

Synthesis of Arctic Research (SOAR) – Physics to marine mammals in the Pacific Arctic

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Abstract

The Synthesis of Arctic Research (SOAR) brings together a multidisciplinary group of Arctic scientists and Alaskan coastal community representatives to explore and integrate information from completed and ongoing marine research in the Pacific Arctic (www.arctic.noaa.gov/soar). The goal of SOAR is to increase scientific understanding of the relationships among oceanographic conditions (physics, chemistry, sea ice), benthic organisms, lower trophic pelagic species (forage fish and zooplankton), and higher trophic species (i.e., seabirds, walrus, whales) in the Pacific Arctic, with particular emphasis on the Chukchi Sea oil and gas lease sale areas. The synthesis is supported by a MOU between BOEM-Alaska Region and NOAA-PMEL, and guided by a 13-member Science Steering Committee formed of senior scientists and local residents with decades-long experience in ecosystem and resource management in the Pacific Arctic. Over 50 scientists and Arctic residents attended a workshop in Anchorage, Alaska on 14–16 March 2012 to discuss the SOAR program. SOAR science themes were defined and research questions were developed for synthetic analysis of scientific data and local observations in the Pacific Arctic. Three themes developed for synthesis were: (1) Hotspot mechanisms and trophic dynamics; (2) Year in the life of selected seabirds and marine mammals; and (3) Responses to step-change in physical drivers of the marine ecosystem. The group proposed 20 papers for synthesis within the three themes. A workshop report with detailed workshop activities and methods, project descriptions, and information on SOAR special issue contributions is available on the SOAR website. Funding to selected synthesis projects began in September 2012. Synthesis manuscript drafts are anticipated by December 2013 with publication as a theme section or special issue in an appropriate journal to follow. The synthesis will be completed in 2016, providing important information to management decision-makers and guiding future research activities.