fulfilled in the framework of international programme "History of Marine Animal Populations" (part of Census of Marine Life global project).

S1.8/P40 AN INSIGHT OF THE CETACEANS PRESENCE IN THE TERRA NOVA BAY (ROSS SEA) ANTARCTIC SPECIALLY PROTECTED AREA AND SURROUNDING WATERS

G. Lauriano, C.M. Fortuna, S. Greco, M. Vacchi
ICRAM
g.lauriano@icram.org

The Terra Nova Bay Antarctic Specially Protected Area (ASPA n° 161) is a coastal marine area located between Adélie Cove and Tethys Bay (Terra Nova Bay, Western Ross Sea). The area is characterized by an high diversity at both species and community levels. Nevertheless, to date, data on cetaceans occurrences have been only anecdotally reported. In order to improve scientific information, data on the presence of cetaceans were collected from helicopter and boat based surveys in the ASPA and surrounding waters during 2003-2004 austral summer. An overall of 71 cetaceans observations were collected (39 *Orcinus orca*, 17 *Balaenoptera bonaerensis*, 9 *Balaenoptera* sp., 2 *Berardius arnuxii* and 4 undetermined species). Most of the killer whales were type C ("fish eater") but, on three occasions type B ("mammal eater") were also recorded. 17 killer whales (13 C and 4 B type) were identified by means of natural mark on their dorsal fins; 4 specimens out of those, were resighted. Group size of killer whale ranged between 1 and 30 individuals. Group size of minke whales ranged between 1 and 3 individuals, meanwhile, Arnoux's beaked whales were always solitary.

S1.8/P41 CONTROLS ON ROSS SEA ALGAL COMMUNITY STRUCTURE AND DIMETHYLSULFONIOPROPIONATE

P.A. Lee[1], A.R. Neeley[2], Y. Feng[3], C.E. Hare[4], D.A. Hutchins[5], J.M. Rose[6], G.R. Ditullio[7]
1 - Hollings Marine Laboratory, College of Charleston, Charleston, SC 29412, USA, leep@cofc.edu
2 - Bermuda Institute of Ocean Sciences, 17 Biological Lane, Ferry Reach, St Georges GE01, Bermuda. Phytogirl79@comcast.net
3 - Department of Biological Sciences, University of Southern California, 3616 Trousdale Parkway, Los Angeles, CA 90089, USA. yuanyauf@usc.edu
4 - College of Marine Studies, University of Delaware, Lewes, DE 19958, USA, schroff@udel.edu
5 - Department of Biological Sciences, University of Southern California, 3616 Trousdale Parkway, Los Angeles, CA 90089, USA. dahutch@usc.edu
6 - Biology Department, Woods Hole Oceanographic Institution, Woods Hole, MA 02543, USA. jrose@whoi.edu
7 - Hollings Marine Laboratory, College of Charleston, Charleston, SC 29412, USA, ditullioj@cofc.edu
leep@cofc.edu

Iron, light and CO_2 are thought to be three key factors in determining phytoplankton community structure in the Ross Sea, Antarctica. However, the interactive effects of these factors are largely unknown, but are likely to impact significantly the biogeochemical cycling of carbon, nutrients and sulfur, thus providing positive and negative feedbacks on climate. A shipboard incubation experiment was conducted to elucidate the interactive effects of these parameters on phytoplankton community structure and its associated impact on dimethylsulfoniopropionate (DMSP) in the Ross Sea. The relative dominance of diatoms:*Phaeocystis*, as measured by the Fucoxanthin:19'-Hexanoyloxyfucoxanthin ratio, was greatest under conditions of low light/high iron, followed by low light/low iron and high light/high iron with lowest dominance under conditions of high light/low iron. Chlorophyll *a* followed the same trend. The response of DMSP to the experimental manipulations was somewhat more complicated. Increased iron resulted in increased particulate DMSP irrespective of changes in the other parameters. $DMSP_p$:Chl *a* ratios were highest when Chl *a* was lowest (i.e. under high light conditions) suggesting changes in Chl *a* were largely responsible for changes in $DMSP_p$:Chl *a*. Conversely, $DMSP_p$:PON ratios showed no changes due to changes in light and only minimal changes due to iron or CO_2

S1.8/P42 RECENT PRIMARY PRODUCTION PATTERNS IN THE WESTERN ARCTIC OCEAN

S.H. Lee[1], T.E. Whitledge[2], H.-J. Kim[1], H.-C. Kim[1], K.H. Chung[1], S.-H. Kang[1]
1 - Korea Polar Research Institute
2 - IMS, UAF
sanglee@kopri.re.kr

Current changes in sea ice conditions are expected to alter primary productions and thus rest of the marine ecosystems in the Arctic Ocean. However, few in situ measurements of primary production are currently available in the Western Arctic Ocean. Here we present recent in situ measurements in the region. The recent mean annual primary production of phytoplankton was 55 g C m^{-2} for the whole Chukchi Sea and 145 g C m^{-2} for the central Chukchi Sea. These rates are 2 or 3 fold lower than those from previous studies. In the deep Canada Basin, the phytoplankton production rate under the mean 1.5-m sea ice in 2005 was significantly higher than that under the mean 2.3-m sea ice in 2002. The higher rate in 2005 is believed to be resulted from higher light intensity through the thinner sea ice available to phytoplankton under

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