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Chukchi Sea Offshore Monitoring in Drilling Area (COMIDA)-Hanna Shoal Ecosystem Study

USCGC Healy, August 5 - 25, 2012: Dutch Harbor to Barrow, Alaska

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The shallow depths (40-55 m) in the northern Chukchi Sea and high bottom flow facilitate high standing stocks of biota, particularly in the benthos, across the region. These “hotspots” have been documented in the southeast and eastern regions of Hanna Shoal as well the upper area of Barrow Canyon. Because of the biological significance of this region and its importance for oil and gas exploration and development, we are undertaking a multi-disciplinary investigation to examine the biological, chemical and physical properties that define this ecosystem. These studies will be undertaken by a team of scientists from the University of Texas at Austin (Ken Dunton), the Florida Institute of Technology (John Trefry), the University of Maryland (Jackie Grebmeier, Lee Cooper), Old Dominion University (Rodger Harvey), Woods Hole Oceanographic Institution (Carin Ashjian), the University of Rhode Island (Robert Campbell), and the University of Alaska Fairbanks (Brenda Konar, Tom Weingartner), with work funded by the Bureau of Ocean Energy Management (BOEM) Environmental Studies Program. Our study focuses on the Hanna Shoal ecosystem, specifically on the trophic structure of the plankton (phytoplankton and zooplankton), benthos (infauna and epifauna), sediments, inventories of trace metal and organic compounds, as well as physical oceanographic studies that will address water mass movements, ice conditions and modeling. We also plan to include marine mammal and seabird observations, along with fisheries studies, through collaboration with Shell Oil and Exploration environmental studies. We will occupy approximately 30 stations in the region (Figure 1) during two consecutive summer field seasons (2012 and 2013), including a set of stations as part of the international Distributed Biological Observatory (DBO; <http://www.arctic.noaa.gov/dbo/>) across Barrow Canyon. We will continue collaboration with other science studies in the region sponsored by federal and state interests. Our research program will include a data management structure that facilitates visual analysis through geographical information systems, and includes initial data storage on our COMIDA website (<http://www.comidacab.org/>).

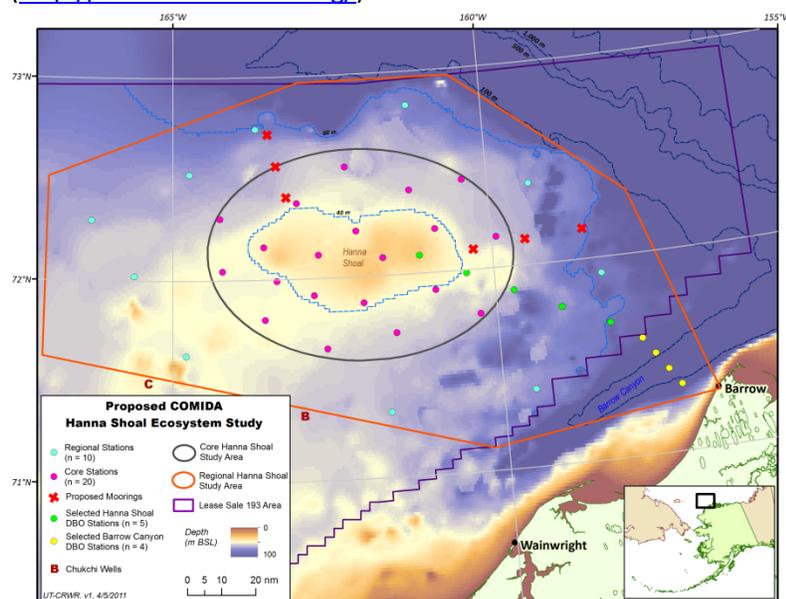


Figure 1. Map of our proposed sampling sites. The moorings will be deployed on roughly the 35, 50, and 60 m isobaths (red x's). The colored dots are the actual station locations, color-coded by the type of stations listed on the figure caption. The colored lines indicate the study areas within the lease sale 193 region.