

Temperature, salinity, and depth data (Seabird MicroCat CTD) from Groves Creek salt marsh, Skidaway Island Georgia, USA, 2013-2015

Website: <https://www.bco-dmo.org/dataset/682937>

Data Type: Other Field Results

Version: 1

Version Date: 2017-02-21

Project

» [Tempo and mode of salt marsh exchange](#) (GrovesCreek)

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Abstract

This dataset includes temperature, depth, and salinity data from a Seabird MicroCat CTD deployed in Groves Creek salt marsh, Skidaway Island Georgia, USA, from July 2013 to March 2015.

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Coverage

Spatial Extent: Lat:31.97 Lon:-81.02

Temporal Extent: 2013-07-26 - 2015-03-10

Methods & Sampling

Microcat CTDs were attached to instrumented tripods in the creekbeds at stations S2 and S8. As with all of the other sonde deployments, instruments were swapped out on a 2-4 week schedule. Salinity data from the S2 site were often compromised by sediment- and bio-fouling of the conductivity tubes, particularly over the fall and winter of 2013-2014.

No post-processing has been done.

Data Processing Description

BCO-DMO Processing notes:

- added conventional header with dataset name, PI name, version date
- modified parameter names to conform with BCO-DMO naming conventions
- added station, lat, lon, date, time, ISO_DateTime columns
- ISO Date format generated from date and time values
- reduced decimal places of CDOM and temperature to 3 places

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Data Files

File
MC.csv (Comma Separated Values (.csv), 28.47 MB) MD5:20f8ccb13a115612c0732ea5deddcee7 Primary data file for dataset ID 682937

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Parameters

Parameter	Description	Units
station	station identifier	unitless
lat	latitude; north is positive	decimal degrees
lon	longitude; east is positive	decimal degrees
date	UTC date formatted as yyyy-mm-dd	unitless
time	UTC time; formatted as hh:mm	unitless
ISO_DateTime_UTC	Date/Time (UTC) ISO formatted based on ISO 8601:2004(E) with format YYYY-mm-ddTHH:MM:SS[.xx]Z	unitless
record	record number	unitless
deployment	deployment number	unitless
matlab_datenum	MATLAB formatted datenum	unitless
temp	temperature	degrees Celsius
depth	depth	meters
salinity	salinity	PSU
sonde_id	sonde number	unitless

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Instruments

Dataset-specific Instrument Name	SeaBird Microcat CTD
Generic Instrument Name	CTD - profiler
Generic Instrument Description	The Conductivity, Temperature, Depth (CTD) unit is an integrated instrument package designed to measure the conductivity, temperature, and pressure (depth) of the water column. The instrument is lowered via cable through the water column. It permits scientists to observe the physical properties in real-time via a conducting cable, which is typically connected to a CTD to a deck unit and computer on a ship. The CTD is often configured with additional optional sensors including fluorometers, transmissometers and/or radiometers. It is often combined with a Rosette of water sampling bottles (e.g. Niskin, GO-FLO) for collecting discrete water samples during the cast. This term applies to profiling CTDs. For fixed CTDs, see https://www.bco-dmo.org/instrument/869934 .

Dataset-specific Instrument Name	Seabird MicroCat CTD
Generic Instrument Name	CTD Sea-Bird MicroCAT 37
Generic Instrument Description	The Sea-Bird MicroCAT CTD unit is a high-accuracy conductivity and temperature recorder based on the Sea-Bird SBE 37 MicroCAT series of products. It can be configured with optional pressure sensor, internal batteries, memory, built-in Inductive Modem, integral Pump, and/or SBE-43 Integrated Dissolved Oxygen sensor. Constructed of titanium and other non-corroding materials for long life with minimal maintenance, the MicroCAT is designed for long duration on moorings. In a typical mooring, a modem module housed in the buoy communicates with underwater instruments and is interfaced to a computer or data logger via serial port. The computer or data logger is programmed to poll each instrument on the mooring for its data, and send the data to a telemetry transmitter (satellite link, cell phone, RF modem, etc.). The MicroCAT saves data in memory for upload after recovery, providing a data backup if real-time telemetry is interrupted.

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Deployments

Groves_Creek_2013-2015

Website	https://www.bco-dmo.org/deployment/682763
Platform	Groves Creek - SkIO
Start Date	2013-07-26
End Date	2015-03-11
Description	Studies of temporal and compositional changes in exported material in a saltmarsh, both the quantity and quality of dissolved organic matter (DOM) and particulate organic matter (POM) exported from Groves Creek.

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Project Information

Tempo and mode of salt marsh exchange (GrovesCreek)

Website: <http://www.skio.uga.edu>

Coverage: Salt marsh east of Savannah, Georgia, USA.

Description from NSF award abstract:

Salt marshes are critical mediators of the flux of material between the terrestrial and marine realms. The balance of material import, export, and transformation affects both the marsh itself and the surrounding estuary. Previous efforts to understand the role of marshes have concentrated either on examining temporal changes (often at low resolution) of bulk exports, or compositional changes in exported material with little regard for its temporal variability. Researchers working at the Skidaway Institute of Oceanography contend that both the quantity and quality of materials exchanged between marsh and estuary in tidally-dominated systems along the southeastern US coast vary significantly in response to semidiurnal, diurnal, tidal, meteorological and seasonal forcing, and that this variability must be included when considering the total contributions of marshes to carbon cycling along the land-ocean boundary. This study will utilize a three-pronged strategy to assess both the quantity and quality of dissolved organic matter (DOM) and particulate organic matter (POM) exported from Groves Creek, a well-characterized meso-tidal salt marsh in coastal Georgia. In particular, by evaluating how marsh function responds to a full spectrum of present environmental conditions, this project will provide tangible insight into how carbon cycling in these critical regions will respond to anticipated changes in those conditions.

This project is related to the project "Marine priming effect - molecular mechanisms for the biomineralization of terrigenous dissolved organic matter in the ocean" found at <https://www.bco-dmo.org/project/554157>.

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Funding

Funding Source	Award
NSF Division of Ocean Sciences (NSF OCE)	OCE-1234704

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