

# ASSESSING RISK OF RESERVE PIT SITES ON STATE LAND

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Coastline near Lisburne 5 Drill Site.

# AGENDA

- What is a reserve pit?
- Why do we monitor erosion?
- Erosion analysis method
- Coordination
- Summary



Shoreline near W Sak SWPT-1 Gravel Pad.



Drill Site 18 reserve pit and aerial view.



# RESERVE PITS

## What are they?

- Dug-out pits adjacent to oil & gas drilling rigs

## Why were they used?

- To dispose of drilling fluids and other wastes from oil & gas exploration and production

## What might be in them?

- Diesel, Barium, Polychlorinated biphenyls (PCBs,) trash/debris

## Where are they?

- All around the state, concentrated around Prudhoe Bay and the Cook Inlet areas

# WHY DO WE MONITOR EROSION OF RESERVE PITS

## Contamination

Drilling wastes have been excavated from some reserve pits but remains in many.

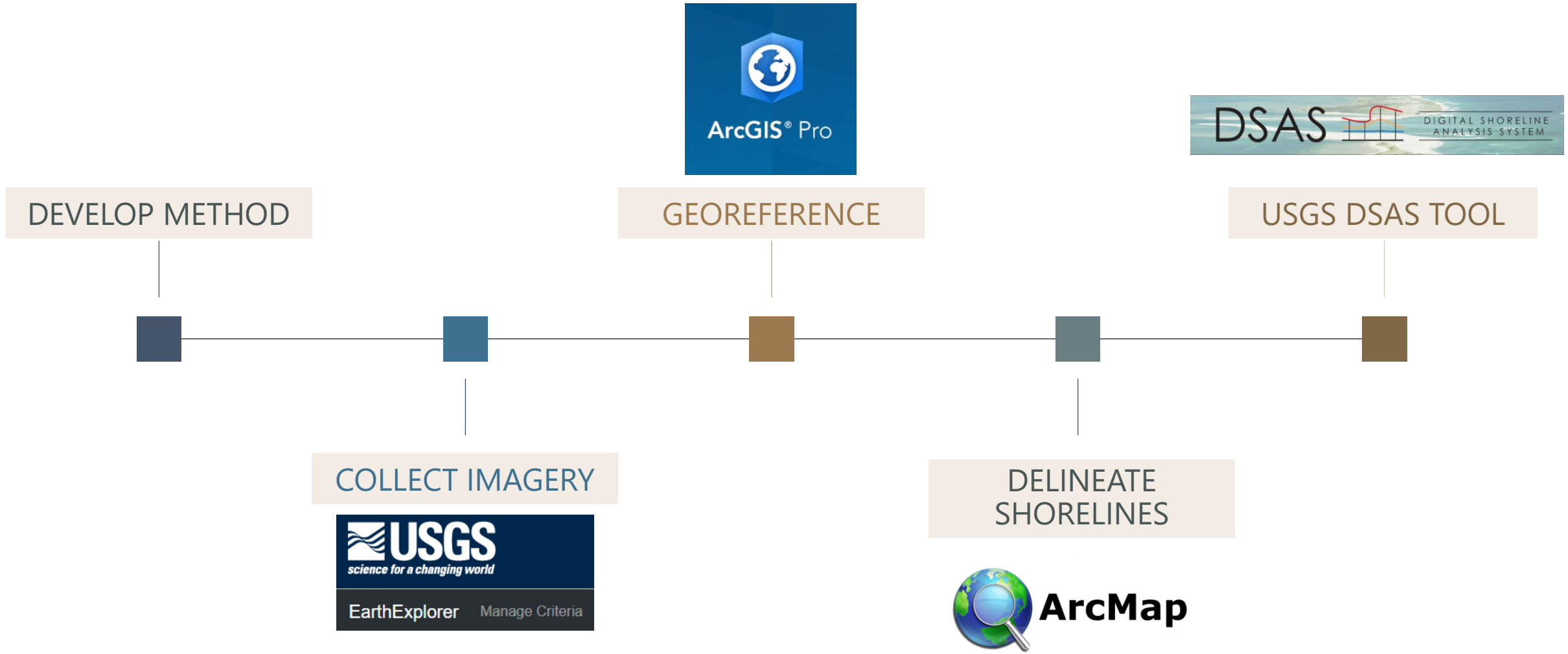
## Risk Management

Monitor for conditions requiring corrective action, advocate for as few land use restrictions and long-term monitoring as practicable.

## Liability

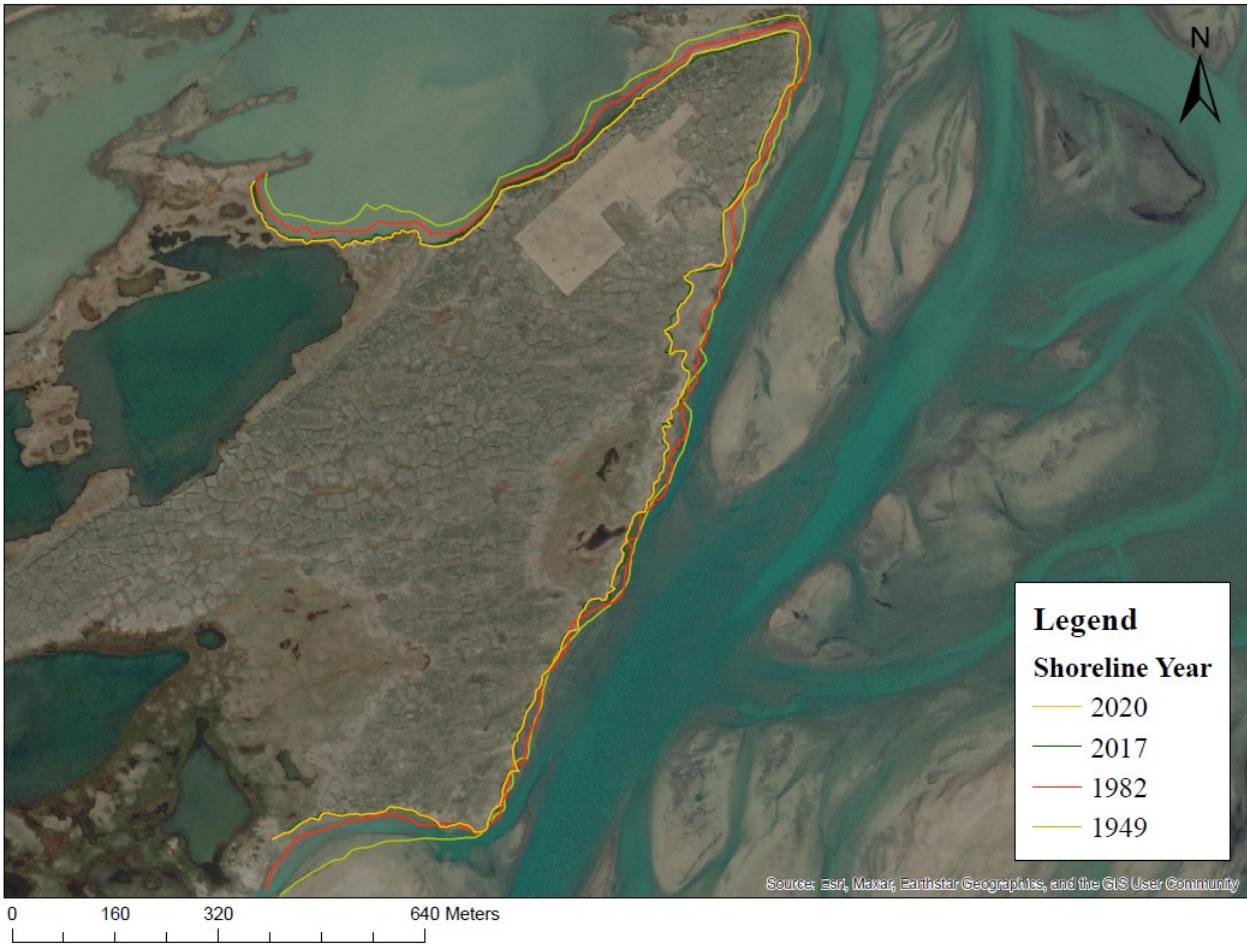
ADNR may be required to respond to releases from reserve pits and cover the cost of corrective action/clean-up.

# EROSION ANALYSIS WORKFLOW

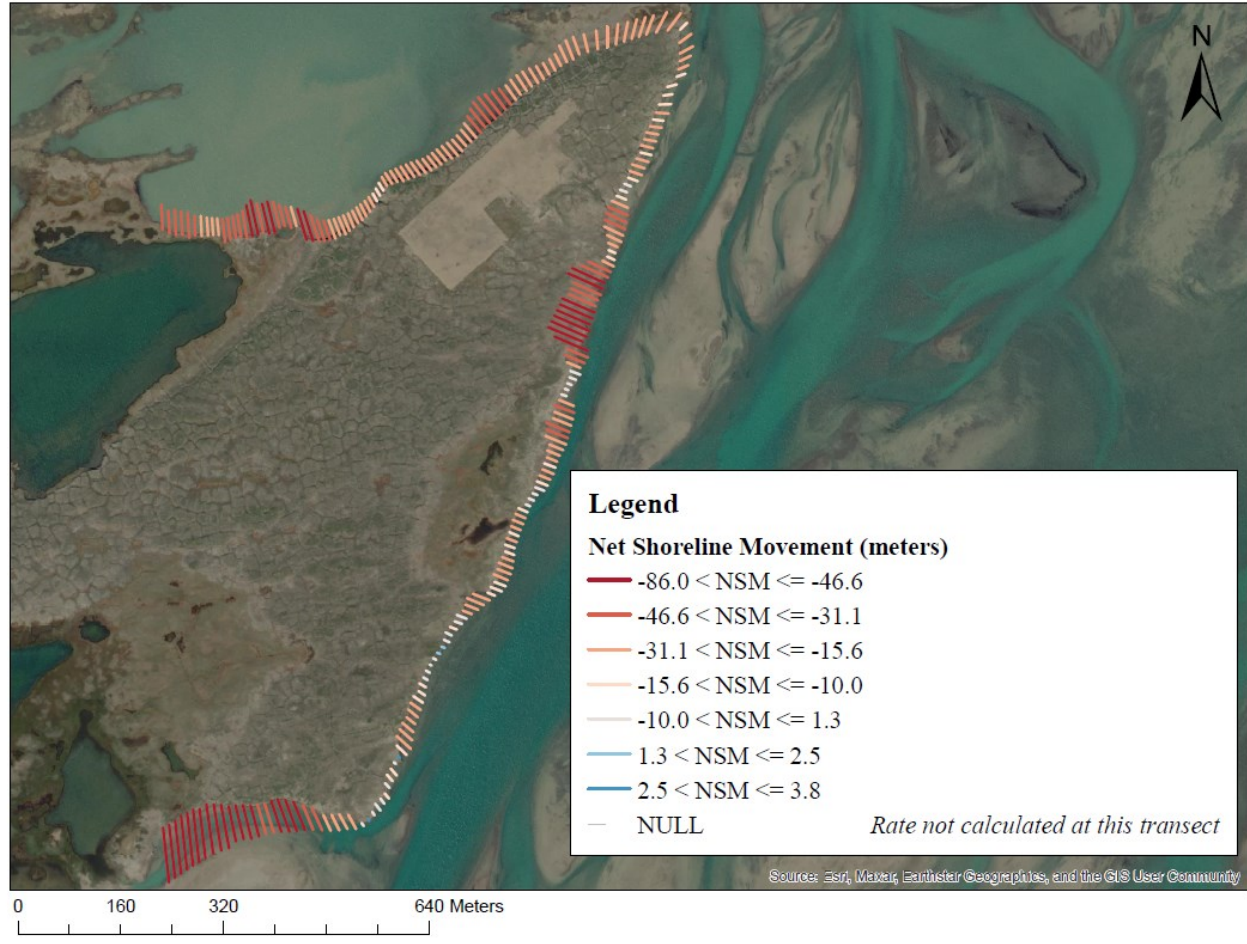


# DELINEATED SHORELINES & DSAS ANALYSIS

Foggy Island Bay State #1 Shorelines Over Time



Net Shoreline Movement (NSM) at Foggy Island Bay State #1 1949-2020



# DSAS FORECASTS

## Foggy Island Bay State #1 10 Year Shoreline Movement Forecast



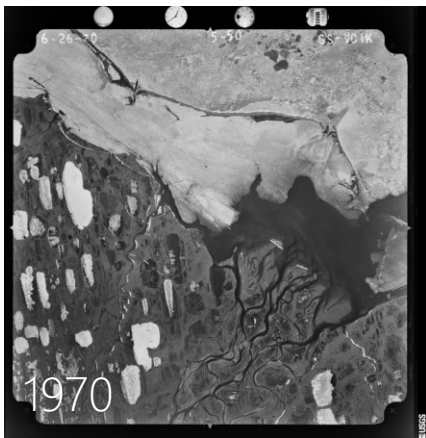
## Foggy Island Bay State #1 20 Year Shoreline Movement Forecast



# COORDINATION

## University of Alaska Fairbanks (UAF)

- Utilized publications to help develop my methods
- Received feedback, guidance, and advice on methods



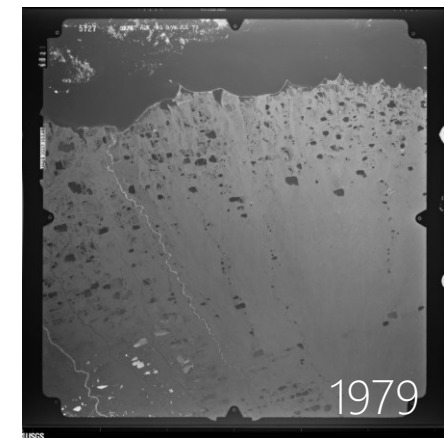
## Alaska Department of Environmental Conservation (ADEC)

- Help with site information including status of the reserve pits, responsible party, and any current or planned actions for the site



## Alaska Department of Natural Resources (ADNR)

- Division of Geological and Geophysical Surveys (DGGGS)
- GIS crew always very helpful with questions!







# SUMMARY

There are over 300 reserve pits on state land, over 600 in the state, and many still contain waste. This work helps prioritize the monitoring of reserve pit sites and manage the potential risk associated with them.

# THANK YOU!

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Reserve Pit at D Pad Drill Site and river shoreline near Drill Site 4.

