



# 2025 Long-Term Environmental Monitoring Program

PWSRCAC Board Presentation  
Jan 23, 2026

Morgan Powers, PhD

PRINCE WILLIAM SOUND  
**RCAC**  
REGIONAL CITIZENS' ADVISORY COUNCIL

fjord & fish sciences

1

## Agenda

1. Monitoring Program and Timeline
2. 2025 Results
3. Communication / Outreach
4. LTEMP in Context (Oil Spill Recovery Institute project)



1/21/26

Fjord &amp; Fish Sciences

2

2

## Monitoring Program Goals

1. Monitor impacts from oil transportation activities on the biota of Prince William Sound and the Gulf of Alaska at selected sites
2. Identify the sources of hydrocarbon residues in sediments and mussel tissue
3. Provide recommendations for future response and mitigation measures

Meets mandates under the Oil Pollution Act of 1990 and requirements of the contract with Alyeska Pipeline Service Company



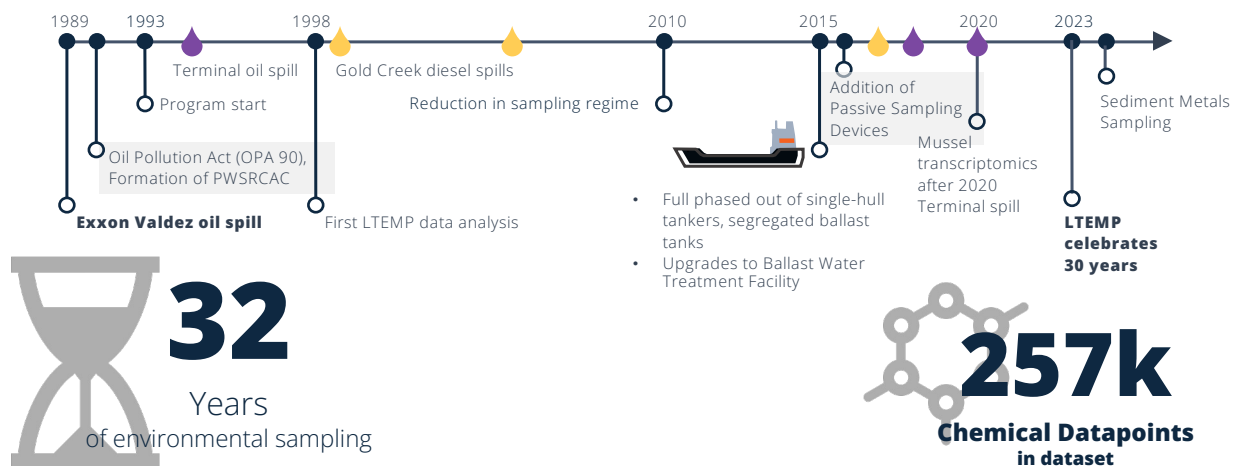
1/21/26

Fjord &amp; Fish Sciences

3

3

## Long-Term Environmental Monitoring Program Timeline of Events



4



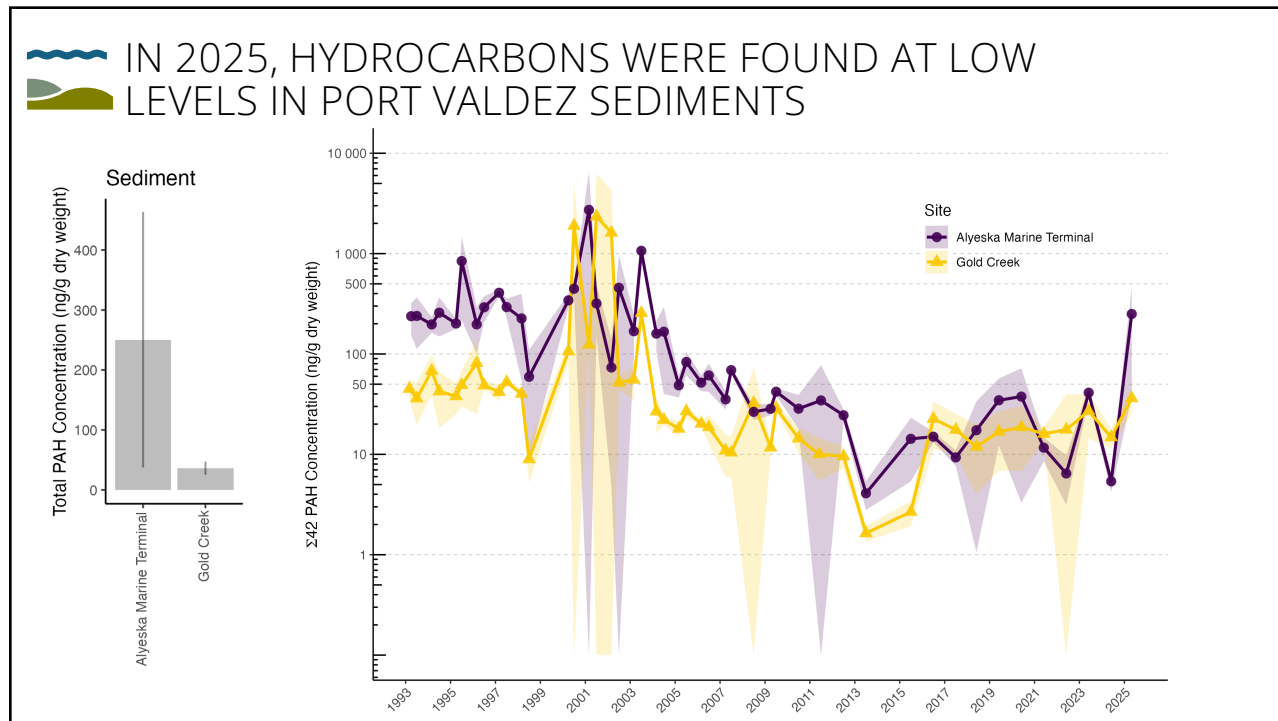


5

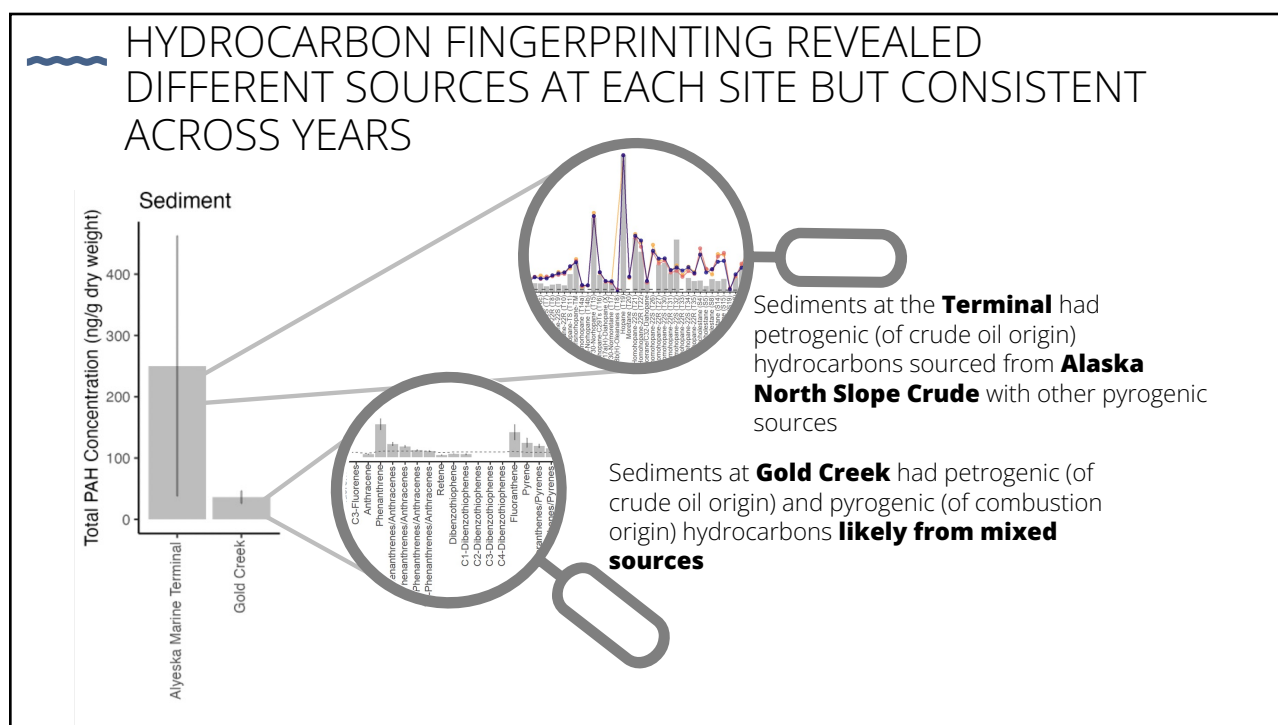
## 2025 Field Sampling

- Fieldwork was carried out by PWSRCAC's Danielle Verna, Jeremy Robida, student intern Tim, and contractor Morgan Powers in May 2025 aboard the FV Solstice
- Chemical analysis was done by Alpha Analytics and by Oregon State University FSES laboratory
- Reporting was divided into a brief **Summary Report** and a **Technical Supplement** like in 2021, 2023, & 2024

6

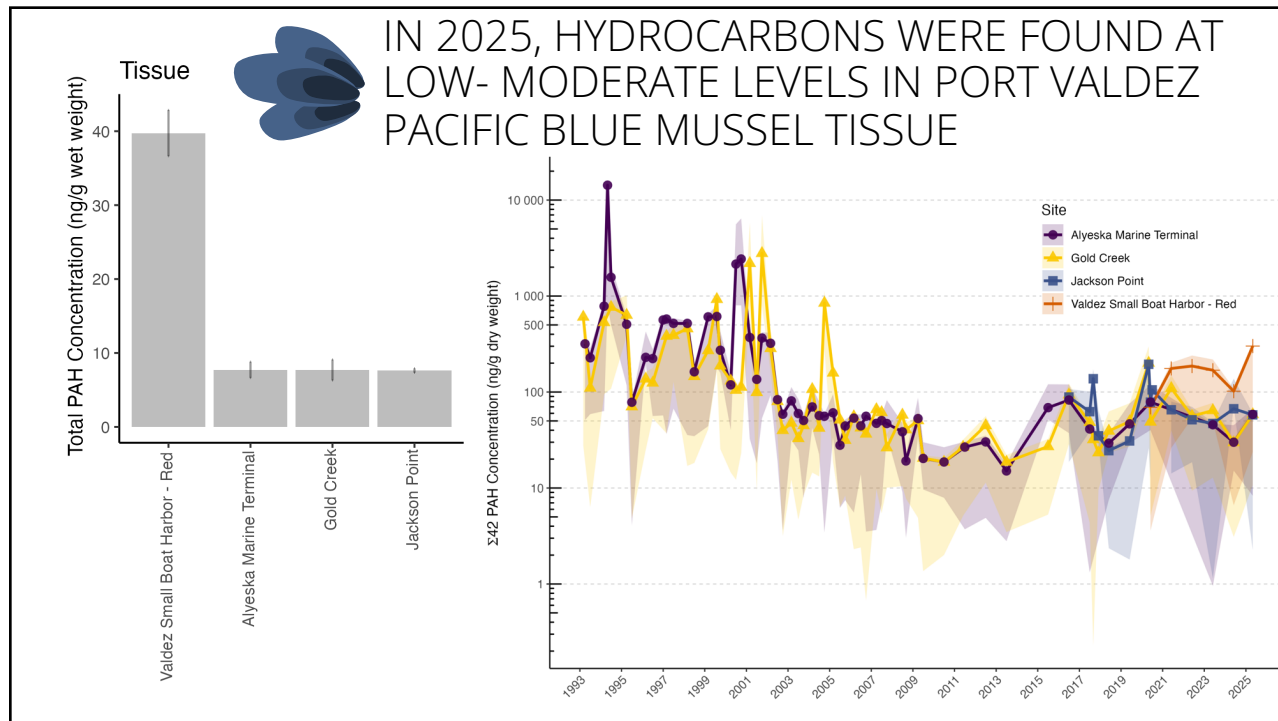


7

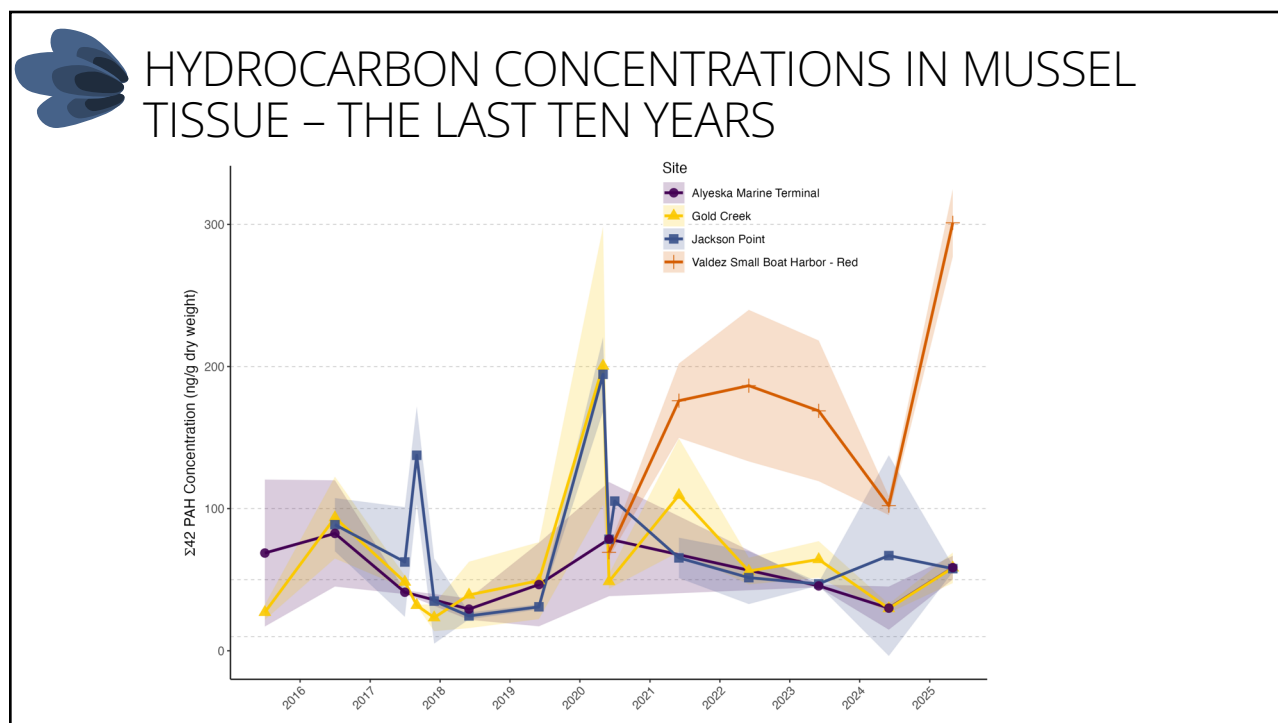


8

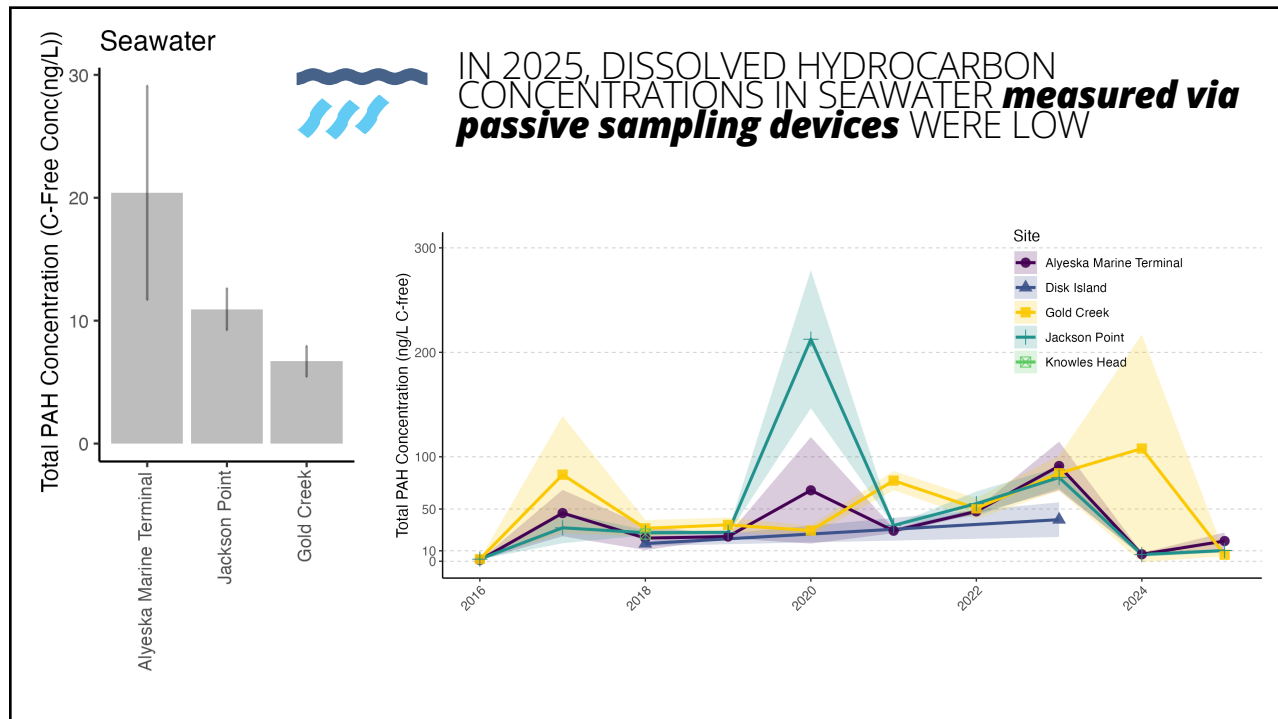




9



10



11

## What do the hydrocarbons levels in PWS mean for aquatic life?



### Sediments



#### Low Risk

Sediments hydrocarbon concentrations were <1% of the EPA Benchmark threshold for toxic effects



### Intertidal Mussels



#### Low Risk with Variability

Mussel hydrocarbon concentrations are likely too low to elicit adverse effects in mussels or lead to adverse effects if consumed by other animals



### Passive Sampling Devices



#### Low Risk

Bioavailable, water-soluble hydrocarbon concentrations are likely too low to elicit adverse effects even in sensitive life stages (e.g., embryos and larvae)



12

13

The woman is standing next to a large display board titled "Decades of citizen-driven environmental hydrocarbon monitoring from Prince William Sound". The board features various charts, maps, and text detailing the monitoring program's history and findings. The woman is wearing a purple and black vest with "Alaska Sea Grant" and "University of Alaska" logos, and a lanyard with a badge.

14



## IMPORTANCE OF THIS MONITORING PROGRAM IN THE FUTURE

- a. Long-term monitoring is essential in evaluating the success of PWSRCAC's mission: "Promoting the environmentally safe operation of the Alyeska terminal and associated tankers"
- b. Detect change, injury, or recovery, i.e., in the event of a spill or other environmental change
- c. Provides strong, independent data to be used in ongoing and future analysis

2025 Sample Crew at Gold Creek



1/21/26

Fjord &amp; Fish Sciences

15

15

## FUTURE RECOMMENDATIONS

2025 LTEMP Intern Tim collects blue mussels

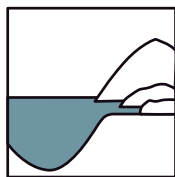
1. Increase the dissemination efforts
  - a. Conference presentations
  - b. Manuscript publishing
  - c. Outreach events
2. Additional analysis as part of manuscript drafting
  - a. Detecting change over time and space
  - b. Comparison to other oil terminals
3. Data Archival and Preservation
4. Maintaining a reference site (mining upstream at Gold Creek)



1/21/26

Fjord &amp; Fish Sciences

16



fjord & fish  
sciences



## LTEMP in Context

# 2025 Subsistence Foods Background Contaminants Report

A State of the Science Review of Hydrocarbons in Coastal  
Alaskan Wild Foods

Fjord & Fish Sciences

17

## Oil Spill Contaminants in our Seafood: How much do we know?



In Alaska, marine fish, shellfish, seabirds, marine mammals, and marine plants are harvested for food, culture, and way of life. However, these same **foods face risks from hydrocarbon contamination** due to marine oil spills—from disasters like the 1989 **Exxon Valdez**, 2004 **Selendang AYU**, and 2022 **Tug Western Mariner** oil spills.

Oil contaminants can build up in marine organisms, where they can **affect growth and reproduction, even survival**. When these species are harvested and eaten, the contaminants in these organisms may impact the people who consume them.



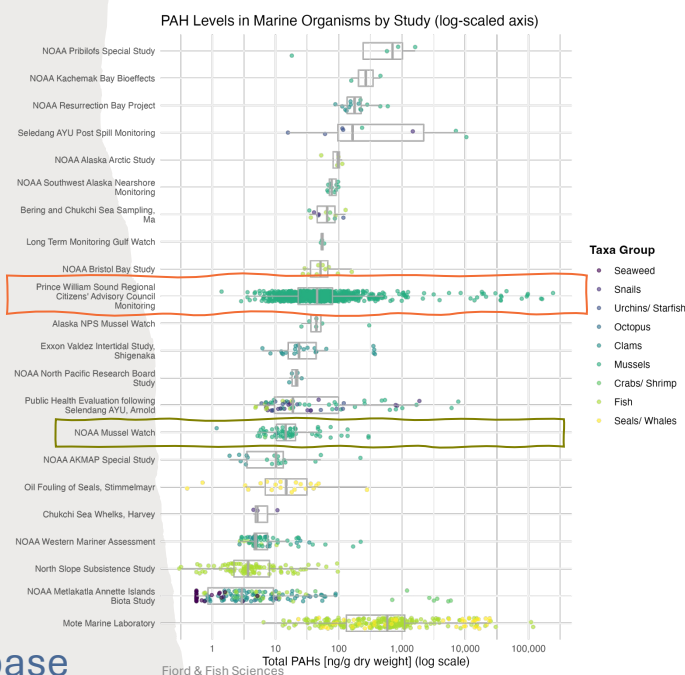
**Understanding where, when, and how much** oil contaminants are found in marine subsistence species is a critical part of protecting both **environmental and community health**.

Fjord & Fish Sciences

18

## LTEMP in Context

LTEMP is the largest dataset for hydrocarbon tissue concentrations in Alaska

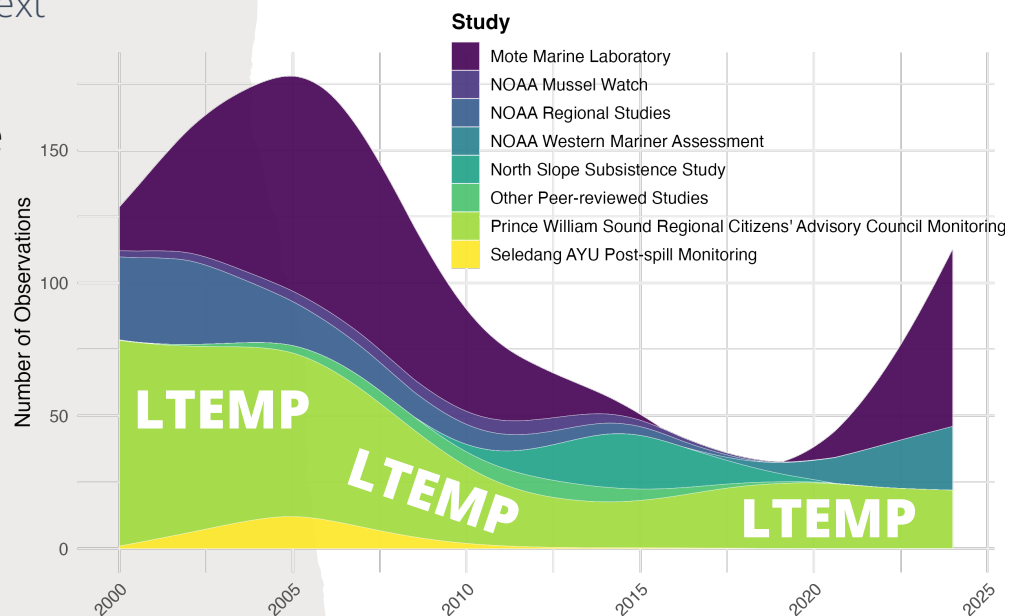


## Describing the Database

19

## LTEMP in Context

LTEMP provides the consistent sampling effort over time - greater than any other study in Alaska.



## Describing the Database

20



## LTEMP in Context

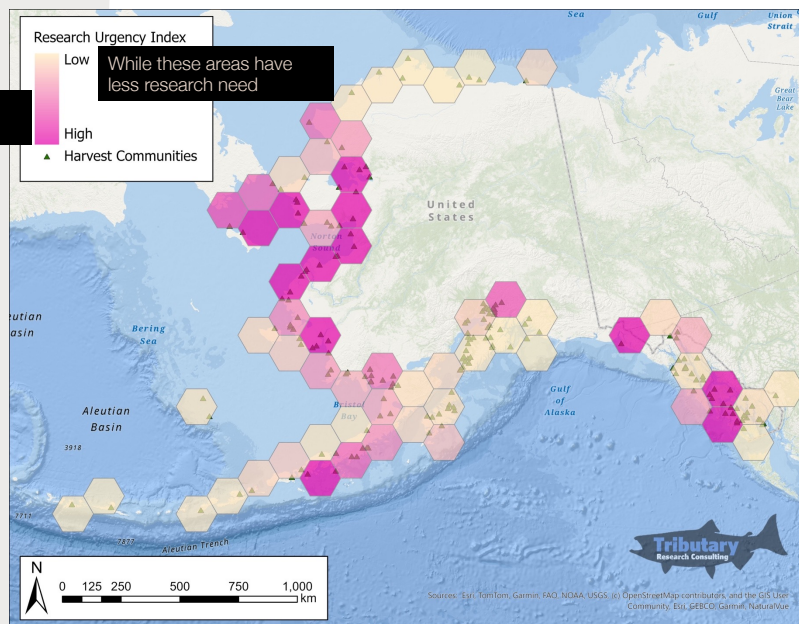
# Research Urgency

Calculated:  
 datapoints in database  
 Reported marine resource harvest (kg)

## Metanalysis

These areas need more research

While these areas have less research need



Fjord & Fish Sciences

21

# Research Urgency

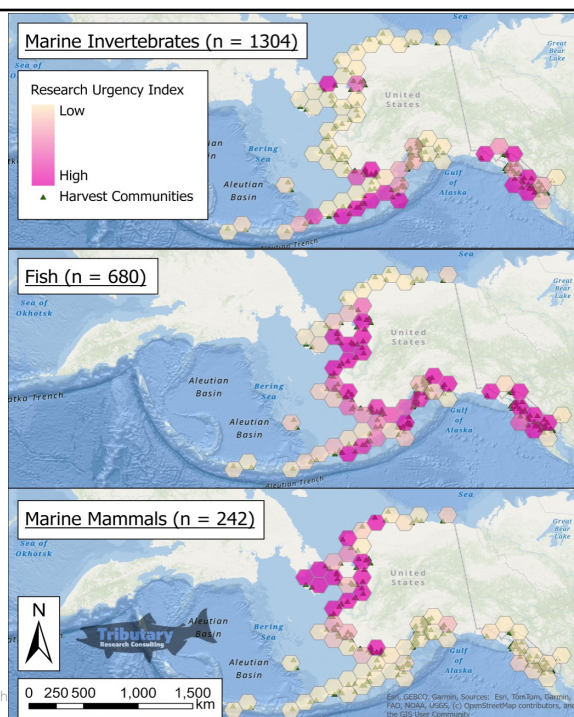
Calculated:  
 datapoints in database  
 Reported marine resource harvest (kg)

## Why It Matters

Without consistent and widespread biomonitoring, it's difficult to know how **oil pollution might be affecting the foods that we rely on**. This study reveals a **major mismatch between where people are harvesting and where scientists are monitoring**. If another spill were to happen, it would be hard to determine whether it caused contamination, as **background data is missing or outdated**.



Fjord & Fish



22



23