

**Climate Change and Public Health:
Alaska on the Front Lines**

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ALASKA NATIVE
TRIBAL HEALTH
CONSORTIUM

hot topics
in practice

Northwest Center
FOR PUBLIC HEALTH PRACTICE

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Question for the Viewers

How would you describe your knowledge of the impacts of climate change on Alaska's rural and indigenous populations?

- A. Very knowledgeable
- B. Somewhat knowledgeable
- C. Not at all knowledgeable
- D. Other (please type in chat)

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Alaska Tribal Health System Overview

Community Impacts

Finding New Ways to Respond

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Environmental Health and Engineering

- Health Facility Support
- Sanitation Facilities
- Utility Management Support
- Rural Energy Initiative
- Environmental Health Support



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Community Environment & Health



- Climate Initiatives
- Emergency Preparedness
- Tribal Capacity & Training
- Air & Healthy Homes
- Contaminated Sites
- Field Services

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Climate Initiatives

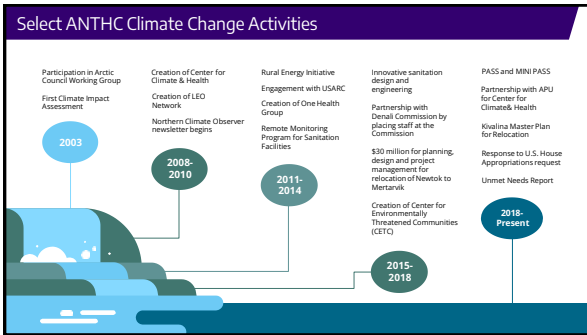
Advocate for Climate Equity

Support:

- Center for Climate & Health
- Center for Environmentally Threatened Communities



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What is One Health?



Framework that captures the **relationship** between human, animals, and the environment

System to identify emerging threats and facilitate a coordinated response between community, public health, and wildlife health agencies

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What is One Health (Continued)?

Collaboration between subsistence hunters, environmental managers, public health, veterinary medicine, wildlife scientists, emergency response, etc.

Comprehensive response when events occur to ensure that people have actionable information about complex concerns, such as safety related to food and subsistence harvest and food consumption

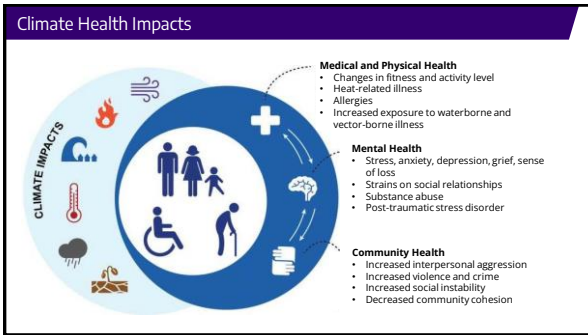


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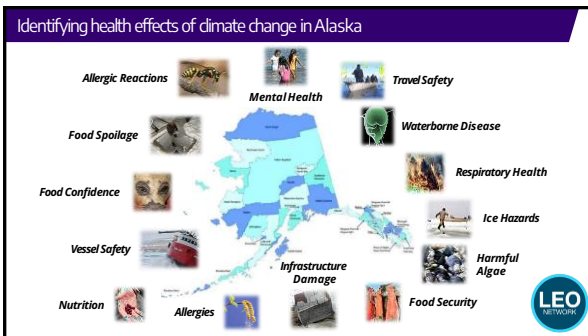
One Health and Climate Change



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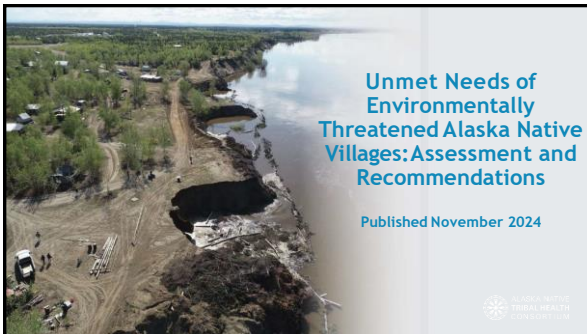
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Geographic Comparison Map

The state of Alaska compared to the continental U.S. showing the geographic range of 144 environmentally threatened communities, and examples of some of the environmental threats impacting these communities.



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Inequitable Delivery of National Climate Change Resources and Services



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Community-Driven Relocation Decision-Making


RISK ASSESSMENT



- Collect baseline data on erosion, flood, and permafrost thru using community-based observations and scientific data
- Erosion, flood, and permafrost modeling and engineering analyses
- Data compiled into risk assessment report for review by community members and leaders

RESULT
Community understanding of risk


PLANNING



- Community solutions to mitigate risk are developed based on technical feasibility, and benefits and cost of actions
- Community decides to protect in place, retreat or relocate, and prioritizes related actions, resources, and timelines
- Community develops Hazard Mitigation Plan (HMP) and resilience/adaptation plan with prioritization of fundable projects

RESULT
Written plan summarizing hazards and priority projects to reduce risk

IMPLEMENTATION

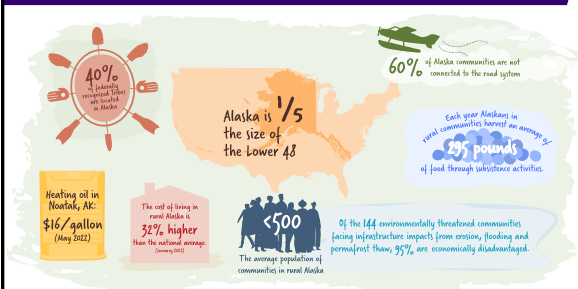


- Community drives project design
- Community acquires and manages project funding
- Community manages construction project implementation by working with local or outside project management contractors
- Construction using local workforce

RESULT
Reduced risk to environmental threats

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Current Rural Alaska by the Numbers



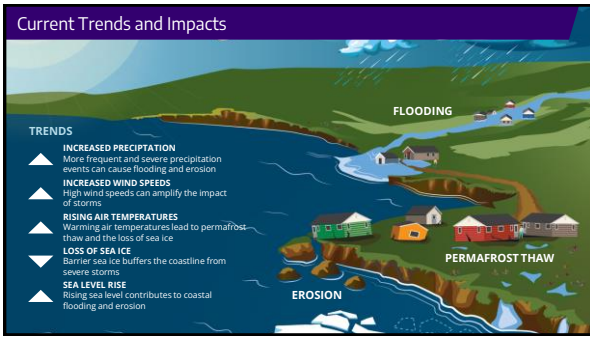
- 40% of land is privately owned in Alaska
- Alaska is 1/5 the size of the Lower 48
- 60% of Alaska communities are not connected to the road system
- Each year Alaskans in rural communities harvest an average of 25 pounds of food through subsistence activities
- Heating oil in Noatak, AK: \$16/gallon (May 2022)
- The cost of living in rural Alaska is 32% higher than the national average (January 2022)
- <500: The average population of communities in rural Alaska
- 95% of the 144 environmentally threatened communities facing infrastructure impacts from erosion, flooding and permafrost thaw, are economically disadvantaged

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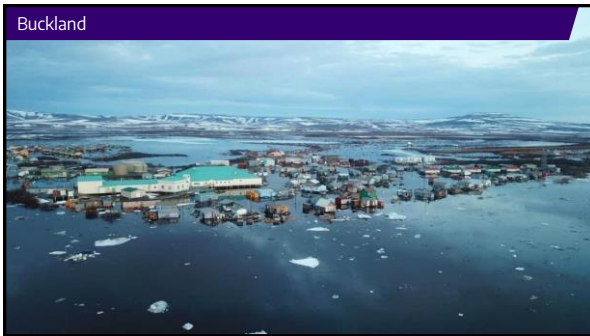


Community Impacts

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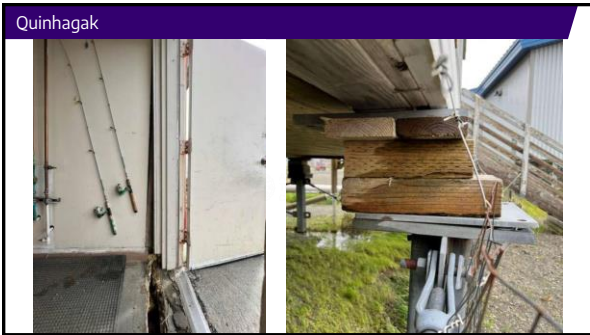
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Chefornak



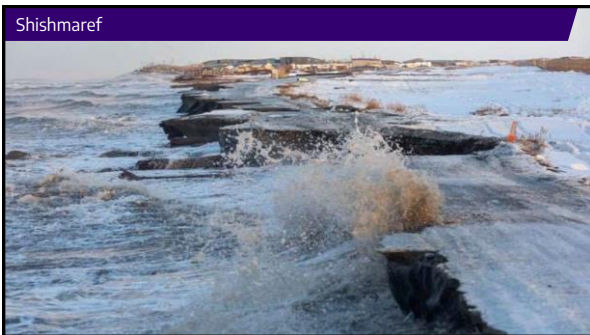
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Quinhagak



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Shishmaref



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Mitigating Erosion, Flooding, and Permafrost Degradation

Protection-in-place These use of shoreline protection measures and other controls to prevent or minimize impacts.

Foundation adjustment Drainage improvements Elevating homes above the flood level Shoreline protection

Managed Retreat Moving a portion of the community away from hazard prone areas to locations nearby or adjacent to the current site. In order to successfully retreat, a community needs developable land nearby.

Relocation Moving the entire community to a new location that is not connected to the current site. Relocation is the option of last resort.

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Inequitable delivery of resources and services

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Lack of Technical Assistance

“Technical assistance has informed most of the recent decisions Shaktoolik has made to address coastal flooding and erosion. We would not be where we are today without a lot of outside support.”

- Genevieve Rock, Native Village of Shaktoolik

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Question for the Viewers

What are the impact of climate change that you see in your own community?

- A. Relocation or displacement
- B. Mental Health
- C. Physical Health
- D. All of the above
- E. Other (please type in chat)

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Finding New Ways to Respond



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How Does Climate Affect People?



<https://www.wccmatters.org/learn-by-a-z/2/>

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Climate Change and Solastalgia

Mental health and stress-related disorders are important health outcomes that are influenced by climate change (Luber et al., 2014; USGCRP, 2016).

For example, climate change can affect mental health by causing **solastalgia, the distressing sense of loss that people experience as a result of unwanted environmental changes that occur close to one's home** (Albrecht et al., 2007), and associated pathologies such as anxiety, depression, and posttraumatic stress disorder that can result from acute events such as fires, floods, and storm surges, as well as more protracted changes such as thawing permafrost and coastal erosion

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"Climate change started at contact. Colonization was the initiation of an imbalanced relationship with the environment."

- **Wilson Justin, Athabascan Elder** (Personal Communication, 2018)

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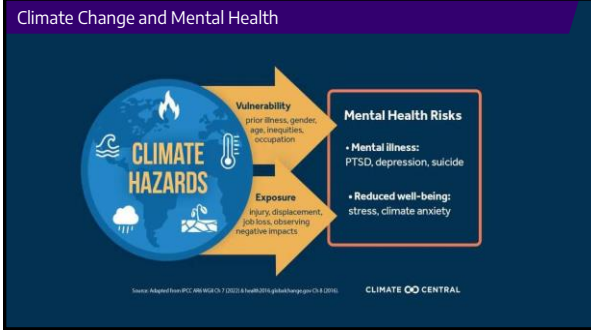
Climate Grief and Solastalgia are Psychological Trauma

Trauma destroys the social system of care, protection, and meaning that support human life. **The recovery Process requires the reconstruction of these systems.** The essential features of psychological trauma are disempowerment and disconnection from others. The recovery process therefore is based upon empowerment of the survivor and restoration of relationships.

Herman, J.L. (1998), Recovery from psychological trauma

Slide provided by Media Delfino

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Climate Response: Community Relocation of Newtok

- Erosion and Permafrost Melt
- School being washed into river
- New location across river
- Community Support
- Introducing traditional practices

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Climate Response: Adaptation Plan in Oscarville

Oscarville Adaptation Plan:

- Listen to Elders
- Use their language
- Tell their story
- Bridge with Science
- Invite new ways to plan

Pikashimata = We are Resilient
Oscarville Tribal Climate Adaptation Plan
From the National Climate Adaptation Plan

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Acknowledgement

My heartfelt gratitude to the people of Oscarville for opening your hearts and sharing your stories. You have forever impacted my life. A big thank you to Princess Luca Johnson and the staff at CCHR, who contributed to this effort.

RE-design the Framework Yupik Drum: "Casiyag"

- Frame never Ending :: Holistic
 - Skin Stretched Tight :: Foundation
 - Woven in Strength :: Resilient
 - Bound to Sustain :: Sustainable
-
- Holistic :: Value-based Mindset
 - Foundation :: Indigenous Wisdom
 - Resilient :: Space In-between
 - Sustainable :: 7 Generations Deep



Continue to find new ways to adapt, adjust and become resilient, just as our ancestor did.

Drum photo courtesy of Prudence Apperson, recent Master of Anthropology, University of California, Berkeley 2028

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Key Takeaways


- ✓ Alaska is on the front lines of climate change
- ✓ Alaska has unique challenges
- ✓ The current system of response is inequitable to Alaska Tribes
- ✓ Funding is inadequate for the level of climate response needed in Alaska

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A Chat with Jackie Qataliña Schaeffer




Sue Grinnell




Jackie Qataliña Schaeffer

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QUESTIONS?



To ask a question, please click the  icon in the Zoom toolbar to open your Q&A Pod.

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Resources

Alaska Native Tribal Health Consortium
 The Unmet Needs of Environmentally Threatened Alaska Native Villages: Assessment and Recommendations
https://www.anthc.org/wp-content/uploads/2024/01/Unmet_Needs_Report_22JAN24.pdf

U.S. Global Change Research Program
 Climate and Health Assessment
<https://health2016.globalchange.gov/>

One Health
<https://onu-rome.delegfrance.org/One-Health-publication-of-an-operational-definition>

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