

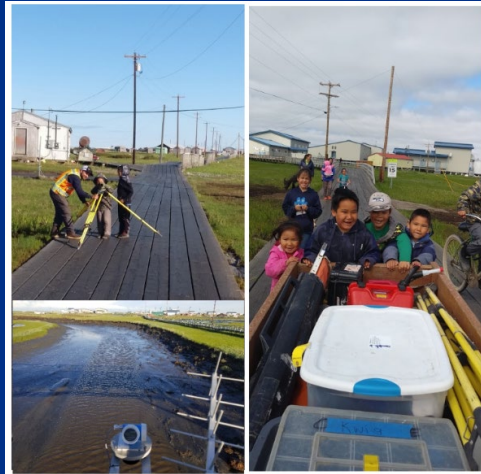
# NOAA OFFICE FOR COASTAL MANAGEMENT

**Jacquelyn (Jaci) Overbeck**

Strengthening Coastal Resilience

December 7, 2023

# Alaska's Coastal Management Issues

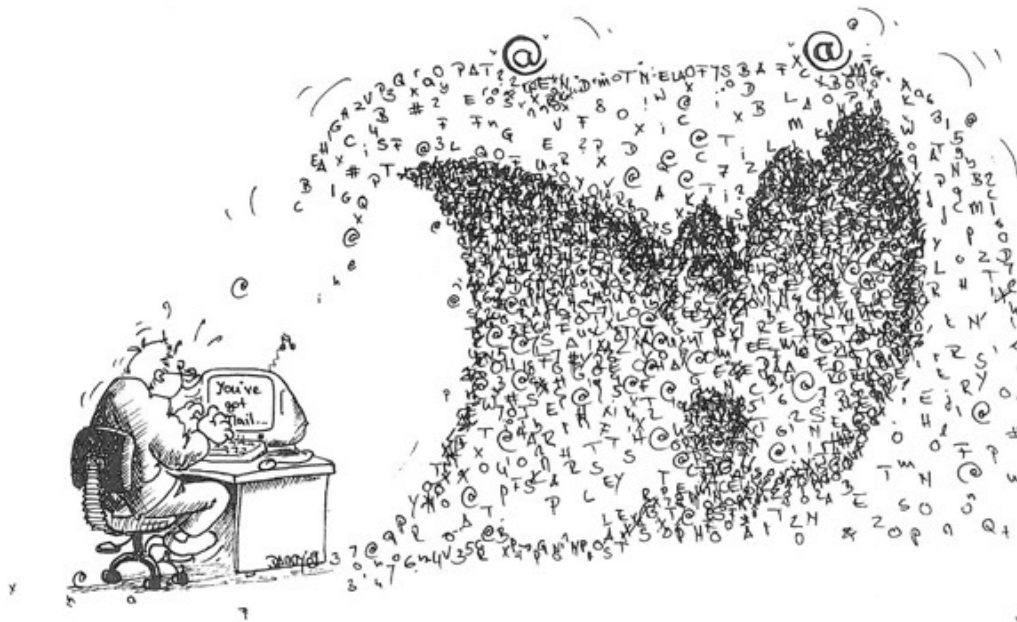


- Coastal geohazards (**coastal flooding, erosion, and permafrost degradation**; tsunami; landslide generated tsunami; landslides; atmospheric rivers; glacier retreat; jokulhlaup)
- Fisheries collapse, change (commercial, subsistence, sport)
- Tourism opportunity, change
- Aquaculture, mariculture
- Maritime transport, navigation safety (vessel tracking, oil spill, transport on ice)
- Harmful algal blooms
- Ocean acidification
- Energy, alternative energy
- Water systems, security (glacial fed, drought, groundwater, saltwater intrusion)
- Land management (ownership, development, relocation, managed retreat, conservation, 14c3 reconveyance)



# Data Driven Decision Making

How does the data we have heard about today come together to strengthen coastal resilience?



# Data Driven Decision Making

How does the data we have heard about today come together to strengthen coastal resilience?

- Use data to make **decisions based on risk**.
- Raw data must be converted to **tools, answers, and engineering plans**.
- Awareness of data and expertise allows you to call upon them when specific projects or funding opportunities arise, **leverage existing data**, and reallocate resources.
- With the uncertainty of climate change, **monitoring and evaluation is key** to continually updating our understanding of what is at risk and whether adaptation strategies are working.



# What is at Risk?

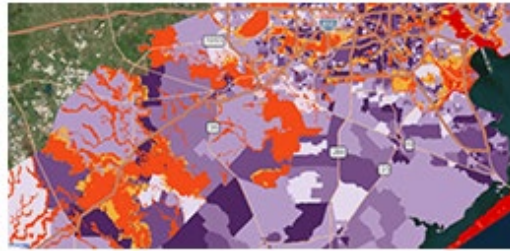
*On the Horizon for Alaska: Unlocking the Digital Coast with VDatum and Lidar*



## Sea Level Rise Viewer

NOAA OCM

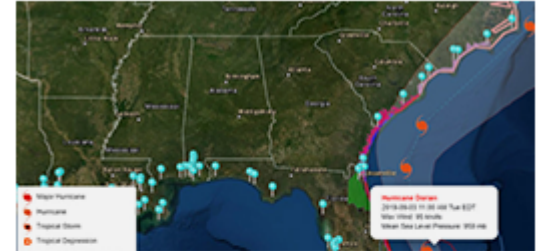
View potential impacts of sea level rise along the coast



## Coastal Flood Exposure Mapper

NOAA OCM

Maps people, places, and natural resources that are potentially exposed to coastal flooding



## Coastal Inundation Dashboard

NOAA CO-OPS

Provides real-time alerts and historical inundation information at select National Ocean Service tide stations



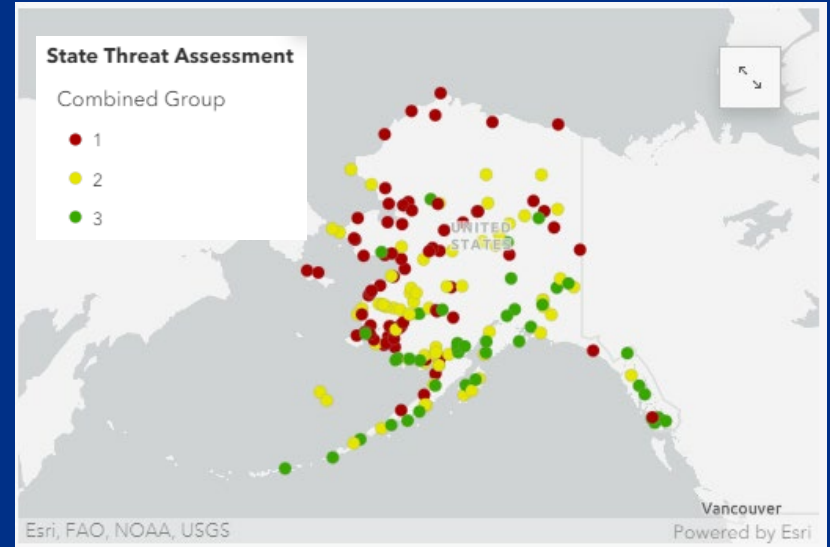
# What is at Risk?

## An Alaska Risk Assessment Program

A risk assessment defined as a scientific and engineering assessment of the **magnitude and timing of threats** from flooding, erosion, and permafrost degradation hazards on the natural and built environment, social and cultural implications, and an **analysis of potential solutions**.



## 2019 Statewide Threat Assessment



Alaska communities at risk from flooding, erosion, and permafrost degradation.

# What is at Risk?

## An Alaska Risk Assessment Program



- Voluntary opt-in program for communities to gain technical assistance for addressing **flood, erosion, and permafrost** issues
- Data collection
- Risk assessment
- Monitoring
- Community adaptation strategies
  - Protection in-place
  - Managed retreat
  - Relocation



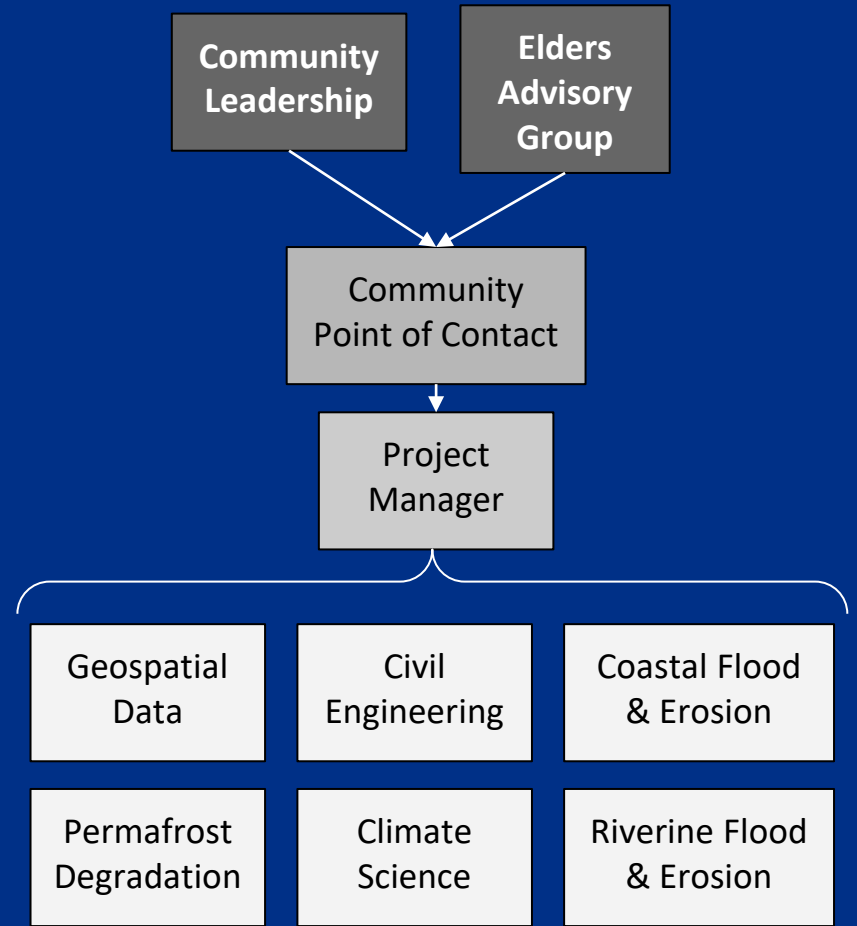
ALASKA NATIVE  
TRIBAL HEALTH  
CONSORTIUM

# What is at Risk?

## An Alaska Risk Assessment Program

### Science and Technical Advisory Councils

- Currently SMEs work in **ad hoc** manner to address reviews and individual requests for technical assistance.
- Envision a coordinated structure with **staff support for project management** and **dedicated SME time**.





# Making Decisions Based on Risk

- Approaches as they relate to Sea Level Rise
  - **Risk Tolerance** (how critical infrastructure is or sociocultural value use low probability scenario that would have high impact; can lead to overdesign).
  - **Scenario-Based** (examine future conditions that are inclusive of human and environmental changes; account for interacting processes; evaluate effectiveness of shore protection structures, etc.)
  - **Adaptation Pathways** (investing in adaptation strategies when necessary; identify thresholds and tipping points; for example certain infrastructure exposed during a single storm)

**Application Guide for the 2022 Sea Level Rise Technical Report**



*After 2050, there is greater uncertainty in different processes driving the range of SLR scenarios.*



# Monitoring

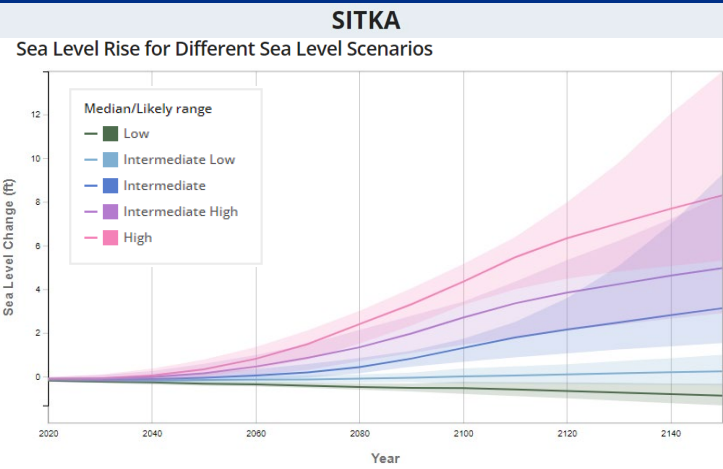
- Uncertainty in the impacts of climate change requires monitoring and evaluation:

- Track performance
- Track whether and when risk thresholds/trigger levels are reached and new actions are needed
- Have planned outcomes been achieved?

[coast.noaa.gov/digitalcoast/topics/climate-adaptation](https://coast.noaa.gov/digitalcoast/topics/climate-adaptation)

- Tapping into existing monitoring programs

- Alaska Water Level Watch
- Alaska Harmful Algal Bloom Network
- Alaska Ocean Acidification Network



[sealevel.nasa.gov/task-force-scenario-tool](https://sealevel.nasa.gov/task-force-scenario-tool)



# NOAA Funding Opportunities

## Historic BIL/IRA funding

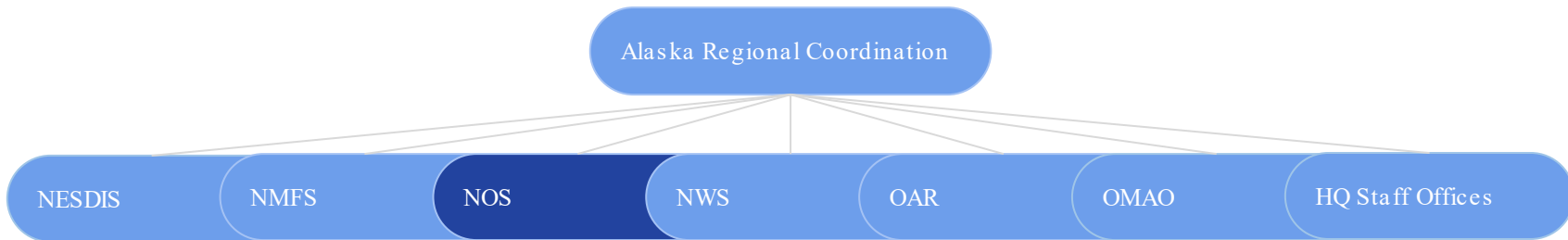
- **Inflation Reduction Act (IRA)** provides **\$3.3 billion** for NOAA to build on its commitments to prepare, adapt, and build resilience to weather and climate events; improve supercomputing capacity and research on weather, oceans, and climate; strengthen NOAA's hurricane hunter aircraft fleet; replace aging NOAA facilities.
- **Bipartisan Infrastructure Law (BIL)** provides nearly **\$3 billion** for NOAA to take action over 5 years in areas of habitat restoration, coastal resilience, and weather forecasting infrastructure.

*[noaa.gov/inflation-reduction-act](https://noaa.gov/inflation-reduction-act)*

*[noaa.gov/infrastructure-law](https://noaa.gov/infrastructure-law)*



# National Oceanic & Atmospheric Administration



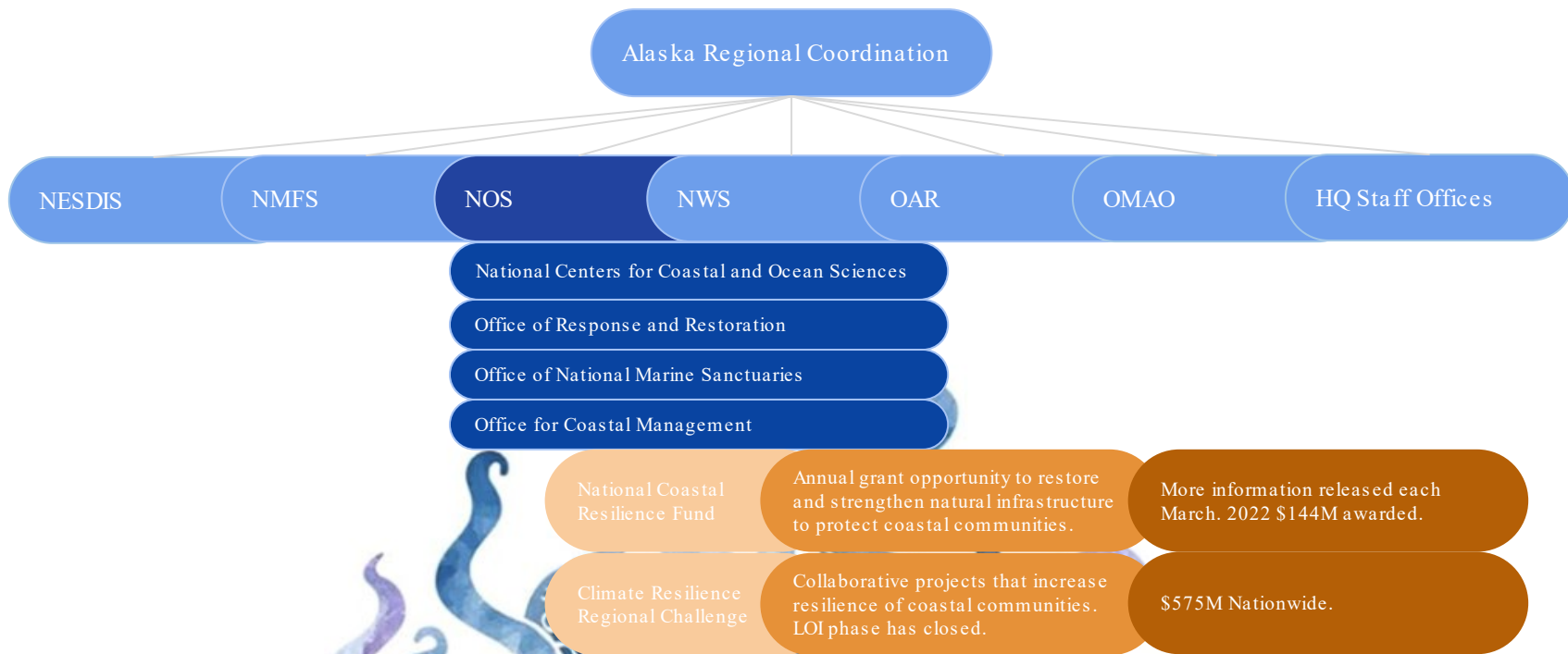
# National Oceanic & Atmospheric Administration



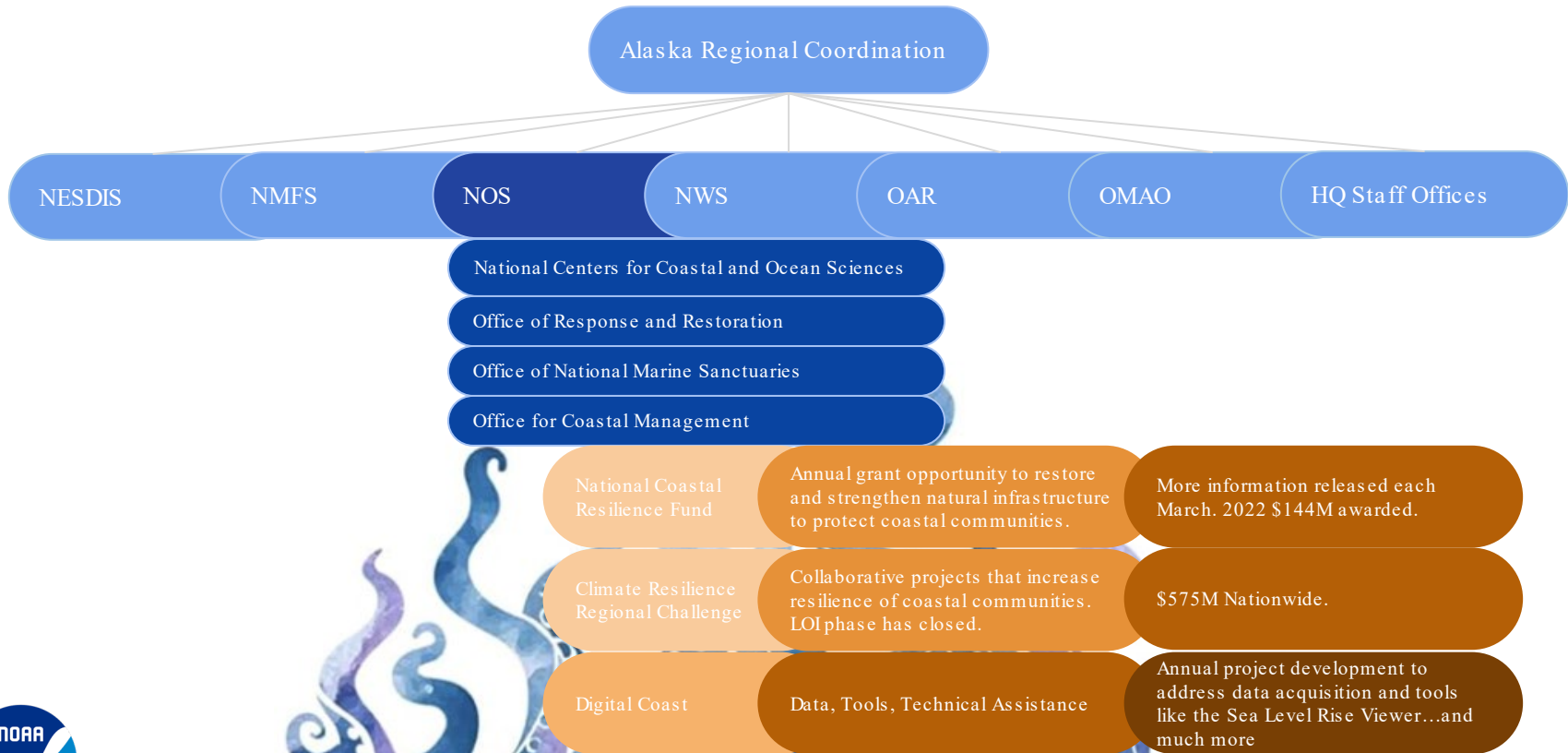
# National Oceanic & Atmospheric Administration



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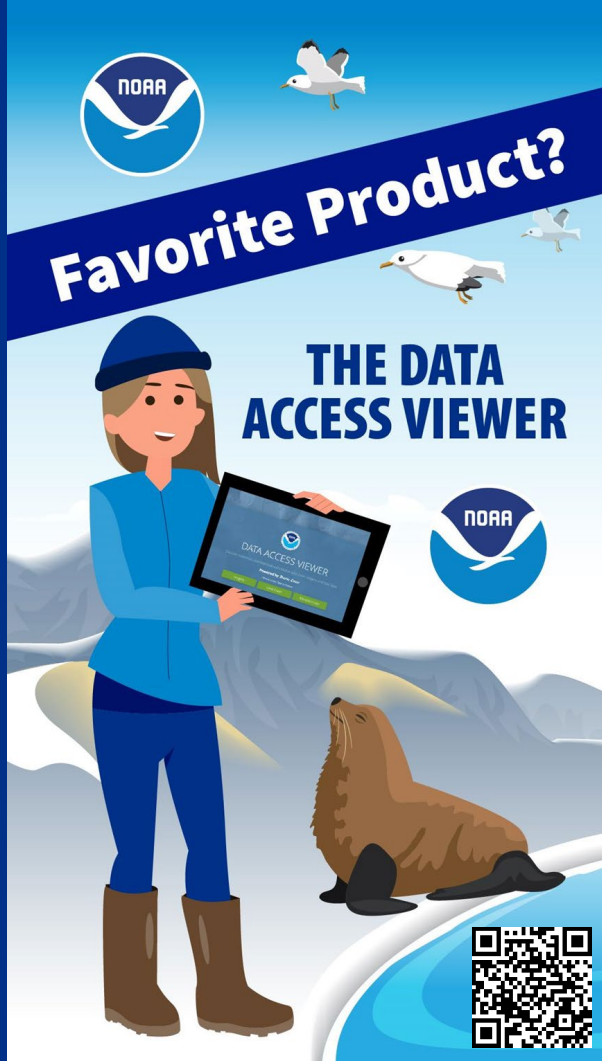
# DIGITAL COAST

Dive in to Get the Data, Tools, and Training That  
Communities Need to Address Coastal Issues



[coast.noaa.gov/digitalcoast](https://coast.noaa.gov/digitalcoast)

NOAA OFFICE FOR COASTAL MANAGEMENT



# Alaska Regional Geospatial Coordinator

- Coordinate coastal data acquisition and applications for coastal management.
- Technical advisor on baseline coastal mapping, geospatial data for coastal management, climate adaptation, and Digital Coast.
- Facilitate access to Office for Coastal Management services (training, contracting, tools).
- Engage with partners on climate adaptation and geospatial priorities to meet coastal management needs.

# Thank you, Quyana, Quyanaq

[jacquelyn.overbeck@noaa.gov](mailto:jacquelyn.overbeck@noaa.gov)

Your Alaska Connection to the  
NOAA Digital Coast

Co-chair of the Alaska Geospatial  
Council Coastal & Ocean  
Working Group

[agc-coastal-soa-dnr.hub.arcgis](https://arcgis.com/hubpages/agc-coastal-soa-dnr)



There's more data available across  
Alaska than you might expect  
(and a LOT more to come).



**STAY TUNED!**

