

# Cruise track from the R/V Hugh R. Sharp HRS1314 cruise in the Chesapeake Bay and coastal Atlantic Ocean during 2013 (Soluble ManganeseIII project)

Website: <https://www.bco-dmo.org/dataset/641227>

Version: 23 March 2016

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## 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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## Dataset Description

Cruise track generated from R2R Archive files  
Cruise Id, Date/Time UTC, Lat, Lon, SOG, COG  
1 minute fixes

## Methods & Sampling

Generated by BCO-DMO staff from R2R Archive files

File Creation Date for KM1513 from R2R Header: // Creation date: 2013-09-12T18:13:12Z

## Data Processing Description

Generated by BCO-DMO staff from R2R Archive files

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## Data Files

<b>File</b>
<b>CruiseTrack.csv</b> (Comma Separated Values (.csv), 625.16 KB) MD5:a4d678afd68c576ff812b32fcf1423a0
Primary data file for dataset ID 641227

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## Parameters

Parameter	Description	Units
CruiseId	Official UNOLS cruise id	text
ISO_DateTime_UTC	ISO formatted UTC Date and Time	YYYY-MM-DDTHH:MM:SSZ
Latitude	Latitude Position (South is negative)	decimal degrees
Longitude	Longitude Position (West is negative)	decimal degrees
SOG	Instantaneous Speed-over-ground	meters/sec
COG	Instantaneous Course-over-ground [deg. clockwise from North]	decimal degrees

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## Instruments

<b>Dataset-specific Instrument Name</b>	GPS
<b>Generic Instrument Name</b>	Global Positioning System Receiver
<b>Dataset-specific Description</b>	GPS
<b>Generic Instrument Description</b>	The Global Positioning System (GPS) is a U.S. space-based radionavigation system that provides reliable positioning, navigation, and timing services to civilian users on a continuous worldwide basis. The U.S. Air Force develops, maintains, and operates the space and control segments of the NAVSTAR GPS transmitter system. Ships use a variety of receivers (e.g. Trimble and Ashtech) to interpret the GPS signal and determine accurate latitude and longitude.

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## Deployments

### HRS1314

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/641156">https://www.bco-dmo.org/deployment/641156</a>
<b>Platform</b>	R/V Hugh R. Sharp
<b>Start Date</b>	2013-08-08
<b>End Date</b>	2013-08-16

## 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.

## Funding

Funding Source	Award
<a href="#">NSF Division of Biological Infrastructure (NSF DBI)</a>	<a href="#">DBI-0424599</a>
<a href="#">NSF Division of Ocean Sciences (NSF OCE)</a>	<a href="#">OCE-1155385</a>
<a href="#">NSF Division of Ocean Sciences (NSF OCE)</a>	<a href="#">OCE-1154307</a>
<a href="#">Simons Foundation (Simons)</a>	<a href="#">unknown SCOPE Simons</a>