



Introduction

Climate Change Update Alaskan Rural Village perspective

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Kivalina Resident



KIVALINA before the storm





Review of current events

- ▣ 2004-05 -KVL beach lost approx. 90 ft per NOAA
- ▣ Permafrost melt and small storm surge cause severe erosion.
- ▣ Local borough built \$3M barrier between village and Chukchi Sea In 2006 funded by Denali Commission.
- ▣ 2007 Repair damage of failed seawall from previous year.
- ▣ 2008 ACoE funded 400ft Rock Revetment
- ▣ 2009 additional funds from ACoE continue with another 1600 ft of the rock revetment.
- ▣ Rock revetment project should protect the village another 15 yrs from eroding into the ocean.

\$\$ spent on erosion protection

- ▣ 2006-\$3M from Denali Commission and the State of Alaska
- ▣ 2007-Approx . \$1M spent on mitigating failed seawall from local Borough and State of Alaska.
- ▣ 2008-\$4M spent on a 400 ft rock revetment from ACoE.
- ▣ 2009-\$12M on a 1600 ft rock revetment, which is scheduled to be completed by the end of the month.

Sept. 21, 2005



2006 Seawall built



Fall of 2007



Fall of 2008



Sources: GAO.

Unloading rocks for Kivalina's seawall

August 20, 2009



Figure 4: Locations of 31 Alaska Native Villages Imminently Threatened by Flooding and Erosion

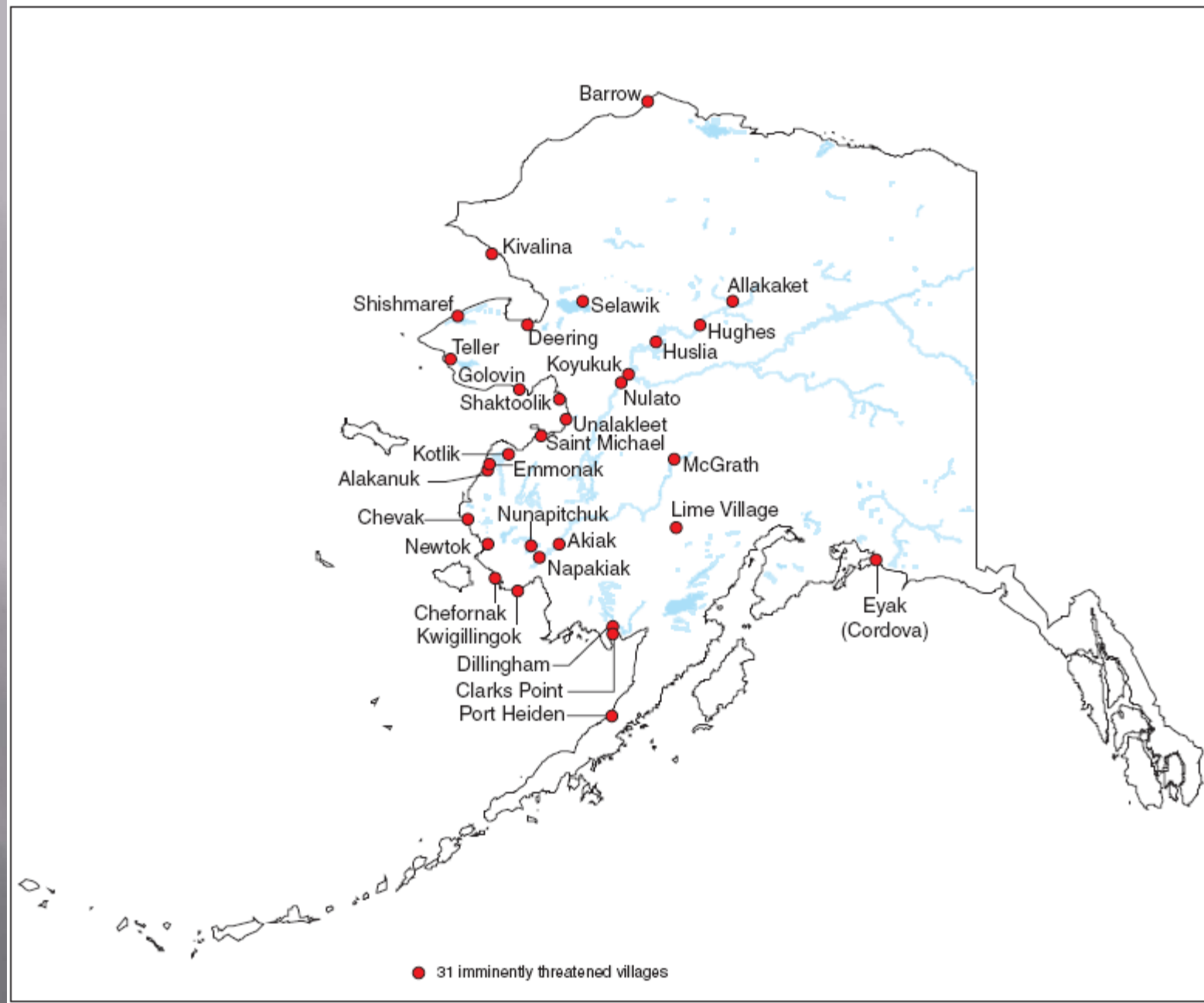
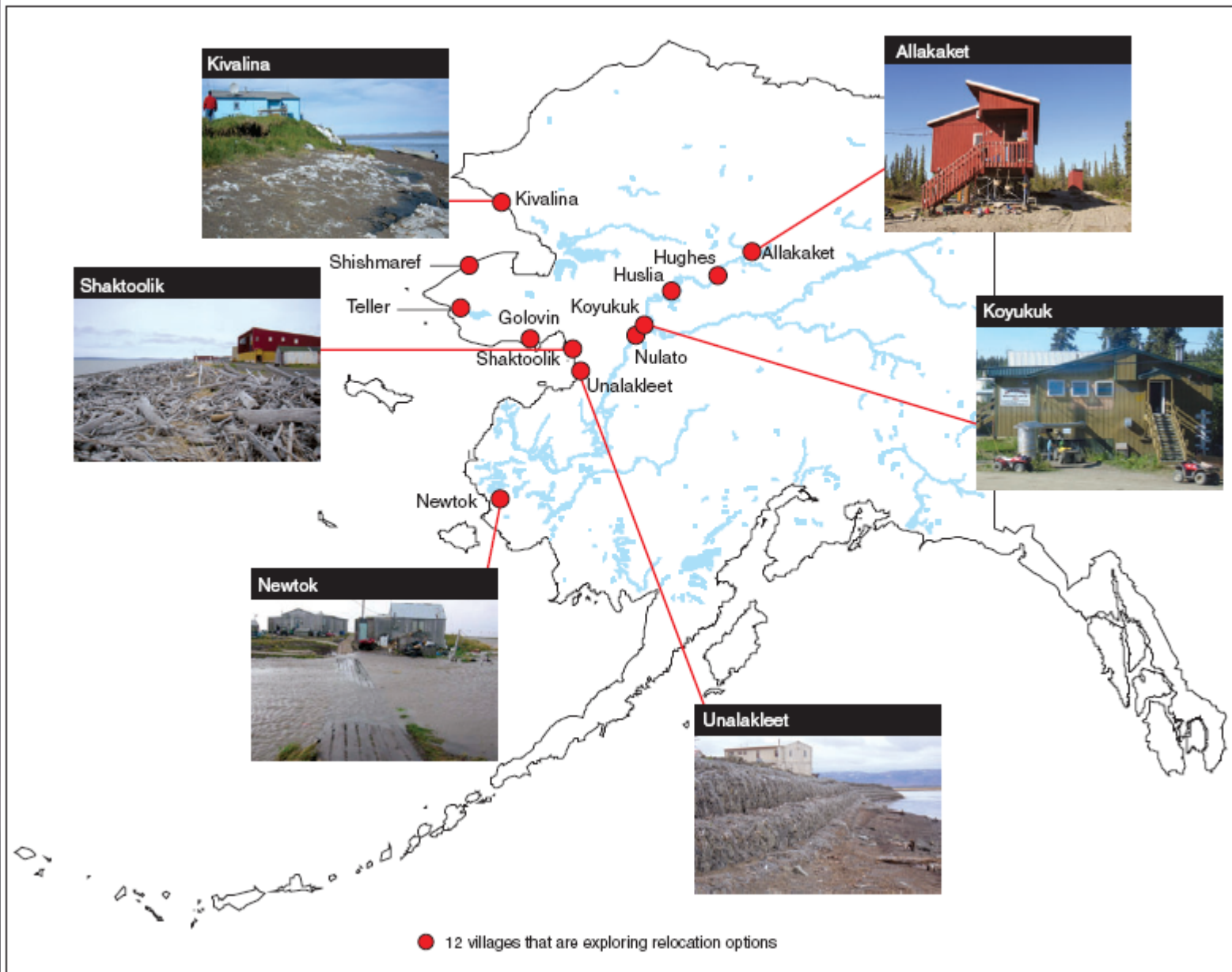


Figure 5: Locations of 12 Alaska Native Villages That Are Exploring Relocation Options





Relocation ??

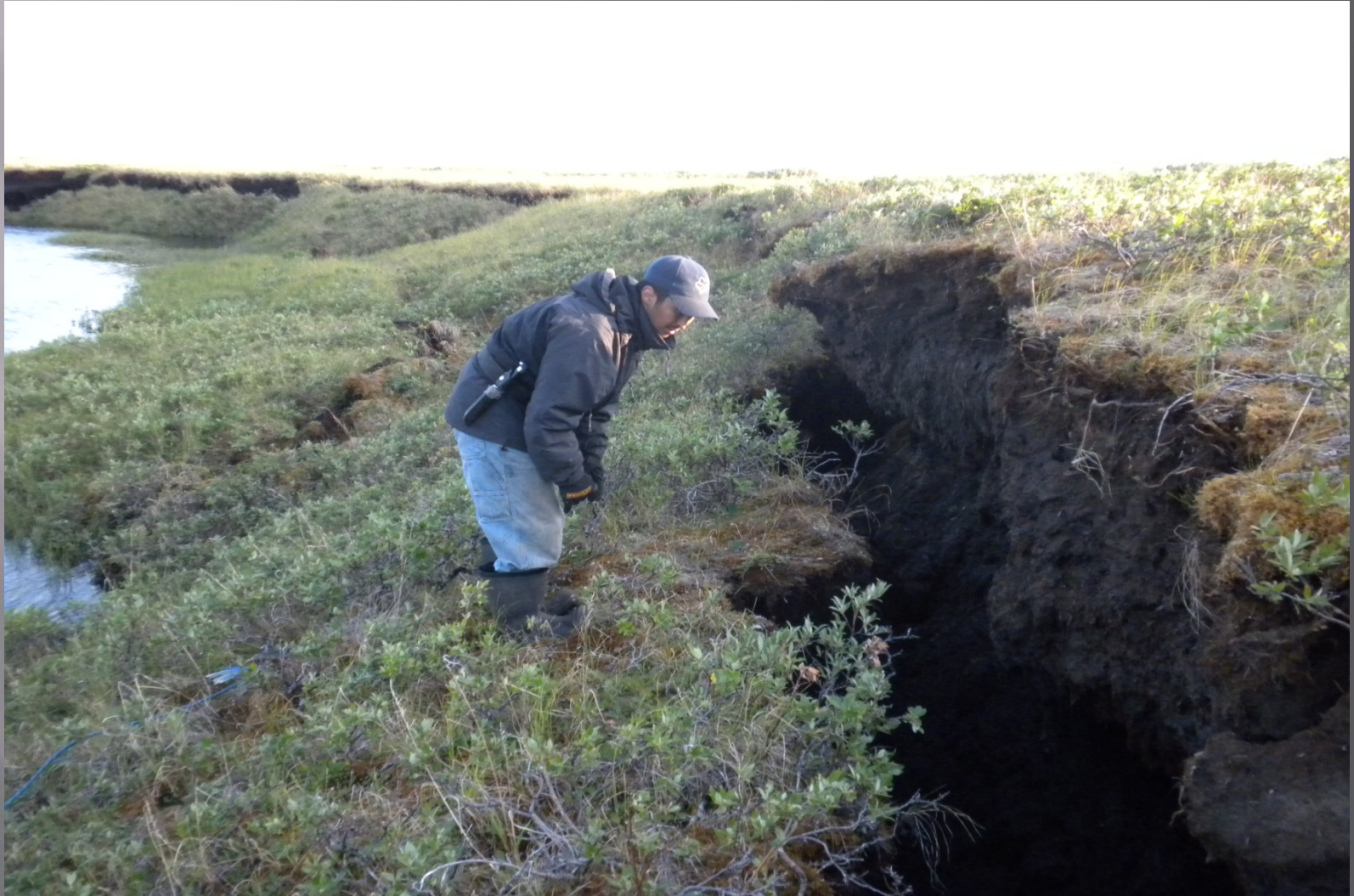
- ▣ Newtok is in the process of moving to a new site.
- ▣ Shishmaref is received \$6.5M fm ACoE for a seawall barrier. They are also in the process of doing an airport wind study as part of the Airport Master Plan Dev. for the new townsite.
- ▣ Kivalina is caught between ACoE decision to disapprove the new townsite and the local gov't decision to stand their ground on the site selected by community vote.
- ▣ Not enough time to talk of other village decisions.



Other climate change impacts

- ▣ River erosion affecting drinking water sources
- ▣ Some ice food cellars no longer able to use
- ▣ Increased anxiety due to uncertainty.
- ▣ Intensity of snow storms

Wulik River Bank erosion '09



Food Ice Cellars



Ice food cellar melting



Intensity of snow storms




Other changes

- ▣ University of Alaska Fairbanks reports:
- ▣ Air Temperatures in Alaska has increased by 1.8 degrees C in the last 100 yrs
- ▣ Ocean temperatures in the Beaufort Sea have risen 2 degrees C in the past 20 yrs.
- ▣ Increase storm frequency and intensity in the Bering and Chukchi Sea and the Arctic Ocean.
- ▣ Reduced duration of sea ice protection from ocean storms.



Waxman-Markey Bill

- ▣ *Section 482, Additional Provisions Regarding Indian Tribes:*
- ▣ Clarifies that nothing in this subpart amends federal trust responsibilities to tribes, exempts information on Indian tribe sacred sites or cultural activities from FOIA, and clarifies that the Department of the Interior may apply the provisions of the Indian Self-Determination and Education Assistance Act as appropriate.



Strides made to reduce carbon foot print

- ▣ Alaska Village Electric Cooperative started pilot projects with wind turbines.
- ▣ RurAL CAP Rural Housing weatherized 204 homes in 2008, doing 55 homes in KVL '09
- ▣ Many of the villages in Northwest Alaska began recycling, reducing and reusing products. Some banned plastic bags.



Conclusion

- ▣ Alaska Native Villages continues to fight for their livelihood.
- ▣ Climate change continues to advance in exhilarated rate, regardless of human efforts to address it.
- ▣ Adaptation is the only solution by which Alaska Native Villages can trust.
- ▣ Alaska Tribes must depend on their innate ability to decide what is best for their communities. Look within, not outwardly.

Thank You

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