



Freshwater composition of the Laptev Sea continental shelf

E. P. Abrahamsen (1), M. P. Meredith (1), M. J. Leng (2, 3), K. K. Falkner (4), M. B. Alkire (4)

(1) British Antarctic Survey, Natural Environment Research Council, Cambridge, UK (epab@bas.ac.uk), (2) NERC Isotope Geosciences Laboratory, British Geological Survey, Keyworth, Nottingham, UK, (3) School of Geography, University of Nottingham, UK, (4) College of Oceanic & Atmospheric Sciences, Oregon State University, Corvallis, OR, USA

The Arctic Synoptic Basinwide Oceanography (ASBO) project is a major UK contribution to the International Polar Year. ASBO focusses strongly on the changing freshwater budget of the Arctic, and its impact on climate, using a range of techniques including remote sensing, modelling and direct ocean observations. Here we present and discuss ocean tracer measurements collected as part of ASBO, specifically tracers concerned with the injection and spreading of freshwater. We present sample measurements of Barium (Ba) and the ratio of stable oxygen isotopes ($\delta^{18}\text{O}$) in the Laptev and East Siberian Seas. These are used to quantify and investigate the freshwater composition of the continental shelf and pathways of river outflow into the Arctic Ocean. They are compared with historical measurements to determine the time variability of the system, in the context of the changing Arctic hydrological cycle and the recent strong changes in the Arctic cryosphere.