



**DENALI COMMISSION  
Statewide Threat Assessment**

**Coastal Mapping Summit  
February 9, 2018**



# Village Infrastructure Protection (VIP) Program

- Coordination and Facilitation vs. Implementation
- Threats: Coastal Erosion, Flooding, and Permafrost Degradation
- Impacts to Infrastructure
- GAO Report 551—2009



Photos Courtesy of Lemay Engineering



# Statewide Threat Assessment Project

- Rural Communities with Population > 20
- Evaluate Erosion, Flood, and Permafrost Data
- Assign Risk Index for Each Threat
- Establish Aggregate Risk Index



Photos Courtesy of Romy Cadiente



US Army Corps  
of Engineers





# Assessment

Criteria & Ranking	Erosion Ranking											Flood Ranking											Permafrost Ranking												
	Critical Infrastructure	Health & Safety	Subsidence & Shoreline Use	Geographic Location	Population Affected	Housing in Parallel	Environmental Hazard	Cultural Importance	Commercial/Non-Residential	Ranking	Confidence	Critical Infrastructure	Health & Safety	Subsidence & Shoreline Use	Land Use	User/Geographic Location	Population Affected	Housing Distribution	Environmental Hazard	Cultural Importance	Commercial/Non-Residential	Ranking	Confidence	Critical Infrastructure	Health & Safety	Access to Subsidence	Land Use	User/Geographic Location	Population Affected	Housing Distribution	Environmental Hazard	Cultural Importance	Commercial/Non-Residential	Weighted Criteria Total	Confidence
Akhiok, Native Village of	Low	Low	Low	Low	Low	Low	Low	Low	Low	32	Med	Low	Med	Low	Low	Low	Low	Low	Low	Low	21	None	None	None	None	None	None	None	None	None	None	None	0	***	0
Akiak, Native Community	Low	Low	Low	Low	Med	Low	High	High	Med	93	Med	Low	Low	Low	Med	Low	High	High	Med	Med	68	None	None	None	None	None	None	None	None	None	None	0	***	0	
Akutan, Native Village of	Low	Low	Low	Low	Low	Low	Low	Low	Low	19	Med	Low	Low	High	High	Low	Med	Med	Med	Med	68	None	None	None	None	None	None	None	None	None	None	0	***	0	
Alakanuk, Village of	Med	Low	Low	Low	Med	Med	Low	Low	Med	93	High	Med	Low	Med	High	Med	High	Med	Med	Med	132	Med	Low	Low	Low	Low	Med	Low	Low	Low	Low	24	**	24	
Alatna Village	Low	Low	Med	Low	Low	Low	Med	Low	Low	48	Med	Low	High	Low	Low	Low	Med	Med	Low	Low	30	Med	Low	Low	Med	Med	High	Med	Low	Low	32	**	32		
Barrow, Native Village of	High	Low	Low	Med	Low	Low	High	Low	High	84	Med	Low	Low	High	Med	Low	High	Med	High	High	74	Med	Low	Med	Med	High	High	Med	High	Med	41	***	41		
Dillingham, Curyung Tribal Council (for Huslia Village)	High	Low	Low	High	Low	Low	High	Low	Med	105	Med	Low	Low	Med	Low	Low	Med	Med	Med	Med	29	Low	Low	Low	Low	Low	Low	Low	Low	Low	19	***	19		
Kivalina, Native Village of	High	Low	Med	High	Low	Low	High	Low	Med	111	Med	Med	Low	Med	Med	Low	Med	Low	Low	Low	84	Med	Low	Med	Med	Med	Med	Low	Low	Low	32	**	32		
Port Heiden, Native Village of	High	Med	High	High	High	High	Med	High	High	153	Med	Med	Med	High	High	Med	Med	Med	Med	Med	82	Low	Low	Low	Med	Med	Med	Low	Low	Low	24	**	24		
Port Heiden, Native Village of	Med	Med	Low	Med	High	Med	High	Med	Low	117	Med	Med	Low	Low	Med	Low	Low	Low	Low	Low	27	None	None	None	None	None	None	None	None	None	0	***	0		

- Erosion, Flood and Permafrost evaluated by similar criteria
- Individual condition score and certainty of evaluation determined



## Objectives and Uses

- Consolidated Data
- Better Understanding of Environmental Vulnerabilities and Threats
- State and Federal Prioritization of Resources
- Scoring Criteria
- Quantify and Communicate Needs
- Inform Agency Investment Decisions





## Next Steps

- Finalize evaluation criteria and determine composite indices
- Conduct public meetings in communities to “ground truth” assessment methodology
- Develop public-facing static display (ex. Google Earth kml) of assessment results
- Participate in Silver Jackets Yukon-Kuskokwim Delta Resiliency Workshop in cooperation with Western Alaska LCC.
- Determine where and how dataset will be housed and updated



## Feedback / Questions

