

Stitching Water: Building Collaborative Monitoring Networks in Alaska

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November 2015



**LANDSCAPE CONSERVATION
COOPERATIVES**

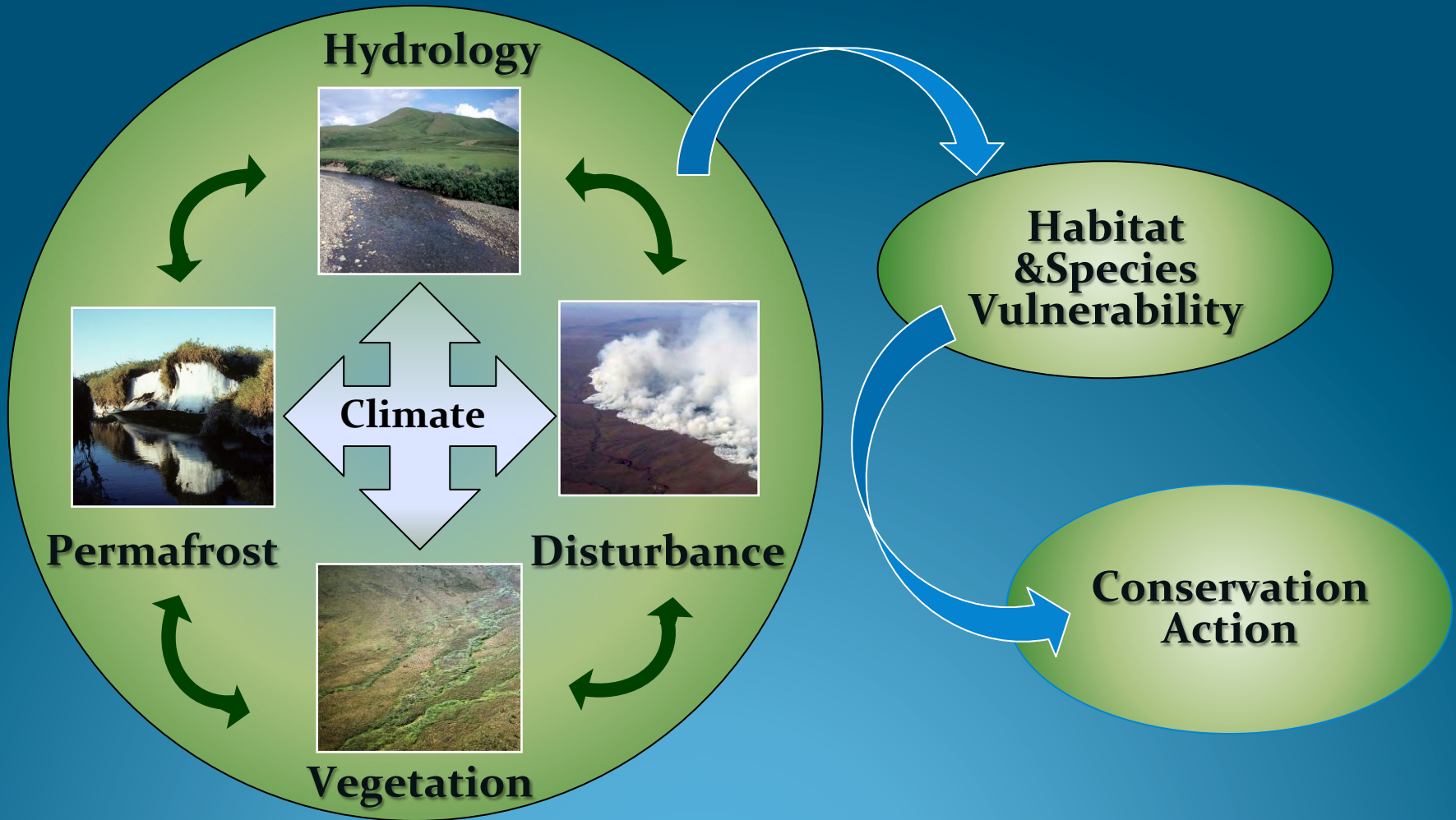


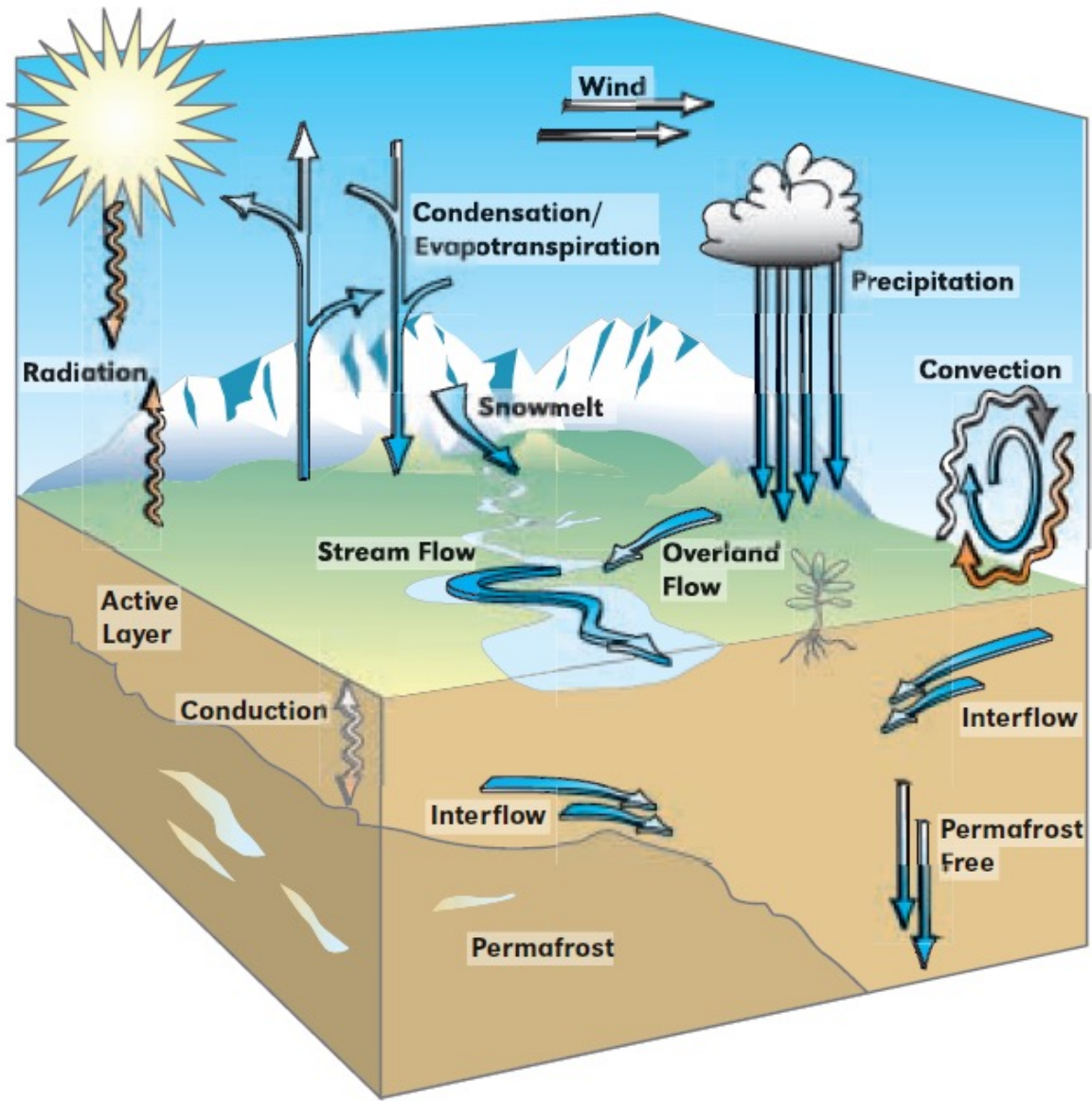
**Arctic
Landscape
Conservation
Cooperative**


Western Alaska LCC



Promote better understanding of the main drivers of change in ecosystems and habitats, at landscape to regional scales.





A scenic view of a river flowing through a forested valley with mountains in the background. The river is turbulent, with white water rapids. The surrounding landscape is lush with green trees and vegetation. The sky is overcast.

**From Reach to Region:
promoting a voluntary, statewide
freshwater temperature
monitoring network in Alaska**

**Western AK LCC FY13/14 Program:
Freshwater Temperature Change & Impacts**

Convening

Alaska Stream and Lake Temperature Monitoring Workshop

Anchorage, Alaska
November 5 & 6, 2012



Kijik River, Lake Clark National Park

SPONSORED BY:
Western Alaska Landscape Conservation Cooperative
Northwest Boreal (formerly Northwestern Interior Forest) Landscape Conservation
Cooperative
Alaska Climate Science Center

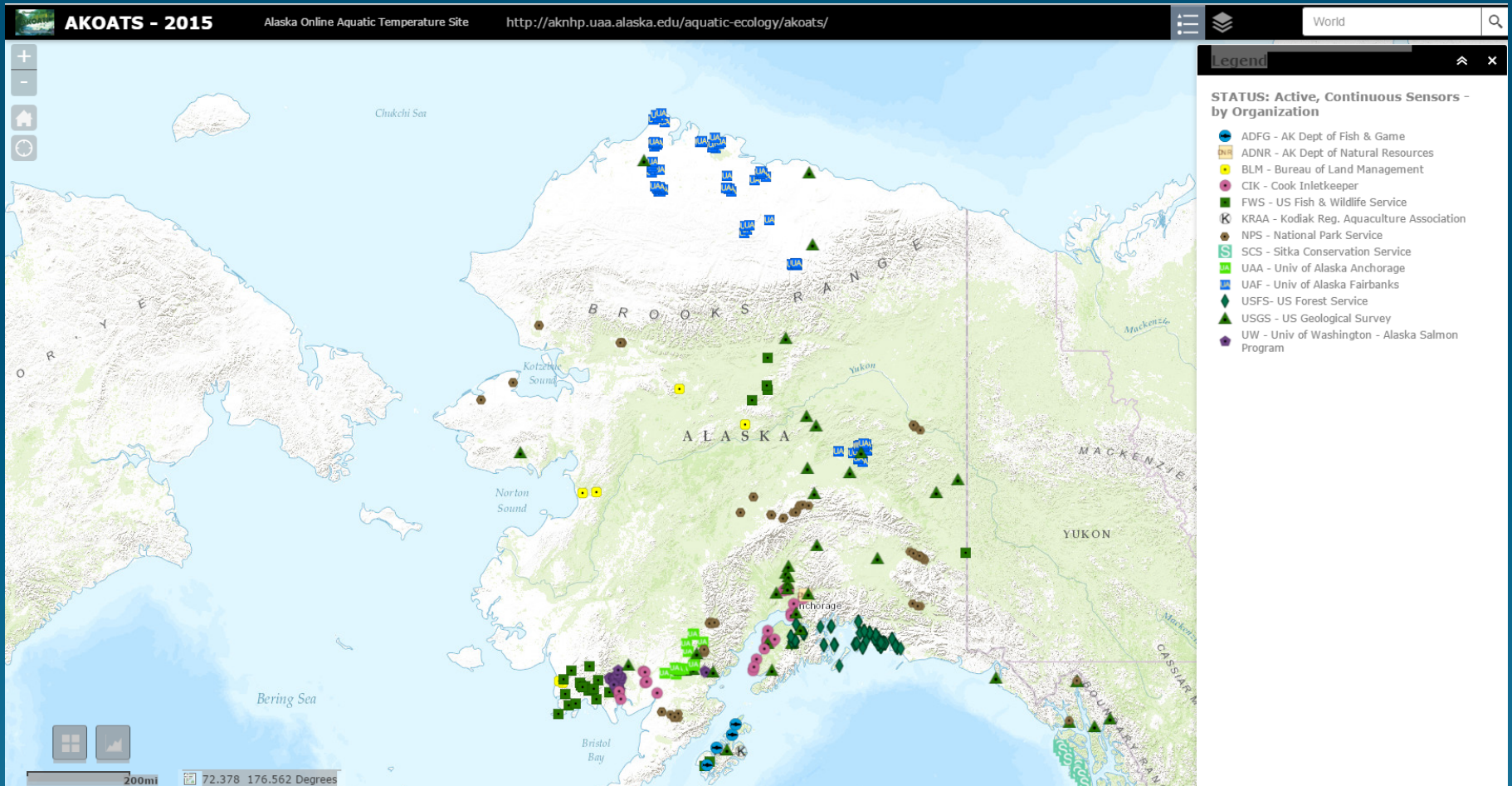


Road Map of 12 Tasks

- Generating Interest
- Eliminating Barriers to Participation

Inventory Observing Activities

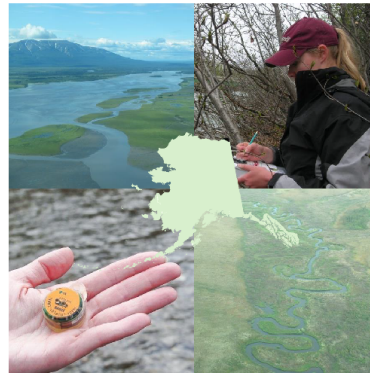
Google “AK -OATS”



Minimum Data Collection Standards

Stream Temperature Data Collection Standards and Protocol for Alaska:

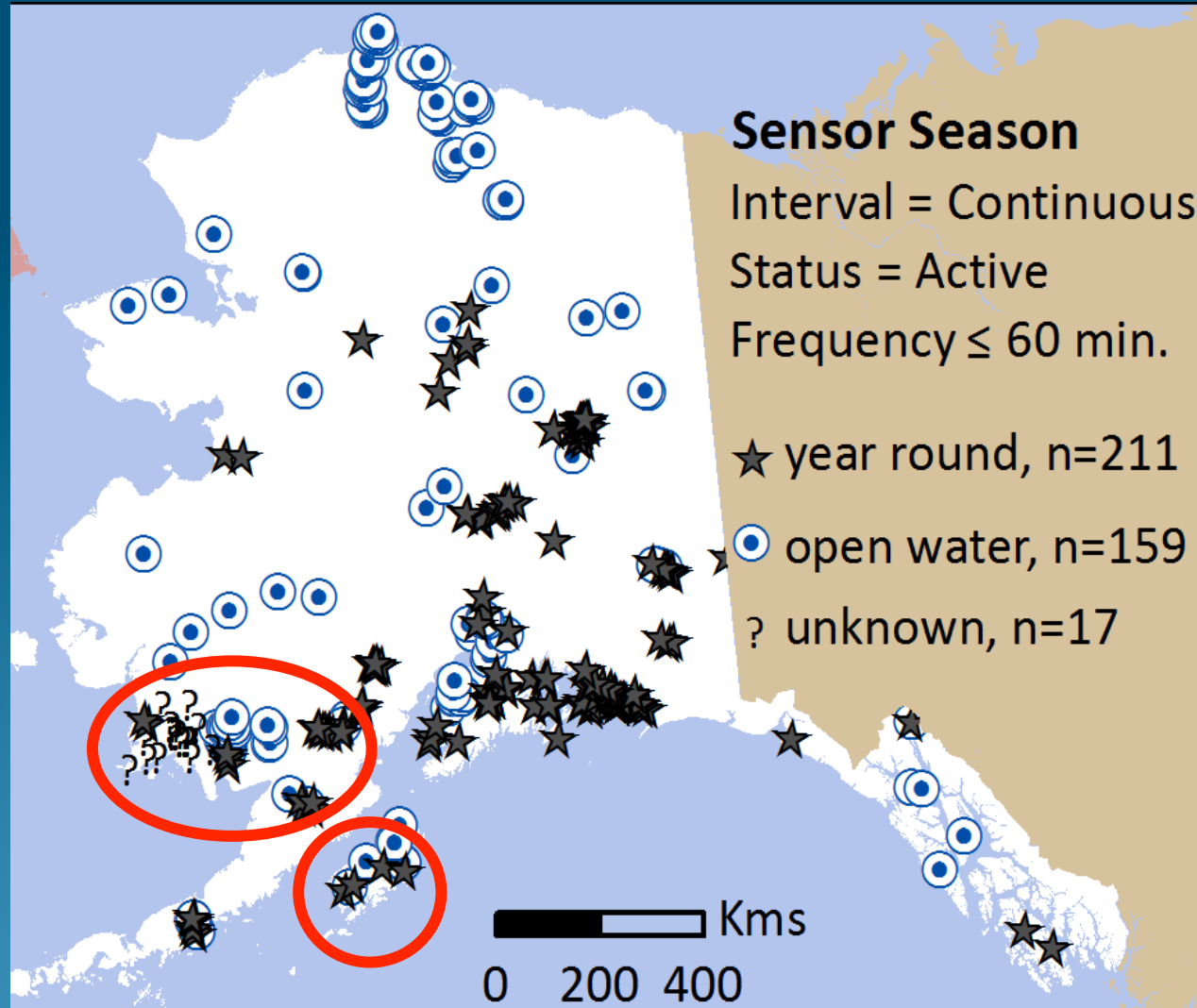
Minimum Standards to Generate Data Useful for
Regional-scale Analyses



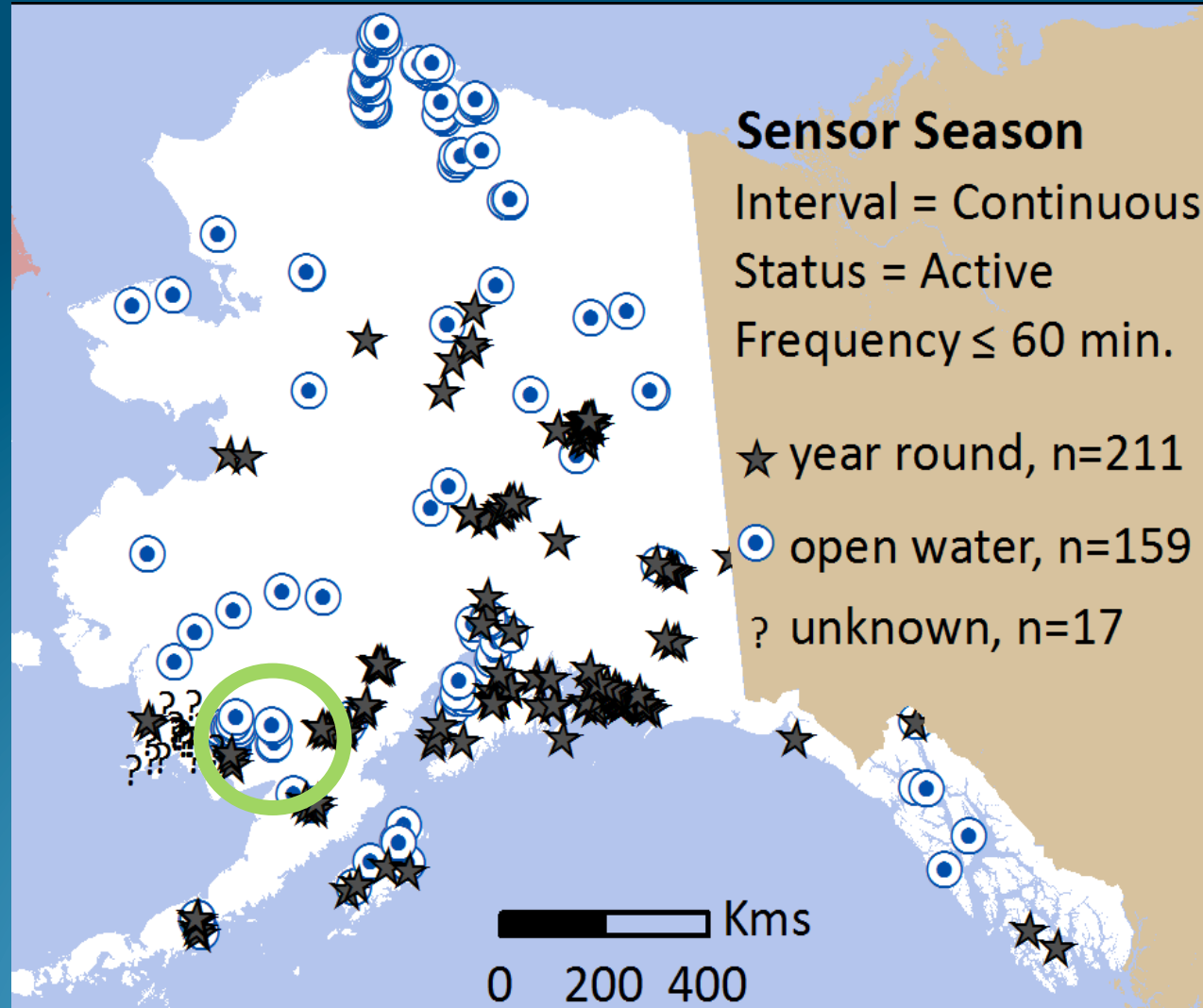
UAA Alaska Natural Heritage Program
UNIVERSITY of ALASKA ANCHORAGE

December 2014

Pilot Implementation Strategies



Exploratory Analysis



Tasks In Progress

Statewide Spatial Design Assessment & Strategy

Data Management Architecture
Share / Curate



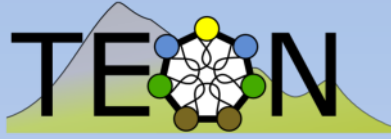
TEON

Arctic LCC

TEON: A Long-term Terrestrial Environmental Observation Network for Northern Alaska

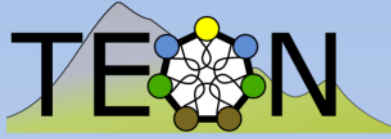


Photo: Ken Tane, Arctic Circle Photography



Purpose of the Terrestrial Environmental Observation Network (TEON)

- Collect, distribute, and synthesize long-term observational data needed to **detect and forecast** effects of a changing climate, hydrology, and permafrost regime on **fish and wildlife habitat, and infrastructure** in northern Alaska.

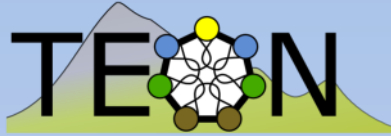


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- **Long-term**
(i.e., multi-decadal)
- **Coordinated**
(i.e., cross-discipline & cross-organization)
- **Focal watershed approach**



Convening

TEON Technical Advisory Group

Multi-Discipline

Multi-Organization



Weather



Surface Water

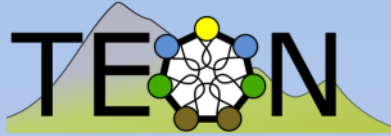


Soils/
Permafrost



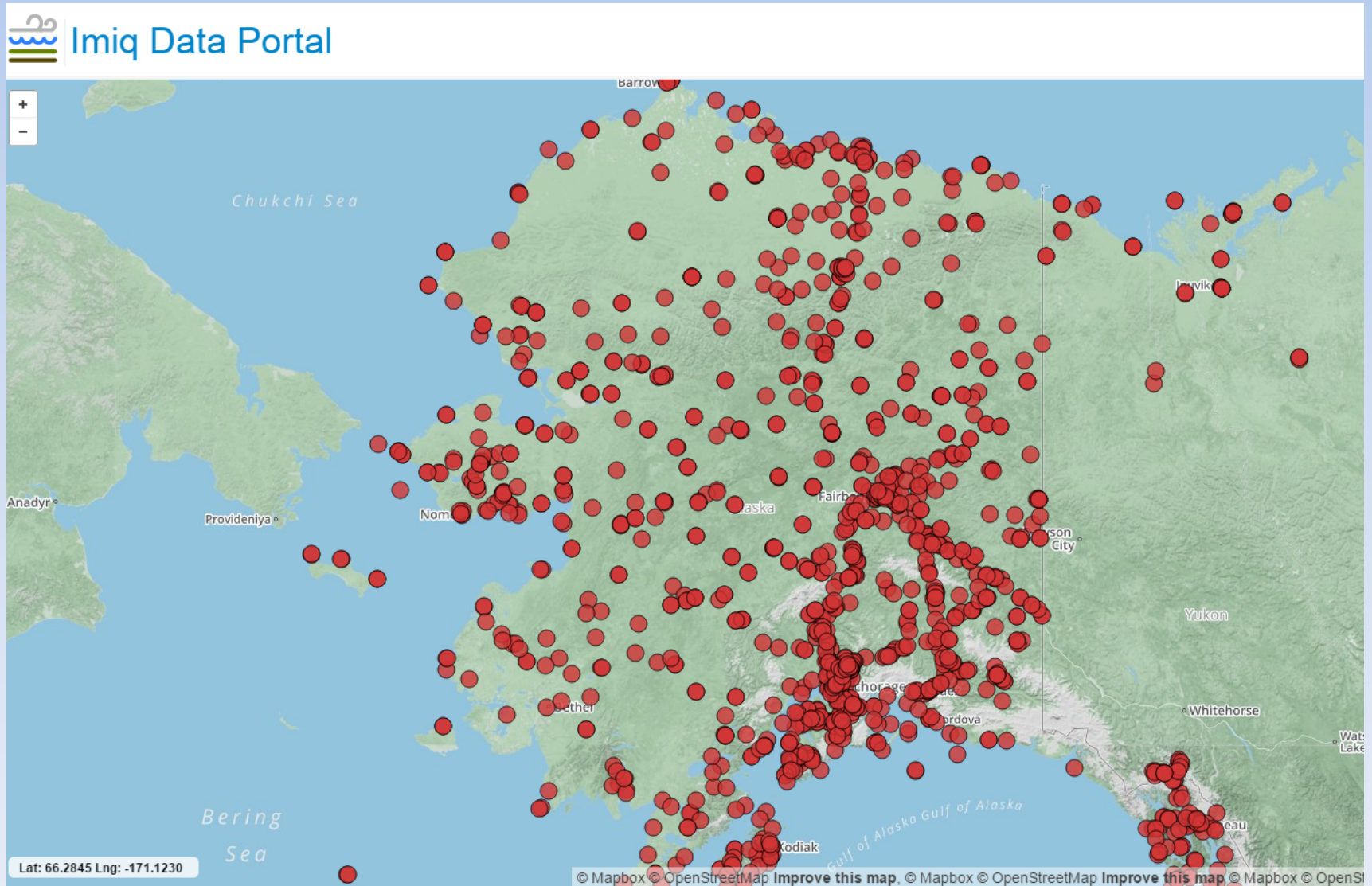
Vegetation

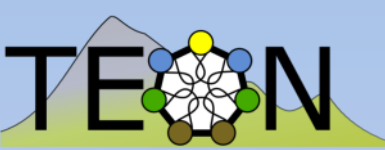




Inventory

<http://arcticlcc.org/projects/imiq>





Selection Criteria for Focal Watersheds



– **Minimize the cost** of installation, operation, access and maintenance



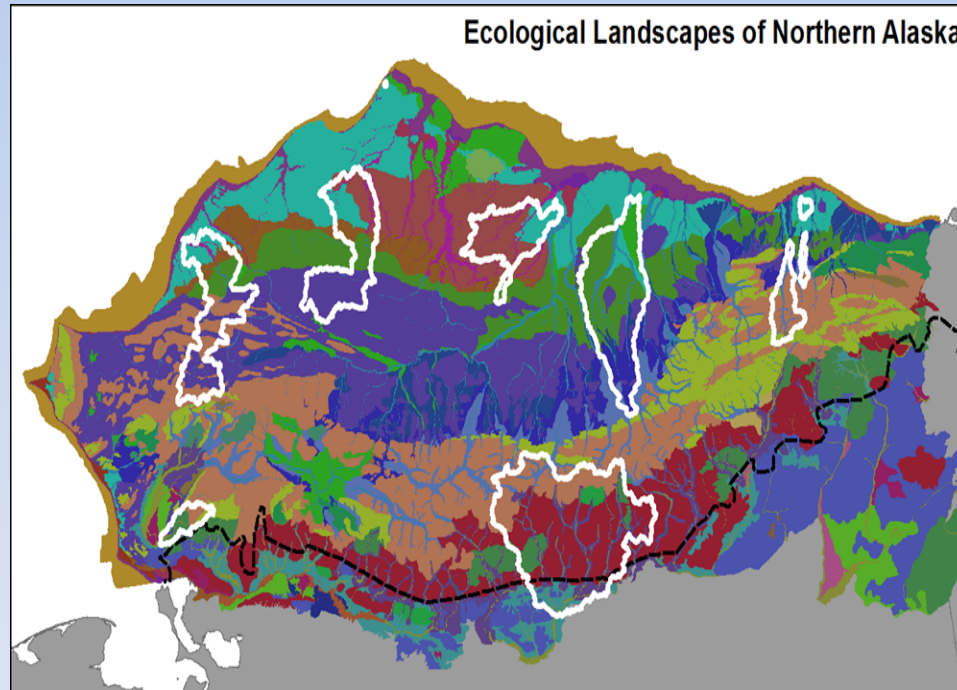
– **Maximize continuity** of existing data archives, and



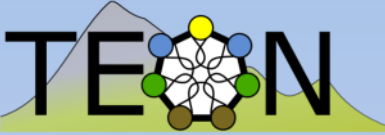
– **Responsive to management concerns** (e.g., proposed oil and gas development)



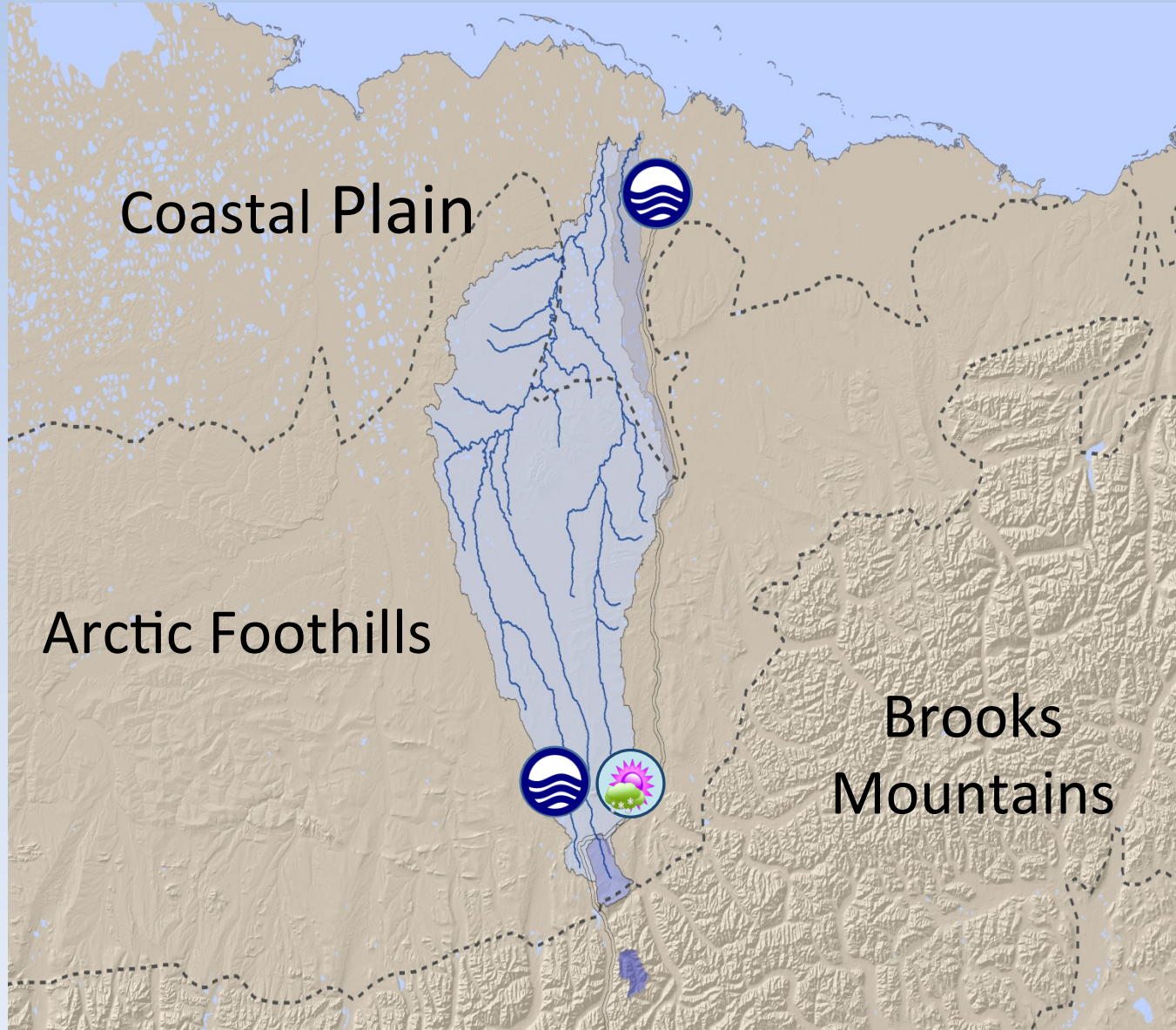
Selection Criteria for Focal Watersheds



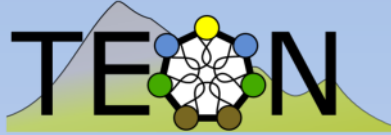
- ***Represent spatial and temporal variability*** across major ecological gradients.



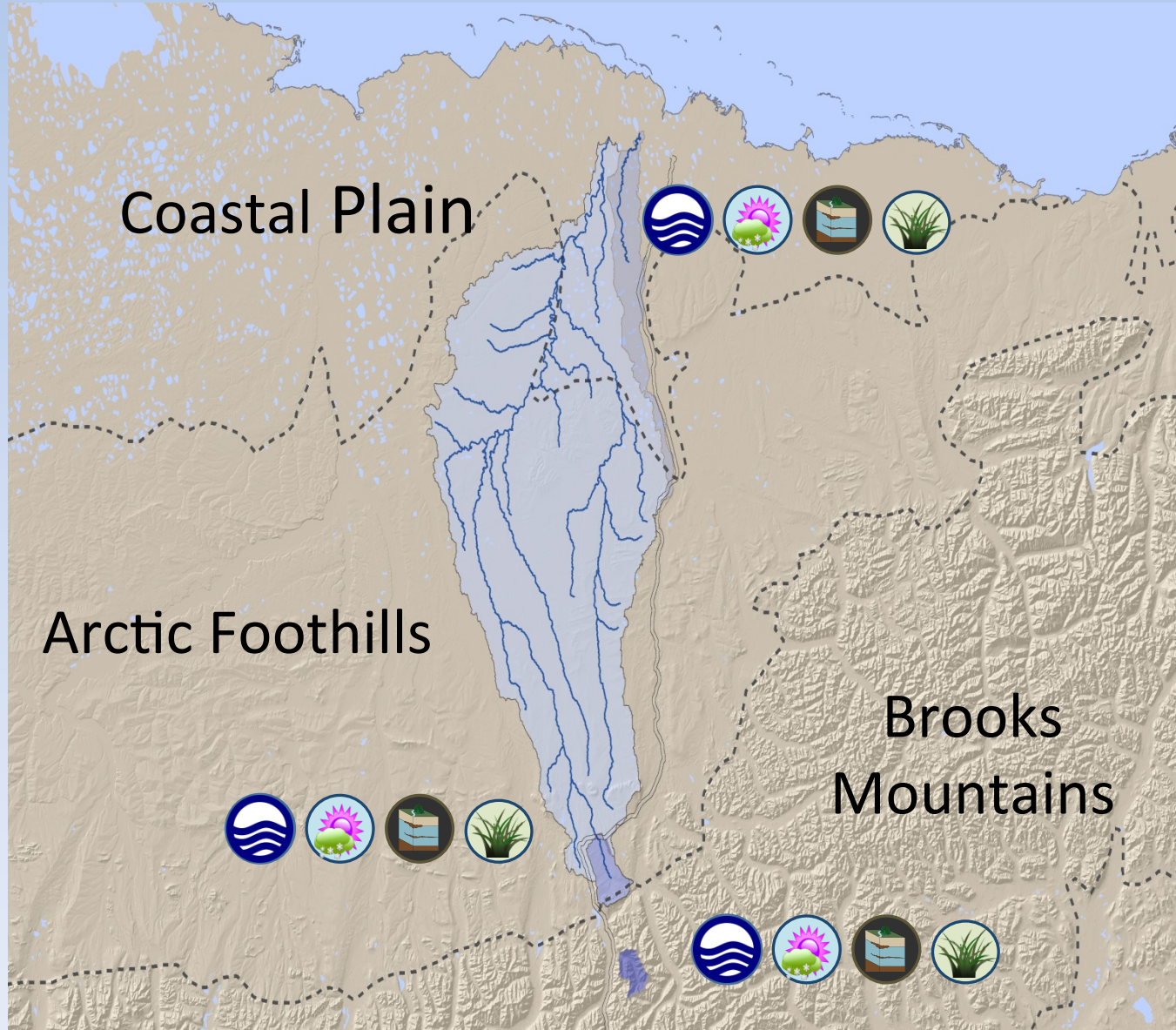
Implementation Strategy



	Weather
	Surface Water
	Soils/ Permafrost
	Vegetation



Implementation Strategy



	Weather
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Collaborative Observing Network

Necessary Integrative Activities

- Convene the players
- Inventory current and past efforts
- Identify priority data sets
- Select protocols, standards for data collection
- Design spatial layout
- Implement!
 - Fill gaps
 - Organize logistics
- Create and maintain data system

Obstacles to Creating Collaborative Long-term Observing Networks

- Academic culture that incentivizes short-term process-based research.
- Agency culture/regulations that discourage long-term financial commitments.
- Legal/regulatory barriers to commingling funds
- **Lack of awareness and institutional support for integrative activities that serve the common good.**

