



Chukchi Acoustics, Oceanography, and Zooplankton Study (CHAOZ)

Cruise Dates: August 24, 2010 (Nome) – September 20, 2010 (Dutch Harbor)

Principle Investigators:

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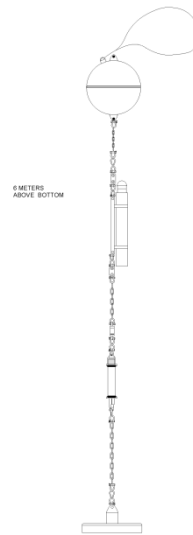
F/V Alaskan Enterprise

Research Goals:

- Determine general presence and detailed movements of bowhead, fin, gray, and humpback whales in oil and gas lease areas using long-term passive acoustic recorder arrays, sonobuoys, shipboard visual observations, and opportunistic satellite tracking.
- Monitor ecosystem change through the use of long-term biophysical moorings, shipboard observations and climate numerical models
- Assess the response of the whales to environmental changes (including climate and anthropogenic use of the area) by integrating the biophysical passive acoustic, and large whale biology data sets.

Research Activities (Moorings):

- Deploy three pentagonal arrays of year-long passive acoustic recorders (AURALs) off of Icy Cape.
- Deploy three, year-long biophysical moorings in the center of each of the AURAL arrays (All arrays will measure temperature, salinity, nitrate, chlorophyll a fluorescence, O₂, PAR, ice thickness. The middle AURAL array will also have a TAPS8 instrument to measure zooplankton bio-volume.
- Deploy one short-term (1-2 months) auto-detection buoy off Icy Cape to send near-real time updates on detections of bowhead whale calls. *[will be deployed on an earlier cruise or the CHAOZ cruise and will be retrieved on the Healy in late September 2010]*
- Tom Weingartner's team (UAF) will be onboard to deploy 6 oceanographic moorings along a line off Wainwright.



AURAL mooring

Research Activities (Other):

- Conduct a CTD cast and Tucker net tow at approx. 10 mile spacing along lines centered on Point Hope, Cape Lisburne, Point Lay, Icy Cape, Wainwright, and Barrow.
- Drag for three AURAL moorings lost to the NE of Barrow Canyon in 2009. Turn around one additional AURAL mooring in same area.
- Conduct visual (Big Eyes) and passive acoustic monitoring (sonobuoys) of marine mammals along the cruise track.
- If time permits, attempt satellite tagging of fin, humpback, or right whales.