Station locations from R/V Blue Heron cruises BH09-05, BH09-12, BH10-14, BH10-03 from the Lake Superior; 2009-2010 (Lake Superior Radiocarbon project)

Website: https://www.bco-dmo.org/dataset/3504
Version: 16 April 2013
Version Date: 2013-04-16

Project
» How important is quote old unquote Carbon in Lake Superior. A Radiocarbon Investigation (Lake Superior Radiocarbon)

Contributors	Affiliation	Role
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Dataset Description

Station locations from CTD and CruiseTrack data
Station_Id, Date/Time UTC, Date/Time Local, Lat/Lon

Methods & Sampling

Generated by BCO-DMO staff from CTD .hdr files contributed by Elizabeth Minor

Data Processing Description

Generated by BCO-DMO staff from CTD .hdr files contributed by Elizabeth Minor

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Data Files

File
CTD_Stations.csv (Comma Separated Values (.csv), 8.89 KB) MD5:45b3bd5f2f7e6a133037ef155c35fd8d Primary data file for dataset ID 3504

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Parameters

Parameter	Description	Units
Station_Id	Station Id from CTD filename	text
Date_UTC	Date UTC	YYYYMMDD
Time_UTC	Time UTC	HHMMSS
Date_Local	Date Local (CDST)	YYYYMMDD
Time_Local	Time Local (CDST)	HHMMSS
Latitude	Latitude (South is negative)	decimal degrees
Longitude	Longitude (West is negative)	decimal degrees
CruiseId_MonYear	Dataset descriptor by CruiseId and MonYear of Cruise/Data Collection	text

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Deployments

BH09-05

Website	https://www.bco-dmo.org/deployment/58713
Platform	R/V Blue Heron
Start Date	2009-06-12
End Date	2009-06-21

BH09-12

Website	https://www.bco-dmo.org/deployment/58714
Platform	R/V Blue Heron
Start Date	2009-08-14
End Date	2009-08-24

BH10-14

Website	https://www.bco-dmo.org/deployment/59025
Platform	R/V Blue Heron
Start Date	2010-08-25
End Date	2010-09-01
Description	Original data are available from the NSF R2R data catalog **Methods & Sampling** Note: Includes a location for Amity Creek although a CTD was not performed there. srg/16April2013

BH10-03

Website	https://www.bco-dmo.org/deployment/58719
Platform	R/V Blue Heron
Start Date	2010-05-28
End Date	2010-06-03
Description	Cruise pictures and info (for a general audience)Original data are available from the NSF R2R data catalog

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Project Information

How important is quote old unquote Carbon in Lake Superior. A Radiocarbon Investigation (Lake Superior Radiocarbon)

Coverage: Lake Superior

Organic carbon present in aquatic ecosystems has the potential to either be sequestered by sedimentary organic matter or recycled and contributed to the atmosphere through microbial respiration. Ultimately, the fate of organic matter is dependant upon its source, as well as the physical transport mechanisms and biogeochemical transformations it is exposed to in the water column. Because these processes vary significantly within aquatic systems, such as the ocean, it is difficult to assess the biogeochemical importance of organic carbon; however, it is a problem of critical importance whose results could be utilized to resolve key issues in global biogeochemical carbon cycles and to determine the net heterotrophy of most aquatic environments.

Scientists from the University of Minnesota-Duluth and Virginia Commonwealth University would address this problem by studying organic carbon dynamics in Lake Superior because its biogeochemistry is similar to that of the world ocean. Using Lake Superior as a natural laboratory, the researchers plan to carry out radiocarbon measurements of particulate organic carbon (POC), dissolved organic carbon (DOC), dissolved inorganic carbon (DIC), and bacterially-respired CO2, as well as obtain the chemical composition of DOC and POC during stratified and non-stratified periods. Results would be used to identify the sources of carbon in the lake and determined transformations of carbon between POC, DOC, DIC, and bacterially-respired CO2.

Educational impacts include workshops and presentation for K-12 audiences as well as research and training opportunities for graduate and undergraduate students in Water Resources Science and Biochemistry classes.

Cruise pictures and info (for a general audience)

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Funding

Funding Source	Award
NSF Division of Ocean Sciences (NSF OCE)	OCE-0825600

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