



## DENALI COMMISSION

**Alaska House Resources Committee  
Climate Change / Disaster Programming  
March 28, 2018**





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## Denali Commission – Our Mission

**Created in 1998**

Denali Commission Act:  
serving rural Alaska

- **Identify gaps** where other agencies are not operating

- **Complement**, but not duplicate the work of other agencies



**Sen. Ted  
Stevens,**

photo from Ted  
Stevens  
Foundation



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# 2015 Presidential Assignment Village Relocations & Protect in place Solutions



- Short-term & long-term solutions
- Coastal erosion, flooding & permafrost degradation
- Adaptation strategies – village relocation and/or protect in place (note – this is about infrastructure)
- Denali Commission will be lead coordinating Federal agency (9/2/2015)
- Arctic Executive Steering Committee will provide guidance for a “whole of Government approach”.



# Summary of Environmental Threats

**Coastal Flooding & Wave Run-up** – lack of winter sea ice during extreme winter storms (Shaktoolik, Kivalina, Shishmaref & other communities on barrier islands)

**River Flooding** – during ice break-up and damming the river

**Permafrost melting** – ground subsiding and infrastructure is damaged

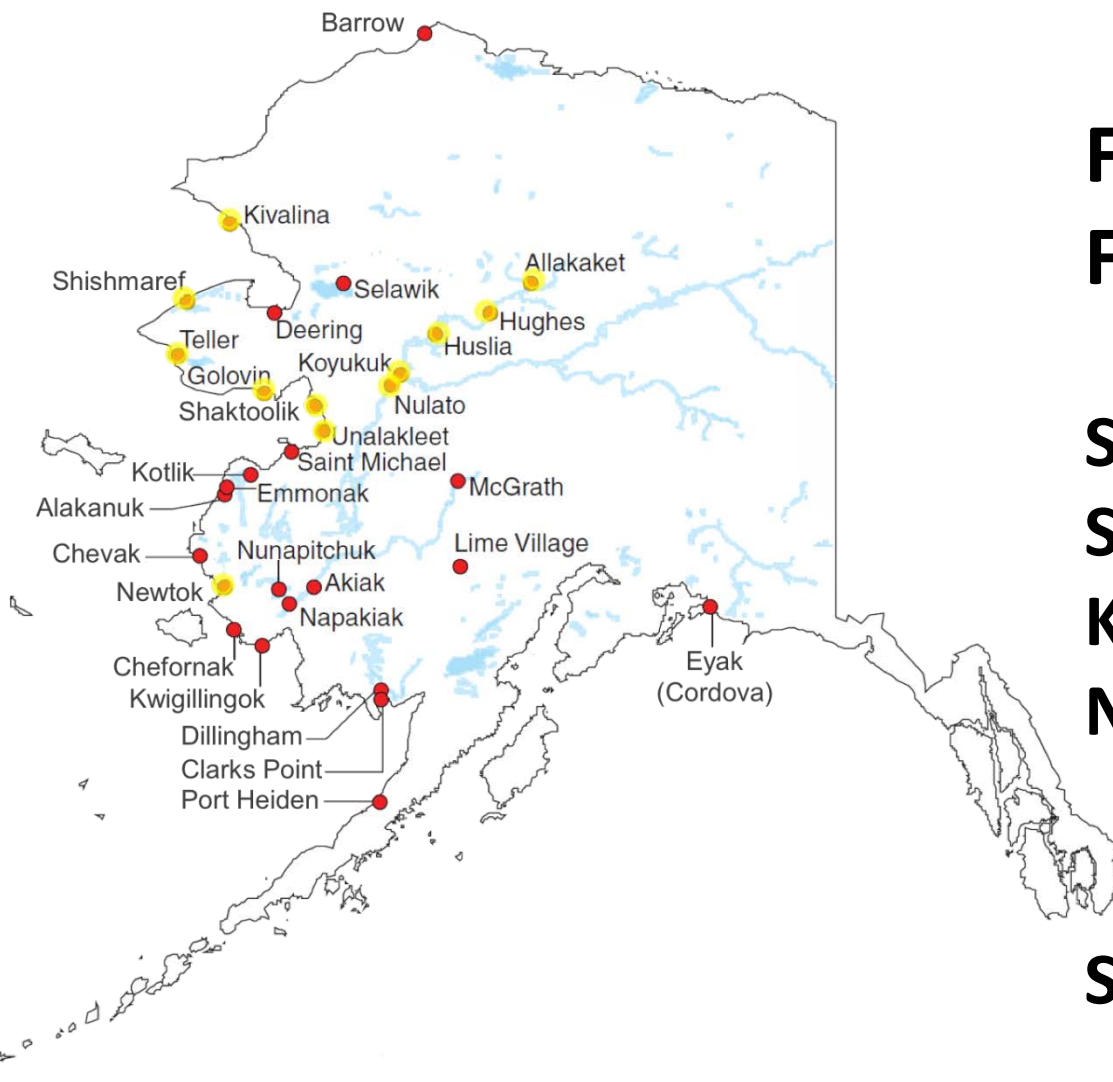
**Erosion driven by permafrost melting** – coastal and river shorelines melting and washing away (Newtok).





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# 31 Environmentally Threatened Communities



**Four Communities  
Facing Relocation:**

**Shishmaref  
Shaktolik  
Kivalina  
Newton (Mertarvik)**

**See GAO Report 09-551**



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# Winter Storms with no shoreline ice

Kivalina



Shishmaref







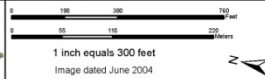
# Coastal Flooding and Wave Run-up



Alaska District  
Corps of Engineers  
Civil Works Branch

## Predicted and Historical Shorelines

**Legend**  
1980 1994 2004 2017 2037



Alaska Baseline Erosion  
Shaktolik, Alaska



**Photo 1:** Shaktolik tank farm threatened by wave-driven driftwood and erosion

**Shaktolik in a 100-Year storm would be inundated by 6 feet of water.**





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# River Flooding/Ice Jam







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# Permafrost Degradation





## Village Infrastructure Protection - Program Funding

On March 22, 2018 Congress instructs the Commission to start **implementing** solutions. (*2 Years, 6 months, 20 days*)

Investment	2016	2017	2018
Newtok/Mertarvik	\$3.37M	\$1.5M	<b>\$18.84M</b>
Shaktoolik	\$1.02M	\$0.5M	\$0.25M
Shishmaref	\$0.52M	\$0.5M	\$1.5M
Kivalina	\$0.52M	\$0.5M	\$0.25M
VIP Program Development	\$1.57M	\$2.0M	\$0.5M
Total	<b>\$7M</b>	<b>\$5M</b>	<b>\$21.34M</b>





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# HB 173 Comments

Climate Change Science (Erosion/Flooding/Permafrost Degradation)



Applied Science (at the local level – Hazard Mitigation Plans,  
Vulnerability Assessments, etc.)



Engineered Solutions & Prioritized Projects (Need)



Funding & Implementation



## HB 173 Comments (Statewide Strategy)

- Enhance the Federal (DC) to State (Juneau) relationship
- Articulate a Village Relocation Policy
- Puzzling – why aren't FEMA & A-DHSEM engaged?
- Focus on **responding to climate change** – not stopping climate change
- Denali Commission stands ready to collaborate on complementary work w/ ACCR Commission
- **Composition** (see AS 42.45.375 (f)(4) Emerging Energy Technology Fund – naming the Denali Commission)