

TITLE: BEST_ICE_chl_2010

AUTHORS:

Rolf Gradinger, Katrin Iken, Bodil Bluhm
University of Alaska Fairbanks
School of Fisheries and Ocean Sciences
Fairbanks AK 99775-7220
rrgradinger@alaska.edu
907 474 7407

FUNDING SOURCE AND GRANT NO:

National Science Foundation Award Number 0732767.

DESCRIPTION:

This file contains the data for sea ice segments collected during the BEST 2010 field studies (PSEA10-1; for details on expeditions as well as station locations, check the cruise report available at <http://www.eol.ucar.edu/projects/best/>).

The data are in a standard excel format spreadsheet.

Ice cores were taken with a Kovacs 9cm ice corer and sectioned into sections of variable thickness. Ice sections were melted and filtered onto GF/F filters. Algal pigments were extracted with 90% acetone and measured according to Arar and Collins (1997). Salinity of the melted core sections was measured with a YSI 85 salinometer.

Description of columns

Cruise: Identifies the cruise during which samples were collected

Station: contains the name of a station in the cruise catalogue.

Segment: Ice cores were taken using a 9cm diameter ice corer and sectioned on the ice floes in sections of variable thickness. The numbers provided in this column give the section thickness as distance from the bottom of the sea ice. Example: Section 0-1cm is the lowermost 1cm section at the interface between ice and water. Section 2-5cm: section in 2 to 5cm distance from the ice water interface.

In 2010, three replicate ice cores (labeled core 1/, 2/, 3/) were taken close to each other within a 2m radius at our main sampling site. Only core 1/ was analysed over the entire core thickness, while for the other two cores analysis focused on the bottom 10cm of the cores.

Date: date of sampling

Chl a ($\mu\text{g/l}$): Concentration of chlorophyll a in a certain ice core segment.

Phaeo ($\mu\text{g/l}$): Concentration of phaeophytin in a certain ice core segment.

S (PSU): Salinity of melted core segments in practical salinity units.

Reference:

Arar EJ, Collins GB. 1997. Method 445.0. in vitro determination of chlorophyll a and phaeophytin a in marine and freshwater by fluorescence. EPA Report, National Exposure Research Laboratory Office of Research and Development. U.S. Environmental Protection Agency, Cincinnati, Ohio