

TITLE: BEST_HLY0802_POM_Isotopes

AUTHORS:

Katrin Iken, Rolf Gradinger, Bodil Bluhm
University of Alaska Fairbanks (UAF)
School of Fisheries and Ocean Sciences
Fairbanks AK 99775-7220
kbiken@alaska.edu
907 474 75192

FUNDING SOURCE AND GRANT NO:

National Science Foundation Award Number 0732767.

DESCRIPTION:

This file contains data for stable carbon and nitrogen isotope values ($\delta^{13}\text{C}$ and $\delta^{15}\text{N}$) of particulate organic matter (POM) from seawater collections made during HLY0802. For details on expeditions as well as station locations, check the cruise reports available at <http://www.eol.ucar.edu/projects/best/>.

The data are in a standard excel format spreadsheet.

Seawater was collected from the CTD rosette (typically from the standard cast per station) during the cruise at water depths approximating the chlorophyll maximum, if present. If no chlorophyll maximum was detected, samples were taken between 10-20 m below any surface freshwater layer. Seawater samples were then filtered onto pre-combusted GF/F filters, filters dried at 60°C for 24 h and then measured for carbon and nitrogen isotopic composition at the UAF Stable Isotope Facility. Stable isotope ratios are reported in conventional δ notation as ‰ deviation from the international standards PDB (carbon) and air (nitrogen) according to the following equation:

$$\delta X = [(R_{\text{sample}}/R_{\text{standard}}) - 1] \cdot 1000$$

where X is ^{13}C or ^{15}N of the sample and R is the corresponding ratio $^{13}\text{C}/^{12}\text{C}$ or $^{15}\text{N}/^{14}\text{N}$.

Description of columns

Cruise: Indicates the cruise during which samples were taken (HLY0802 = HLY: ice breaker USCGC Healy, 08: year 2008, 02: second leg).

Station: Contains the station name also referred to in the cruise catalogue.

Date: Calendar date when sample was taken (day, month, year)

Lat: Latitude of sample location (degrees North, minutes with decimals)

Long: Longitude of sample location (degrees West, minutes with decimals)

Sample water depth (m): Refers to the water depth (in meters) from which the sample was taken

Replicate: Refers to the sample replicate number within a station. Typically, three replicate filter samples were analyzed. Water was drawn for the same Niskin bottle for these replicates.

$\delta^{15}\text{N}$: Stable carbon isotope ratio (in ‰).

$\delta^{13}\text{C}$: Stable carbon isotope ratio (in ‰).