

Alaska Climate Change Subcabinet

February 8, 2011
Anchorage, Alaska

Larry Hartig

Commissioner, Alaska Department of Environmental Conservation
Chair, Governor's Climate Change Sub-Cabinet

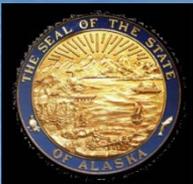
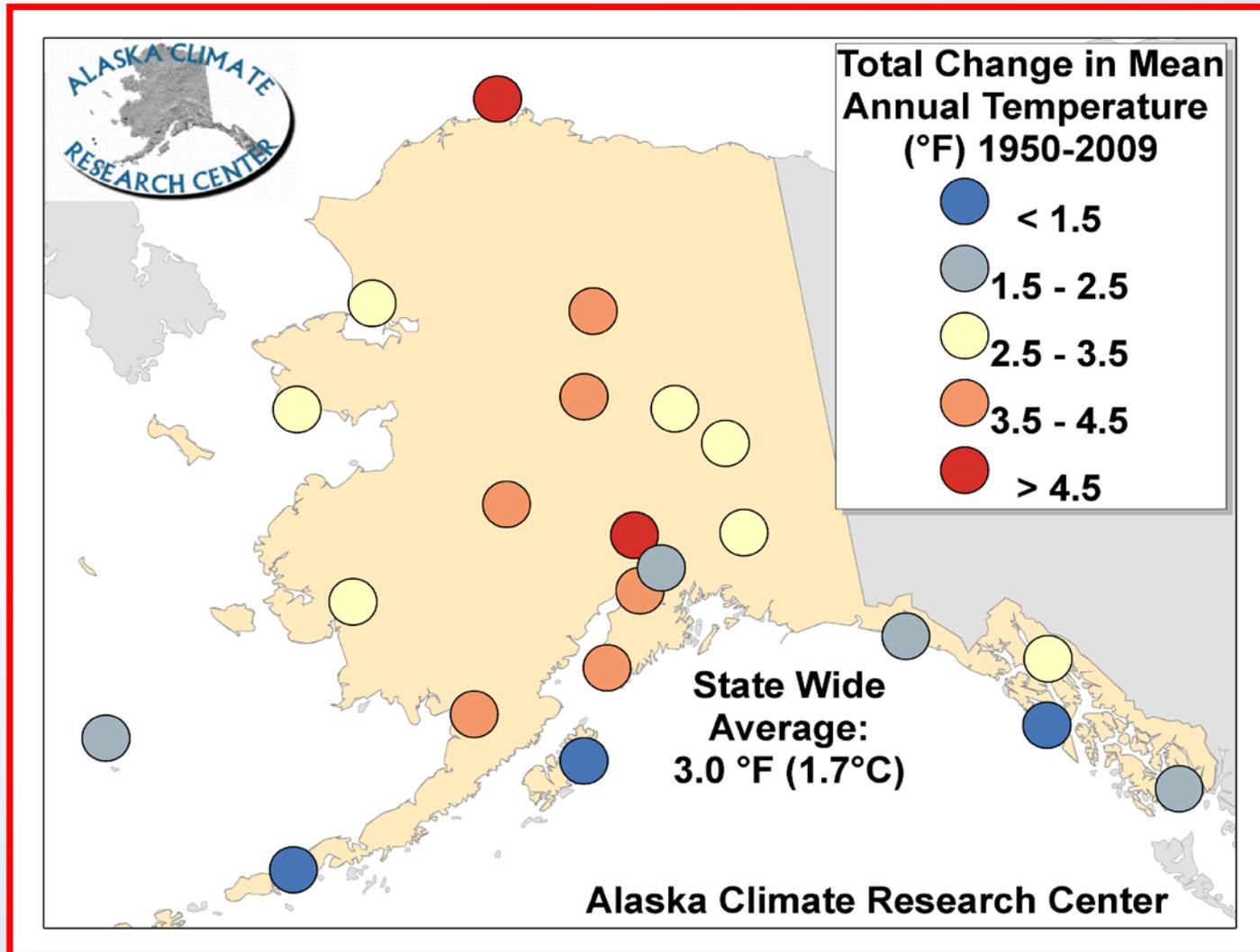


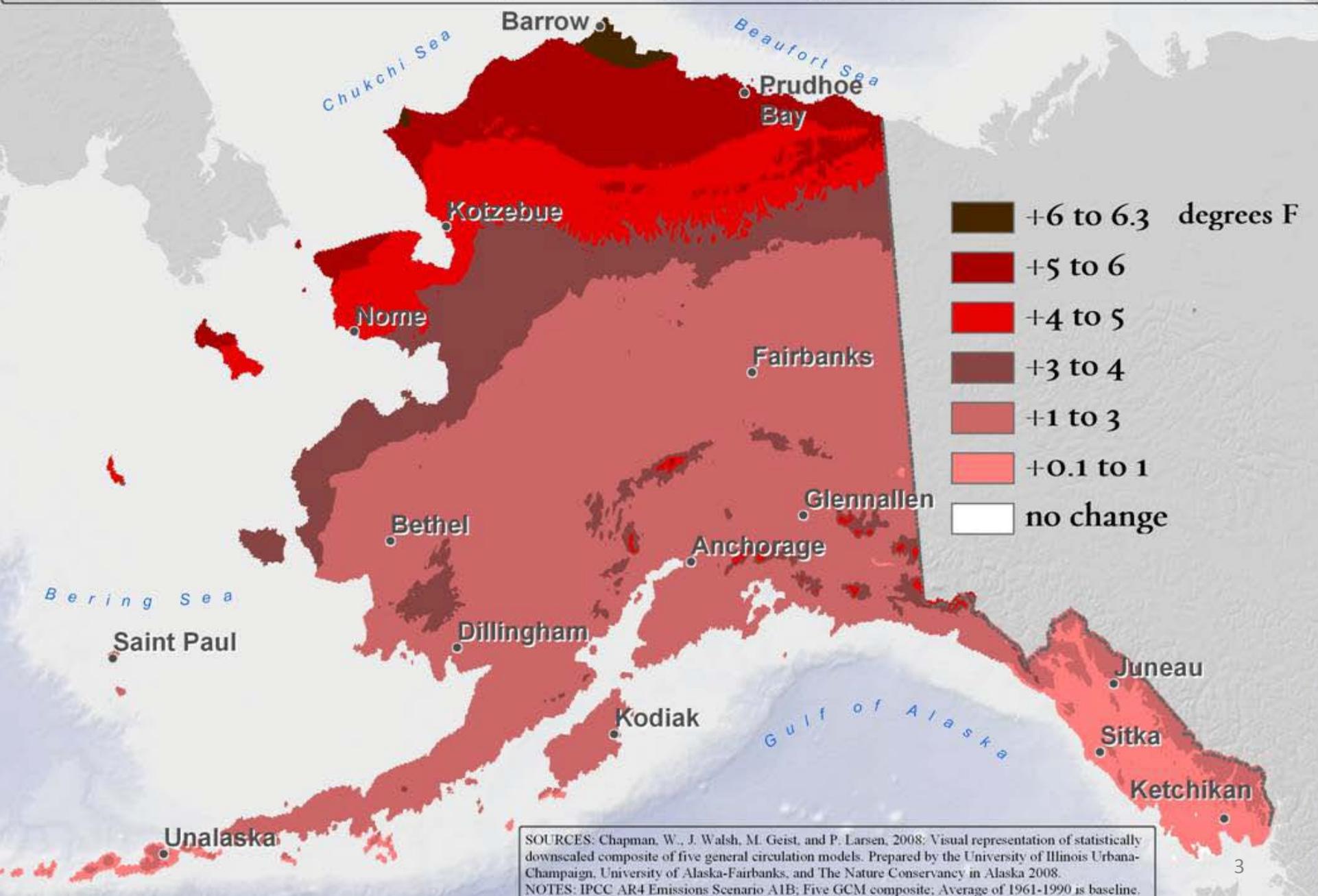
Photo: Brett Cohen

Temperature Trends in Alaska

1950 - 2009



Projected Annual Temperature Change 1961-90 to 2051-60

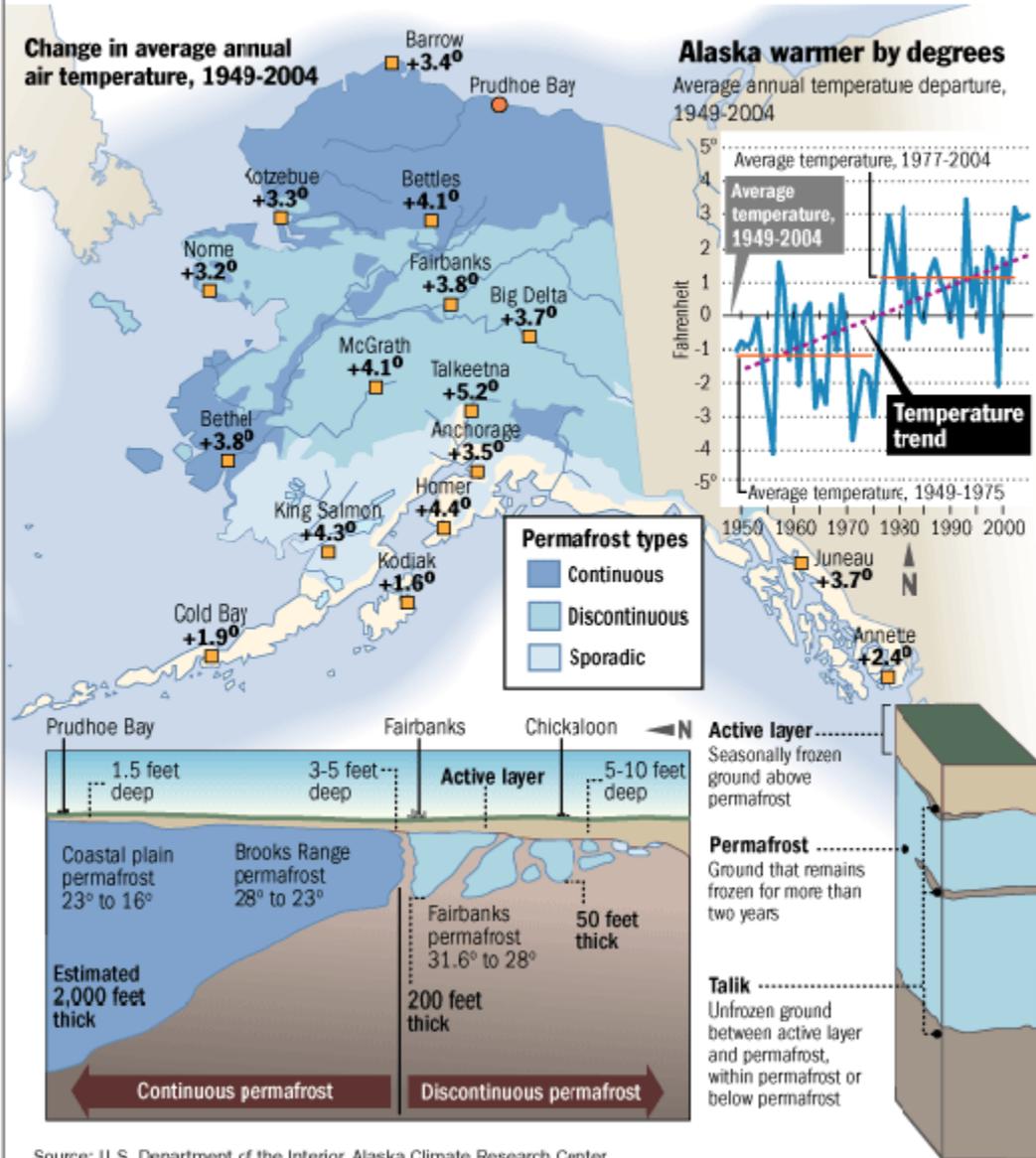


SOURCES: Chapman, W., J. Walsh, M. Geist, and P. Larsen, 2008: Visual representation of statistically downscaled composite of five general circulation models. Prepared by the University of Illinois Urbana-Champaign, University of Alaska-Fairbanks, and The Nature Conservancy in Alaska 2008.
NOTES: IPCC AR4 Emissions Scenario A1B; Five GCM composite; Average of 1961-1990 is baseline.

Climate Change Impacts to Permafrost:

Higher temperatures soften Alaska

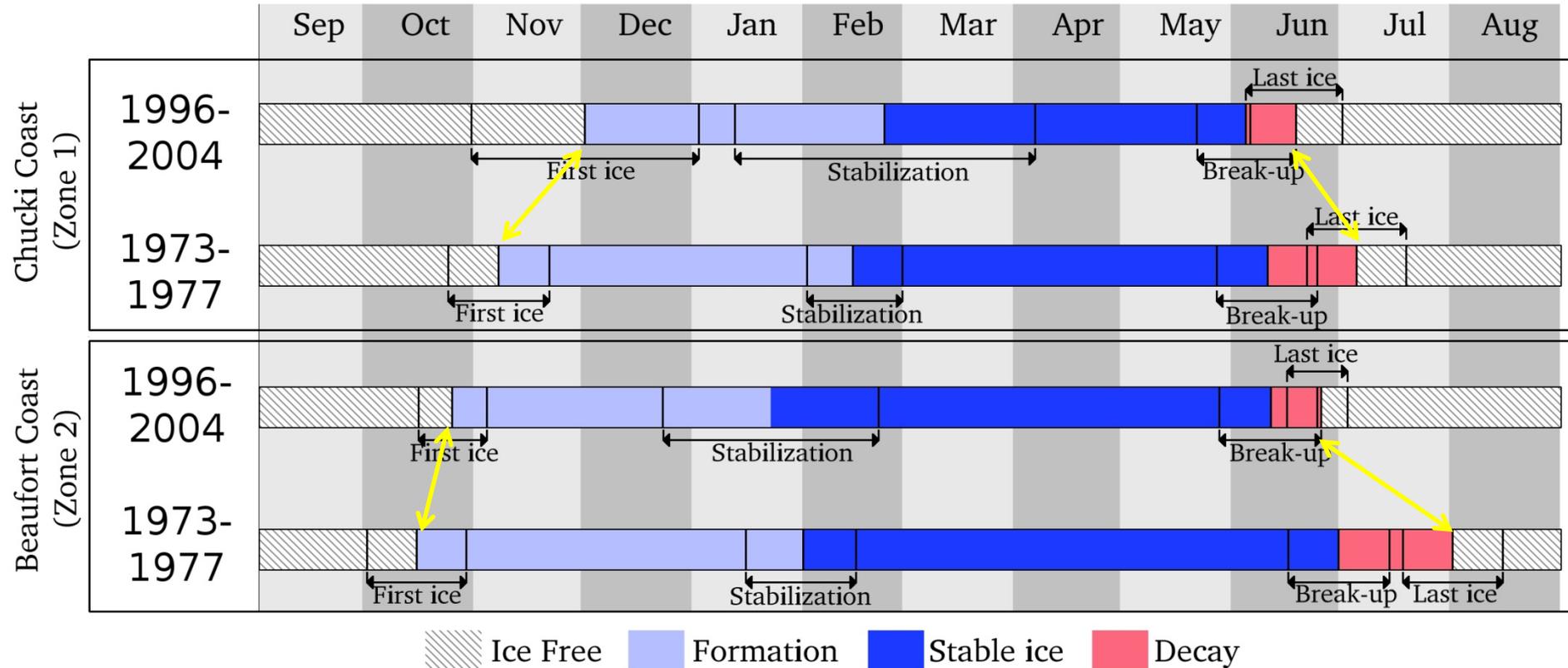
Alaska's average annual temperatures have risen over the past half century. Higher temperatures have caused the permafrost, which underlies much of the state, to gradually recede. The loss of permafrost is expected to change the surface through erosion and sink holes posing threats to roads, buildings and other structures.



Source: U.S. Department of the Interior, Alaska Climate Research Center

CHARLES ATKINS / Anchorage Daily News

Reduction in duration of Landfast Ice Forming Later, Breaking Up Earlier

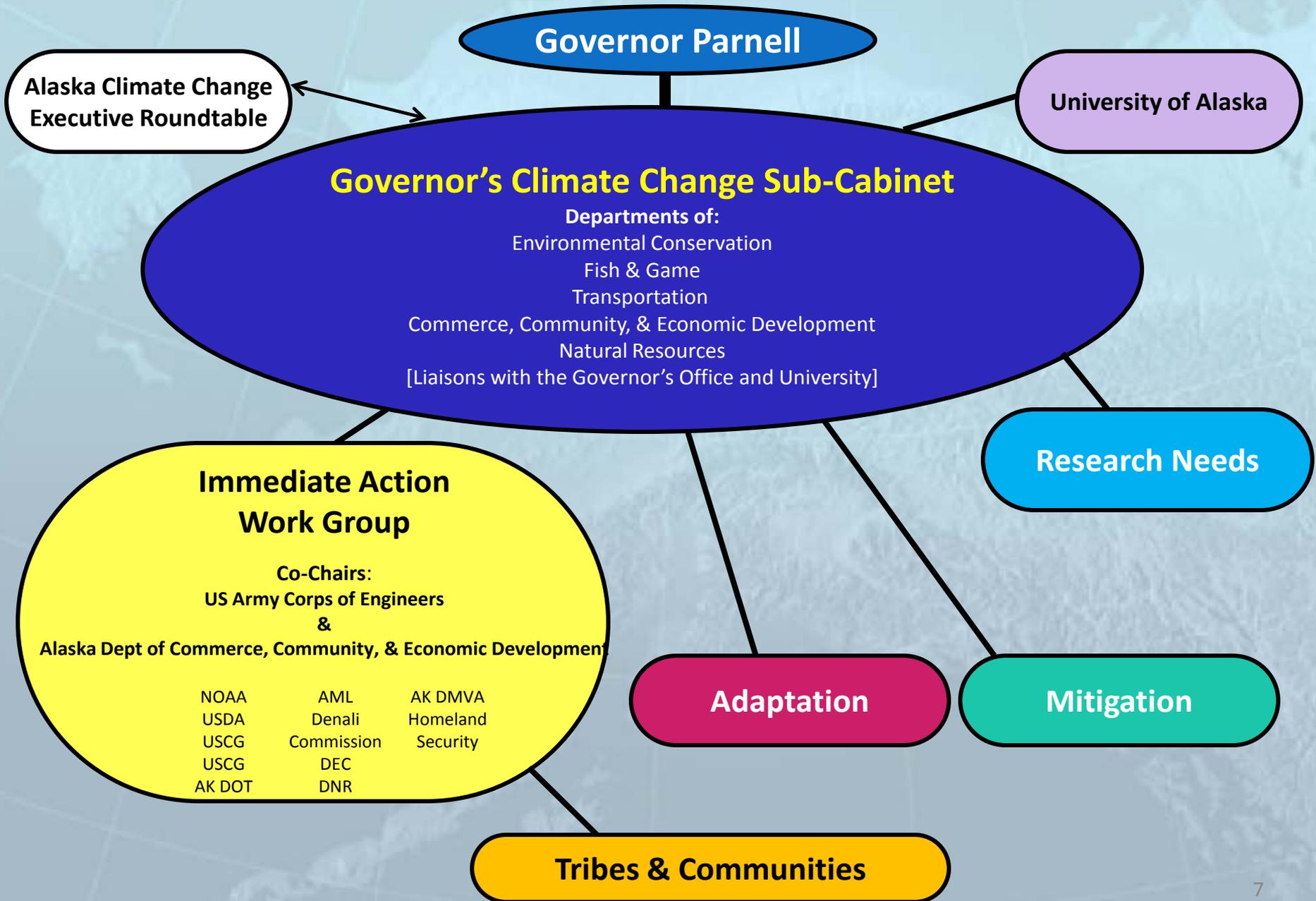


Marine Ice

Important Erosion control

- landfast ice acts as seawall
- floating ice dampens waves
- distance to ice edge - open water fetch control
- slush ice can also act as defense

State of Alaska Climate Change Sub-Cabinet & Coordinating Bodies



31 Villages Imminently Threatened [GAO 2009]

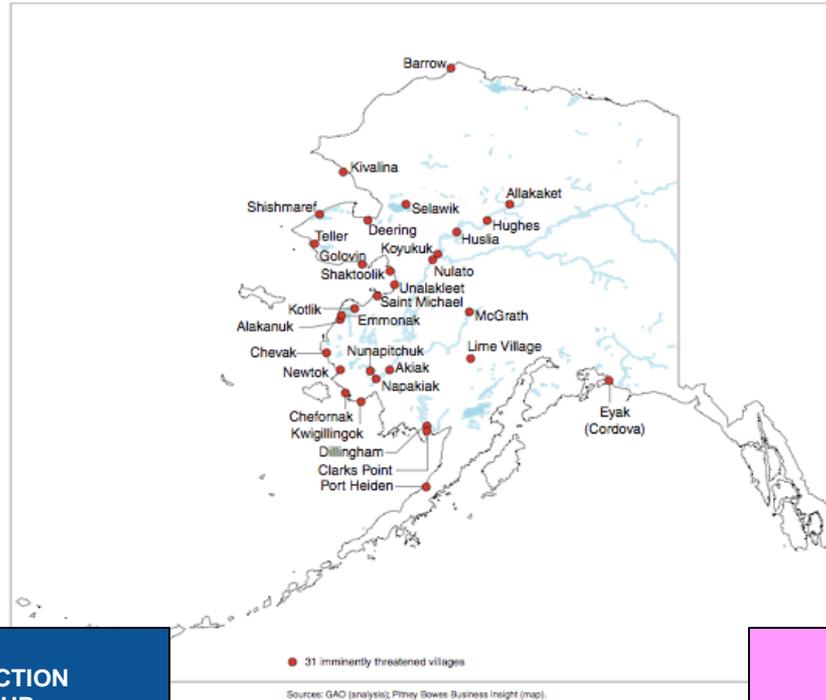
Alaska Communities in Peril

RECOMMENDATIONS REPORT TO
THE
GOVERNOR'S SUBCABINET
ON CHANGE CLIMATE



FINAL REPORT
FROM THE
IMMEDIATE ACTION WORKGROUP
APRIL 17, 2008

IMMEDIATE ACTION
WORKGROUP
RECOMMENDATIONS
TO THE
GOVERNOR'S SUBCABINET
ON
CLIMATE CHANGE
MARCH 2009



Requesters
**United States Government
Accountability Office**

GAO

June 2009

ALASKA NATIVE VILLAGES
Limited Progress Has Been Made
on Relocating Villages
Threatened by Flooding and
Erosion

GAO-09-551

**Alaska Baseline Erosion
Assessments**

<http://www.poa.usace.army.mil/AK/E/Home.html>

**U.S. Army Corps of Engineers
2009**

GAO Reports ('03 '09)

IAWG Reports ('08 & '09)

USACE Assessment ('09)

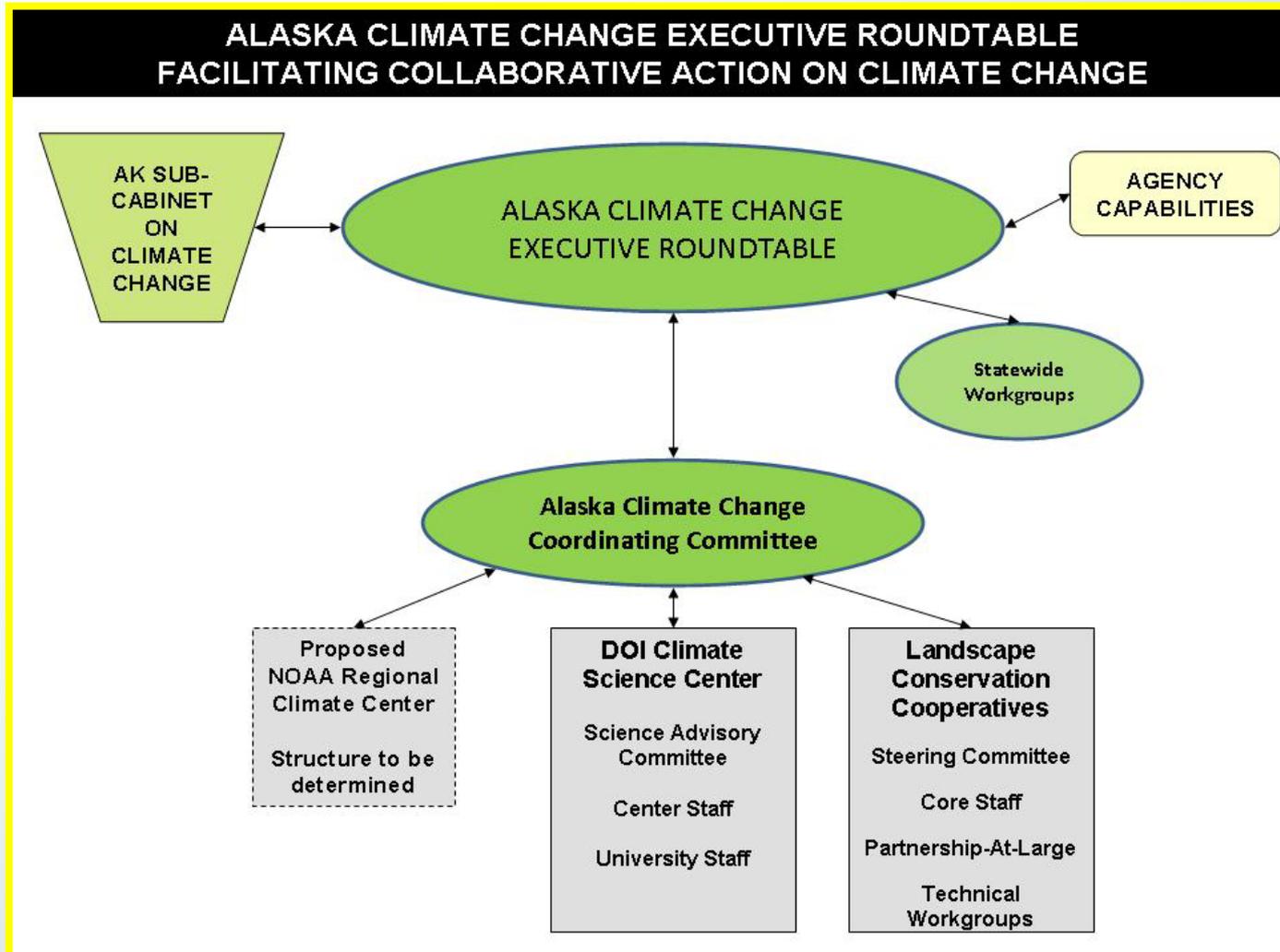
Protecting People & Communities – Short & Long-term Actions ...

<p>Emergency Preparedness [DMVA]</p> <ul style="list-style-type: none">•Evacuation Planning Assistance•Training•Construction of Evacuation Routes & Shelters•Identification of Safe Havens	<p>Temporary Protection [DOT/Corps of Engineers]</p> <ul style="list-style-type: none">•Shoreline Protection, Rock Revetments & similar structures•Mobile Structures
<p>Long Term Solutions [Newtok Planning Group]</p> <ul style="list-style-type: none">•Relocation Guidance & Coordination•Technical Assistance<ul style="list-style-type: none">•Water, Sanitation, Utilities•Project-Specific Grants•Partnership w/DOD Innovative Readiness Training Shelter	<p>Community Planning [DCCED, DCRA, et. Al.]</p> <ul style="list-style-type: none">•Hazard Impact Analysis<ul style="list-style-type: none">•Technical Assistance & Small Grants•Community Planning Grants•Coordinating with others for community wellness, i.e. sustainability

Alaska Climate Change Executive Roundtable

Coordination Amongst State & Federal Agencies

Governance Structure



Alaska The Last Frontier

The End



<http://www.climatechange.alaska.gov/>

