

# COOK INLET

## ALASKA

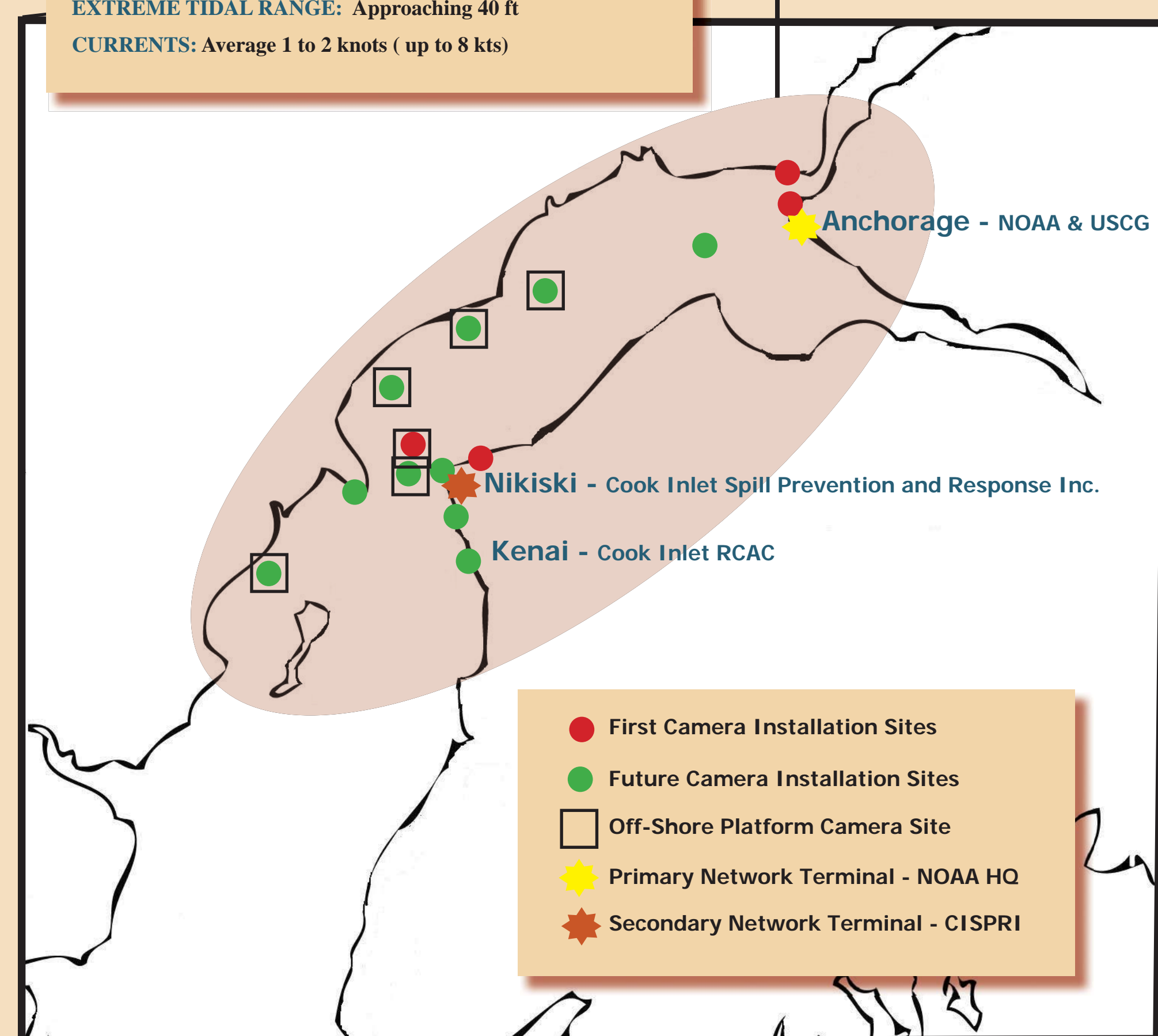
### ICE FORECASTING NETWORK

## THE NETWORK

By utilizing existing Cook Inlet facility infrastructure, a North to South digital video camera network providing area-wide coverage with the ability to track tidal progression and wind driven movement of ice throughout the upper half of Cook Inlet.

### COOK INLET

LENGTH: 170 Miles  
WIDTH: 12 to 54 miles  
DEPTH: Less than 65 ft to over 220 ft (average 200ft)  
MEAN TIDAL RANGE: 10 ft at entrance to 30 ft at Anchorage  
EXTREME TIDAL RANGE: Approaching 40 ft  
CURRENTS: Average 1 to 2 knots ( up to 8 kts)



1999

A collision with a heavy ice floe cracked a starboard wing tank of the T/V Chesapeake Trader.

2006

Heavy ice ripped the T/V **Seabulk Pride**, a 574-foot tanker, from its mooring, while it loaded cargo from the Kenai Pipeline dock. In only eight minutes the vessel was pushed north, a half mile. At low tide, the **propeller** and bow were out of the water.

2009

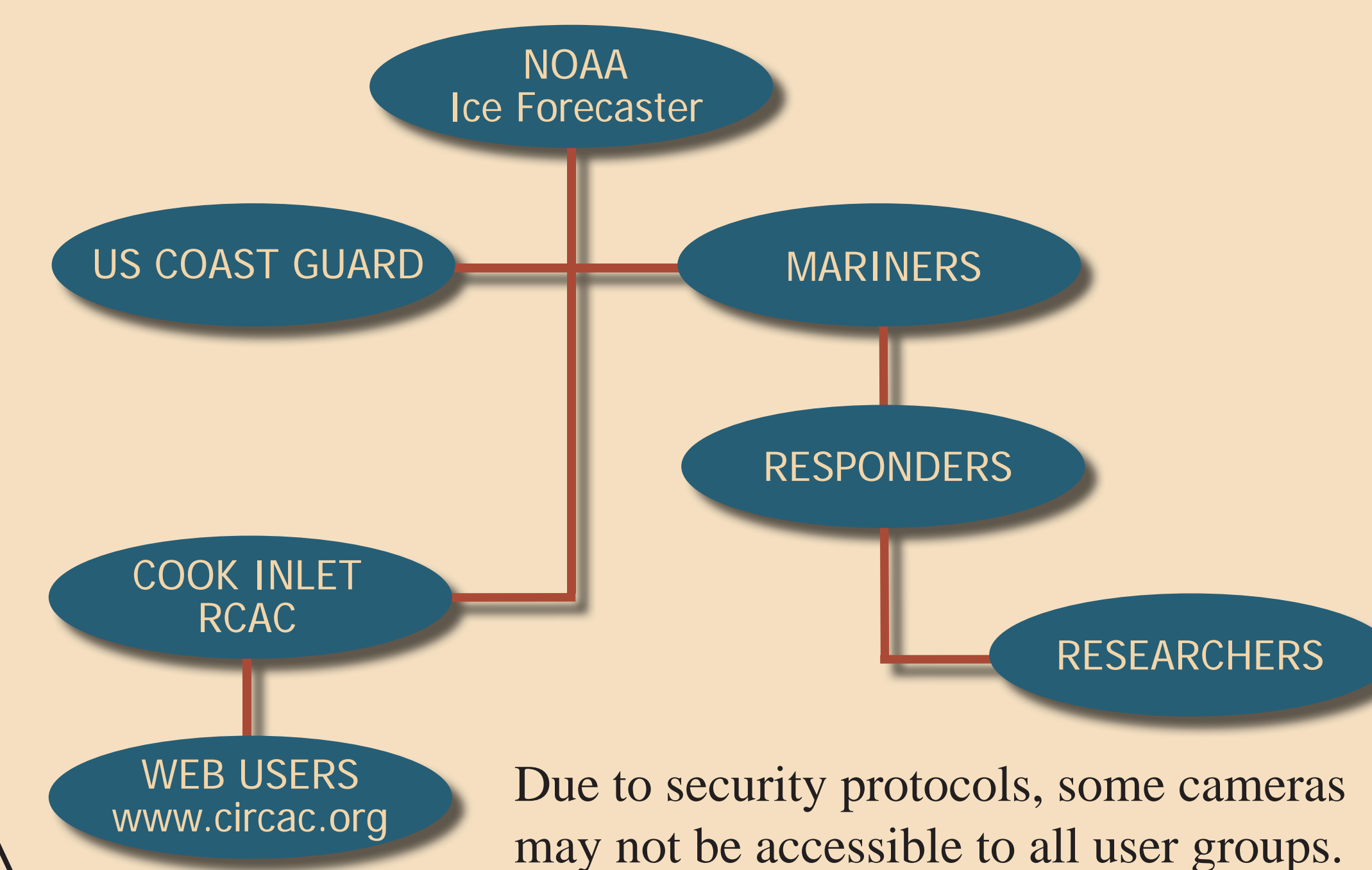
The **Offshore Supply Vessel Monarch** was pushed by ice into the offshore platform **Granite Point**, resulting in the sinking of the vessel.

One significant gap in information noted during these incidents was the need for real-time information about Cook Inlet **ice conditions**. Critical information that would have allowed responders to locate open water leads to move freely through the ice and respond to the stricken vessels.

## COOK INLET ICE RISKS

Cook Inlet is one of the most dynamic bodies of water in the world. Challenges for safe navigation include extreme tides, swift currents, and severe winds. Combine these conditions with **heavy ice**, and winter navigation and **marine operations** in Cook Inlet can become quite treacherous. Some recent ice caused incidents are listed below:

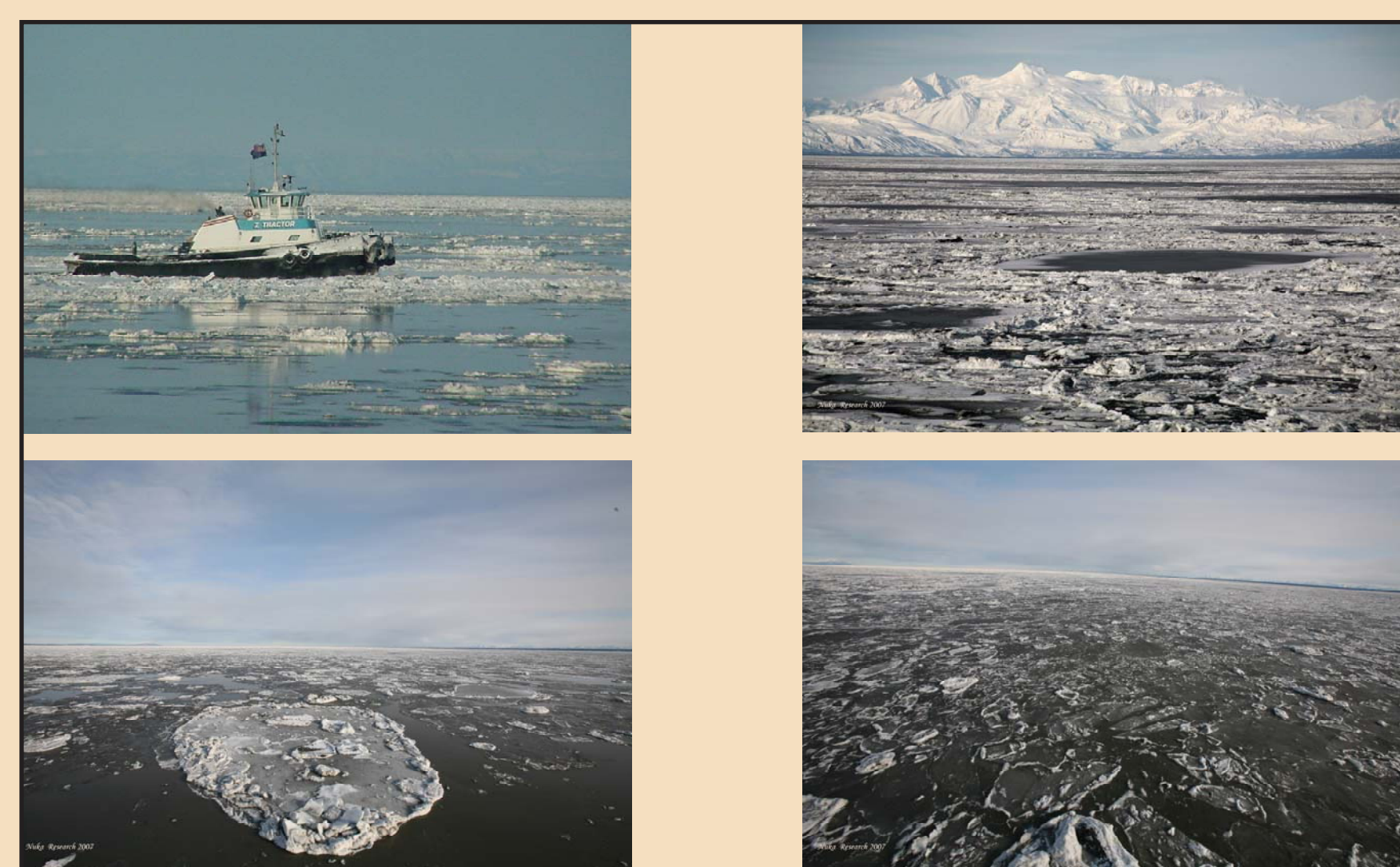
## NETWORK USERS



An oil platform in Cook Inlet breaks trails in the ice with its legs as heavy floes are pushed by strong currents.

## CAMERAS

- Utilize pan / tilt / zoom feature to locate and evaluate ice pans, size, and thickness
- Establish location of "hard edge"
- locate and track oil in ice in the winter and spill movement during summer months



Photos by Nuka Research

## RESULTS

The installation of a video ice observing network will create a safer, more efficient marine transportation route to Alaska's largest port and vastly improve winter navigation and marine operations in Cook Inlet.



COOK INLET  
Regional Citizens Advisory Council

## NETWORK BENEFITS

- **NOAA** - produce a very accurate ice analysis and forecast with the real time video feed, satellite radar imagery, and live on-scene observations
- **USCG** - confirm conditions prior to issuance of local notice to mariner broadcasts or additional winter guidelines
- **MARINERS** - aid transit during the winter months
- **SPILL RESPONDERS** - locate and track oil in ice and spill movement during summer months
- **RESEARCHERS** - study ice dynamics via the video archive.

Cook Inlet RCAC's mission is to represent the citizens of Cook Inlet in promoting environmentally safe marine transportation and oil facility operations in Cook Inlet.