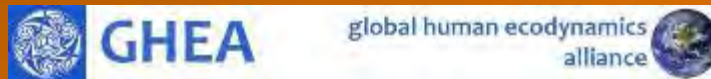


Report from the Ragged Edge: Vanishing Heritage on Alaska's North Slope

Anne M. Jensen, Bryn Mawr College & University of Alaska Fairbanks

210: Global Change Threats to the Archaeological and Paleoecological Record
SAA 81st Annual Meeting
April 9, 2016
Orlando, FL



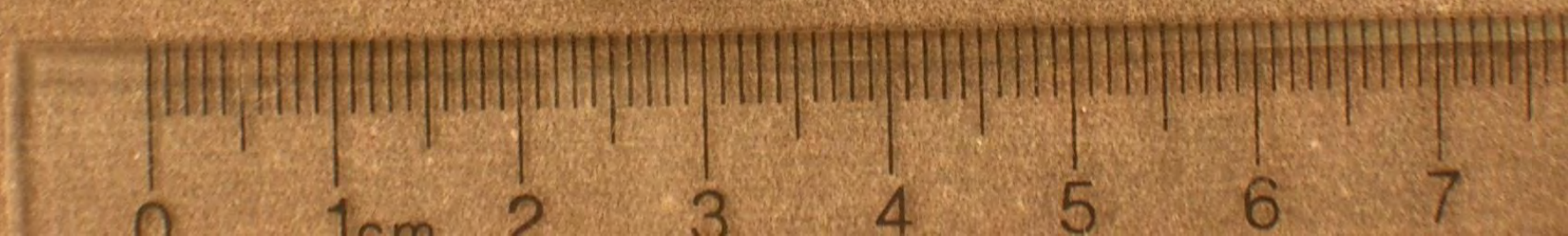


Jet & Ivory composite labret and fish bones



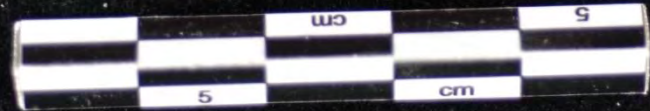
An Ipiutak egg











Nuvuk



Birnirk



Ukkuqsi



Walakpa--August 2003



Walakpa--July 2013



September 2014



August 2015





Rising Sea Level & Coastal Heritage Worldwide Problem

Coastal defenses at Skara Brae Orkney UNESCO World Heritage Site endure for 80 years



Eroding Archaic 5,000 BP shell midden Barbuda

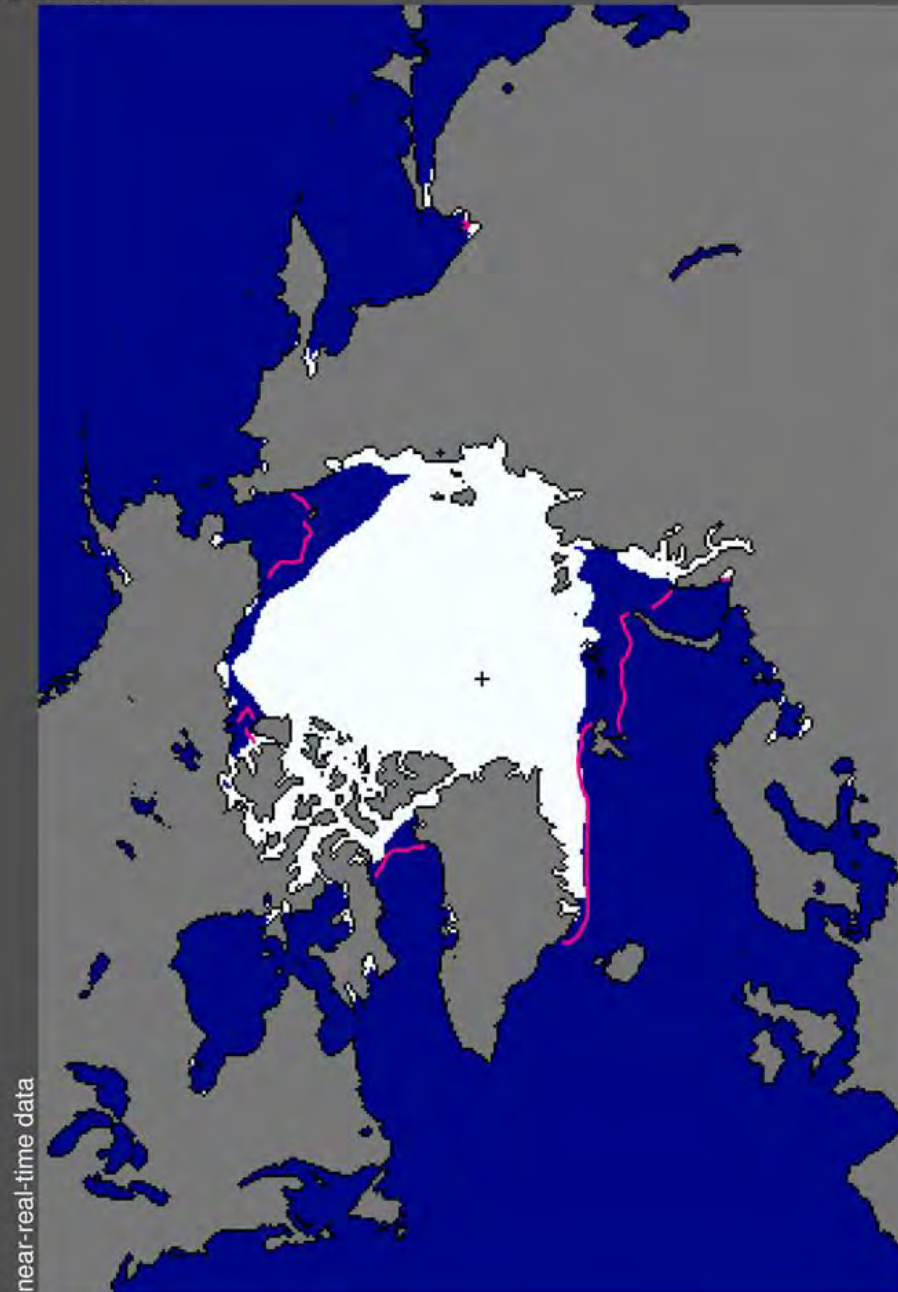


Rising sea level and increasing storminess threaten sites from arctic to tropics. Not all sites can be rescued or conserved, but expertise exists in site protection and rapid rescue. Need for international collaboration in priorities and joint action.

Permafrost and sea level rise at Birnirk



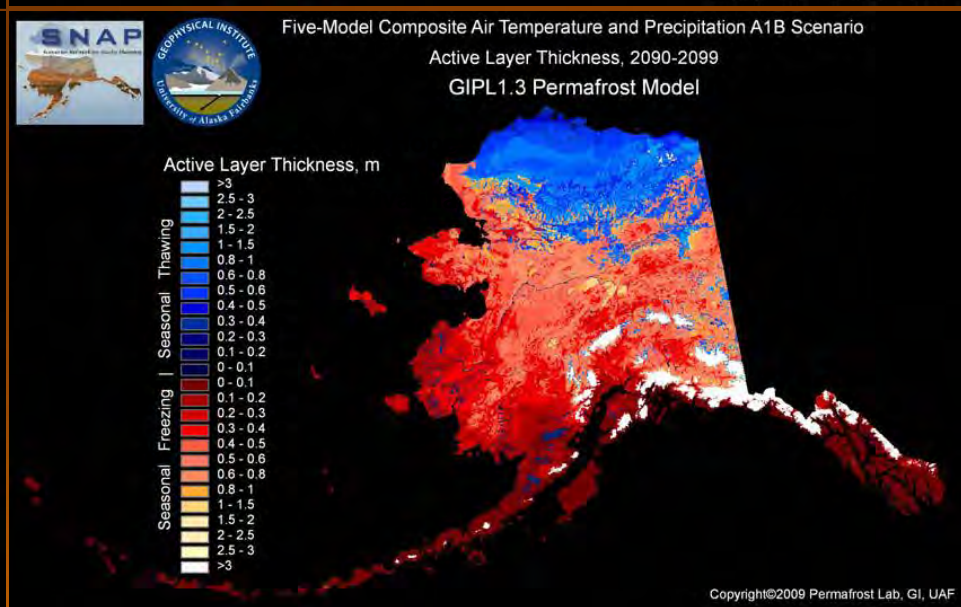
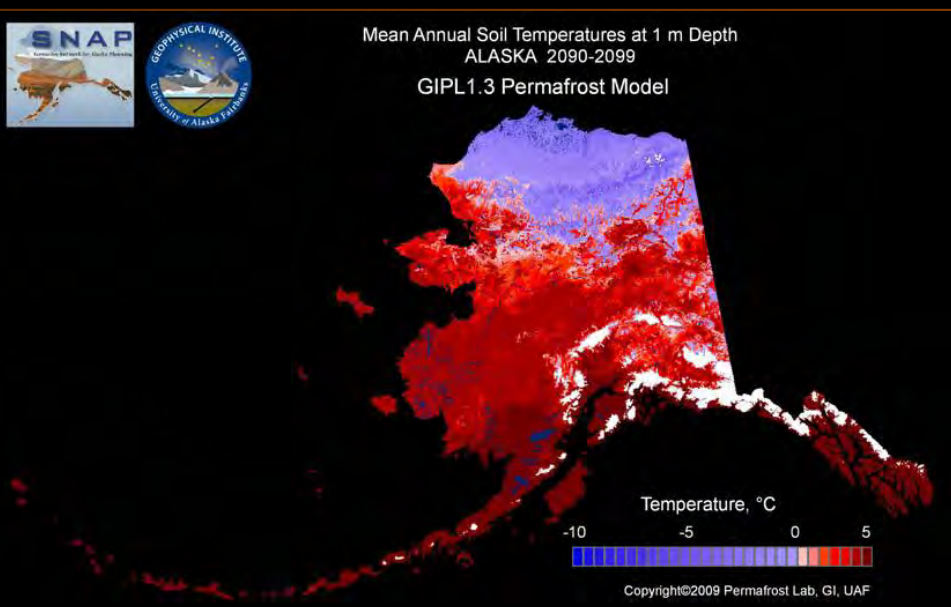
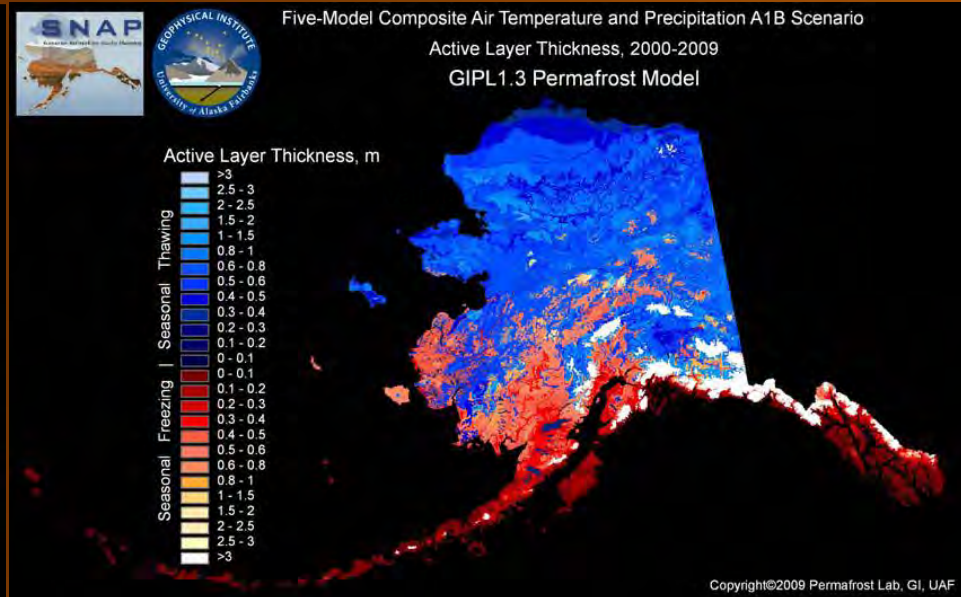
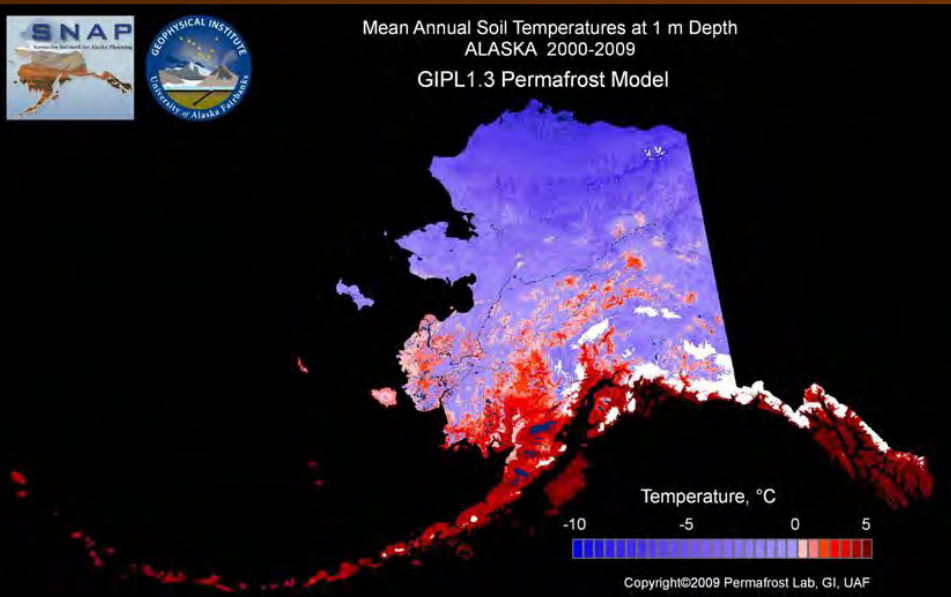
Sea Ice extent reduced



National Snow and Ice Data Center, Boulder, CO

Total extent = 7.7 million sq km

median
ice edge



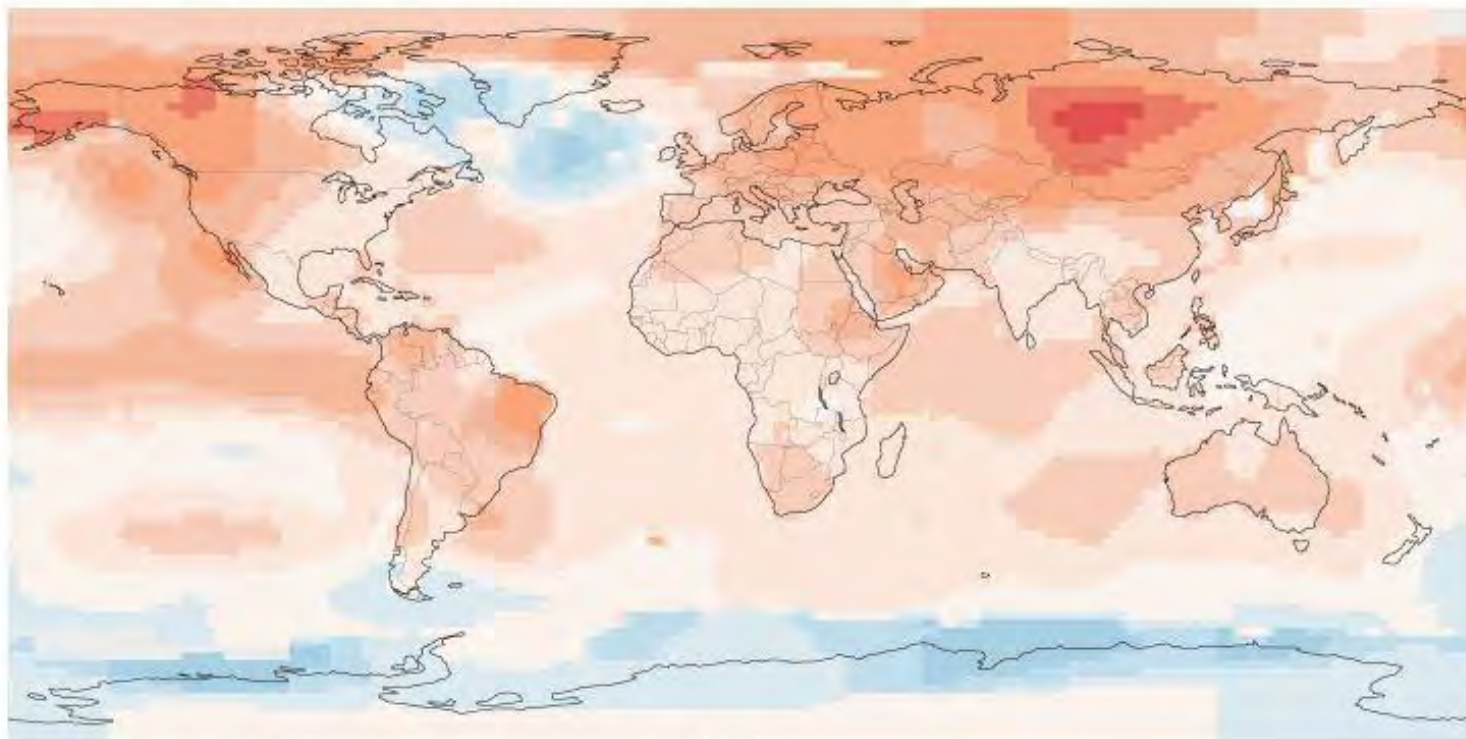
Simulated ground temperatures at 1 meter depth for Alaska for the periods 2000-09 (above) and 2090-99 (below)

Simulated active layer depth for Alaska for the periods 2000-09 (above) and 2090-99 (below)

It is projected that communities of Point Hope and Kivalina will lose their permafrost by 2100

The Hottest Year on Record

Globally, 2015 was the warmest year in recorded history.



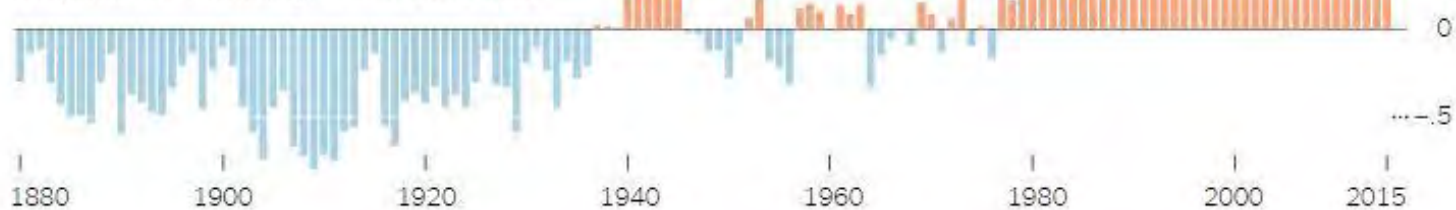
How far above or below average temperatures were in 2015

Compared with the average from 1901 to 2000.



Average global surface air temperatures

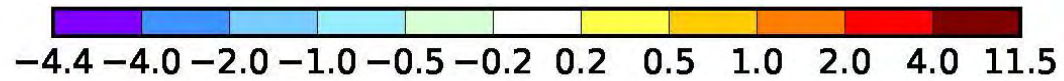
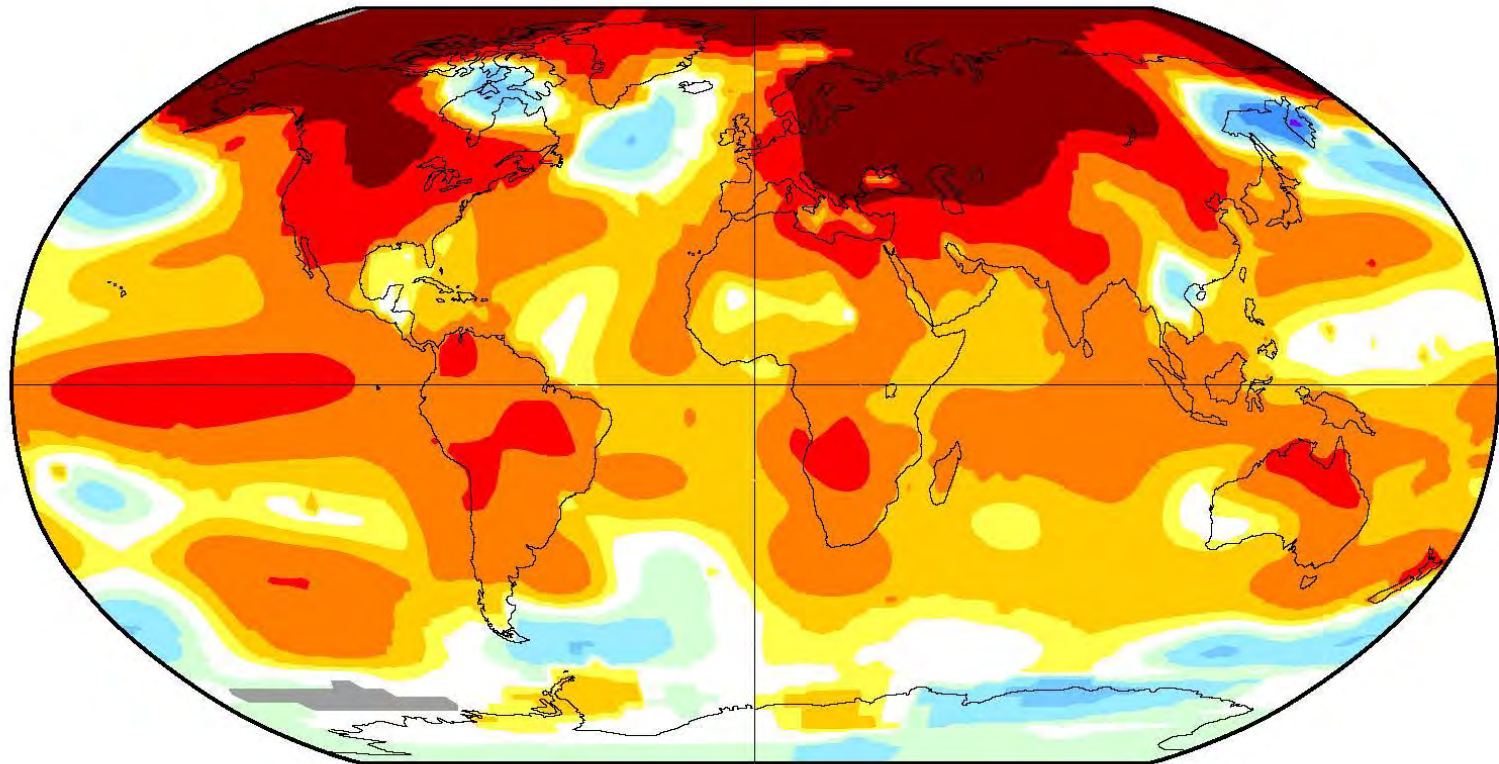
Compared with the average from 1901 to 2000.



February 2016

L-OTI(°C) Anomaly vs 1951-1980

1.35



YOU KNOW YOU'RE A HISTORY FAN WHEN

**YOU STILL GET UPSET THINKING
ABOUT THE LIBRARY OF
ALEXANDRIA.**

Our Library is
on Fire **NOW**



Not just culture--

- Basic zooarch data
- Stable isotopes
- aDNA
- Steroids
- Trace elements
- Big data
- Ecosystem reconstruction and change
- Climate/habitat reconstruction
- Extinctions & bottlenecks
- Species response to specific types of change

OVER MILLENIA



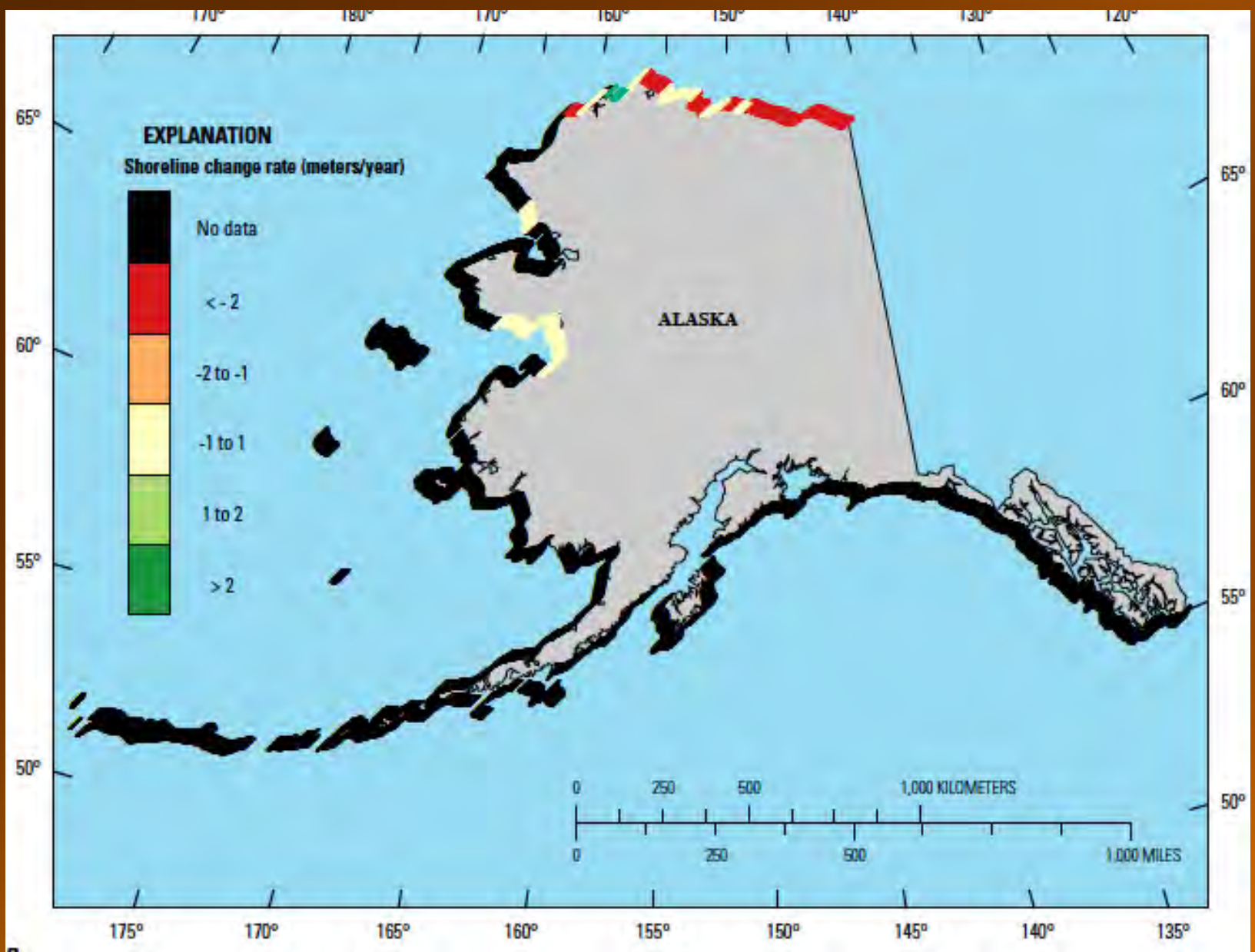
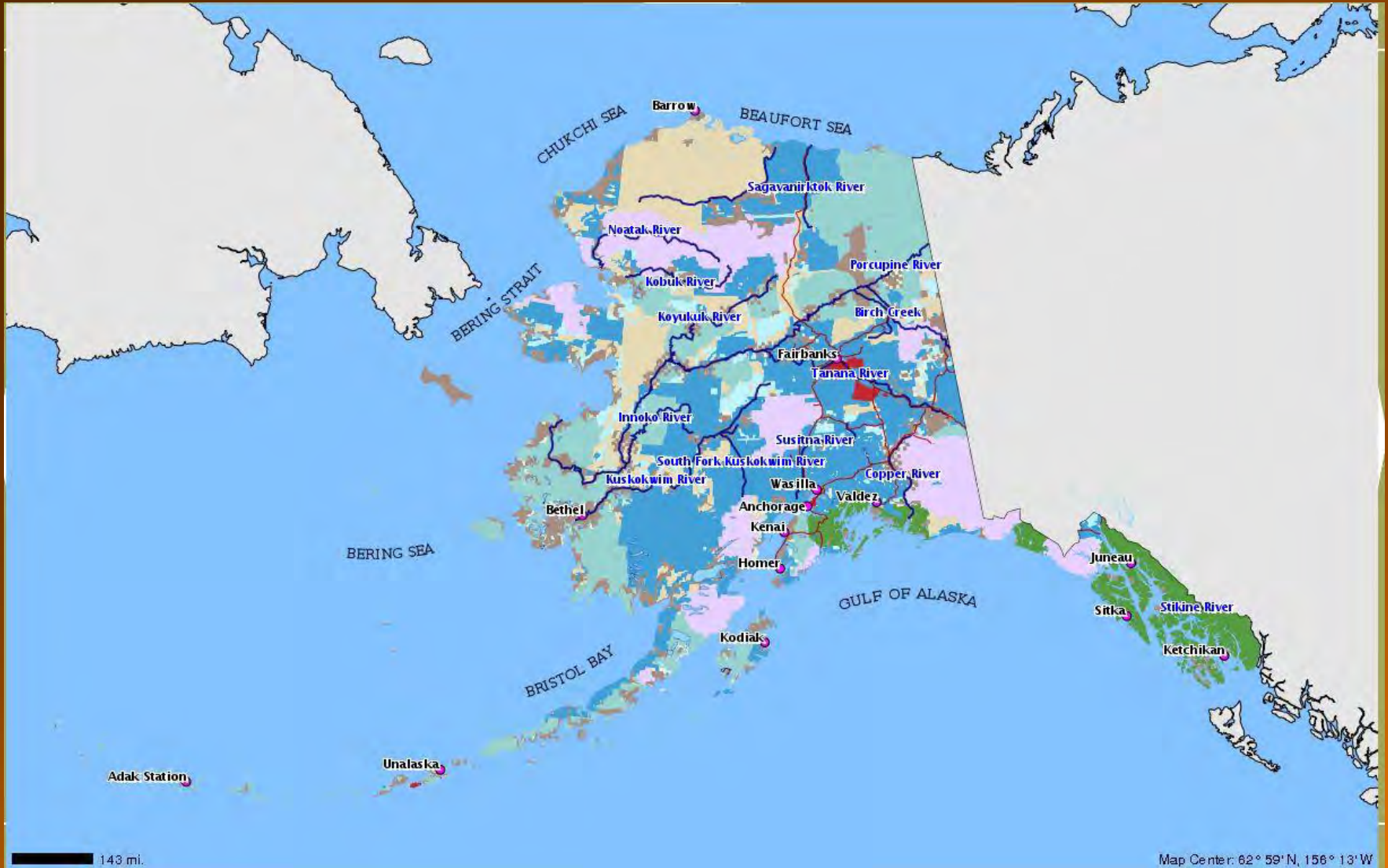


Figure from Gutierrez et al 2014

Land Status



What do we do about it?

- PUBLIC OUTREACH:
 - Media
 - Web-focused arctic science outreach programs
 - Facebook groups
 - Blog--<http://iceandtime.Wordpress.Com>
 - Twitter
 - Project web pages tied to various education portals



Photos or logos work best

Give your Page personality

Help people find you easily



Walakpa Archaeological Salvage Project

Community

Create Call to Action

Share

134 likes +6 this week

657 post reach this week

Status Photo / Video Offer, Event +

Write something...



Out of Ice and Time

Arctic archaeology as seen from Barrow, Alaska

HOME

ABOUT

DOCUMENTS

NUVUK ARCHAEOLOGY PROJECT

WALAKPA ARCHAEOLOGICAL SALVAGE PROJECT



What do we do about it?

- WITH COMMUNITIES:
 - Spread the word to the public
 - Develop simple ways for public to update site information
 - Build capacity in organizations that can respond to emergent issues
 - Train local volunteers to participate
 - Provide access to equipment for recording & salvaging sites
 - Provide professional help for survey, salvage and reporting

WASP 2016



- Community members **highly** concerned
- Individuals monitoring site while traveling or hunting
- Individuals retrieving artifacts washed out by erosion, from several miles of beach
- UIC contributing \$150K plus in-kind support
- UIC has assigned grant writer to look for additional funding sources
- Municipal government contributing in-kind and labor support
- Professionals and students donating time and labor
- Individuals donating airline miles

What do we do about it?

- AS PROFESSIONALS:

- We need to **Identify & Prioritize** significant nodes in the archaeological network that are being lost.
 - More “boots on the ground”
 - Clearing house for information
 - Standardized threat matrix
- We need to **Connect Nodes** in the archaeological network with nodes in modern observing networks
- We need **Support** to address most vulnerable sites in an interdisciplinary way
- We need **Teams** to tackle the most threatened sites.

Thanks to:

- ▶ 2005-2014 NAP crews
- ▶ 2013 and 2015 WASP crews
- ▶ UIC Science LLC
- ▶ North Slope Borough
- ▶ Vladimir Romanovsky, UAF
- ▶ Owen Mason--Geoarch Alaska
- ▶ Claire Alix--Sorbonne
- ▶ Susan Lebo--Hawai'i
- ▶ Barrow Arctic Science Consortium
- ▶ National Science Foundation (Office of Polar Programs)
- ▶ Education through Cultural and Historical Organizations (ECHO)
- ▶ ARCUS—PolarTrec
- ▶ Ilisagvik College
- ▶ North Slope Borough School District

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- Snæbjörn Pálsson



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