ALASKA FORUM

FEBRUARY 3, 2026

Supporting Situational Awareness using the STARS Monitoring System

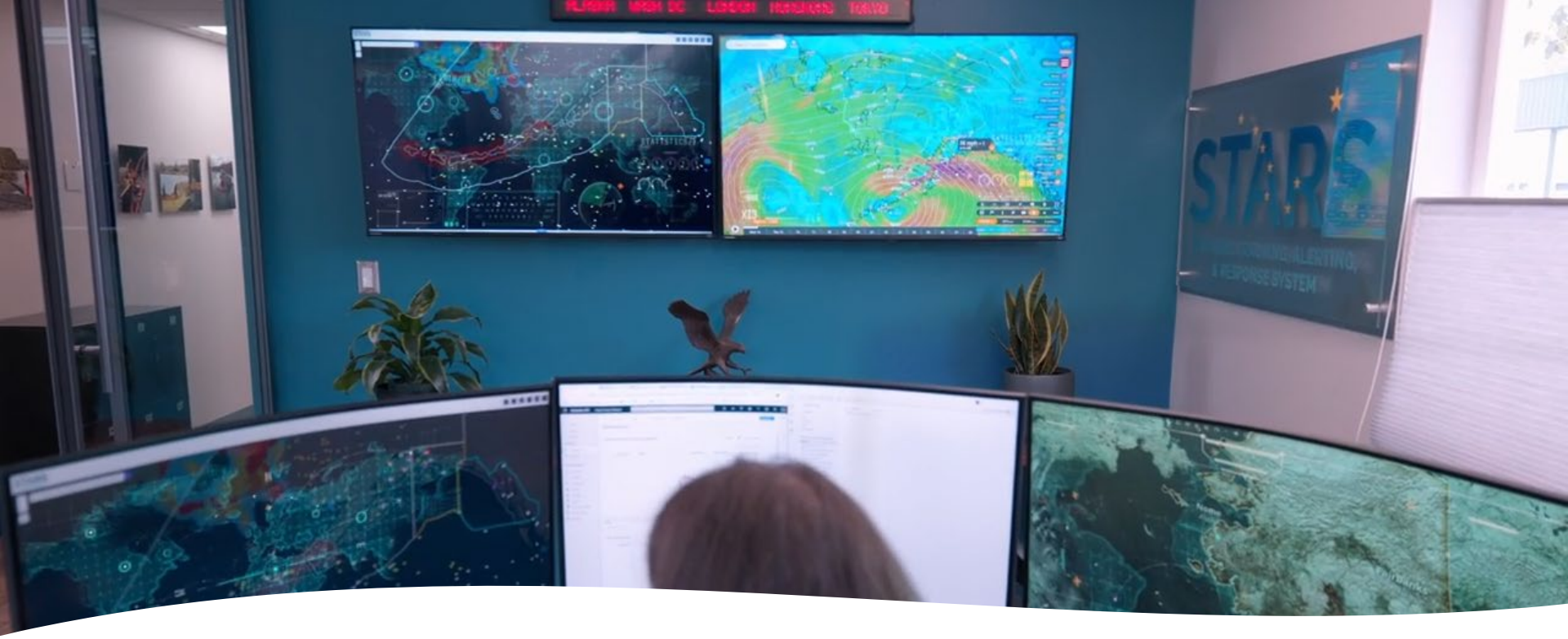
ALASKA Chaduҳ Network

PREVENT / RESPOND / PIONEER

STARS

STRATEGIC TRACKING, ALERTING, & RESPONSE SYSTEM

TARS



STARS

STRATEGIC TRACKING, ALERTING, & RESPONSE SYSTEM

- Fully integrated, web-based **Geographic Information System (GIS)** platform designed specifically for Alaska.
- Strengthens oil spill prevention, preparedness, and response.
- Addresses Alaska’s distance, weather, and limited infrastructure by providing a single, shared common operating picture—helping prevent small issues from becoming major incidents.

What STARS Delivers

Integrated Data, One Map

- Vessel & Aircraft Tracking
- Weather & Ocean Currents
- ESI & Sea Ice
- Sensitive Habitats
- Ports & Response Plans
- Wildfires & Critical Sites

Operational Decision Support

- Incident Command
- Situational Awareness
- Damage Assessment
- Recovery & Restoration

Intuitive GIS Capability

Analyze & Display Data

Export Maps & Reports

Toggle Layers for Ops

Toggle Layers

STARS Supports

- Spill preparedness, planning, and situational awareness.
- Detecting vessel anomalies early to prevent a mass incident
- Coordinated emergency response for environmental and natural/man-made disasters
- Ecological recovery and restoration
- Transparency and data sharing through a shared common operating picture

Bottom Line

STARS transforms fragmented data into actionable intelligence,— protecting Alaska's communities, environment, and economy.

Data Streams that Feed STARS

Automatic Identification System (AIS)

Environmental Sensitive Areas

Weather & Ocean Conditions

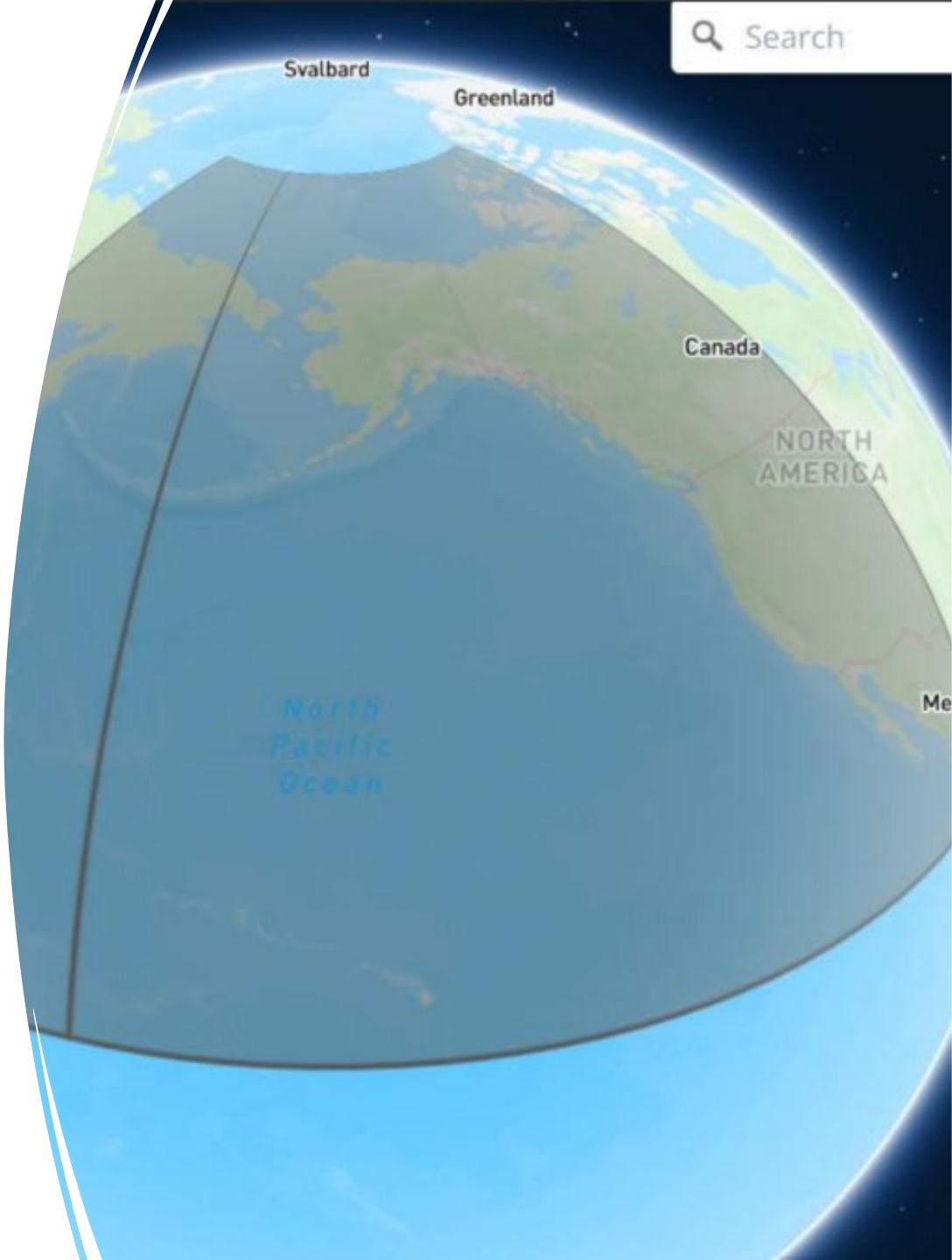
Asset Tracking

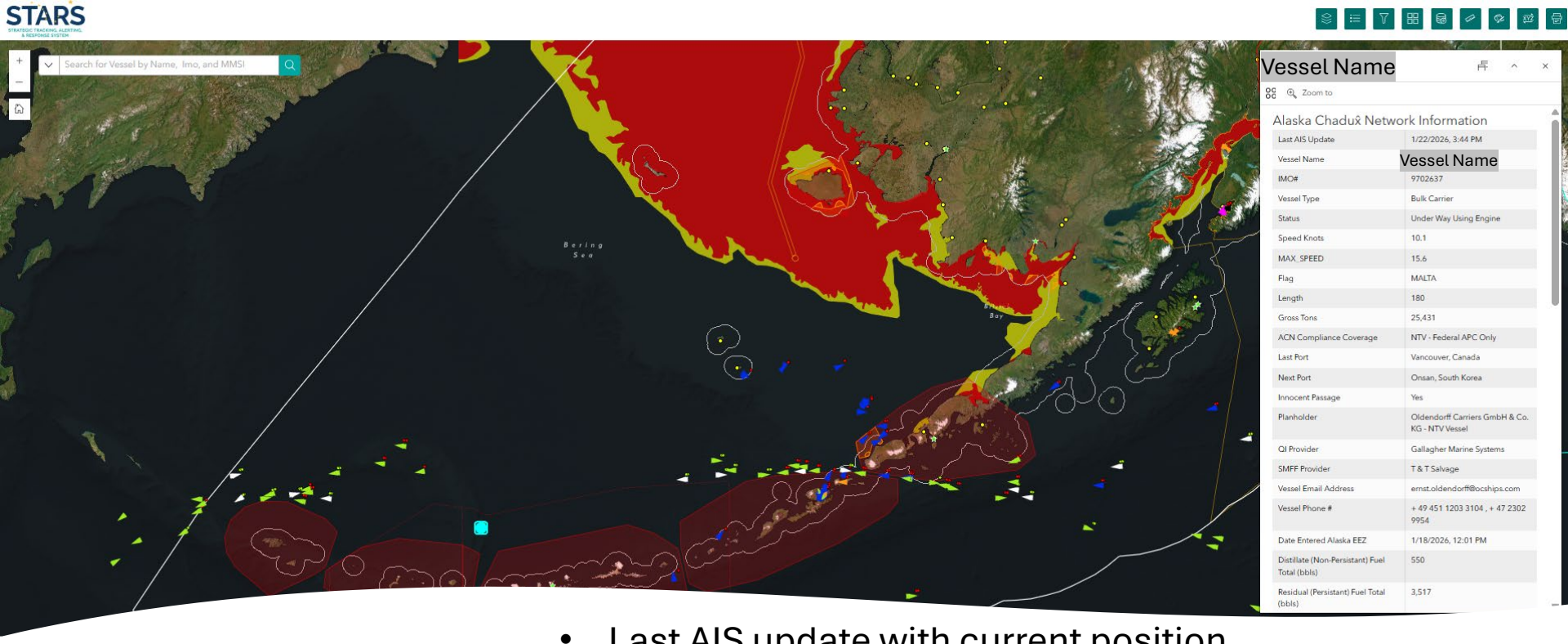
STARS

Real-time Sensor Data

Automatic Identification System (AIS) Coverage Area

- Satellite & Terrestrial Data Feeds
- Refresh rate ~ 5 minutes



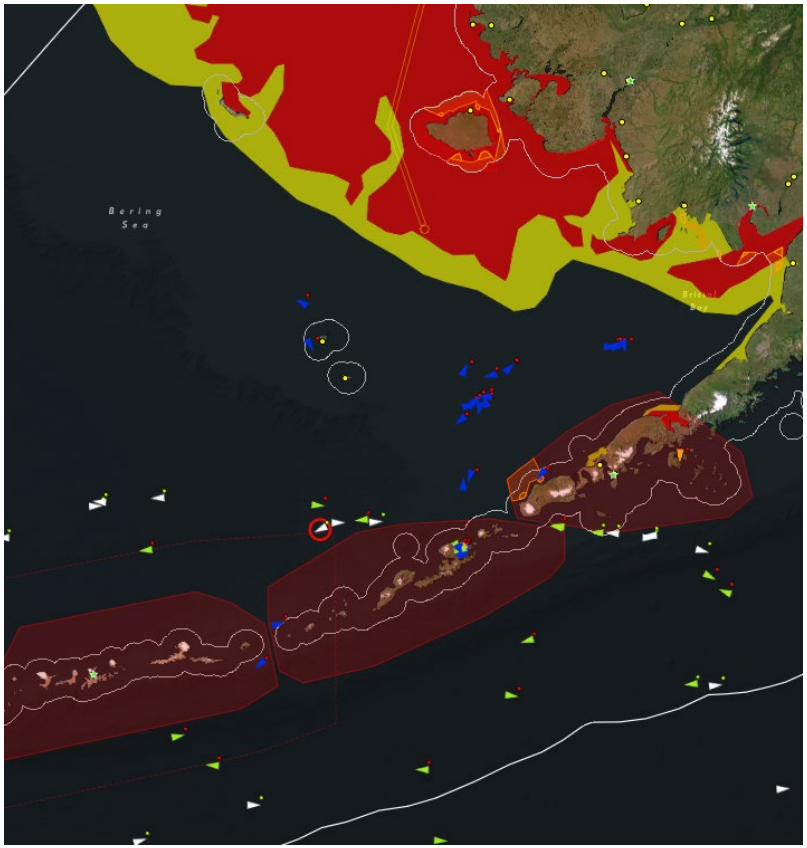


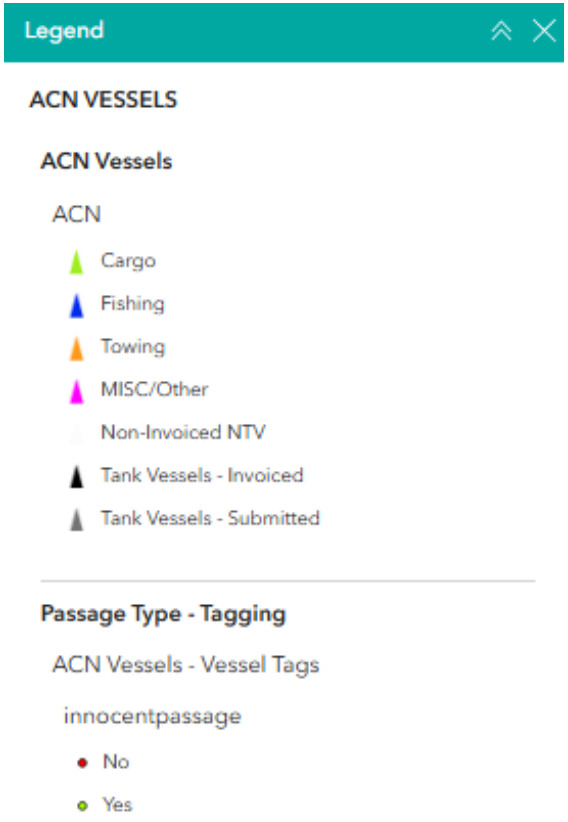
STARS provides immediate access to critical vessel information, including:

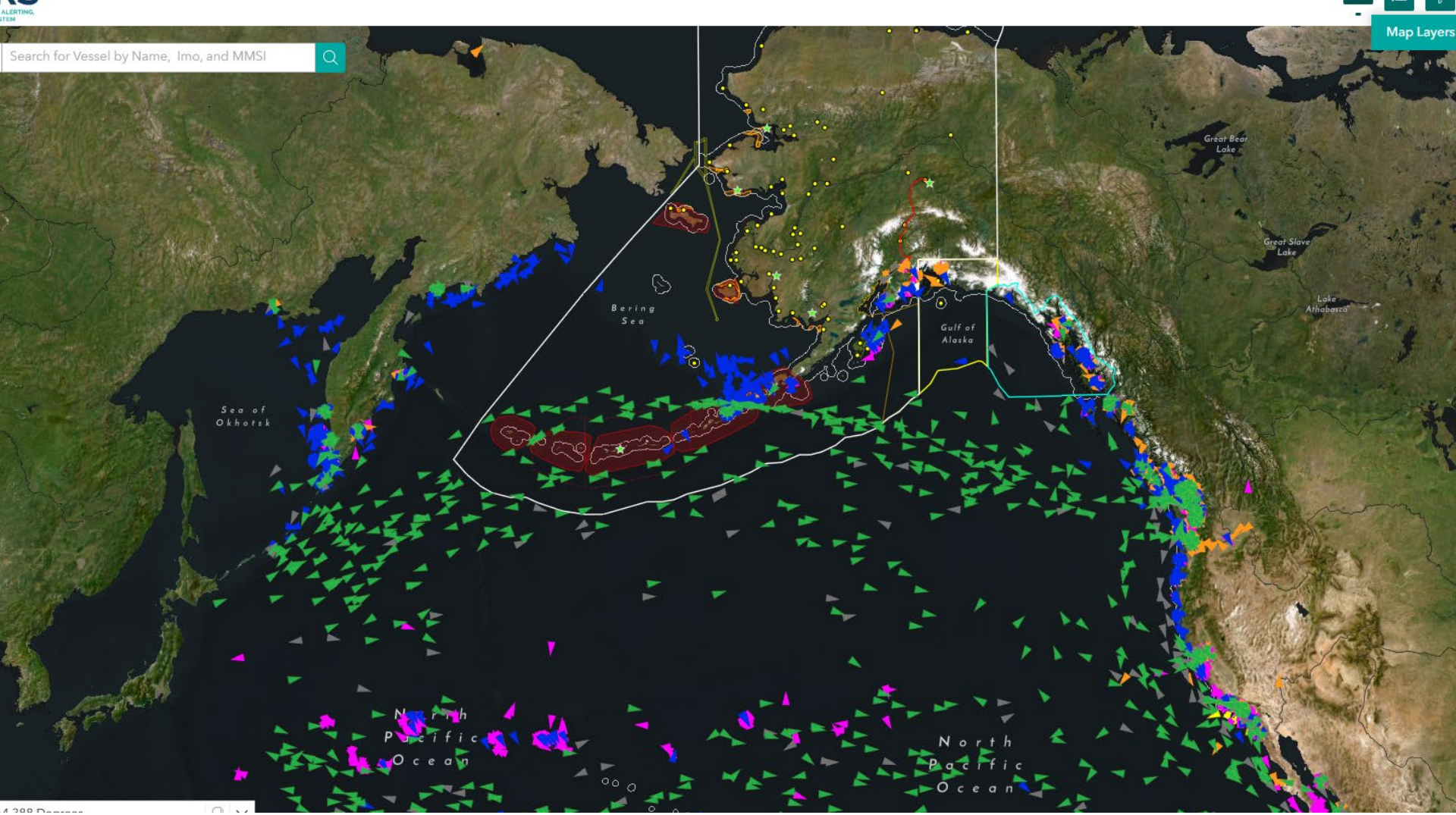
- Last AIS update with current position.
- Vessel name and IMO number.
- Vessel type and cargo.
- Flag state, LPOC, NPOC.
- Speed and course.
- Fuel amount and type compared to worst-case discharge.
- OSRO, QI, SMFF.
- All data is dynamically updated and viewable in a single interface.

Vessel Data

Vessels are color-coded according to type, and tagged to indicate passage type – at a glance






Search for Vessel by Name, Imo, and MMSI
Map Layers
Great Bear Lake
Great Slave Lake
Lake Athabasca
Bering Sea
Gulf of Alaska
Sea of Okhotsk
North Pacific Ocean
North Pacific Ocean

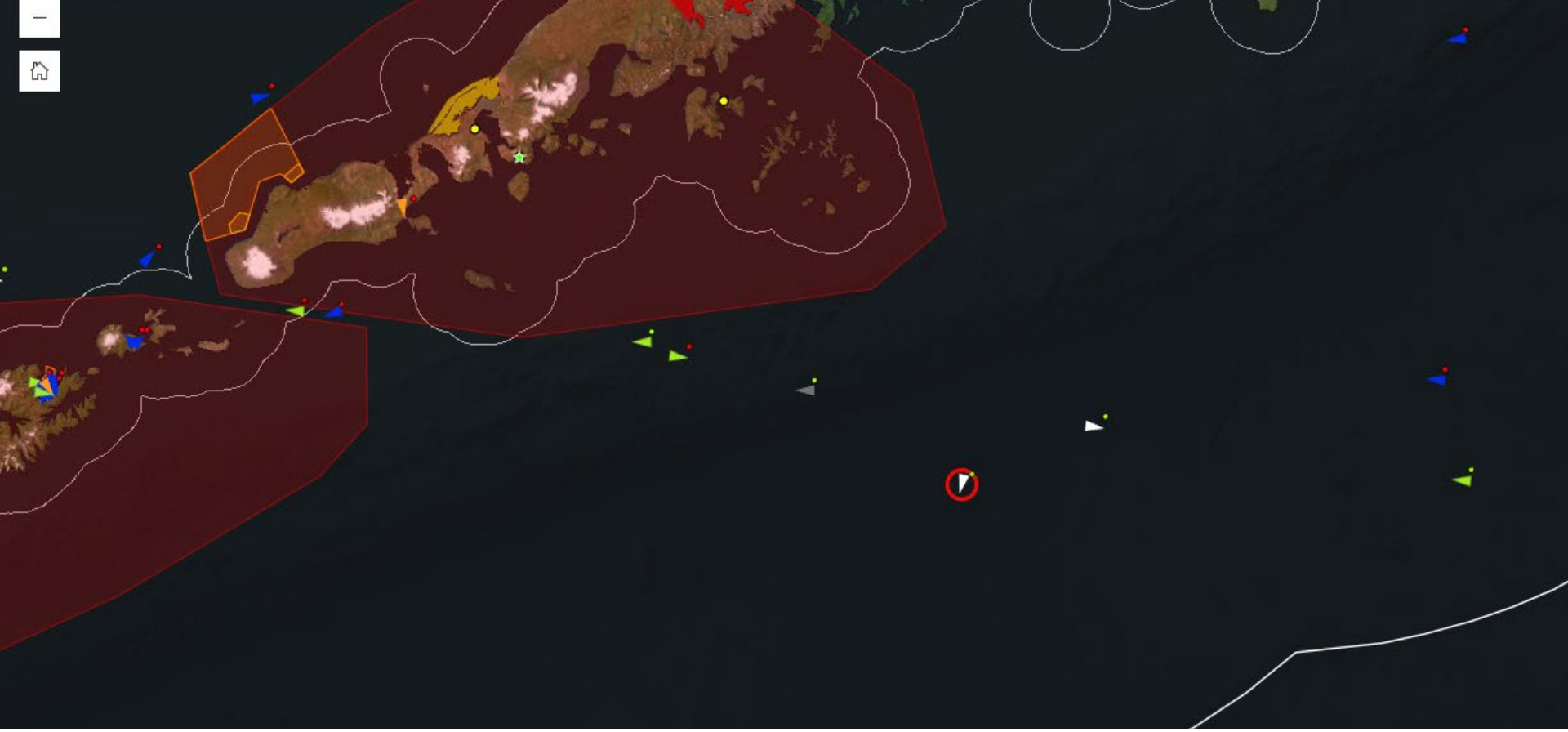
All Vessels

STARS

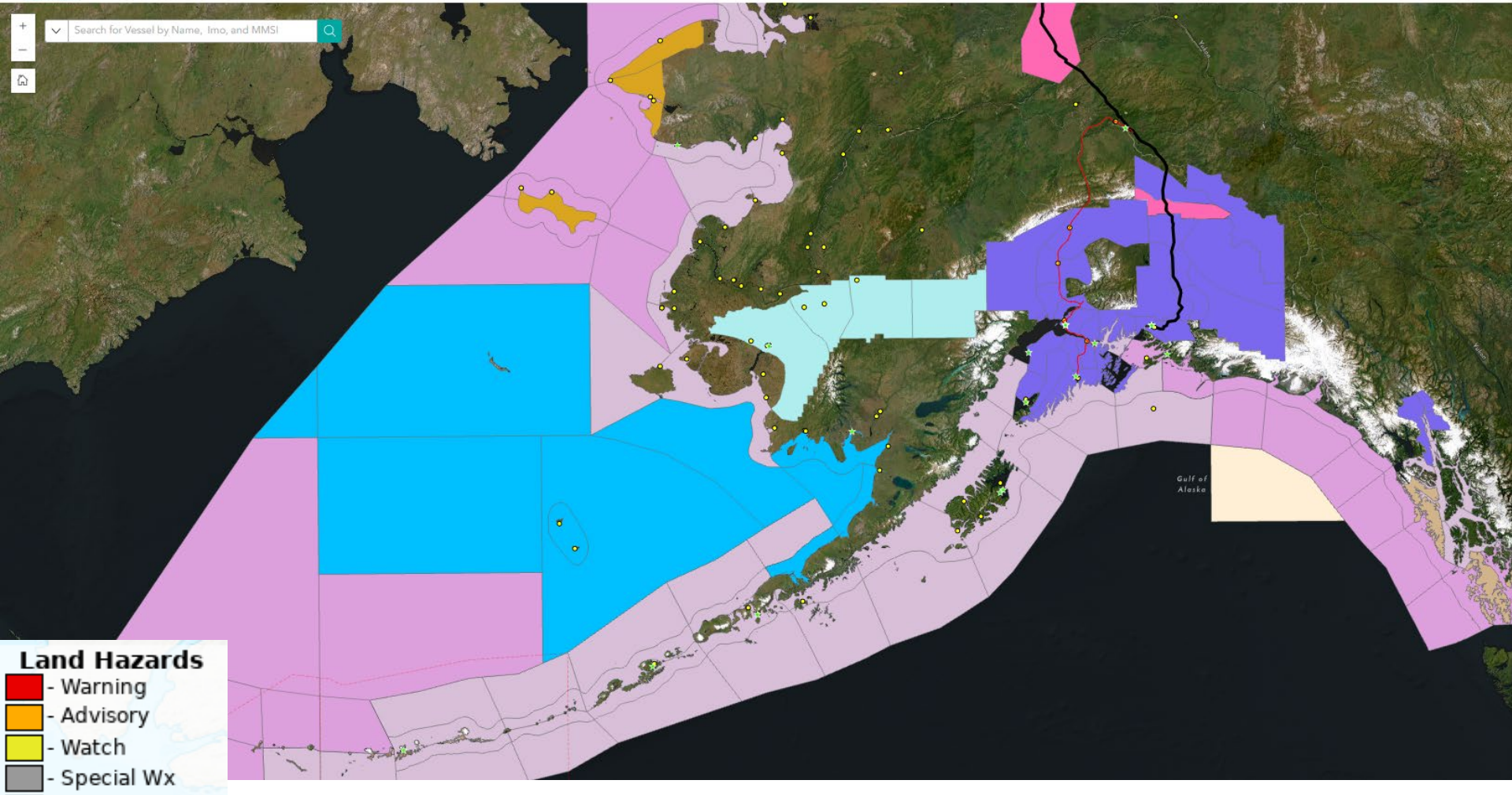
STARS employs a suite of state-of-the-art, customized, electronic “watch dogs” and “geo-fencing” interfaced with terrestrial and satellite Automatic Identification System (AIS) to alert the watch for anomalies that could indicate loss of propulsion or if a vessel begins to enter an area to be avoided.

This technology provides a virtual “safety net” that contributes to situational awareness of maritime activity in Alaska.

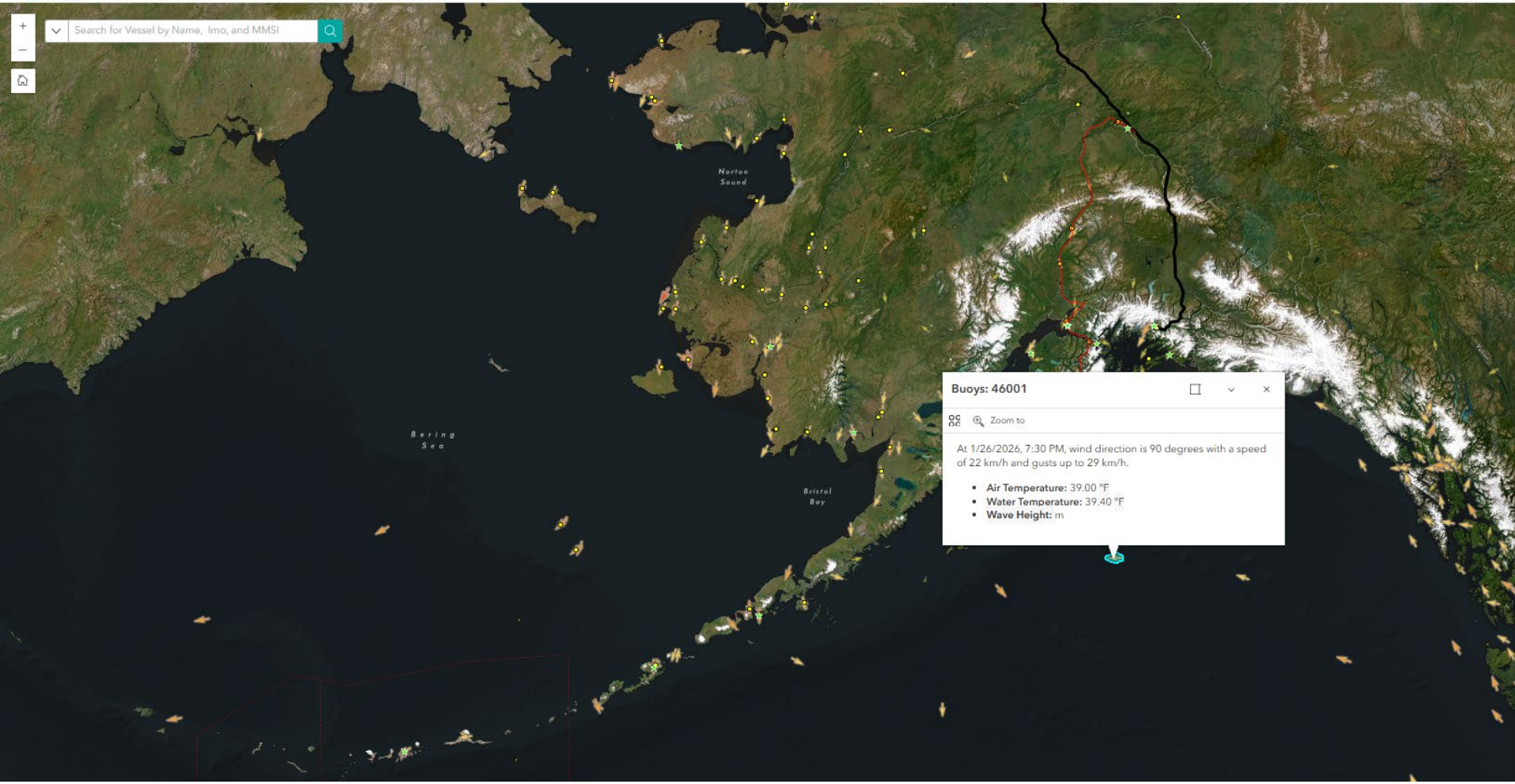
Can be viewed on a phone, tablet, laptop, and desktop



Vessel Events



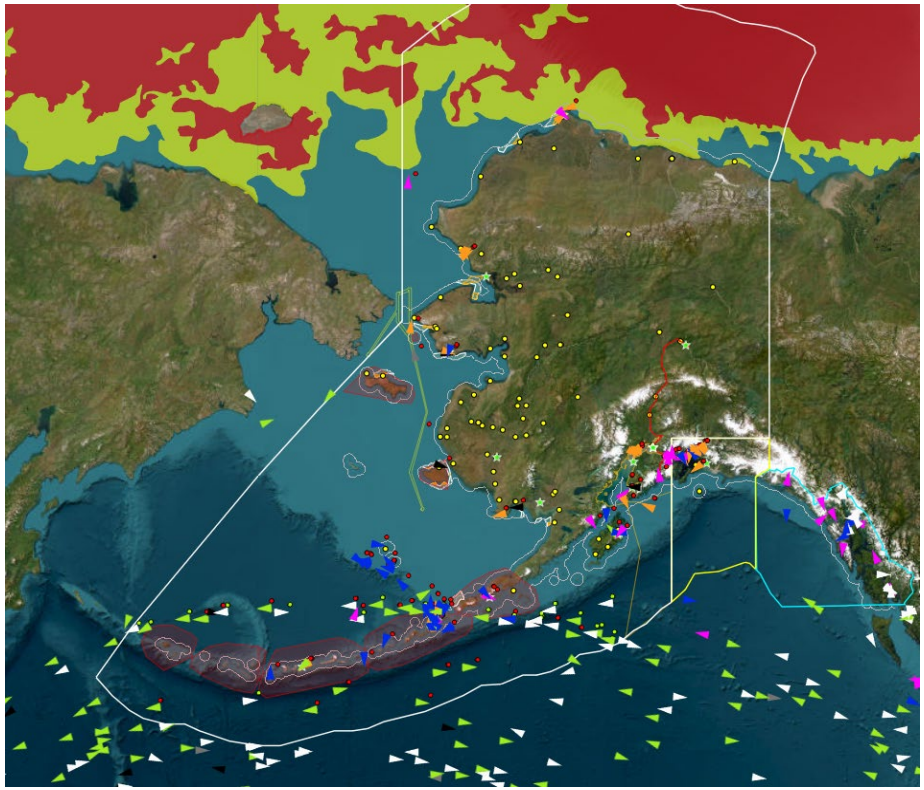
Weather Data



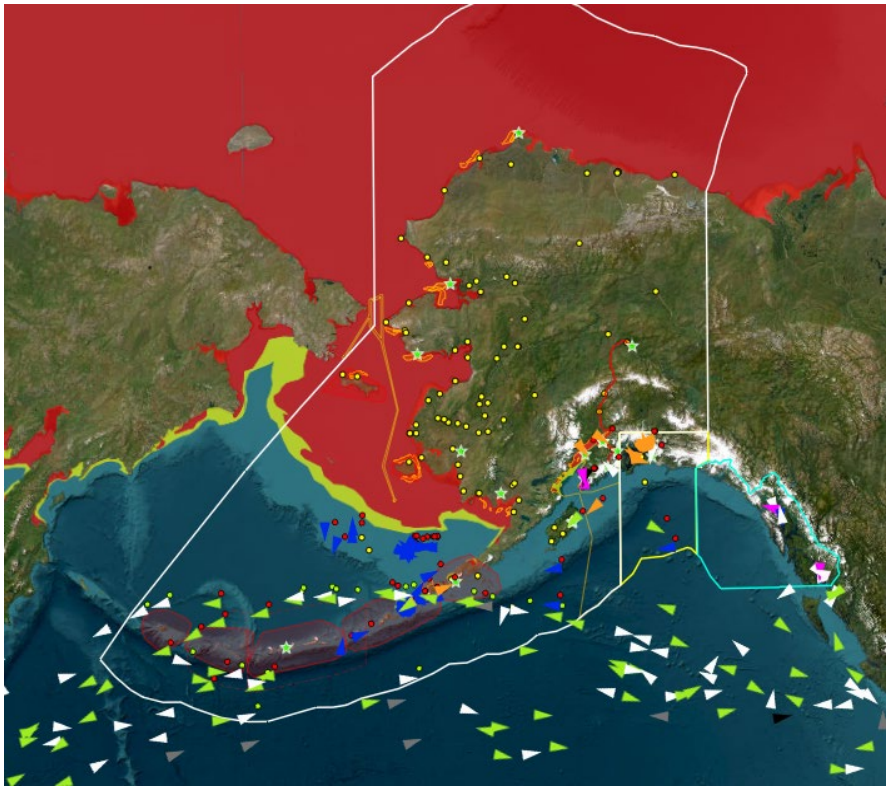
Current Weather & Wind Data

Tracking Sea Ice

August 1, 2025



January 28, 2026



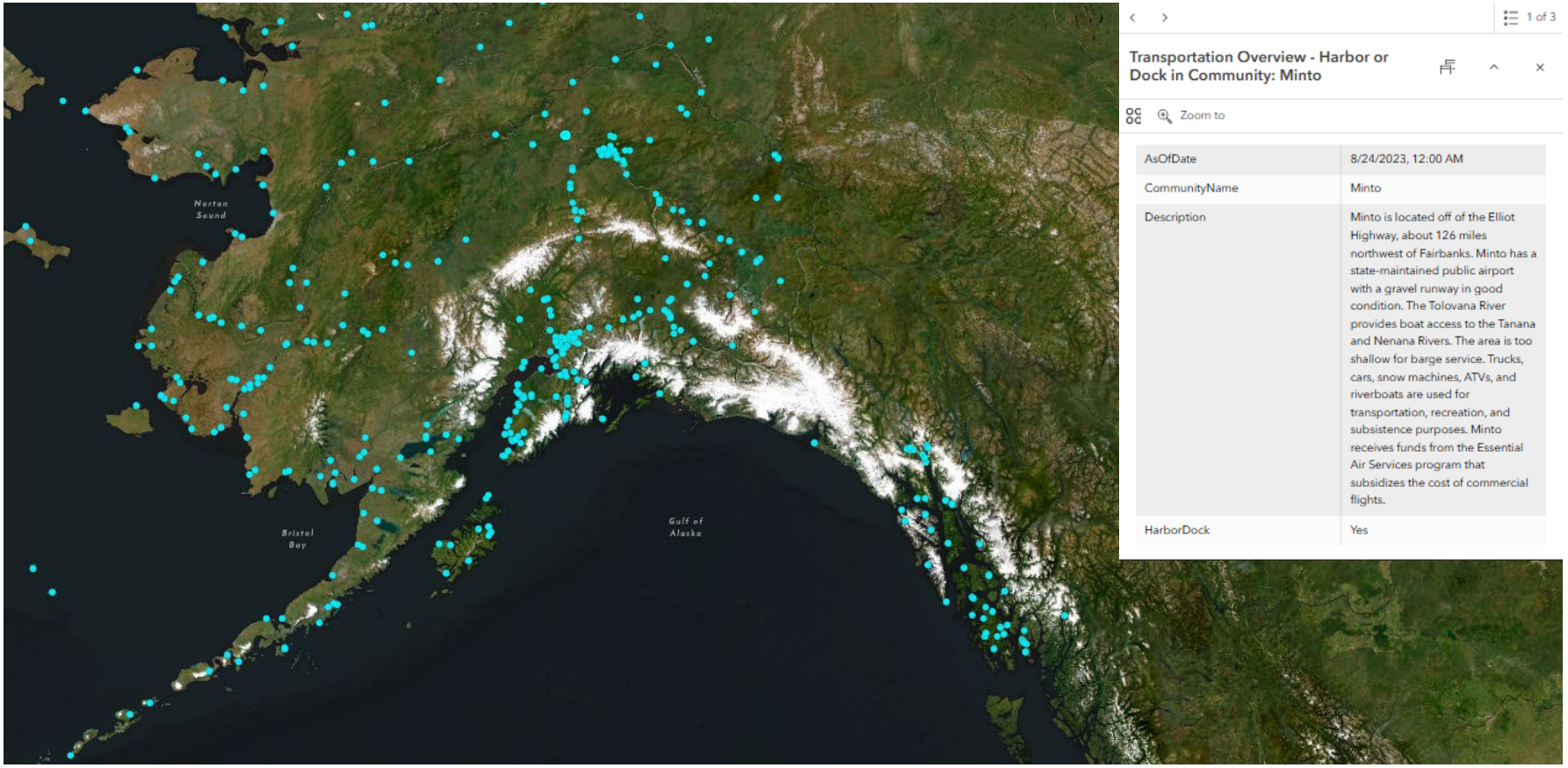
RESPONSE HUBS

Strategically positioned to support rapid deployment and sustained operations in coastal and inland regions.

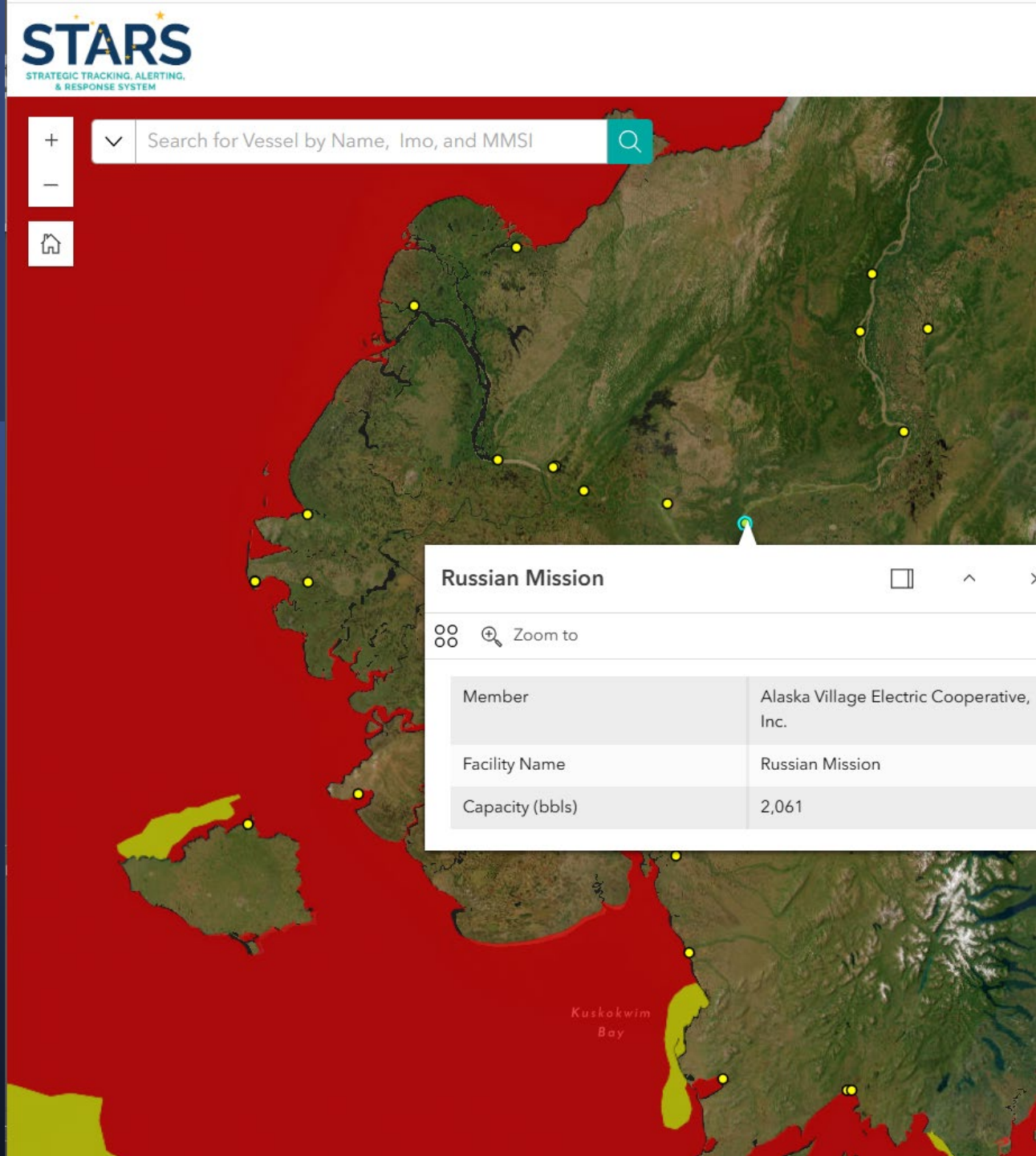
The blue dot represents our hub in Kodiak. The sidebar shows information about the site.

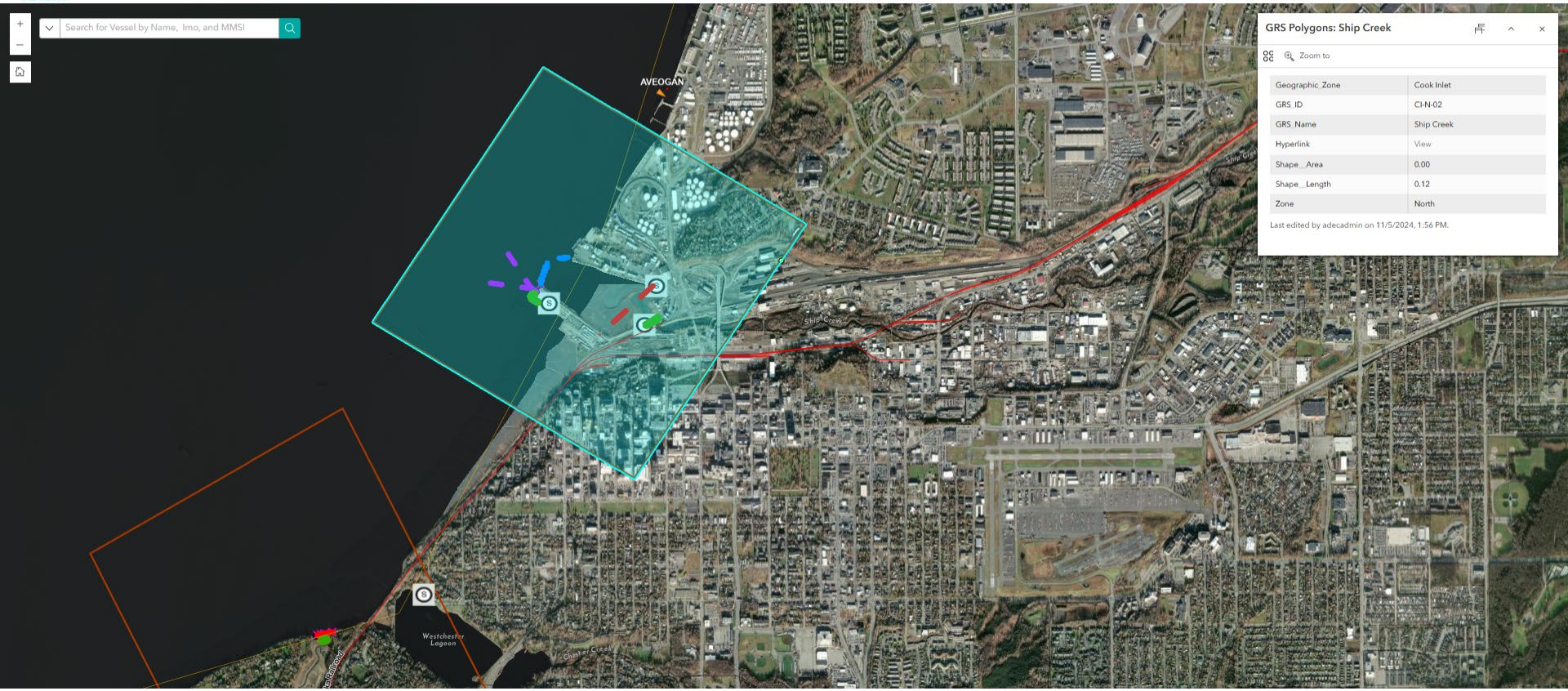
Response Hub Data

Community Details

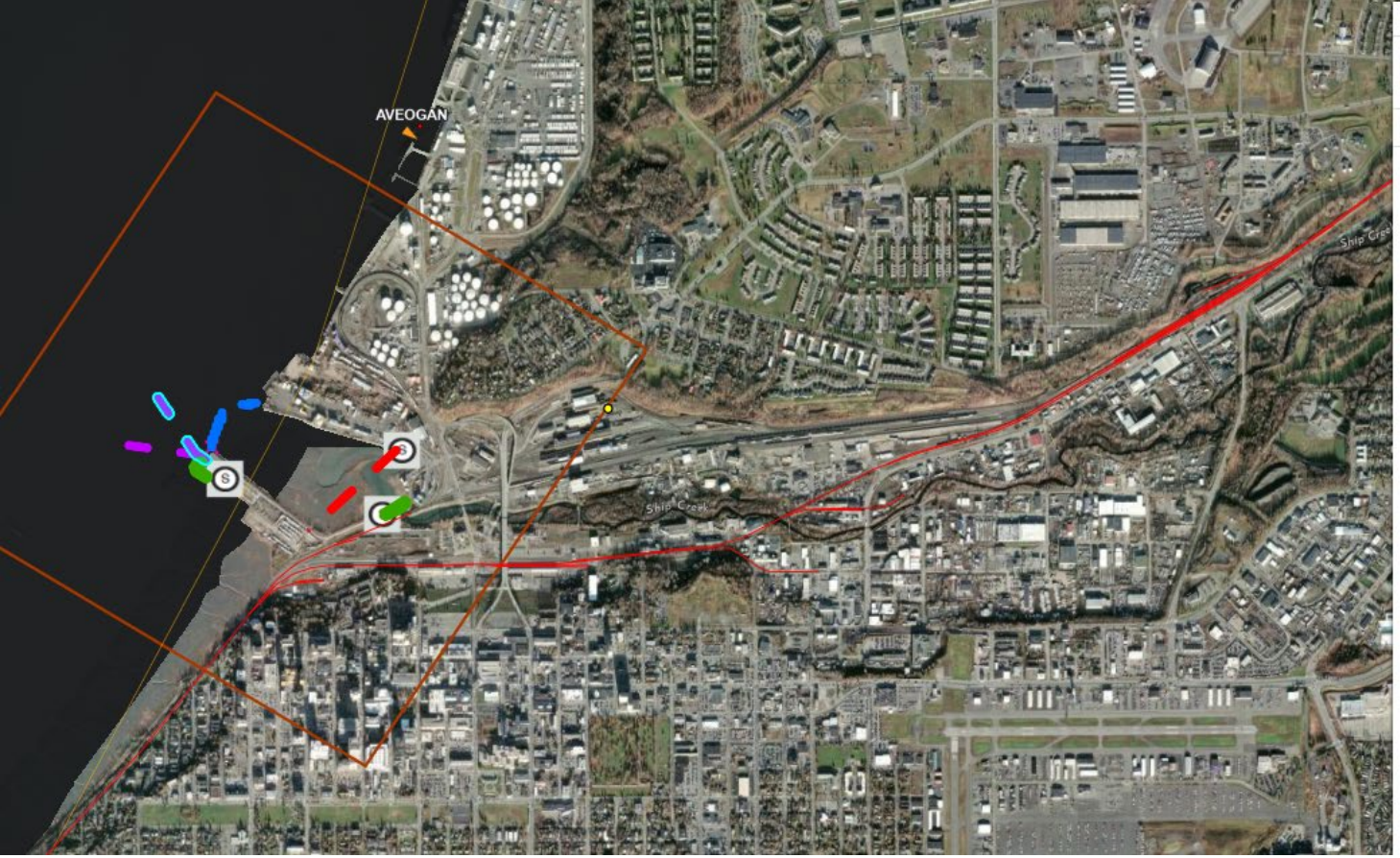


ACN Member Facilities





Geographic Response Strategies



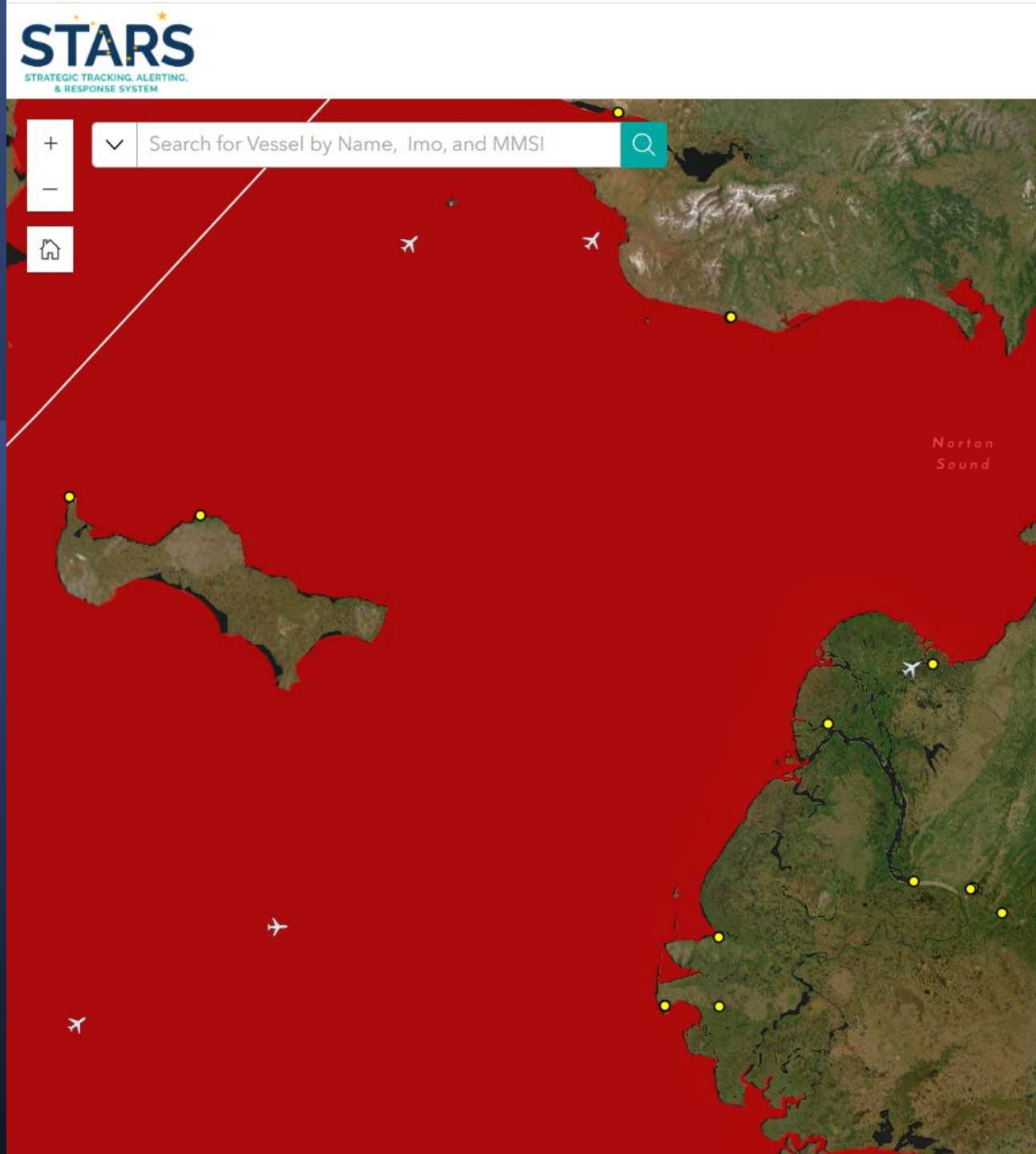
GRS FS3 Tactics - Linear Features: Ship Creek

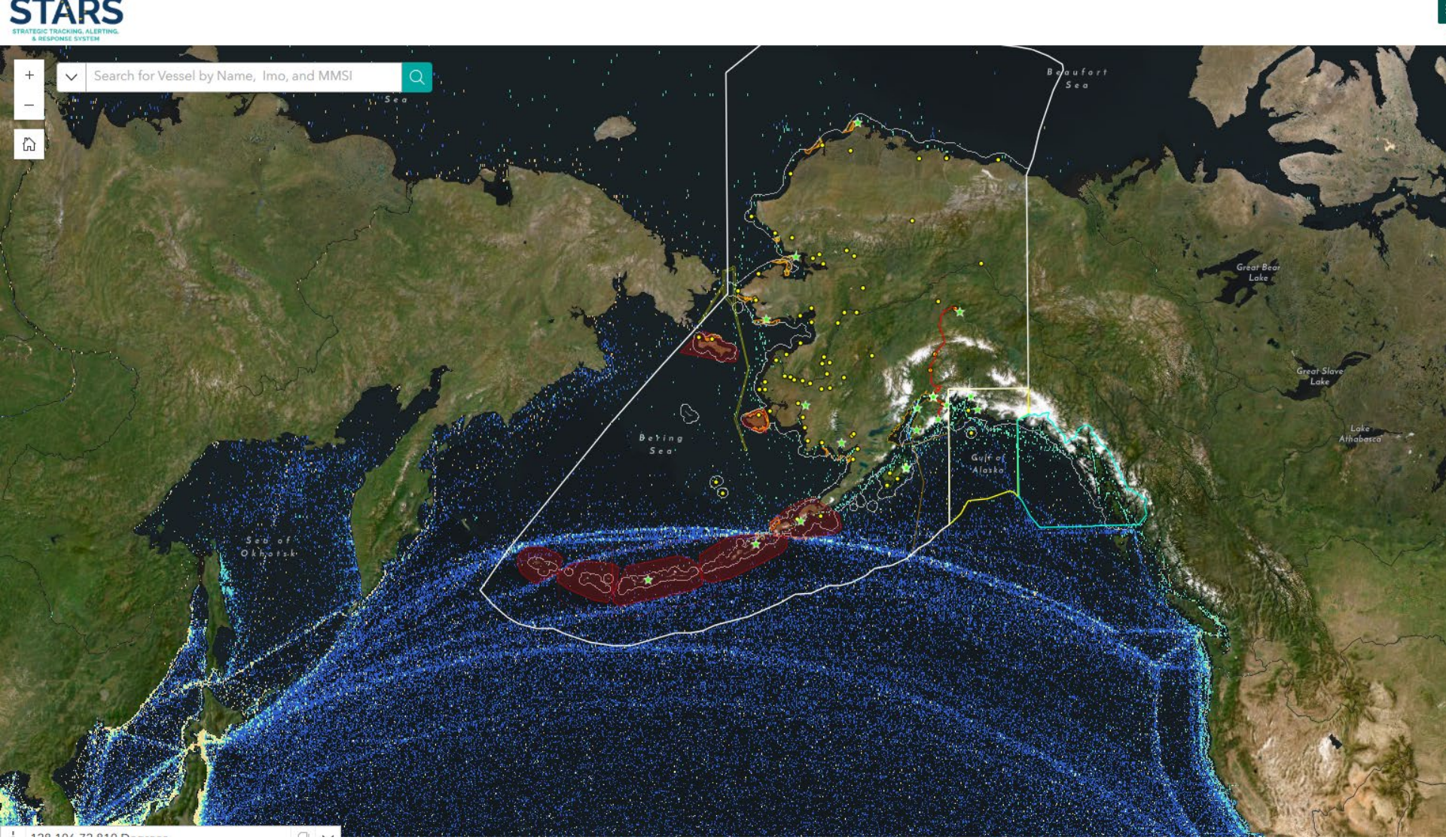
Zoom to

Bear Safety	NULL
Birds	waterfowl and shorebird concentrations near the mouth of the creek (April-October)
Boom Length(s)	1000-1500 ft
Boom Line Length in GIS (ft)	1,016
Boom Type	Inland (in GRS table), Open Water in GRS PDF map
Communications	NULL
Community	NULL
Cultural Resources	NULL
Deployment - Equipment	1000-1500 ft. inland boom, 12 ea. 25 lb. anchors, land anchors (8 poles/1-2 anchors buried, tied around big boulder), 50 ft. sorbent boom, overpack drums, drip cloths, 10 bundles absorbent pads, 1 skimmer system (including temporary storage), 1 shelter, hip waders and PPE for personnel, marine radio or cell phone
Deployment - Personnel	8 ea.
Deployment - Vehicles/Aircraft/Heavy Equip	None
Deployment - Vessels	2 skiffs
Equipment Location	NULL

GRS DATA

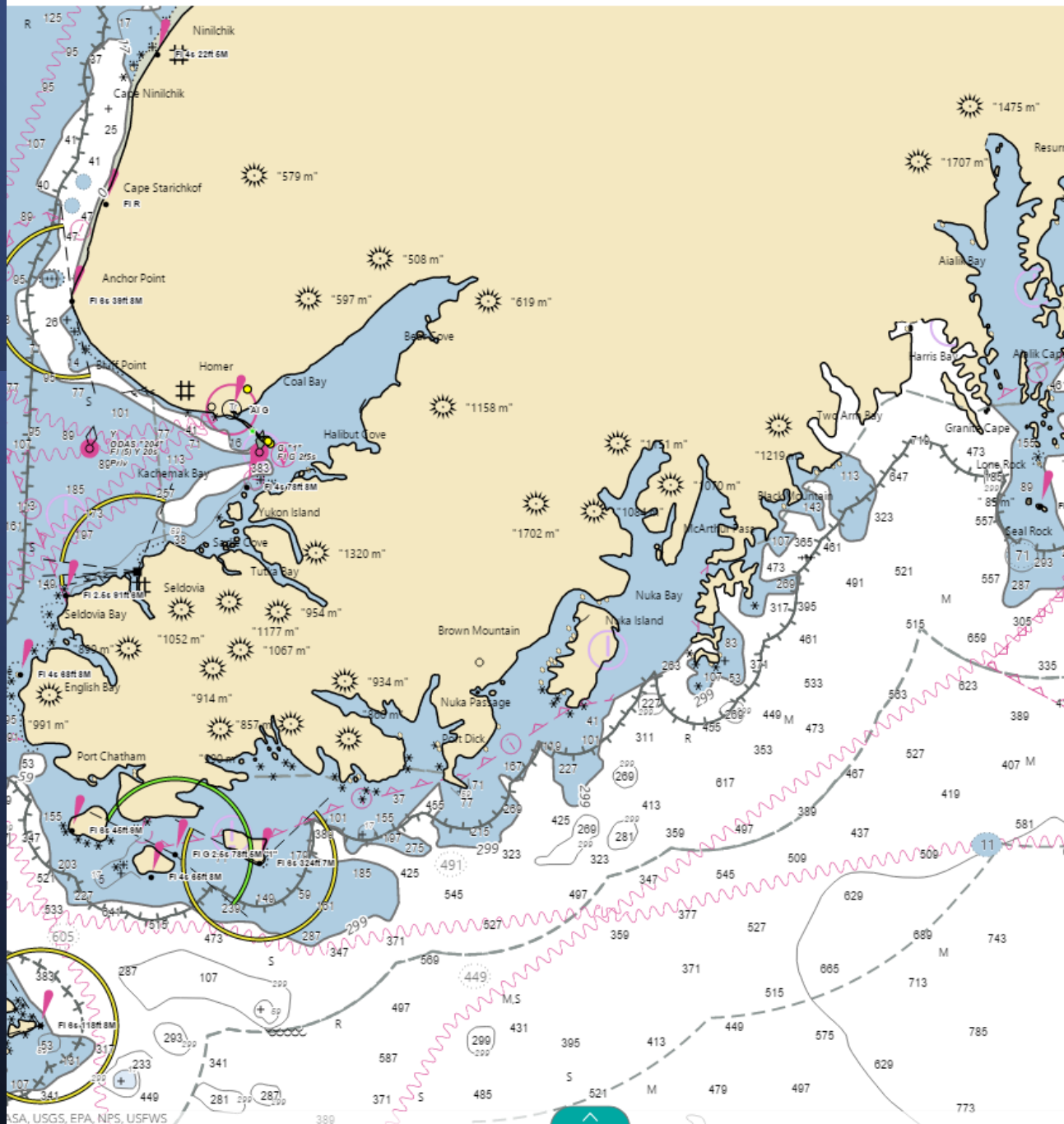
Aircraft


STARS
STRATEGIC TRACKING, ALERTING, & RESPONSE SYSTEM
Search for Vessel by Name, Imo, and MMSI
Norton Sound

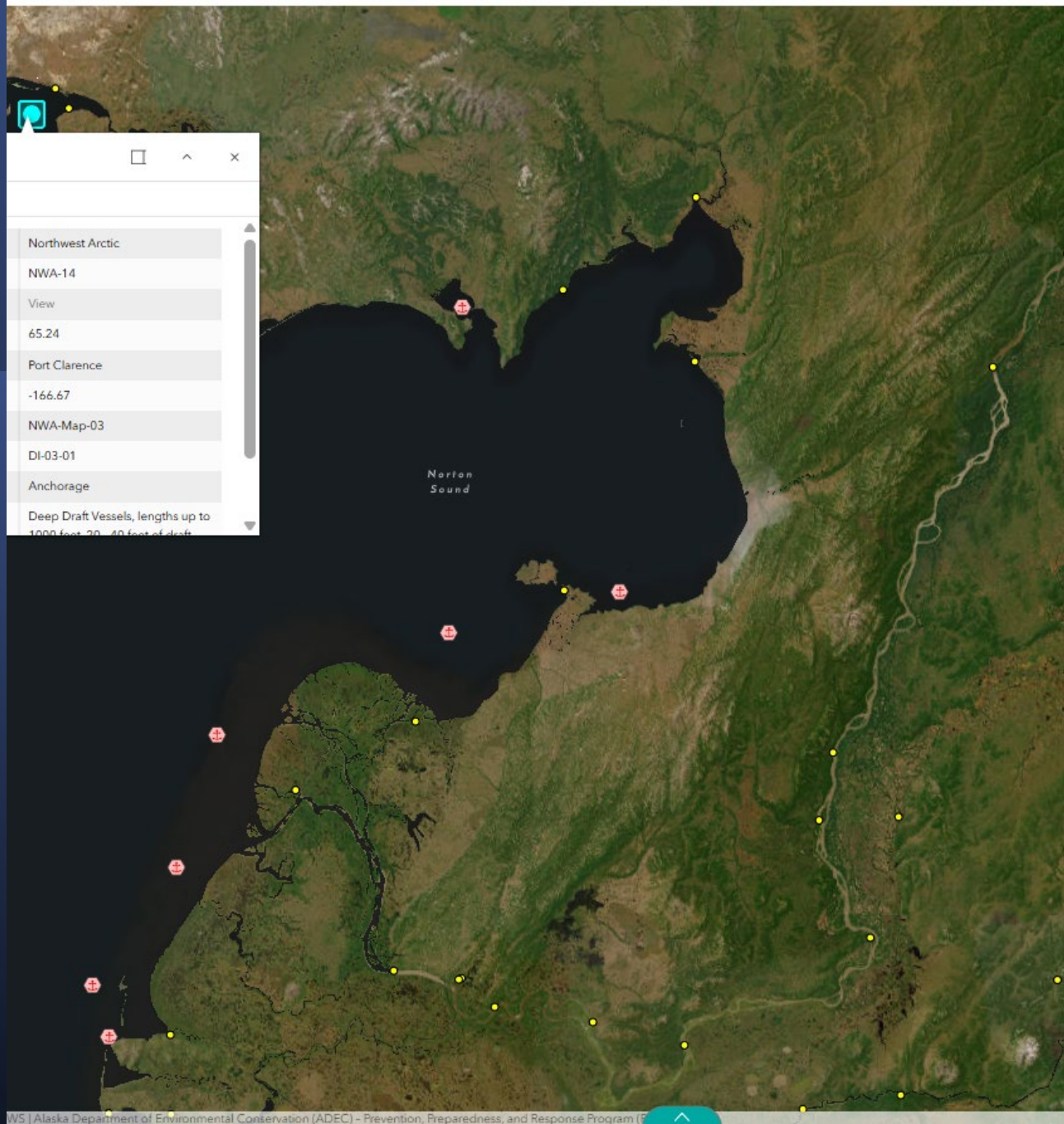


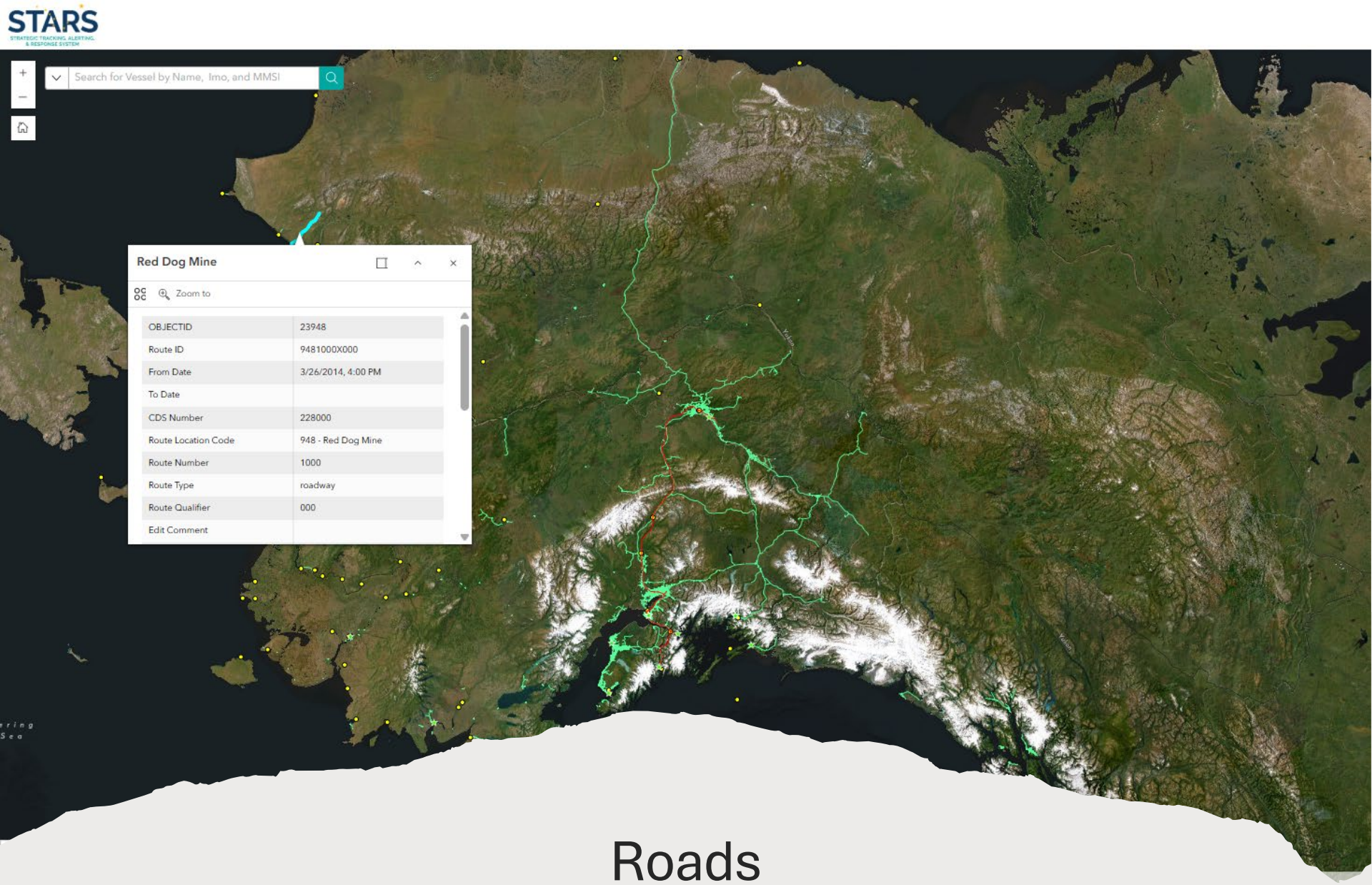
Global Ship Density (Commercial Vessels)

NOAA Chart


Ninilchik
Cape Ninilchik
Cape Starichkof
Anchor Point
Homer
Coal Bay
Halibut Cove
Kachemak Bay
Yukon Island
Tutka Bay
Seldovia
Seldovia Bay
English Bay
Port Chatham
Nuka Bay
Nuka Island
Brown Mountain
Nuka Passage
Port Dick
McArthur Pass
Two Arm Bay
Granite Cape
Lone Rock
Seal Rock
Aialik Bay
Harris Bay
"579 m"
"508 m"
"597 m"
"619 m"
"1158 m"
"1320 m"
"1702 m"
"1475 m"
"1707 m"
"954 m"
"1177 m"
"1052 m"
"1067 m"
"934 m"
"914 m"
"991 m"
"857 m"

Potential Places of Refuge (PPORs)



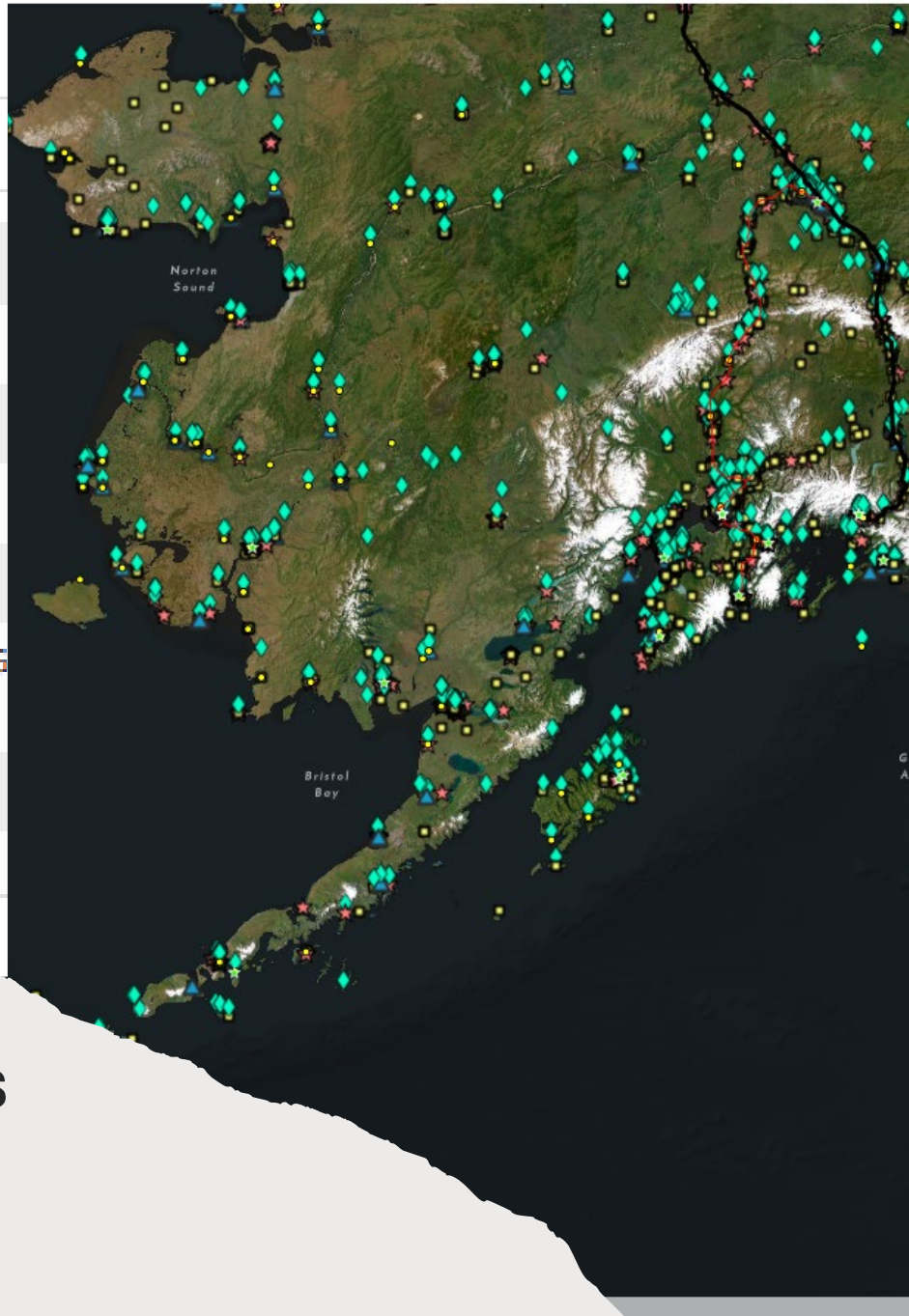

STARS
STRATEGIC TRACKING, ALERTING, & RESPONSE SYSTEM
Search for Vessel by Name, Imo, and MMSI
Red Dog Mine
Zoom to
OBJECTID 23948
Route ID 9481000X000
From Date 3/26/2014, 4:00 PM
To Date
CDS Number 228000
Route Location Code 948 - Red Dog Mine
Route Number 1000
Route Type roadway
Route Qualifier 000
Edit Comment

Roads

Contaminated Sites: Chief Paul Memorial School - Kipnuk

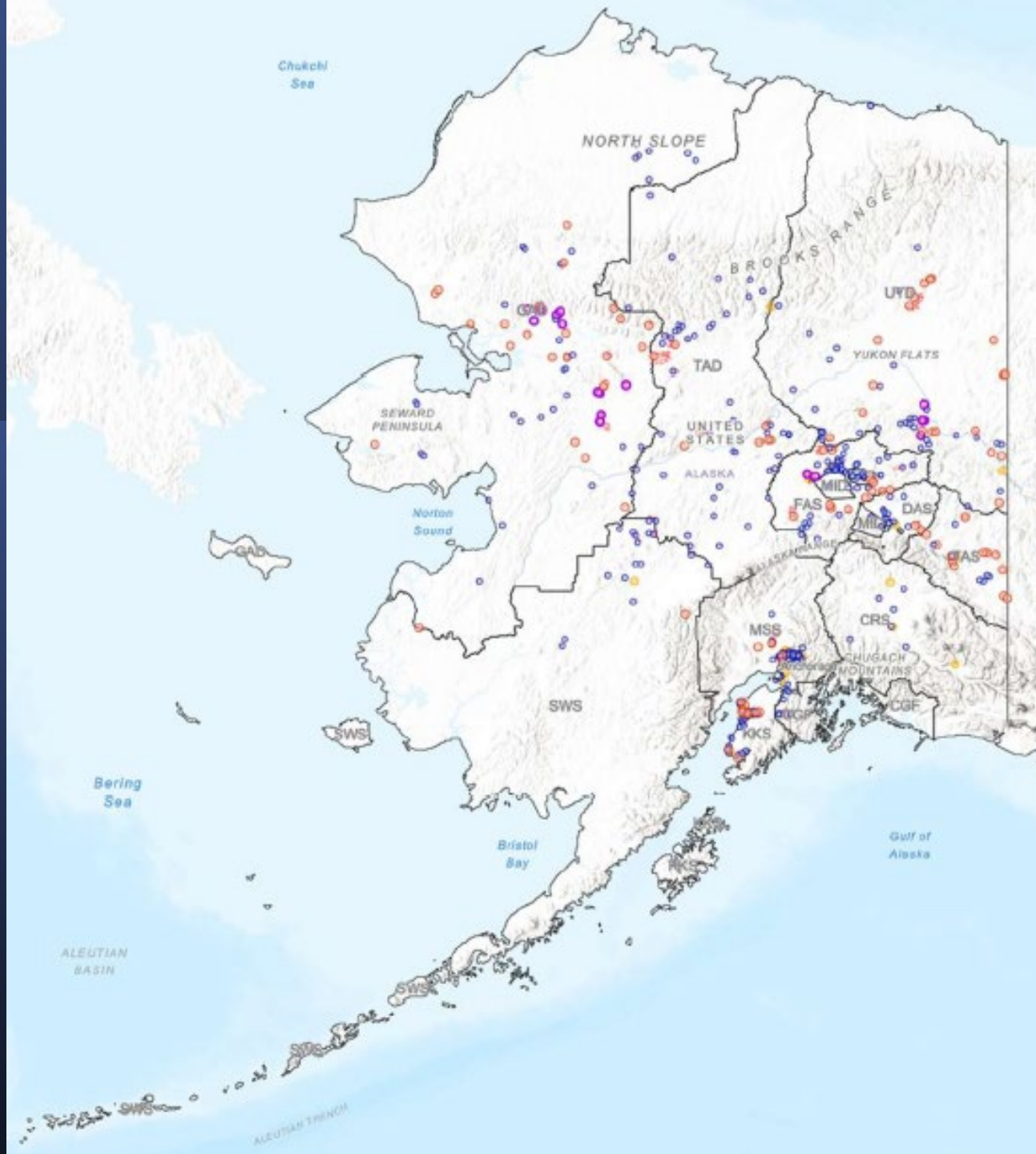
Zoom to

Address_1	Village Road
Address_2	
ANCSA_Category	
Borough	Bethel
City	Kipnuk
Comment	Lat/long obtained using G Earth Pro.
Email	dec.icunit@alaska.gov
File_Number	2421.38.003

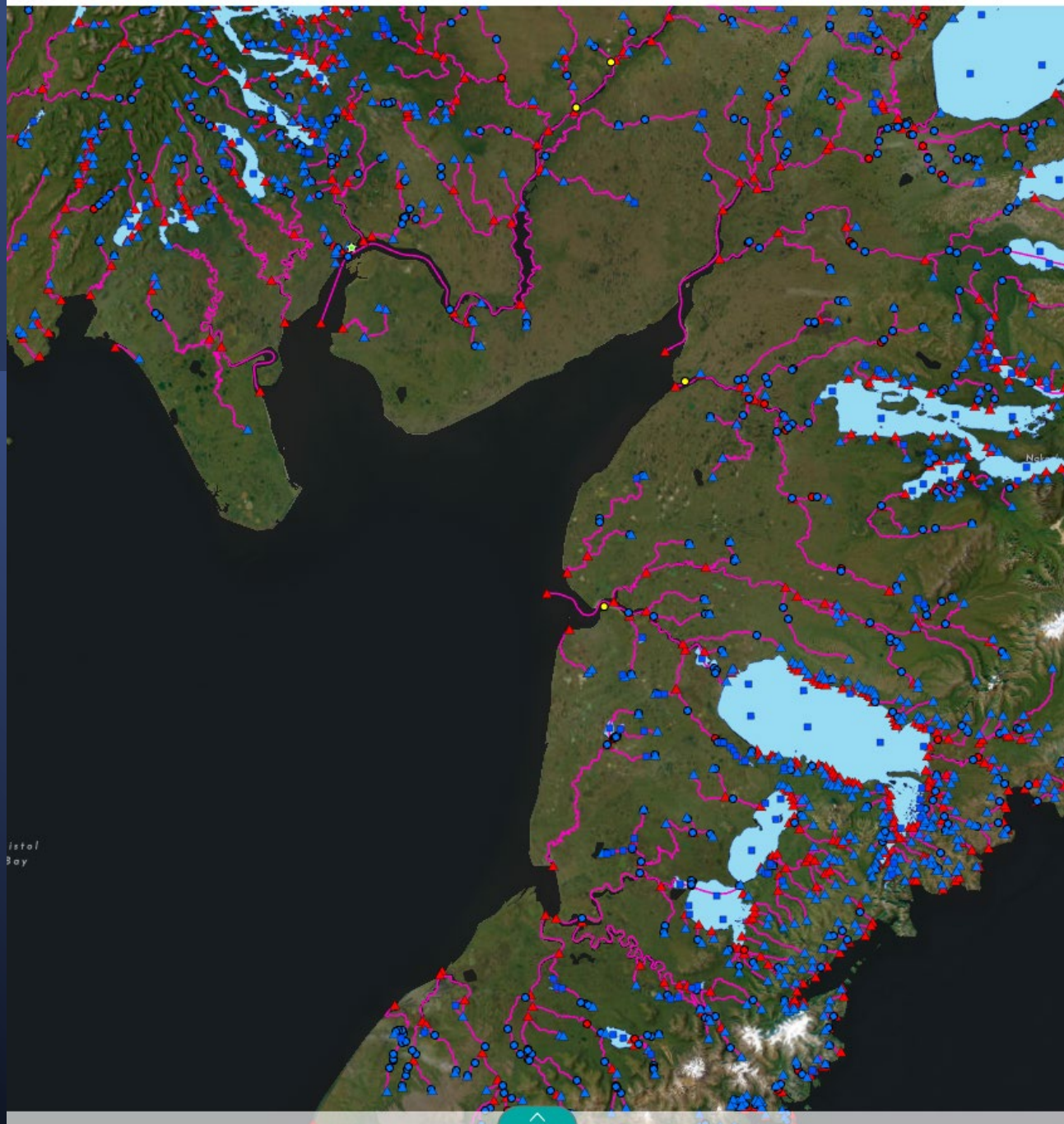


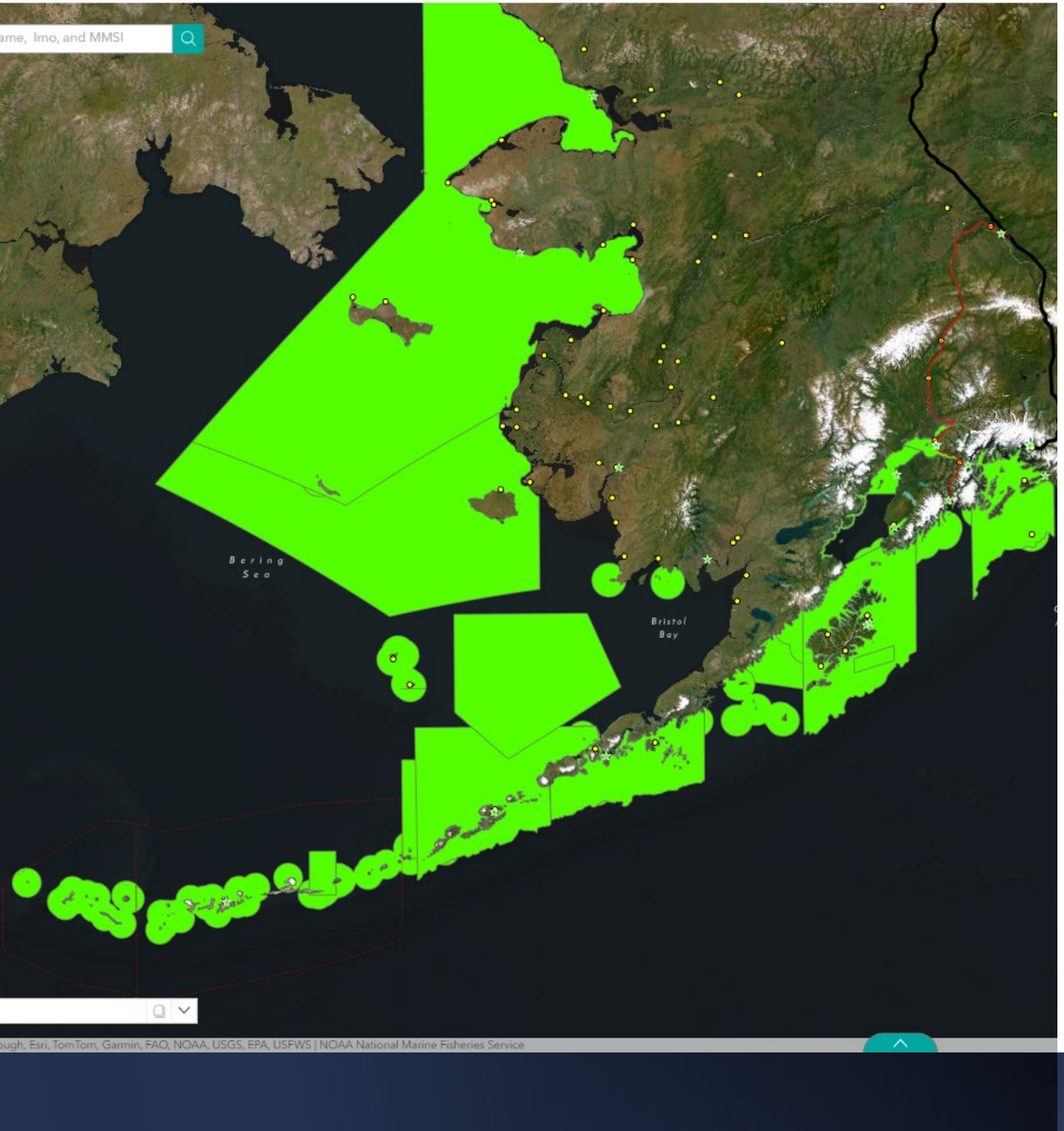
ADEC Contaminated Sites

Active Wildfires



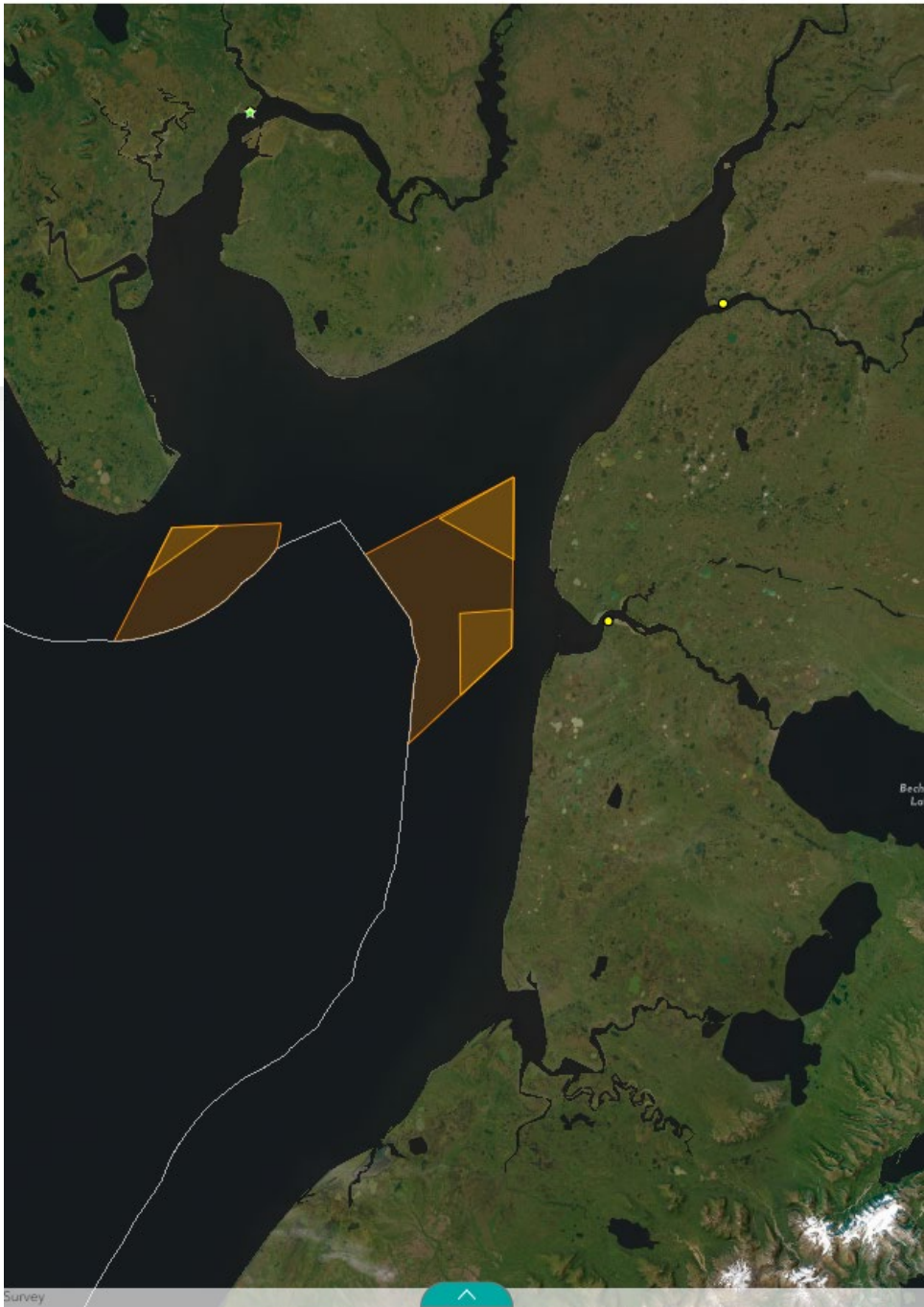
Anadromous Streams

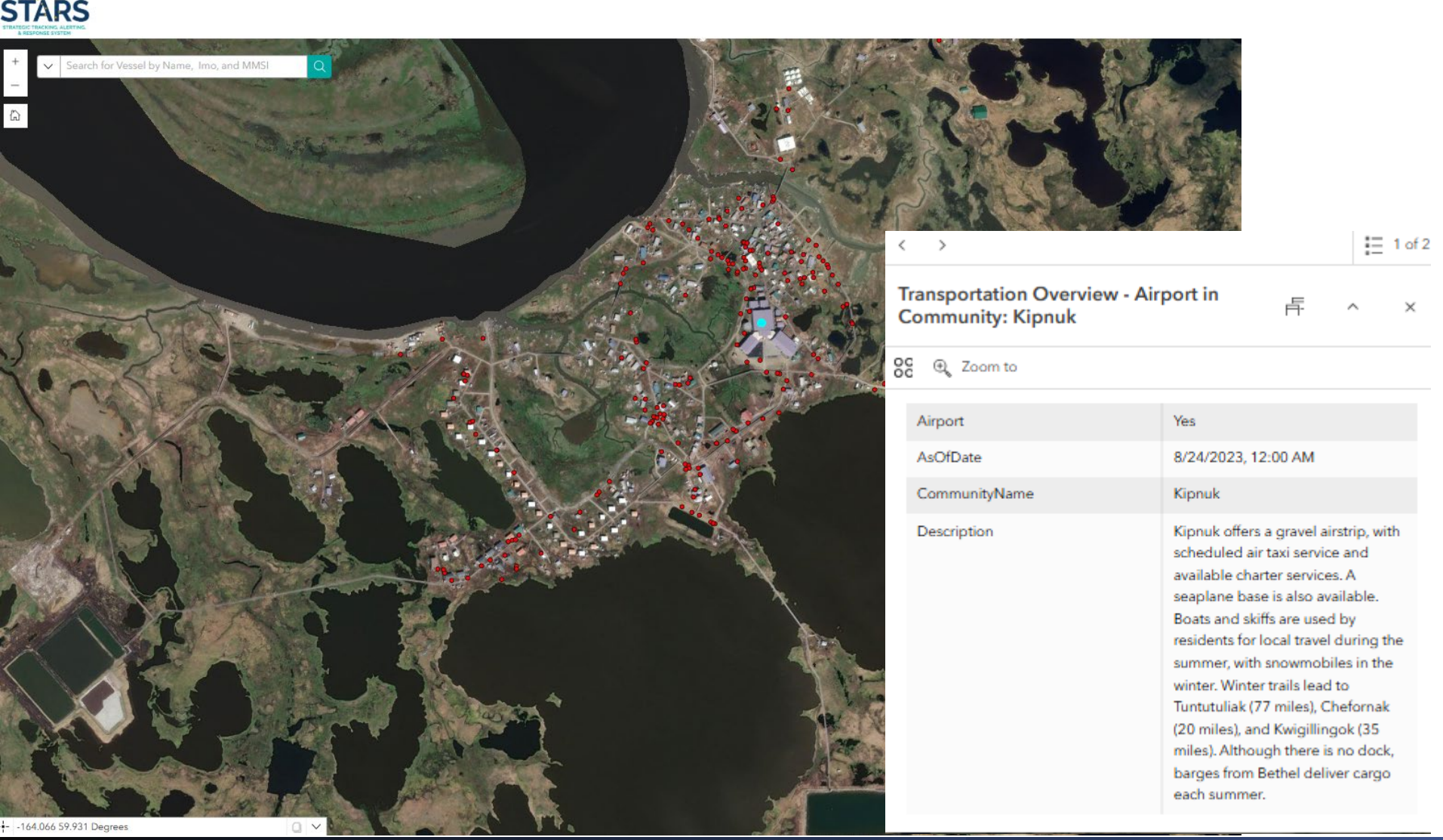




NMFS Critical Habitat – Sea Lions

Lightering Zones



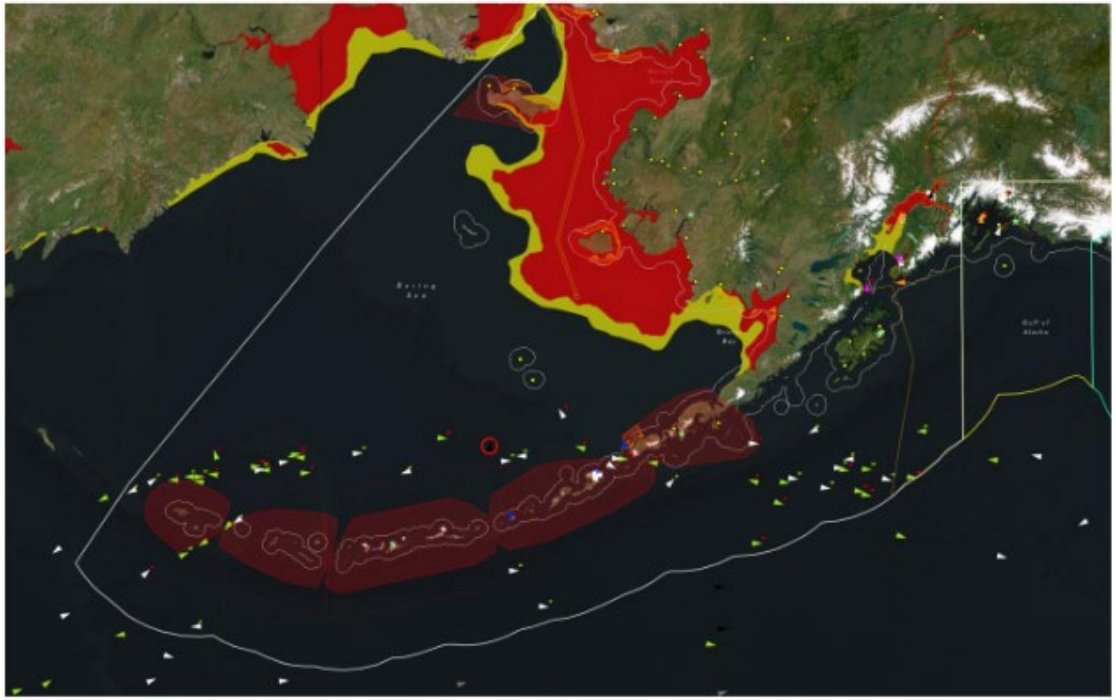


Kipnuk Response – Typhoon Halong

Survey Points - Kipnuk

ALASKA CHADUX̂ NETWORK

DAILY READINESS REPORT: THURSDAY, JANUARY 1, 2026



BY THE NUMBERS

ACN VESSELS IN ZONE				SUMMARY OF VESSEL EVENTS	
VESSELS BY PASSAGE TYPE		VESSELS BY TYPE		ACTIVE EVENTS IN THE LAST 24 HRS	
Alaska Operations	58	Cargo	54	Routing Measure Deviations	0
Non-Innocent-Transit	28	Fishing	32	Vessels of Interest	2
Innocent Transit	27	Tug	16	Vessels of Concern	0
		Passenger	5	Other	0
		Misc/Other	3		
		Tank	3	*See Page 3 for details on Active and Closed Vessel Events*	

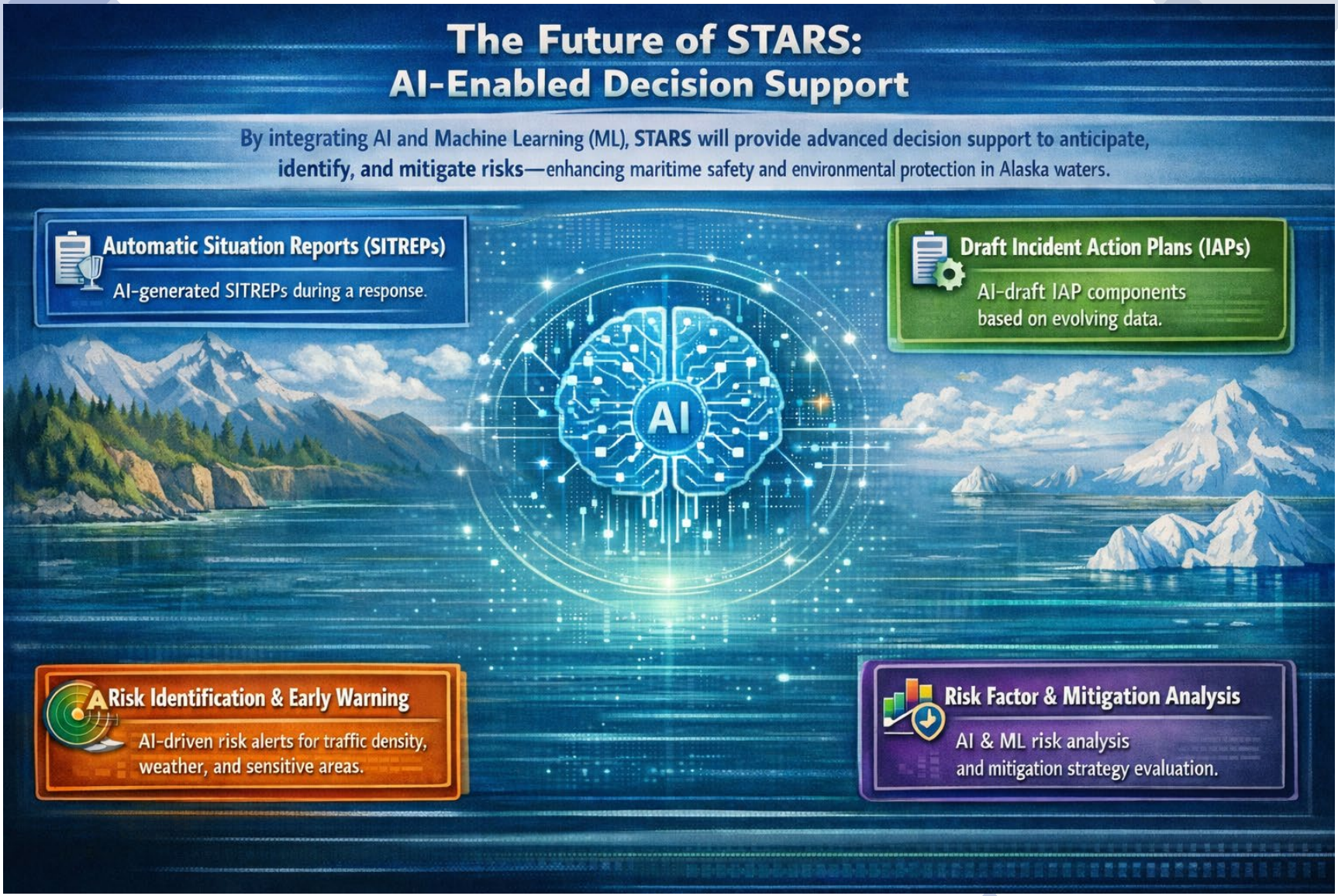
Daily Readiness Report

Every night, we send out a "Daily Readiness Report"

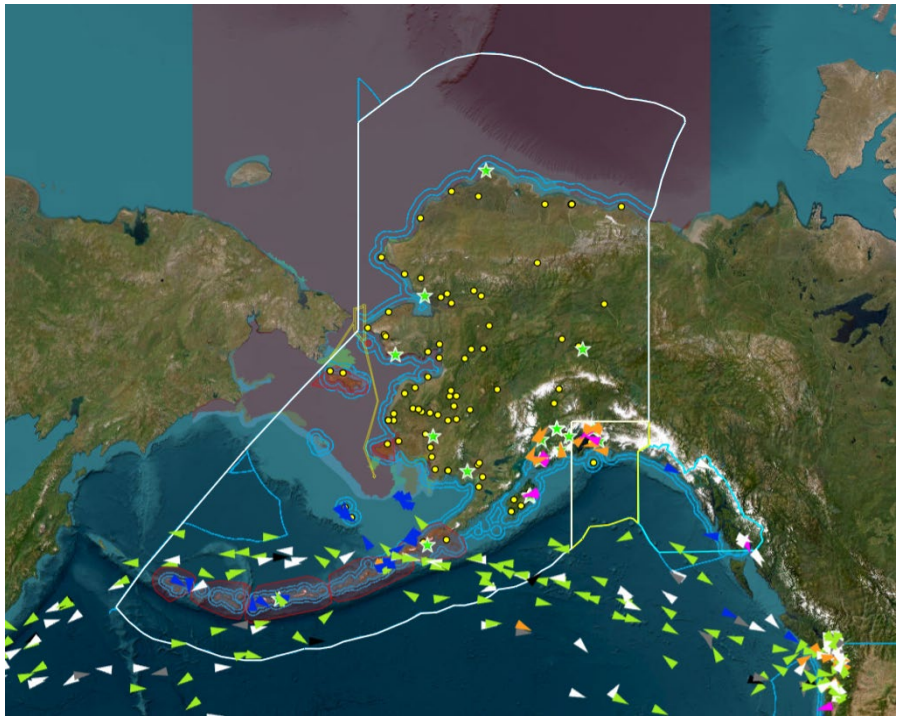
- Daily counts of vessels in our coverage area
- Summary of vessel events
- Active responses
- Weather, Wave, Wind Data
- Sea Ice and Sea State
- Tides for select ports
- Road conditions
- Airport Status
- Wildfire Data (Seasonally)

The Future of STARS: AI-Enabled Decision Support

By integrating AI and Machine Learning (ML), **STARS** will provide advanced decision support to anticipate, **identify, and mitigate risks**—enhancing maritime safety and environmental protection in Alaska waters.



STARS represents the next generation of maritime situational awareness, integrating multiple geospatial data feeds into a single, shared Common Operating Picture, strengthening maritime safety, protecting sensitive ecosystems and subsistence use areas, supporting community food security, and enabling safe, reliable commerce across Alaska's waters.



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ALASKA
Chaduҳ
Network

PREVENT / RESPOND / PIONEER

Buddy Custard
buddy.custard@alaskaosro.org
907-348-2348 (work)
907-348-2365 (24/7)

- Link to STARS for Live Demonstration