Event Log from R/V Hugh R. Sharp cruise HRS1415 in the Chesapeake Bay and coastal Atlantic Ocean in August 2014

Website: https://www.bco-dmo.org/dataset/717994
Data Type: Cruise Results
Version: 1
Version Date: 2017-11-06

Project
» The role of soluble Mn(III) in the biogeochemical coupling of the Mn, Fe and sulfur cycles (Soluble ManganeseIII)

Contributors	Affiliation	Role
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Abstract
Event Log from R/V Hugh R. Sharp cruise HRS1415 in the Chesapeake Bay and coastal Atlantic Ocean in August 2014

Table of Contents

- Coverage
- Dataset Description
  - Data Processing Description
- Data Files
- Parameters
- Deployments
- Project Information
- Funding

Coverage

Spatial Extent: **N**:39.4967 **E**:-72.7275 **S**:38.2305 **W**:-76.4107
Temporal Extent: 2014-08-18 - 2014-08-25

Dataset Description

Event Log from R/V Hugh R. Sharp cruise HRS1415

Data Processing Description

BCO-DMO Processing:
- copied content from original Word document into Excel;
- created column for date, station, lat, and lon (were contained as headers/rows and in the comment field);
- modified formatting of cast numbers (e.g. removed # symbols);
- formatted into flat csv file;
- modified parameter names to conform with BCO-DMO naming conventions;
- 06 Nov 2017: corrected station number for cast 30 (change from 11 to 12) per PI.

[table of contents | back to top]

Data Files

File
CruiseLog_HRS1415.csv (Comma Separated Values (.csv), 6.29 KB) MD5:218d62246ec71ee10b97bcc2b3db76c0 Primary data file for dataset ID 717994

[table of contents | back to top]

Parameters

Parameter	Description	Units
cast	Cast number. P_Cast = Pump profiler.	unitless
date	Date of event formatted as yyyymmdd	unitless
time_local	Time of event (local time zone); formatted as HHMM	unitless
time_GMT	Time of event (GMT); formatted as HHMM	unitless
station	Station number	unitless
lat	Latitude; positive values = North	decimal degrees
lon	Longitude; positive values = East	decimal degrees
comments	Comments/notes about the event	unitless

[table of contents | back to top]

Deployments

HRS1415

Website	https://www.bco-dmo.org/deployment/717689
Platform	R/V Hugh R. Sharp
Start Date	2014-08-18
End Date	2014-08-25

[table of contents | back to top]

Project Information

The role of soluble Mn(III) in the biogeochemical coupling of the Mn, Fe and sulfur cycles (Soluble ManganeseIII)

Coverage: Chesapeake Bay and coastal Atlantic Ocean

Description from NSF award abstract:
The research conducted by investigators in the School of Marine Science and Policy at the University of Delaware and within the Department of Environmental and Biomolecular Systems of Oregon Health and Science University will examine the importance of soluble Mn(III) in the biogeochemical cycling of Mn. To date, most studies of Mn in marine environments have not considered Mn(III), the intermediate oxidation state between the soluble reduced state (Mn(II)) and the more insoluble oxidized state (Mn(IV)). The presence and stability of Mn(III) in marine systems, especially those where oxygen levels are reduced, changes the dynamics and stability, solubility and fate and transport of Mn in these locations, and at interfaces between oxic and low oxygen environments. This is not understood at present and the proposed research is poised to provide new information concerning the Mn cycle and is potentially transformative research. The PIs have developed new methods to examine Mn(III) levels in the environment and this capability will bolster the successful accomplishment of the project's goals. The studies will not only focus on understanding the cycling of Mn between its various oxidation states but will determine the concentration and distribution of Mn(III) in stratified coastal ocean waters and in sediment porewaters. The study will also examine the potentially important role of Mn(III) in mediating and influencing the biogeochemical cycling of Mn with that of Fe and S, which are both important components of the major ocean chemical cycles. A better understanding of the biogeochemistry of Mn will inform not only scientists interested in metal cycling in the ocean but also those focused on studies across redox transition zones. The proposed research has an international component and the investigators have developed plans to broadly disseminate their results to students at all levels and to the community. The Principal Investigators have a strong history in education and graduate student and post-doctoral support and mentoring and this will continue under the current grant.

[table of contents | back to top]

Funding

Funding Source	Award
NSF Division of Ocean Sciences (NSF OCE)	OCE-1155385

[table of contents | back to top]