

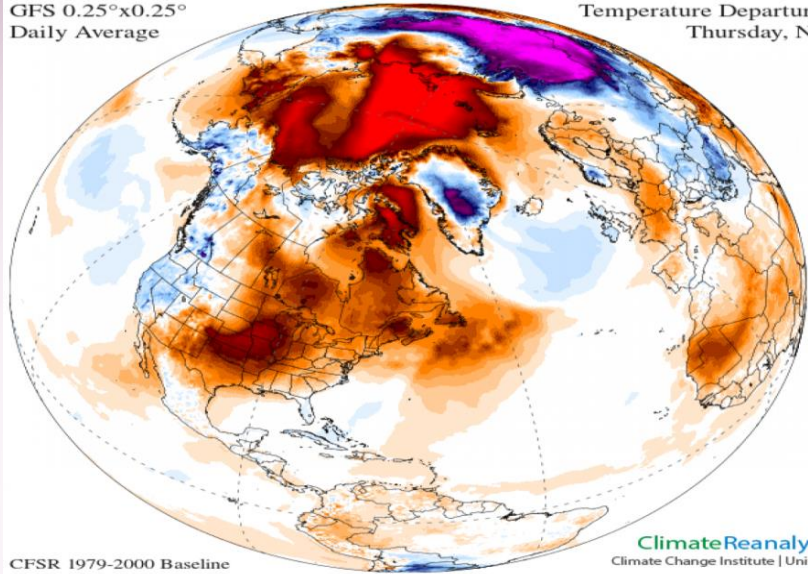
Designing and Implementing a Governance Framework for Community-Led Planned Relocation

**KNOMAD
April 2017**

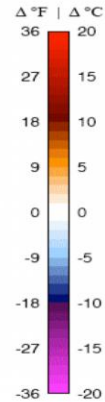
**Dr. Robin Bronen, J.D.
Alaska Institute for Justice**

POLAR AMPLIFICATION

GFS 0.25°x0.25°
Daily Average



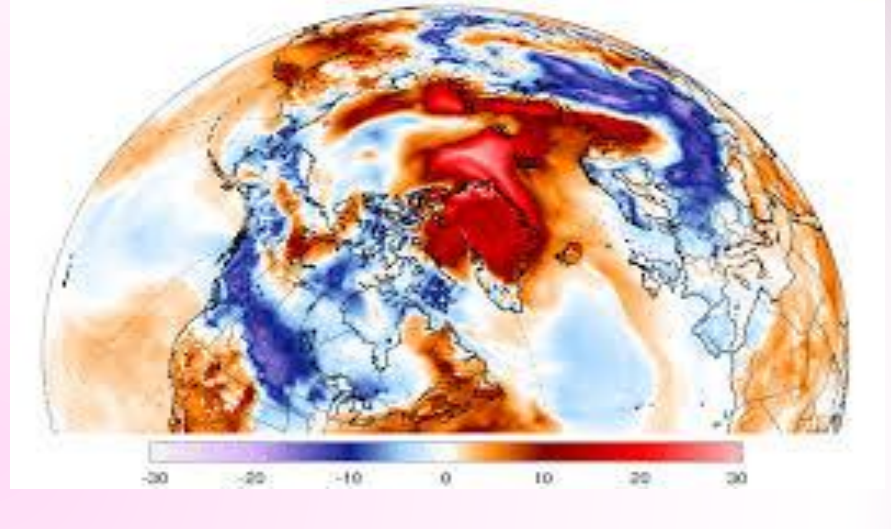
Temperature Departure from Avg
Thursday, Nov 17, 2016



ClimateReanalyzer.org
Climate Change Institute | University of Maine

GFS T 2m Anomaly (°C) [1979-2000 base]
Valid Thu 0000Z, Feb 09, 2017 | 000h

ClimateReanalyzer.org
University of Maine | Climate Change Institute

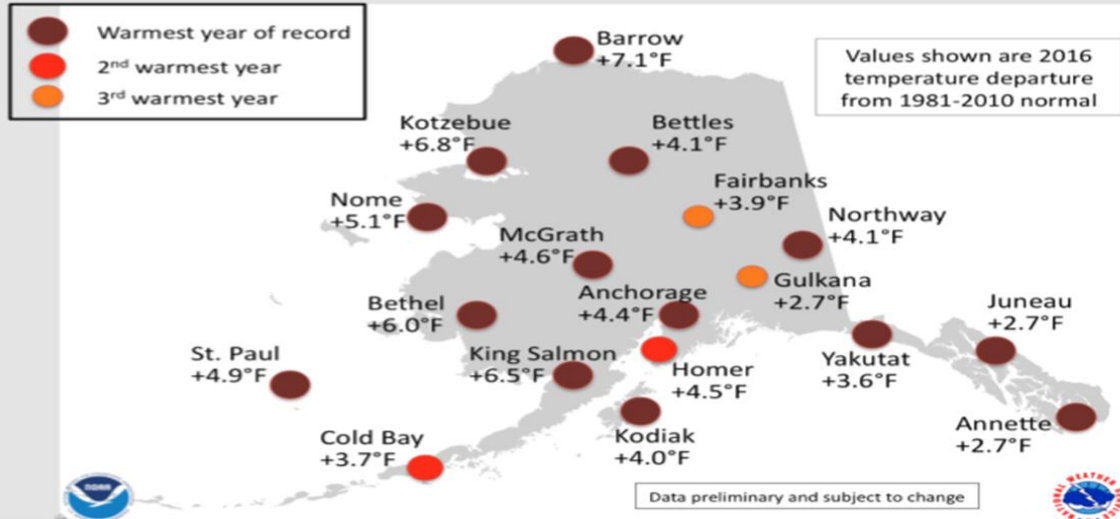


CFSR 1979-2000 Baseline

World	Northern Hemisphere
+ 0.55 °C	+ 0.94 °C
Tropics	Southern Hemisphere
+ 0.31 °C	+ 0.15 °C

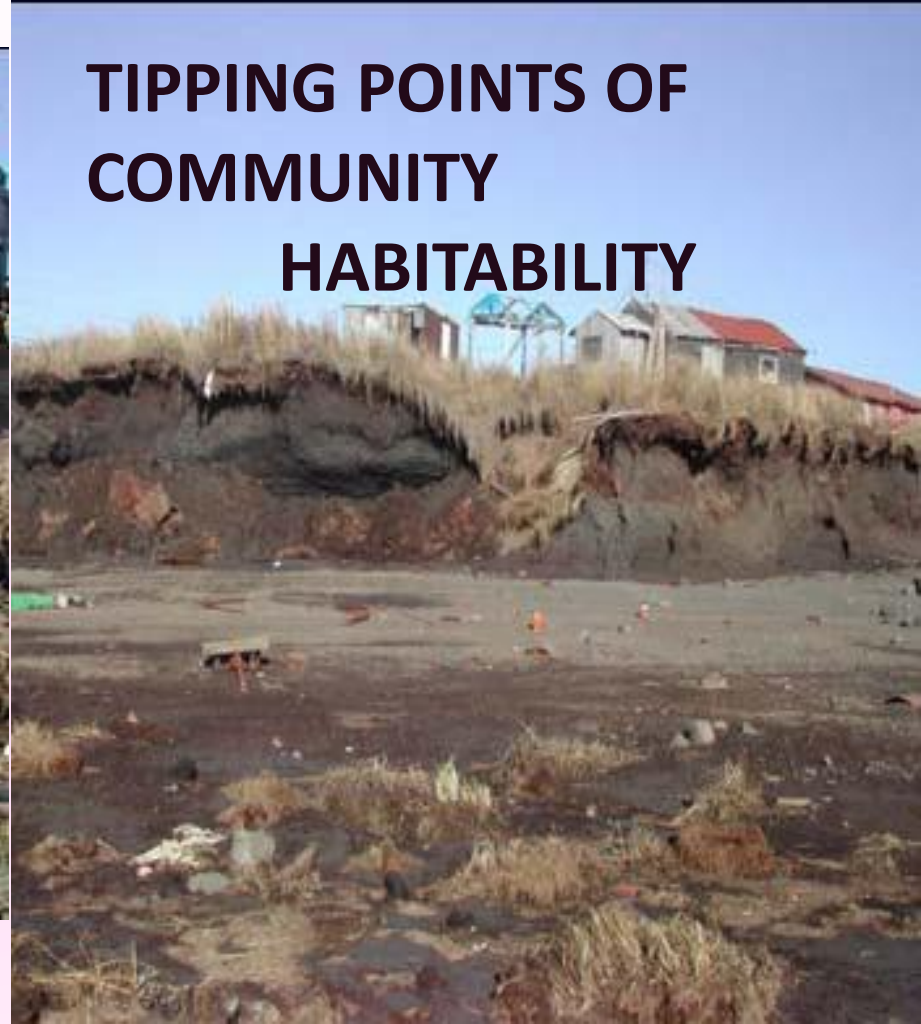
November 2016

2016 Alaskan Warmth



Feb. 2017

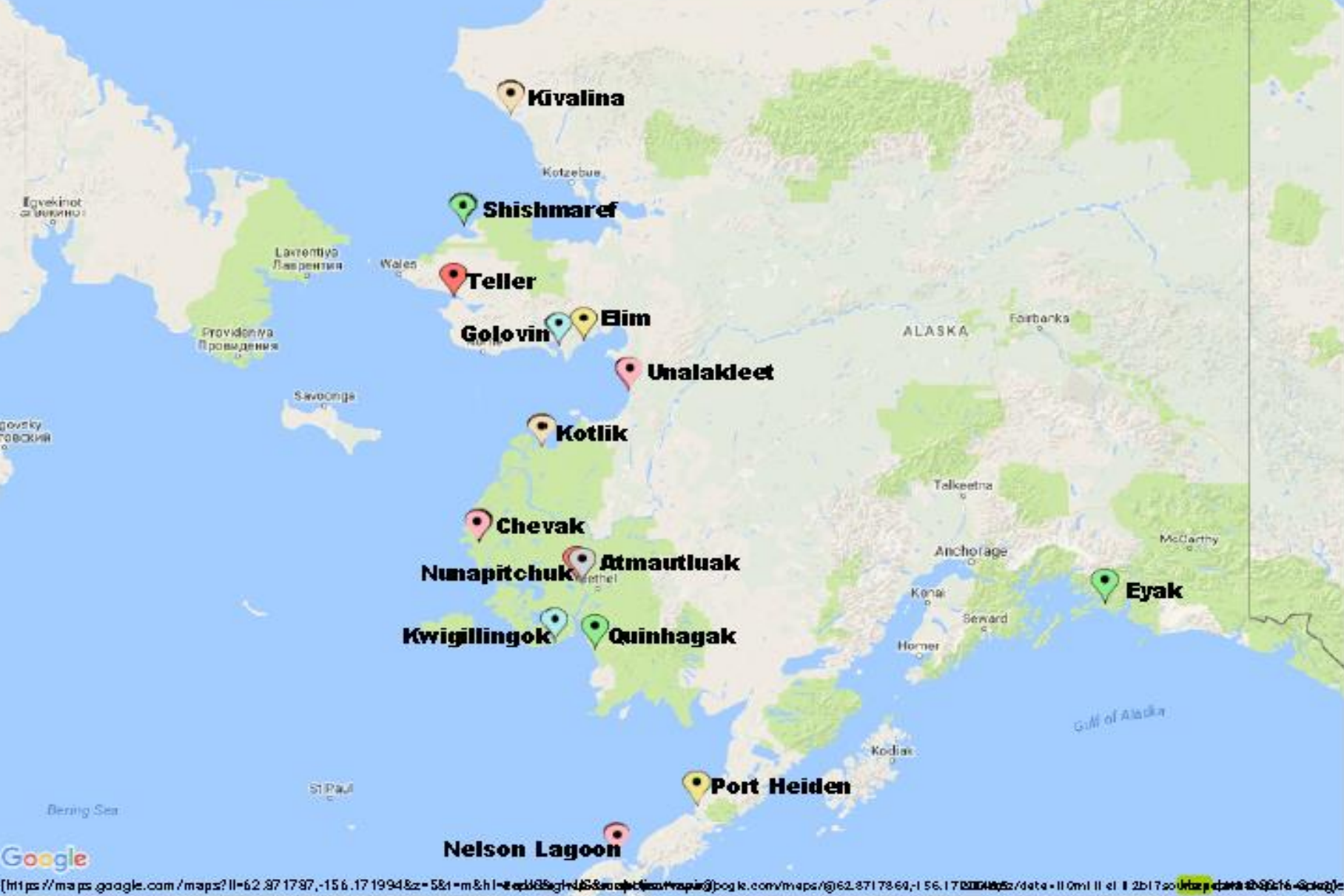
TIPPING POINTS OF COMMUNITY HABITABILITY



Photos: Frank Myoumick-Kawerak

Combination of repeated and frequent extreme weather events and slow-ongoing environmental change: decreased arctic sea ice, thawing permafrost and accelerated rates of erosion

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**All imminently threatened by flooding and erosion.
Two made the decision to relocate**

What Is Planned Relocation In Alaska?

- **Right to Self–Determination**
 - Tribe decides whether relocation occurs
 - Tribe decides location of relocation site
 - Tribe maintains access to subsistence resources
 - Relocation provides opportunity to improve living standards
- **Disaster Risk Reduction Strategy**
 - Relocation Occurs Prior to Displacement Caused by Extreme Weather Event

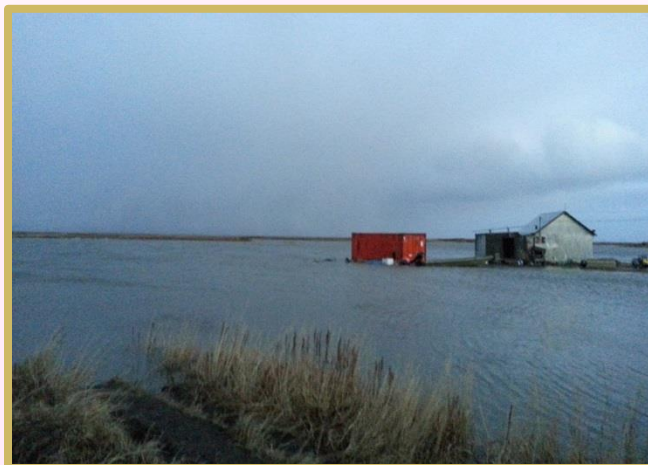
THREE GOVERNANCE ISSUES

- **No government agency has the mandate or funding to relocate a community**
- **No institutional framework to determine the point in time when relocation needs to occur**
 - **What is the institutional process for relocation to occur prior to the occurrence of an extreme weather event that displaces people?**
- **How can human rights be protected?**

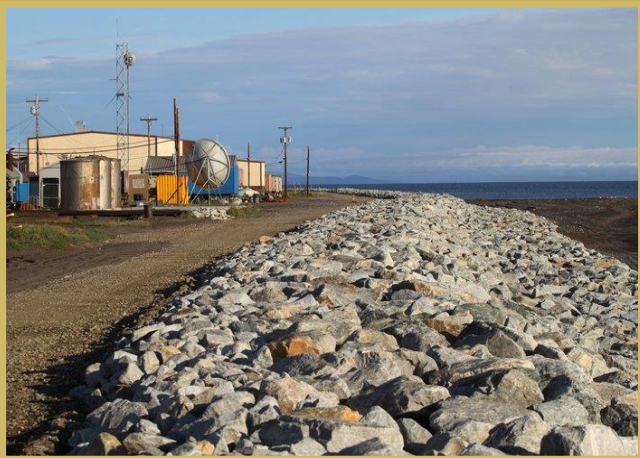
ADAPTIVE RELOCATION GOVERNANCE FRAMEWORK

HUMAN RIGHTS PROTECTIONS

Protection in Place



Community Relocation



Relocation Indicators



Relocation Governance Design



Four Components

1. Federal Legislation
2. Good Governance
3. Social-Environmental Monitoring
4. Funding

Integration of Indigenous Knowledge with Western Science

- **Storm Forecasting**
- **Documentation of flooding and erosion events**
- **Install erosion and shoreline change monitoring time lapse cameras in 5 communities**



Kwigillingok: Erosion along barge landing site on Kuskokwim Bay in 2011. Yellow plastic poles are placed along the bank to measure rates of erosion.



1985 Bank erosion protection Kotlik: Victor Tonunchuk

Acknowledgements



- **Native Village of Kwigillingok**
- **Native Village of Nelson Lagoon**
- **Native Village of Nunapitchuk**
- **Native Village of Port Heiden**
- **Native Village of Kwinhagak**
- **Native Village of Shishmaref**
- **Native Village of Teller**
- **Native Village of Unalakleet**
- **Chinik Eskimo Community**
- **Native Village of Elim**
- **Native Village of Eyak**
- **City of Kivalina**
- **Native Village of Kivalina**
- **Village of Kotlik**