

# Actionable Hazard Mapping in 144 Threatened Communities

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## **OUR VISION:**

Alaska Native people are the healthiest people in the world.

# Center for Environmentally Threatened Communities

We support communities to understand risk and implement solutions to erosion, flooding, and permafrost degradation.

- Project development, strategy, and coordination
  - Grant writing
  - Technical assistance





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**144 threatened communities**

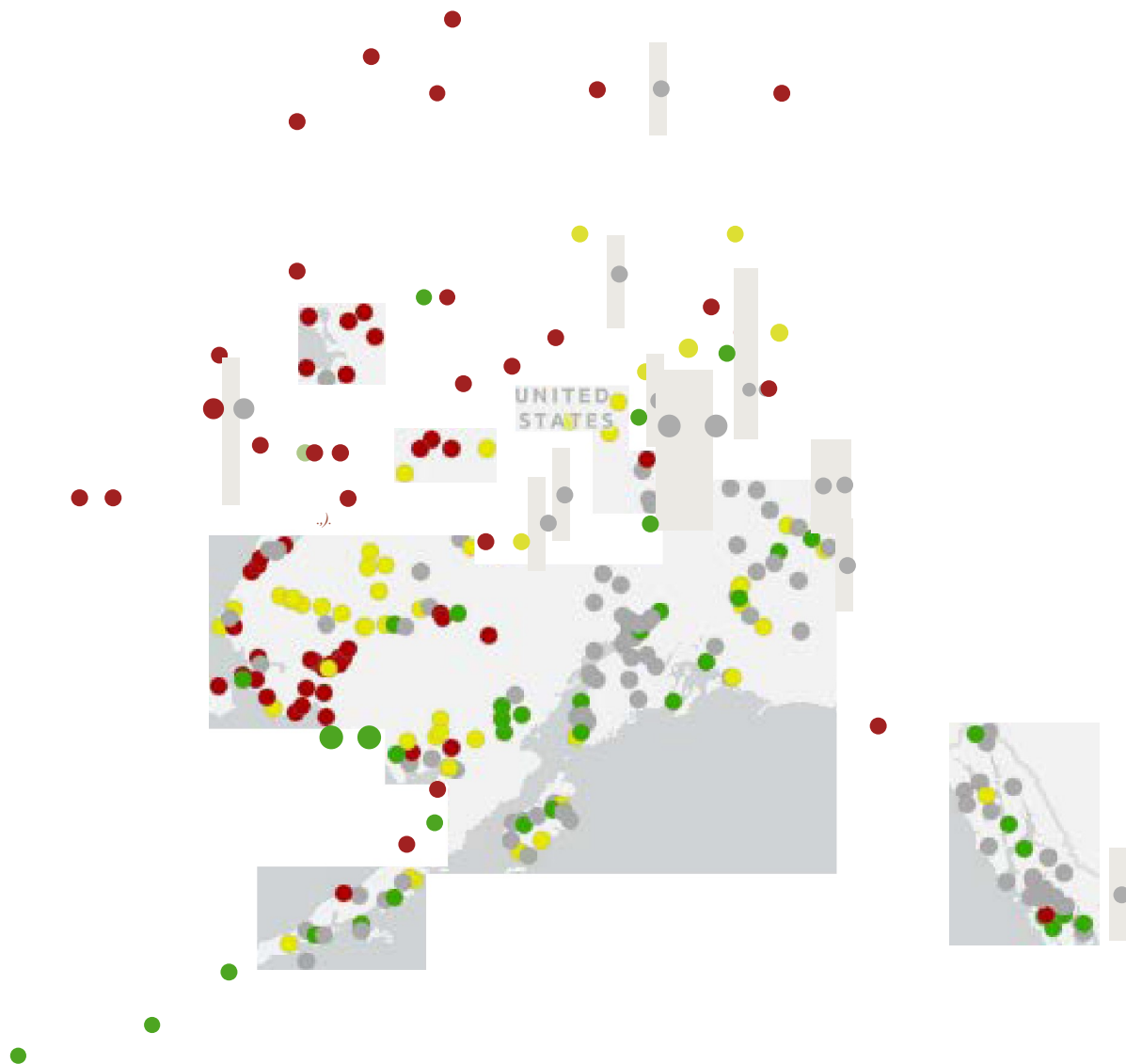
**\$4.3 billion to protect existing infrastructure over the  
next 50 years**



Statewide Threat Assessment

Community Group

- 1
- 2
- 3
- other communities

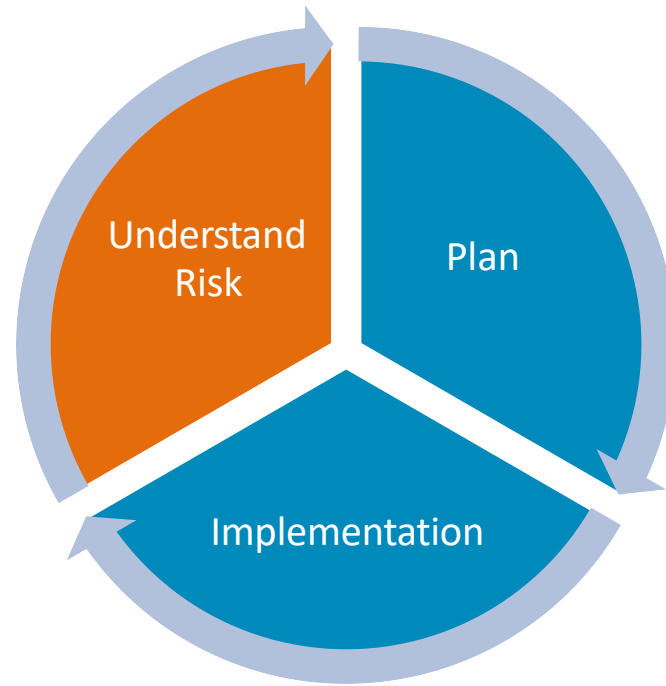


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**“Can we continue to live here?”**

**“If yes, how?”**

Only two threatened communities have access to long-term risk assessments



# Engineering Analysis

- Assess options

## Modeling

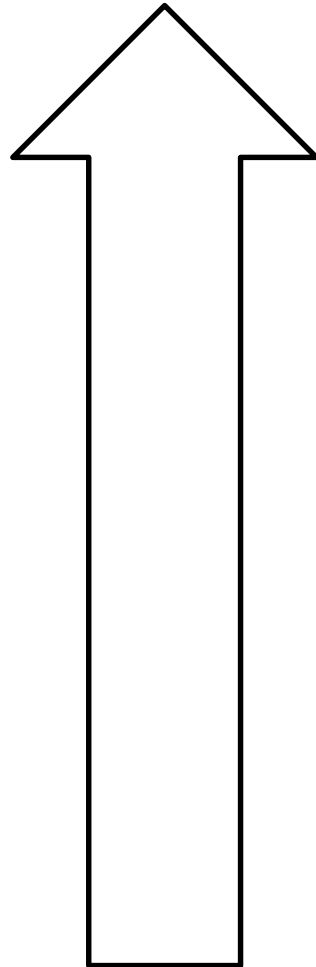
- Validated with historical data
- Climate change scenarios

## Monitoring

- Storm events
- Chronic issues

## Baseline Coastal Mapping

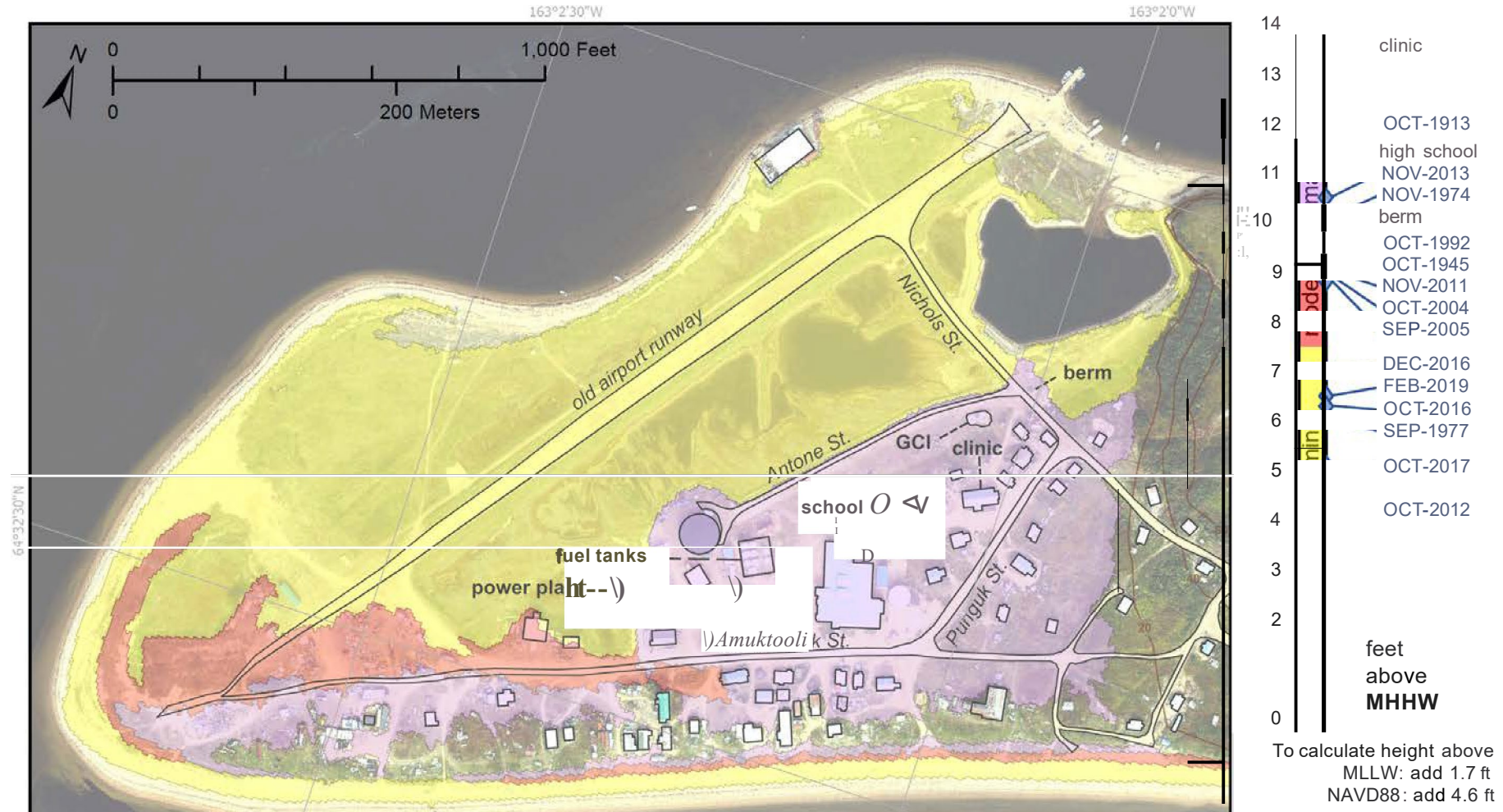
- Elevation (above and below the water, topography and bathymetry)
- Aerial Imagery
- Shoreline
- First floor elevations





# DRAFT Coastal Flood Impact Golovin, Alaska

REPORT OF INVESTIGATIONS 2020-X  
Buzard and others, 2020  
SHEET GOLOVIN



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- **How much will it cost?**  
~\$30 million
- **What are the best methods?**  
See appendix B,C, and D in the Statewide Threat Assessment for prototype scopes of work
- **What are the priority communities and what is the current community-specific status statewide?**  
Map tool forthcoming @  
[dggs.alaska.gov/hazards/coastal/](https://dggs.alaska.gov/hazards/coastal/)

# Key Points

1. Most Arctic and climate change research has not benefited threatened communities
2. Site-specific baseline data and risk assessments are the highest priority statewide for threatened communities
3. See the prototype scopes of work in the Denali Commission Statewide Threat Assessment for methods
4. Communities are seeking funding partners





# Center for Environmentally Threatened Communities Newsletter

Issue 21, February 2019

## Usteq: When Three Threats Become One



A block of ice-rich permafrost collapses along Drew Point, Alaska – a dramatic example of usteq. Source: U.S. Geologic Survey

As part of the Arctic, Alaska is [warming faster than any other state in the country](#) and is already facing serious impacts associated with a changing climate. For many communities in Alaska, increased erosion, flooding, and permafrost degradation threaten infrastructure, livelihoods, and a way of life.



Permafrost, which is found to some extent beneath nearly [80 percent of Alaska](#), provides a stable foundation for infrastructure as long as the temperature of the ground is below freezing. When permafrost thaws, land can subside, causing damage to the infrastructure above. The higher the ice content of the permafrost, the more the ground collapses when the ice melts. What can cause ice to melt especially quickly? Answer: water, the enemy of ice.

# Thank you

- Subscribe to our newsletter: [anthc.org/cetc](http://anthc.org/cetc)
- Reach out any time: [mdneale@anthc.org](mailto:mdneale@anthc.org) or 729-4521



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