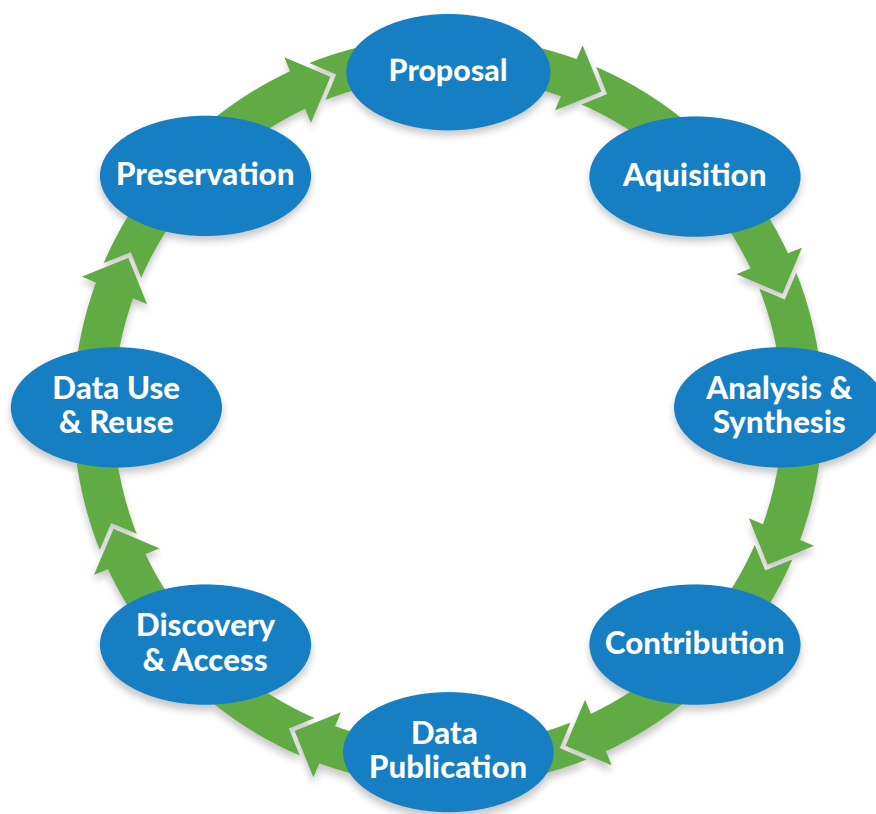


— BCO-DMO Quick Guide —

BCO-DMO



The Data Life Cycle



Curating and providing open access to research data is a collaborative process. This process may be thought of as a life cycle with data passing through various phases. Each phase has its own associated actors, roles, and critical activities. Good data management practices are necessary for all phases, from proposal to preservation.

BCO-DMO, a repository funded by the National Science Foundation (NSF), supports the oceanographic research community's data needs throughout the entire data life cycle. This guide describes the services available from BCO-DMO from proposal to preservation and highlights phases where researchers engage significantly with the office.

Data management services are provided free of charge for projects funded via:

- NSF-OCE Biological Oceanography Section
- NSF-OCE Chemical Oceanography Section
- Division of Polar Programs' Antarctic Organisms & Ecosystems Program

Not funded from the programs above? We can assist in determining the appropriate repository for your project data. See a list of other data management centers¹. Under certain circumstances, we may negotiate services for data not covered by these NSF sections.

¹ https://www.bco-dmo.org/how-get-started#other_data_centers

² NSF 17-037; <https://nsf.gov/pubs/2017/nsf17037/nsf17037.jsp?org=NSF>

³ <https://www.bco-dmo.org>

BCO-DMO provides the following services:

- Proposal: Help with your NSF Data Management Plan (see page 2).
- Acquisition: Advice on collecting good metadata and data.
- Contribution: Submission to the database, ensuring compliance with NSF OCE Sample and Data Policy² (NSF 17-037). One-on-one assistance with your data submission (see page 4).
- Data Publication: Datasets are published online at BCO-DMO³; citations in just one click; DOIs available (see page 8).
- Discovery & Access: BCO-DMO search tools (see page 9).
- Data Use & Reuse: Data are freely accessible*; many types of data are available for new and collaborative research/modelling/synthesis projects.
- Preservation: BCO-DMO works with the appropriate national data center for long-term archiving (see page 13).

* If you need a limited additional period of time while manuscripts are prepared for publication before your data are publicly available at BCO-DMO, have a conversation with your Program Manager.

BCO-DMO Data Management Plan Template

Proposals submitted to NSF must include a supplementary document of no more than two pages labeled “Data Management Plan” (DMP). This supplementary document should describe how the proposal will conform to NSF’s policy on the dissemination and sharing of research results.

Investigators working under awards granted by the NSF Division of Ocean Sciences (OCE) have additional conditions to which they must adhere, as described in the Division of Ocean Sciences Sample and Data Policy¹.

How BCO-DMO can help

BCO-DMO has developed a Data Management Plan template to assist investigators in submission of plans that meet the NSF OCE Sample and Data Policy requirements. The template can be found and completed on the DMPTool website.



About DMPTool

DMPTool² is a free, open-source, online application that helps researchers create data management plans. The DMPTool provides detailed guidance and links to informational resources and walks researchers through the process of generating comprehensive plans tailored to specific DMP requirements, in this case, the NSF OCE requirements.

If you are a researcher from one of the DMPTool partner institutions, you can log in using your institutional credentials. If your institution is not a partner, you can create your own account using any email address. In each section of the DMP template, you will see instructions containing the question or a description of information that should be provided to meet the specific requirement. Each question/requirement also has an example answer and links to additional guidance. The plan may be saved at any point, and can also be shared with collaborators. Once complete, your DMP can be exported in several different formats for inclusion in your NSF proposal.

Additional Resources

More information on NSF’s data management requirements is available on BCO-DMO’s website³. Detailed instructions on how to use BCO-DMO’s DMPTool template are also available in our “Getting Started with DMPTool” guide⁴.

Image from BCO-DMO’s “Getting Started with DMPTool” guide”.

The image is a screenshot of the DMPTool website's "Create a new plan" form. At the top, there is a navigation bar with "My dashboard", "Create plan", and "Admin features". Below this, a "My dashboard" section shows a table of existing plans. The main form area is titled "Create a new plan" and includes several sections: "What research project are you planning?" with a "Project Name" input field; "Select the primary research organization" with a dropdown menu showing "Woods Hole Oceanographic Institution (WHOI)"; "Select the primary funding organization" with a dropdown menu showing "National Science Foundation (NSF)"; and "Which template would you like to use?" with a dropdown menu showing "BCO-DMO NSF-OCE: Biological and Chemical Oceanography". A blue callout box with an arrow points to the "Create plan" button in the top navigation bar, with the text "First click on 'Create plan'". Another blue callout box with an arrow points to the "BCO-DMO NSF-OCE: Biological and Chemical Oceanography" option in the template dropdown, with the text "Fill in the project name and organization. Select or type 'NSF' as the primary funding organization. Then, choose the BCO-DMO NSF OCE template." The DMPTool logo is visible in the bottom right corner of the form.

¹ <https://www.nsf.gov/pubs/2017/nsf17037/nsf17037.jsp>

² <https://dmptool.org/>

³ <https://www.bco-dmo.org/nsf-two-page-data-management-plan>

⁴ https://www.bco-dmo.org/sites/default/files/BCODMO_Getting_Started_with_DMPTool.pdf

Contributing Data to BCO-DMO

By depositing your project information and data into BCO-DMO, your data become shareable, citable resources available for community reuse. We are continually striving to make this process more efficient and streamlined, and welcome your feedback



1 Register a Project

- A. Search BCO-DMO to see if your award is already in our system. If not,
- B. Complete a Project Metadata Form¹ to provide information about projects that are not already registered at BCO-DMO.
 - A project oversees a collection of one or more datasets.
 - There is usually one project per NSF award with the exception of Collaborative Research awards where one project is funded by multiple award numbers. Some time-series projects may contain multiple awards as well.
 - If you do not yet know the NSF award number, please provide as much information as possible including the project title and investigator contact information.
- C. Submit your NSF Data Management Plan² with the Project Metadata Form.

2 Prepare Data and Metadata

- A. Prepare the data files, including error checking and formatting. Understand what is meant by a ‘dataset’ relative to BCO-DMO (see page 4).
- B. Complete a Dataset Metadata Form³ to provide information about each unique dataset. See ‘Preparing and contributing metadata’ (page 4).
- C. If data were collected from a research vessel, mooring, glider, or other unique deployment, complete a Deployment Metadata Form⁴.
 - Complete this form only if it is applicable to the dataset(s) you are submitting.
 - Deployments help describe the geographic and temporal scale of datasets and provide context for mapping the associated data.
 - The Rolling Deck to Repository, R2R⁵, provides cruise data for vessels in the UNOLS fleet. For data on these cruises, you need only reference the R2R cruise identifier and BCO-DMO does the rest.

3 Submit

Send applicable metadata forms and data files to info@bco-dmo.org.

- You will receive a reply from one of our Data Managers confirming receipt of your forms and data files, if applicable.
- If a data set is too large to send as an email attachment, please contact us for instructions on the best way to contribute your data.
- NOTE: We strongly encourage you to submit data at least one month in advance of any pressing deadlines (e.g. NSF reports, manuscript publication) to provide adequate data processing time.

4 Collaborate

A Data Manager will begin the process of making the data available online. We strive to develop robust metadata that will ensure the data are easily discoverable and reusable. Your Data Manager will contact you with follow-up questions or requests for more information to ensure that the metadata is complete. This may be an iterative process, so your patience and cooperation are greatly appreciated.

5 Validate

Once your datasets are online, you’ll be asked to review the data and metadata for completeness and accuracy. This validation stage is the final step in the process, and necessary for assignment of DOIs and long-term archive.

Once datasets are reviewed and validated by the contributor, BCO-DMO ensures that the data are archived properly at the appropriate National Data Center (e.g. National Centers for Environmental Information, NCEI⁶).

¹ <http://www.bco-dmo.org/les/bcodmo/PROJECT.rtf>

² http://www.bco-dmo.org/nsf-two-page-data-management-plan#DMP_Template

³ <http://www.bco-dmo.org/les/bcodmo/DATASET.rtf>

⁴ <http://www.bco-dmo.org/les/bcodmo/DEPLOYMENT.rtf>

⁵ <http://www.rvdata.us/>

⁶ <https://www.ncei.noaa.gov/>

Data Preparation Tips

General tips:

- Round your data to the appropriate number of decimal places.
- Make sure all flags and codes are documented in your metadata.
- Submit measured or observed values, not just statistical and calculated values.

Excel files:

- Remove formatting that will not be preserved when exported as a plain text file (e.g. color, merged cells, plots, etc.)
- Only include one tabular dataset (i.e. table) per Excel sheet.
- Ensure cells contain intended values. Check formula results, references to other sheets, hyperlinks, etc.

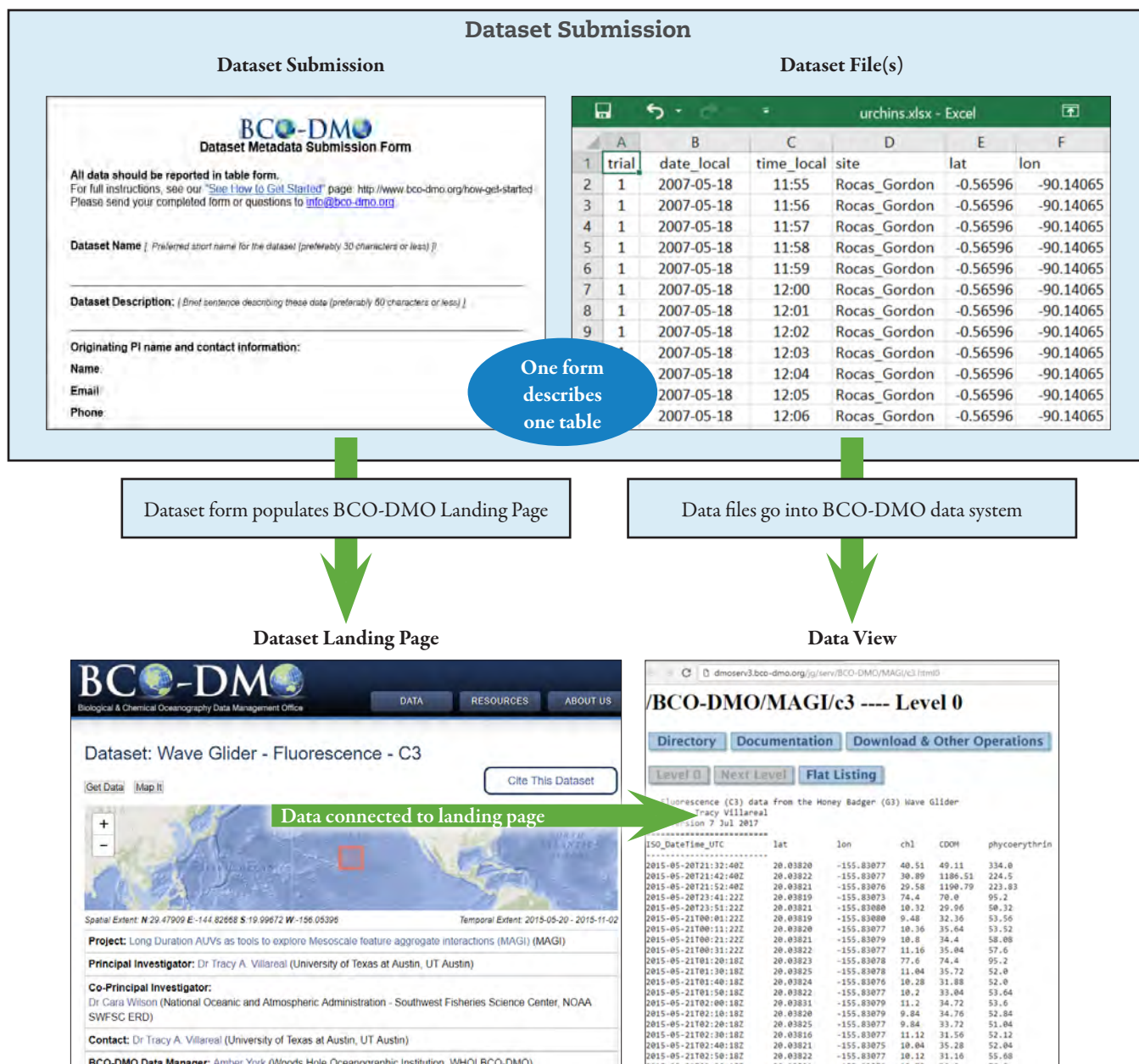
Error checking:

- QA/QC your data before submitting.
- Check species name for correct spelling and use taxonomically accepted names.

Dates & locations:

- Document your time and date format including time zone (e.g. UTC, UTC+02, local EST).
- Check for inconsistent date/time formatting.
- In-situ data: include date/time and lat/lon.
- Experimental data: include date/time of experiments if applicable.

Connecting Data and Metadata



Metadata

BCO-DMO uses a form to capture important information about your dataset, such as where and how it was collected, analysis methods, and funding sources. This information is known as “metadata”. The metadata you provide about your data through the form should be thorough, complete, and publication ready. The contents of your metadata form are directly used to populate the public Dataset Landing Page.

BCO-DMO
Biological & Chemical Oceanography Data Management Office

DATA RESOURCES ABOUT US

Dataset: Wave Glider - Fluorescence - C3

Get Data Map It Cite This Dataset

Spatial Extent: N:29.47909 E:-144.82668 S:19.99672 W:-156.05396

Project: Long Duration AUVs as tools to explore Mesoscale feature aggregate inte...

Principal Investigator: Dr Tracy A. Villareal (University of Texas at Austin, UT Austin)

Co-Principal Investigator:
Dr Cara Wilson (National Oceanic and Atmospheric Administration - Southwest Fisheries Science Center, NOAA SWFSC ERD)

Contact: Dr Tracy A. Villareal (University of Texas at Austin, Austin)

BCO-DMO Data Manager: Amber York (Woods Hole Oceanographic Institution, WHOI BCO-DMO)

Version Date: 2017-07-07

Restricted: No

Validated: Yes

Current State: Final no updates expected

Data URL: <https://www.bco-dmo.org/dataset/653653/data>

Fluorescence data (C3) collected by the AUV Honey Badger (Wave Glider) in the (MAGI project)

Expand/Collapse All

- Description**
This dataset includes chlorophyll, phycoerythrin, and CDOM data from the AUV Honey Badger (SV2) during a 2015 deployment in the North Pacific Ocean. For more information on project MAGI and a description of Honey Badger, see: <http://oceanview.pfeg.noaa.gov/MAGI/>. Additional support was provided by the iROV Challenge from Liquid Robotics, Inc.
- Acquisition Description**
Data were collected at the surface by the the AUV Honey Badger (a Wave Glider(R) model SV2 from Liquid Robotics). This deployment in the North Pacific Ocean was part of Project MAGI. For more details about the Honey Badger and project MAGI please see project page <http://oceanview.pfeg.noaa.gov/MAGI/>. Chlorophyll, phycoerythrin, and CDOM data were acquired from two float-mounted Turner Designs' C3™ Submersible Fluorometers. Biofouling is a big issue for any long deployment vehicle, and having two sensors provided the redundancy needed for data quality assurance. No calibration was deemed useful due to the duration of the mission and nature of questions asked.
- Processing Description**
No calibration was deemed useful due to the duration of the mission and nature of questions asked. Sensors returned only RFU.

BCO-DMO Data Manager Processing Notes:
* added a conventional header with dataset name, PI name, version date
* modified parameter names to conform with BCO-DMO naming conventions
* blank values replaced with no data value 'nd'
* values of "NaN" and "nan" changed to "nd"

Dataset Metadata Form

BCO-DMO
Dataset Metadata Submission Form

All data should be reported in table form.
For full instructions, see our "How to Get Started" page: <http://www.bco-dmo.org/how-get-started>
Please send your completed form or questions to info@bco-dmo.org

Dataset Name: / Preferred short name for the dataset (preferably 30 characters or less) /

Dataset Description: / Brief sentence describing these data (preferably 60 characters or less) /

Originating PI name and contact information:
Name: _____

Methodology: / In the following methodology sections, if referencing a paper, please provide a brief summary only including methods for submitted data. Also, include any changes from published methodology.
Sampling and analytical procedures: / Provide detailed methods for sampling and analyses including references. Consider filter types, pore size, wash protocols, storage of sample before determination (time, conditions), sample preparation, treatment descriptions, specific changes from published methodology. /

Instruments: / Name and description of sampling equipment and instrumentation. Include equipment/instrument manufacturer names and model numbers where relevant and calibration information for individual sensors. /

Data processing: / Description of data processing. Please include any software products that were used including version numbers if available. /

Dataset Name: [Short name for the dataset]

Dataset Description: [Brief abstract describing these data]

Methodology: [In the following methodology sections, if referencing a paper, please provide a brief summary only including methods for submitted data. Also, include any changes from published methodology.]

Sampling and analytical procedures: [Provide detailed methods for sampling and analyses including references. Consider filter types, pore size, wash protocols, storage of sample before determination (time, conditions), sample preparation, treatment descriptions, specific changes from published methodology.]

Dataset Metadata Form

BCO-DMO
Biological & Chemical Oceanography Data Management Office

Dataset Metadata Submission Form

All data should be reported in table form. For full instructions, see our "See How to Get Started" page: <http://www.bco-dmo.org/how-get-started>. Please send your completed form or questions to info@bco-dmo.org.

Dataset Name: Preferred short name for the dataset (preferably 30 characters or less).

Dataset Description: Brief sentence describing these data (preferably 60 characters or less).

Originating PI name and contact information:
Name:
Email:

ORCID: If you don't currently have an ORCID iD, you can register for one. ORCID iDs are unique persistent identifiers assigned to individuals to enable easy discovery of their work. It is free to register.

Affiliation/Institution during data acquisition:

BCO-DMO
Biological & Chemical Oceanography Data Management Office

DATA RESOURCES ABOUT US

Dataset: Wave Glider - Fluorescence - C3

Get Data Map It Cite This Dataset

4.82668 S 19.99672 W -156.05396 Temporal Extent: 2015-05-20 - 2015-11-02

Turner float-mounted C3 fluorimeters equipped for chl, phycoerythrin and CDOM.

Tracy A. Villareal (University of Texas at Austin, UT Austin)

Instruments: [Name and description of sampling equipment and instrumentation. Include equipment/instrument manufacturer names and model numbers where relevant and calibration information for individual sensors.]

Email:
Phone:
Mailing Address:

ORCID: If you don't currently have an ORCID iD, you can register for one. ORCID iDs are unique persistent identifiers assigned to individuals to enable easy discovery of their work. It is free to register.

Affiliation/Institution during data acquisition:

Instruments

Fluorometer
(more info)

Short Name: Fluorometer
Community Standard Description:

Generic Description:
A fluorometer or fluorimeter is a device used to measure parameters of fluorescence: its intensity and wavelength distribution of emission spectrum after excitation by a certain spectrum of light. The instrument is designed to measure the amount of stimulated electromagnetic radiation produced by pulses of electromagnetic radiation emitted into a water sample or in situ.

PI supplied instrument name: fluorometer
Dataset-specific description:
Turner float-mounted C3 fluorimeters equipped for chl, phycoerythrin and CDOM.

For more details see:
<http://www.tunerdesigns.com/products/submersible-fluorometer/c3-submers...>

Parameters

Supplied Name	Supplied description	Supplied Units	Standard Name
ISO_DateTime.UTC	Time (UTC) in format YYYY-mm-ddTHH:MM:SS[.xx]Z	unitless	ISO_DateTime.UTC
lat	Latitude	decimal degrees	lat
lon	Longitude; west is negative	decimal degrees	lon
chl	Chlorophyll fluorescence	relative fluorescence units	fluor
CDOM	Colored dissolved organic matter	relative fluorescence units	CDOM
phycoerythrin	Phycoerythrin; red protein pigments	relative fluorescence units	phyco
temp	Temperature	degrees Celcius	temp

ISO RDF JSON HTML

Parameter names, descriptions, units:
[Parameter names are the column headings]

You can provide this information in the metadata form or as a separate text file or Excel spreadsheet.

- Other critical metadata to be included in your form**
- Project and Funding information
 - Geographic Location
 - Cruise/Deployment information
 - Access Restrictions - dependent on funding policies
 - Related files and references
 - Data Processing
 - Problem report


Metadata can be downloaded in various formats by clicking the badges at the bottom of the Dataset Landing Page.

Data Publication

- 1 BCO-DMO publishes data and metadata, fostering data discoverability, access, reuse, and attribution.
- 2 DOIs are generated for every dataset and will be assigned for all submissions. All datasets must be final and validated before a DOI is assigned.
- 3 We provide a recommended citation, so that users can properly cite each dataset.
- 4 All datasets available at BCO-DMO are licensed under a Creative Commons Attribution 4.0 International license, ensuring that each data contributor will receive proper credit.
- 5 All DOIs are minted for archive by the WHOI Open Access Server (WHOAS), and resolve to WHOAS landing pages.

Dataset: Rainfall and temperature data

Get Data 1



Cite This Dataset 2

DOI:10.1575/1912/bco-dmo.664755

Spatial Extent: N:-18.298056 E:64.803611 S:-18.376667 W:64.668056 Temporal Extent:

Project: LTREB Long-term coral reef community dynamics in St. John, USVI: 1987-2019 (St. John Ecology and functional biology of octocoral communities (VI Octocorals))

Principal Investigator: Dr Peter J Edmunds (California State University Northridge, CSU-Northridge)

Co-Principal Investigator: Dr Georgios Tsounis (California State University Northridge, CSU-Northridge)

BCO-DMO Data Manager: Hannah Ake (Woods Hole Oceanographic Institution, WHOI BCO-DMO)

Version Date: 2016-11-08

Restricted: No

Validated: Yes

Current State: Final no updates expected

Data URL: <https://www.bco-dmo.org/dataset/664254/data>


Data Citation: 3

Edmunds, P., Tsounis, G. (2016) Rainfall and seawater temperature in St. John, USVI in 1987–2013 (St. John LTREB project, VI Octocorals project). Biological and Chemical Oceanography Data Management Office (BCO-DMO). Dataset version 2016-11-08 [if applicable, indicate subset used]. doi:10.1575/1912/bco-dmo.664755 [access date]


Terms of Use 4

All data sets are licensed under a Creative Commons Attribution 4.0 International License (CC BY 4). Per the CC BY license it is understood that any use of the data set will properly acknowledge the individual(s) listed above using the suggested data citation. If you wish to use this data set, it is highly recommended that you contact the original principal investigator(s) (PI). Should the relevant PI be unavailable, please contact BCO-DMO (info@bco-dmo.org) for additional guidance. For general guidance please see the BCO-DMO Terms of Use document.

Rainfall and seawater temperature in St. John, USVI in 1987–2013 (St. John LTREB project, VI Octocorals project).

5  **WHOAS: Woods Hole Open Access Server**
a repository for the Woods Hole scientific community

Rainfall and seawater temperature in St. John, USVI in 1987–2013 (St. John LTREB project, VI Octocorals project).



Citable URI
<https://hdl.handle.net/1912/8520>

Date Created
2016-11-08

Location
St. John, U.S. Virgin Islands; California State University Northridge
St. John, US Virgin Islands: 18.3185, 64.7242
westlimit: 64.668056; southlimit: -18.376667; eastlimit: 64.803611; northlimit: -18.298056

View/Open

- [data_rainfall-and-temperature-data.tsv](#) (1.050Kb)
- [ISO19115-2.xml](#) (77.78Kb)
- [Field_names.pdf](#) (12.03Kb)
- [Dataset_description.pdf](#) (23.19Kb)

DOI
10.1575/1912/bco-dmo.664755

Keyword
Rainfall; seawater temperature

Discovery and Access

Once data are processed and published online, the BCO-DMO website enables data discovery via text and geospatial search interfaces, making it easy for users to find datasets of choice. Through text-based searches, the database can be searched by cruise, project, person, or any keyword provided in metadata upon submission. Access to data is made possible from the Dataset Landing pages, and data

may be subsetted, plotted, and reformatted prior to download. The BCO-DMO database encompasses the full range of oceanographic measurement types from limnological, physical, chemical, biological and/or ecological, and biogeochemical sub-domains.

<http://bco-dmo.org/>

BCO-DMO
Biological & Chemical Oceanography Data Management Office

DATA RESOURCES ABOUT US

Enter search terms

DATABASE

Programs	39
Projects	927
Deployments	2,750
Platforms	582
Datasets	9,197
Instruments	469
Parameters	1,414
People	2,507
Affiliations	561
Funding	87
Awards	1,758

Introduction to BCO-DMO

It's not the size of the data...
It's the impact of the science

Ocean researchers collect data using a variety of platforms, instruments and sensors. Each individual data set may be small, but when integrated and combined with laboratory experiments and model results, they enable BIG science.

The Biological and Chemical Oceanography Data Management Office (BCO-DMO) staff members work with investigators to serve data online from research projects funded by the Biological and Chemical Oceanography Sections, the Division of Polar Programs Arctic Sciences and Antarctic Organisms & Ecosystems Program at the U.S. National Science Foundation.

Contributing Data or Other Project Results

If you would like more information about BCO-DMO or information about contributing data to the BCO-DMO collection, please see our Resources page or contact us.

Terms of Use

The data sets and supporting documentation from oceanographic research projects are freely available from this database as long as one follows the terms of use, including the understanding that any such use will properly acknowledge the originating Investigator. It is highly recommended that anyone wishing to use portions of this data collection should contact the originating principal investigator (PI) of the relevant data set.

Need help?

Please contact us if you have any questions or comments about the BCO-DMO initiative or would like to discuss publication of data or results from your project.

RECENT DATASETS

Species Key
06/07/2018
Species key for individuals surveyed in studies conducted by M. Hixon, C. Benkwitt, and T. Kindinger

CTD Log
06/04/2018

Alvin Dive Plans - Reports - Sample Sheets
06/04/2018

Alvin Dive Sites
06/04/2018

Seasonal Iron Biogeochemistry
06/01/2018
Pore water and solid phase iron geochemical data.

FEATURED RESOURCES

NSF Two Page Data Management Plan
BCO-DMO has prepared guidance, including a template, on writing the two-page Data Management Plan required for proposals submitted to NSF.

Data Management Best Practices
BCO-DMO staff members have put together a data management best practices guide. (PDF)

Data Access Tutorial
A tutorial booklet used during the OCB Workshop is available for download (7.8 MB PDF).

CONTRIBUTE DATA

Getting started

- » How-to Guide
- » FAQs

Metadata Forms (.rtf files)

- » Program Metadata Form
- » Project Metadata Form
- » Deployment Metadata Form
- » Dataset Metadata Form

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Funded by the U.S. National Science Foundation

@BCODMO
View profile

Search for any keyword. This can be a type of data (pH), a project name or acronym (HOT), a person's name (John Smith), or a funding number (OCE-0926766).

Any keyword that might be associated with the data you are interested in.

If you know the type of keyword you are searching for, the left-hand tabs allow search of the specific database fields.

The following example searches for the project HOT (the acronym for Hawaiian Ocean Time-series) and downloads the niskin bottle data.

Discovery and Access

BCO-DMO Biological & Chemical Oceanography Data Management Office

DATA RESOURCES ABOUT US HOT

DATABASE

- Programs 39
- Projects 927
- Deployments 2,750
- Platforms 582
- Datasets 9,197
- Instruments 469
- Parameters 1,414
- People 2,507
- Affiliations 561
- Funding 87
- Awards 1,758

Search

HOT Search

Hawaii Ocean Time-Series (HOT): Sustaining Ocean Ecosystem And Climate Observations In The North Pacific Subtropical Gyre

... Since October 1988, the Hawaii Ocean Time-series (HOT) program has investigated temporal dynamics in biology, physics, and ... in the oligotrophic North Pacific Subtropical Gyre (NPSG). HOT conducts near monthly ship-based sampling and makes continuous observations ...

TYPE: PROJECT

Fish Aggregations And Biogeochemical Hot Spots Across Regional Environmental Gradients

... supply from consumers result in distinct biogeochemical hot spots in seagrass beds? and (2) How do consumer effects on ecosystem ... beds. Caribbean Fish aggregations and biogeochemical hot spots across regional environmental gradients Fish aggregations and

If your search does not return the result of interest, try to filter the search. In this case, we can filter by the type "Project" since we know it's a project in our system.

Clicking on the title will take you to the metadata page for the type of record you select (defined in grey here, as TYPE: PROJECT). There you can see various metadata elements describing the record. This includes individual datasets associated with that record.

BCO-DMO Biological & Chemical Oceanography Data Management Office

DATA RESOURCES ABOUT US Enter search terms

DATABASE

- Programs 39
- Projects 927
- Deployments 2,750
- Platforms 582
- Datasets 9,197
- Instruments 469
- Parameters 1,414
- People 2,507
- Affiliations 561
- Funding 87
- Awards 1,758

Project: Hawaii Ocean Time-series (HOT): Sustaining ocean ecosystem and climate observations in the North Pacific Subtropical Gyre

Acronym/Short Name: HOT
 Project URL: Project Web Site
 Data URL: Data
 Start Date: 1988-07
 End Date: 2014-12
 Geolocation: North Pacific Subtropical Gyre; 22 deg 45 min N, 158 deg W
 Datasets: 13
 Collections: 10
 Deployments: 5
 Cruises: 4
 Platform: 1

Programs:
 Ocean Carbon and Biogeochemistry [OCB]
 U.S. Joint Global Ocean Flux Study [U.S. JGOFS]
 Ocean Time-series Sites [Ocean Time-series]

Expand/Collapse All

- Description
- More Information
 - Funding
 - Dataset Collections**

Additional data for this site are managed by and directly available from the project data site: <http://hahana.soest.hawaii.edu/hot/hot-dogs/interface.html>

Dataset Short Name	Full Dataset Title
Cruise Track - C-MORE and HOT Cruises	Cruise Tracks from R/V Kilo Moana, R/V Ka'imikoi-O-Kanaloa KM0325, KOK0220, KM0608, KM0627 near Hawaii (22.75 N, 158 W) from 2002-2006 (C-MORE project, HOT project)
CTD Profiles	Two decibar-averaged CTD profiles from the Hawaii Ocean Time-Series cruises from 1988-2016 (HOT project)
DNA Extracts	DNA extracts from the vicinity of Station ALOHA (22.75 N, 158.0 W) just north of Hawaii from 2007-2015 (C-MORE project, HOT project)
DNA Time Series	DNA metagenomic library statistics from HOT cruises from 2007-2009 (C-MORE project, HOT project)
Methane concentrations at Station ALOHA	Methane concentrations (depths of 5-175 m) at Station ALOHA collected during Hawaii Ocean Time-Series cruises between 2008 and 2016 (HOT project)
Niskin bottle samples	Niskin bottle water samples and CTD measurements from the Hawaii Ocean Time-Series cruises from 1988-2016 (HOT project)
Nitrous oxide concentrations at Station ALOHA	Nitrous oxide concentrations (depths of 5-175 m) at Station ALOHA collected during Hawaii Ocean Time-Series cruises between 2008 and 2016 (HOT project)

GEOSPATIAL ACCESS

CONTRIBUTE DATA

Getting started

- How-to Guide
- FAQs

Metadata Forms (.rtf files)

- Program Metadata Form
- Project Metadata Form
- Deployment Metadata Form
- Dataset Metadata Form

The Dataset Collections section of the Project metadata page provides links to datasets associated with this specific project.

The Dataset Short Name link will take you to the Dataset Landing page for that dataset.

Discovery and Access

The screenshot shows the BCO-DMO website interface. At the top, there is a navigation bar with 'DATA', 'RESOURCES', and 'ABOUT US' buttons, and a search bar. The main content area is titled 'Dataset: Niskin bottle samples'. On the left, there is a 'DATABASE' sidebar with various categories and counts. Below that is 'GEOSPATIAL ACCESS' with a map. Further down is 'CONTRIBUTE DATA' with links for 'Getting started' and 'Metadata Forms'. The main content area includes a map of the Pacific Ocean, a 'Cite This Dataset' button, and a detailed metadata table. The table lists project information, principal investigator, contact, data manager, version date, restricted status, validated status, current state, and data URL. Below the table is a description of the dataset, followed by sections for 'Processing Description', 'Related Publications', and 'More information about this dataset' with sub-links for funding, deployments, instruments, and parameters. At the bottom, there are links for data formats (ISO, RDF, JSON, HTML) and a footer with the NSF logo, copyright information, and social media links.

BCO-DMO
Biological & Chemical Oceanography Data Management Office

DATA RESOURCES ABOUT US Enter search terms

DATABASE

- Programs 39
- Projects 927
- Deployments 2,750
- Platforms 582
- Datasets 9,197**
- Instruments 489
- Parameters 1,414
- People 2,507
- Affiliations 561
- Funding 87
- Awards 1,758

Dataset: Niskin bottle samples

Get Data [Map](#) [Cite This Dataset](#)

Geospatial Access

Spatial Extent: N:23.4375 E:-157.4567 S:21.2283 W:-158.8575 Temporal Extent: 1988-10-30 - 2016-11-28

Project: Hawaii Ocean Time-series (HOT): Sustaining ocean ecosystem and climate observations in the North Pacific Subtropical Gyre (HOT)
Principal Investigator: Dr David M. Karl (University of Hawaii at Manoa, SOEST)
Contact: Lance A Fujieki (University of Hawaii at Manoa, SOEST)
BCO-DMO Data Manager: Mathew Biddle (Woods Hole Oceanographic Institution, WHOI BCO-DMO)
Version Date: 2018-04-18
Restricted: No
Validated: Yes
Current State: Final with updates expected
Data URL: https://www.bco-dmo.org/dataset/3773/data

CONTRIBUTE DATA

Getting started

- » How-to Guide
- » FAQs

Metadata Forms (.rtf files)

- » Program Metadata Form
- » Project Metadata Form
- » Deployment Metadata Form
- » Dataset Metadata Form

Niskin bottle water samples and CTD measurements from the Hawaii Ocean Time-Series cruises from 1988-2016 (HOT project)

Expand/Collapse All

- **Description**
Monthly measurements of the thermohaline structure, water column chemistry, and primary production were collected at station ALOHA as part of the HOT program.
- **Processing Description**
- **Related Publications**
- **More information about this dataset**
 - **Funding Sources**
 - **Deployments**
 - **Instruments**
 - **Parameters**

[ISO](#) [RDF](#) [JSON](#) [HTML](#)

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The "Get Data" button allows you to look at all of the data values submitted to BCO-DMO.

Discovery and Access

This page displays data values in a hierarchical view (beginning at "Level 0"). Blue text indicates clickable values that expand to uncover more data.

/BCO-DMO/HOT/niskin ---- Level 0

Directory
Documentation
Download & Other Operations

Level 0
Next Level
Flat Listing

```

# version: 2018-04-18
#
#
# Niskin bottle sample data
# from monthly HOT cruises to deep-water Station ALOHA
#
=====
cruise_name EXPOCODE Ship STNBR CASTNO section ISO_DateTime Date Year Month Day timeutc timecode lon lat
-----
001 32MW001_1 32MW001/1 2 3 PRS2 1988-10-31T00:56:00 103188 1988 10 31 0056 BE -157.9983 22.7600
001 32MW001_1 32MW001/1 2 4 PRS2 1988-10-31T03:12:00 103188 1988 10 31 0312 BE -158.0083 22.7700
001 32MW001_1 32MW001/1 2 5 PRS2 1988-10-31T06:39:00 103188 1988 10 31 0639 BE -158.0050 22.7533
001 32MW001_1 32MW001/1 2 6 PRS2 1988-10-31T12:21:00 103188 1988 10 31 1221 BE -157.9933 22.7500
001 32MW001_1 32MW001/1 2 7 PRS2 1988-10-31T14:54:00 103188 1988 10 31 1454 BE -157.9967 22.7483
001 32MW001_1 32MW001/1 2 8 PRS2 1988-10-31T16:45:00 103188 1988 10 31 1645 BE -157.9933 22.7483
    
```

/BCO-DMO/HOT/niskin --ISO_DateTime eq 1988-10-31T00:56:00-- Level 1

Directory
Documentation
Download & Other Operations

Level 0
Next Level
Flat Listing

```

# version: 2018-04-18
#
#
# Niskin bottle sample data
# from monthly HOT cruises to deep-water Station ALOHA
#
=====
cruise_name EXPOCODE Ship STNBR CASTNO section ISO_DateTime Date Year Month Day timeutc timecode lon lat nav_code depth_max pres_max depth_bgt
-----
001 32MW001_1 32MW001/1 2 3 PRS2 1988-10-31T00:56:00 103188 1988 10 31 0056 BE -157.9983 22.7600 GPS 4750 1016 3743
ROSETTE CTDPRS A_CAR ALKALIN ATP B_CAR BUT_19 CAROTEN CHL_Plus CHL1_2 CHLDA_A CHL_A CHL_B CHL_C3 CHL_C4 CTDXY CTD8AL CTDTMP DIADINO
-----
12 4.7 nd nd nd nd nd nd nd nd nd nd nd nd nd 224.6 35.2344 26.2879 nd
11 39.4 nd nd nd nd nd nd nd nd nd nd nd nd nd nd 219.5 35.2253 26.1874 nd
10 99.4 nd nd nd nd nd nd nd nd nd nd nd nd nd nd 218.0 35.2462 21.7978 nd
9 150.3 nd nd nd nd nd nd nd nd nd nd nd nd nd nd 201.9 35.0850 19.4260 nd
-----
32MW002_1 32MW002/1 2 14 PRS2 1988-12-03T16:00:00 120388 1988 12 03 1600 BE -157.9817 22.7750
32MW002_1 32MW002/1 2 15 PRS2 1988-12-03T18:59:00 120388 1988 12 03 1859 BE -157.9967 22.7950
    
```

To download the entire dataset, click on the "Download & Other Operations" button at this "Level 0" point.

The Download & Other Operations button also allows data subsetting, plotting, and statistical determinations.

Download and Other Operations Menu

Current object is: //dmoserv3.bco-dmo.org:80/BCO-DMO/HOT/niskin(ISO_DateTime eq 1988-10-31T00:56:00)

- **Listing data**
 - [List at this level](#)
 - [Other data listing formats](#)
- **Downloading data**
 - [Matlab file format](#) of all data at this level and further in. (Download will also 'do' matlab) Help
 - [netcdf file format](#)
 - [ODV file format](#) Help
 - Download utility Help
 - [Download inquiry/data pickup](#) Help
- **Manipulating data**
 - [Math operations](#) for calculating values from existing parameters. Help
 - [Join 2 objects](#) having at least 1 parameter in common. Help
 - [Time field splitting](#) Help
 - [Time conversions](#)
 - Statistics
- **Plotting data**
 - Simple X-Y plot
- **Persistent objects**
 - [Directory of available objects](#)
 - [Save/remove current object](#)
- **Subsetting data** Help

otheropt version 2.2h 9 Mar 13
server: production-Apr17

This allows direct download of the data.

This allows statistical determinations on the data.

This allows simple X-Y plotting.

info@bco-dmo.org

BCO-DMO

Page 12

Preservation

Preservation marks a maturity level that allows data to begin the data life cycle again in new research endeavors. BCO-DMO serves as a domain specific, intermediate data repository, and as such does not function as a long-term archive for data preservation. BCO-DMO provides data management support throughout a project award's period of performance which, prepares project output for reuse and reanalysis by the community. Once a project's data and metadata are published online at BCO-DMO, they are then submitted to an appropriate national data center for long-term preservation (e.g., the National Centers for Environmental Information).

FAQ's

Many Frequently Asked Questions are also addressed on our website at <https://www.bco-dmo.org/faq-page>. Still have questions? Feel free to contact the office at info@bco-dmo.org and a team member will respond.

Acknowledgements

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