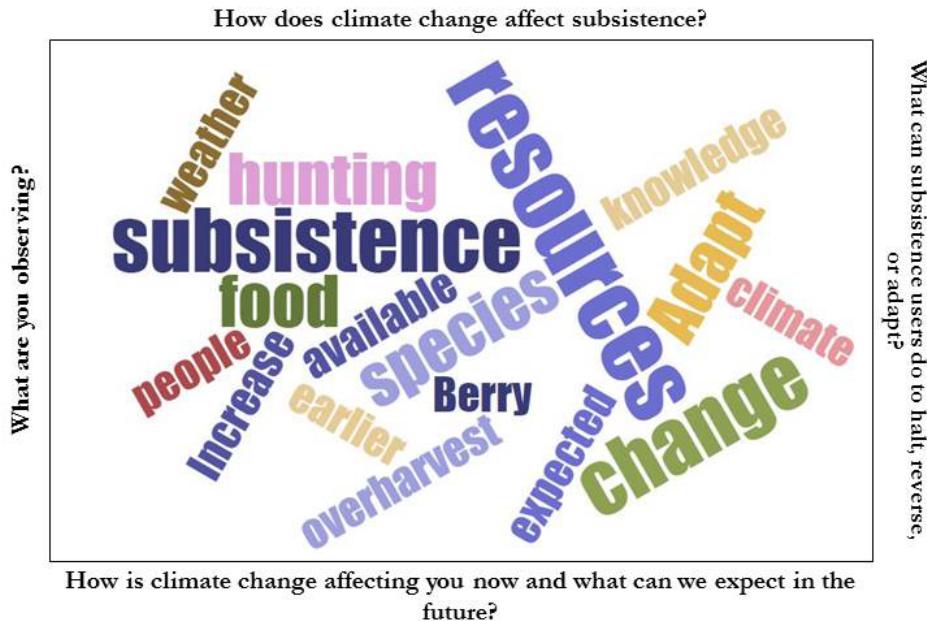


Below are some comments during the break-out session to discuss current knowledge of **Climate Change**:

- There is a change of subsistence patterns
- Safety for our children and elders is the most important issue
- Climate change is happening very fast
- Climate change would change everything and knows no boundaries
- Everything around us is changing
- Spread of the changes is faster than the science can adjust to produce published results
- We want to be prepared and educated
- We want a system to adapt to changes, perhaps creating networks for local adaptation
- We want to be able to leverage good ideas
- We must build trust capacity across a network and stem more communication for tribes to use for resources
- We could take advantage of a longer growing season to reduce food insecurity
- Some people I talk to think climate change will pass over

Subsistence

What this means and how we can adapt



Below are some comments during the break-out session to discuss climate change effects on **Subsistence**:

- Climate change could affect the health of the species we subsist on
- We are losing animals because they are not there when we expected or there earlier than expected
- We would like to be able to overharvest subsistence resources in one year to make up for lack in previous years
- We are seeing a dramatic changes to species and ecosystem shift and that our food resources are in peril
- We have more fear about hunting that violates the law, we want to be educated when harvesting and become more involved in the process of allocation of resources
- There is a lack of engagement because no use of resources in the younger generation
- Increased access from Whittier tunnel results in an increase in hunting pressure and overharvest
- Sport industries for hunting and fishing are competing with subsistence
- People are scared to eat food due to toxins
- There are concerns about passing down the knowledge learned from ancestors and we are worried that what we have today will be gone; grandkids won't understand how our lives were
- We must work harder to get resources
- We should increase our hatchery production
- We must adapt



2016 CRRC Climate Change Workshop Evaluation Summary

CRRC requested that the participants evaluate the climate change workshop. Below, we provide results of that evaluation which will help guide future workshops.

The majority of participants in the workshop strongly agreed that this workshop was a good use of their time.

The majority of participants in the workshop indicated that this workshop increased their knowledge of climate change and adaptation in the Chugach region a great deal.

The majority of participants in the workshop indicated that they learned something that they will apply to their daily life, work, or future decisions.

The majority of participants in the workshop rated the content of the workshop as ‘excellent’

The majority of participants in the workshop rated the speakers of the workshop as ‘excellent’

The participants in the workshop came from a wide variety of organization affiliation such as federal, state, tribal, private sector, academia, and community.

The majority of participants in the workshop indicated that a meeting like this should be held again on an annual basis.

The majority of participants in the workshop indicated that they are extremely concerned about the impacts of climate change.

The majority of participants in the workshop indicated that food supply, drought/water supply, heat/temperature changes, human health, habitat loss, spread of new or existing invasive species, changes in water quality, and changes in extreme weather events were the most concerning topics in the region.

The majority of participants in the workshop requested improved understanding of how climate change might impact my community, assistance with evaluating the threat to my community from climate change impacts, and information on how my community can adapt to climate change.

Additional Comments:

- Sound could have been better
- Clapping would be nice
- Opening prayer
- The dominance effect of small changes that topple the next
- We need to promote baseline information so we can adapt and request assistance to bring/lighten the burden on tribal members
- Morning session was well designed to present good data and research on potential impacts and current research
- Might be good to think of strategies on how tribal and village communities can work together with agencies and research to benefit each other.
- Thanks for all of your efforts