

A scenic view of snow-capped mountains and a body of water under a cloudy sky at sunset or sunrise. The mountains are dark with white snow on their peaks, and the water is calm with gentle ripples. The sky is filled with soft, golden light from the setting or rising sun, with some darker clouds scattered across it.

# Logistical considerations for working offshore Alaska

Donna Shillington, Sean Gulick,  
and many others



# Many critical GeoPRISMS targets in the Alaska subduction zone are offshore...

- Large parts of the island arc
- Megathrust structures and seismicity
- Inputs to the subduction zone: sediments, oceanic crust, etc.
- Accretionary prism
- Sediments that record climate and tectonics, including paleoseismology. Combination of basins filled by high sedimentation rates and exhumed sections
- Islands in forearc region provide good targets for integrating onshore geology and geodesy with offshore work





# Weather

- The weather window for offshore seismic work in Alaska is relatively short
  - June – September
- Storms can occur throughout the year
- Fog is common...
- On the upside, long days are good for some offshore activities
- “...all controlled by La Dea del Nord Pacifico,” Dave Scholl





# Shallow water

- Many targets of interest offshore Alaska are in areas with shallow water
  - The seismogenic zone
  - Splay faults
  - Basins
- If water is very shallow (<35 m), it can be risky for towed gear
- Some shallow water regions have stronger currents
- More noise in seismic data (particularly in low frequency bands)



# Fishing and trawling

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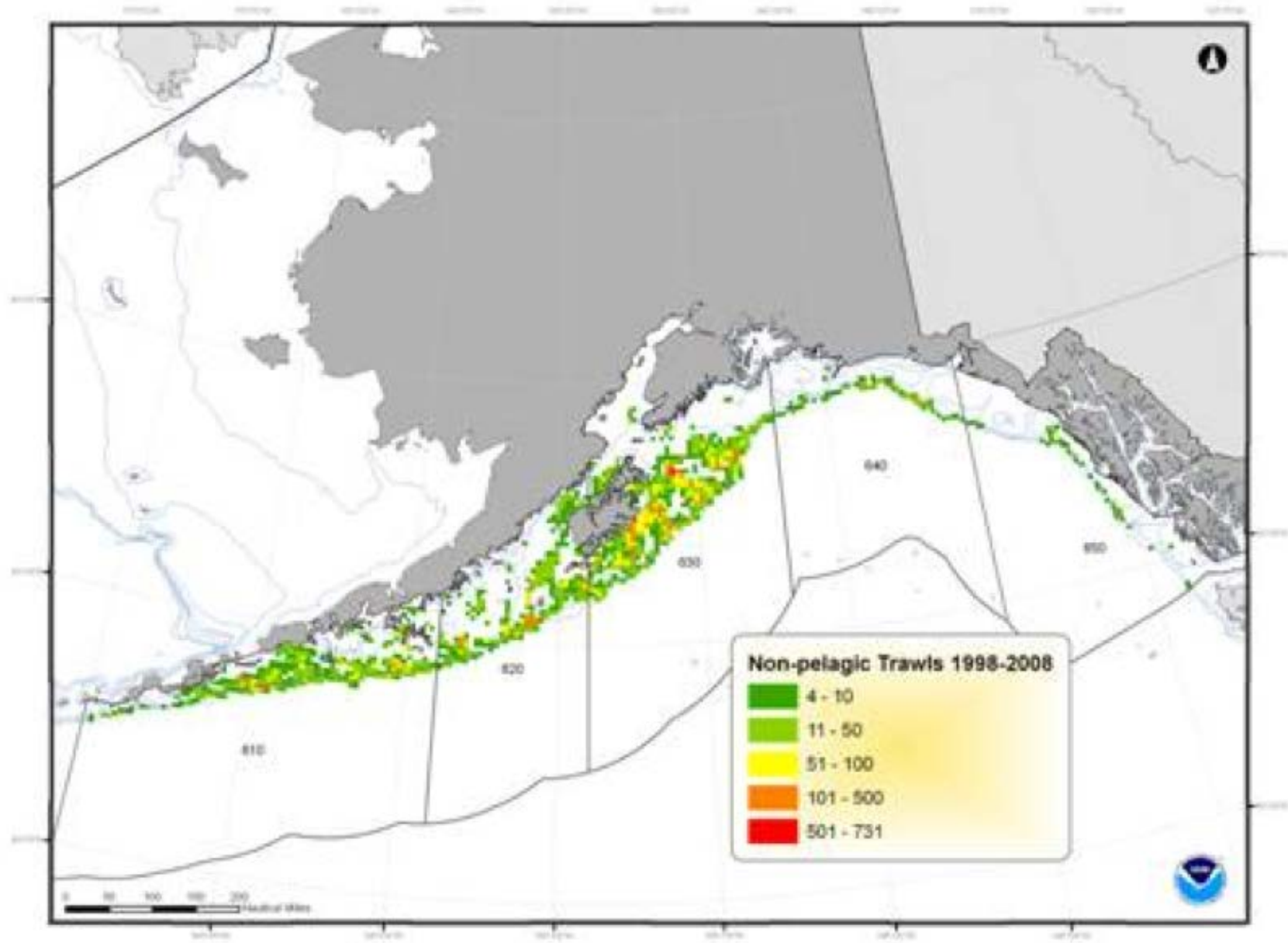
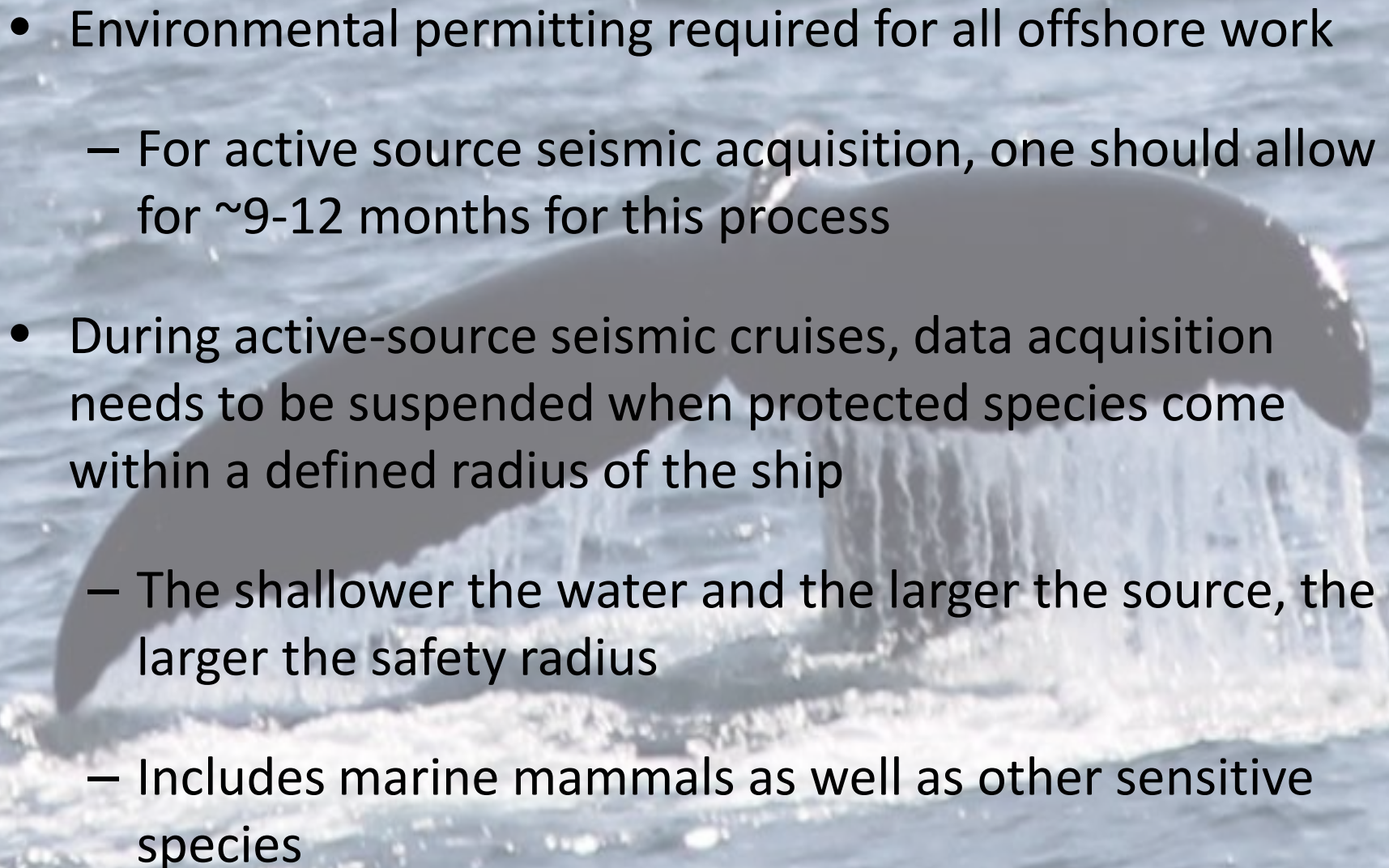


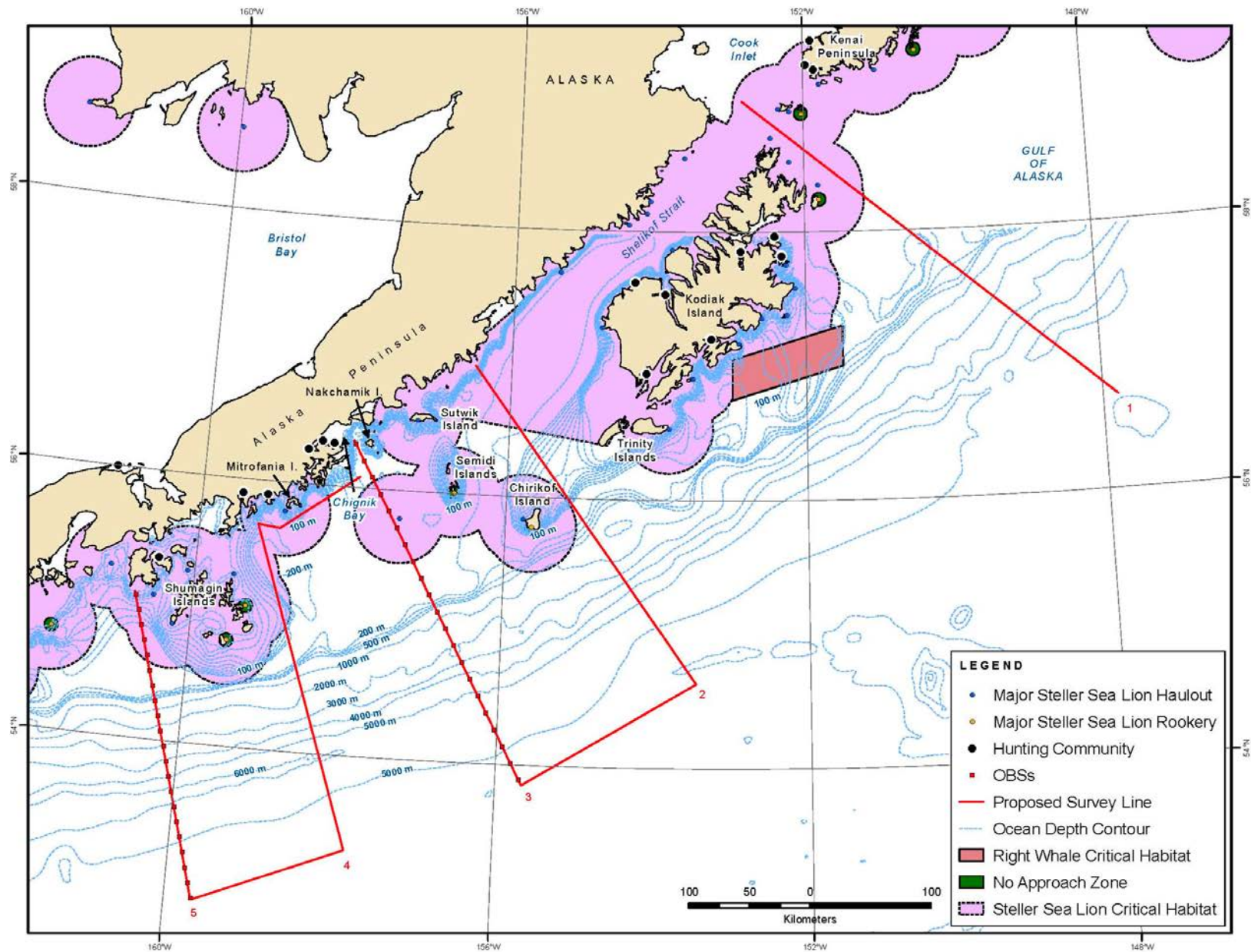
Figure 77. Spatial location and density of bottom trawl effort in the Gulf of Alaska, 1998-2008.



# Permitting and protected species

- Environmental permitting required for all offshore work
    - For active source seismic acquisition, one should allow for ~9-12 months for this process
  - During active-source seismic cruises, data acquisition needs to be suspended when protected species come within a defined radius of the ship
    - The shallower the water and the larger the source, the larger the safety radius
    - Includes marine mammals as well as other sensitive species
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# Ports and Ships

- Ports in the Aleutians are remote
- Flights are limited and commonly delayed due to weather
- Can require a bit more effort to get ships up to this area
  - R/V Sikuliaq coming online in 2013-2014
- Different ships appropriate for different targets

