

Fitting Square Pegs into a Round Hole

Curating Heterogeneous Oceanographic Data at BCO-DMO

Karen Soenen

BCO-DMO Team: Danie Kinkade, Adam Shepherd, Mak Saito, Dana Gerlach,
Lynne Merchant, Sawyer Newman, Shannon Rauch & Amber York

Ocean Sciences Meeting - February 22, 2023
Booth 508

18 Years of Oceanographic Data



6,500 DATASETS

1,600 PROJECTS

1,500 PARAMETERS

3,700 RESEARCHERS

600+ INSTRUMENTS





Sharing is Caring (but it's hard!)

Findable: Data are linked to descriptive persistent metadata.



Accessible: Data and metadata are open, free, and machine accessible.

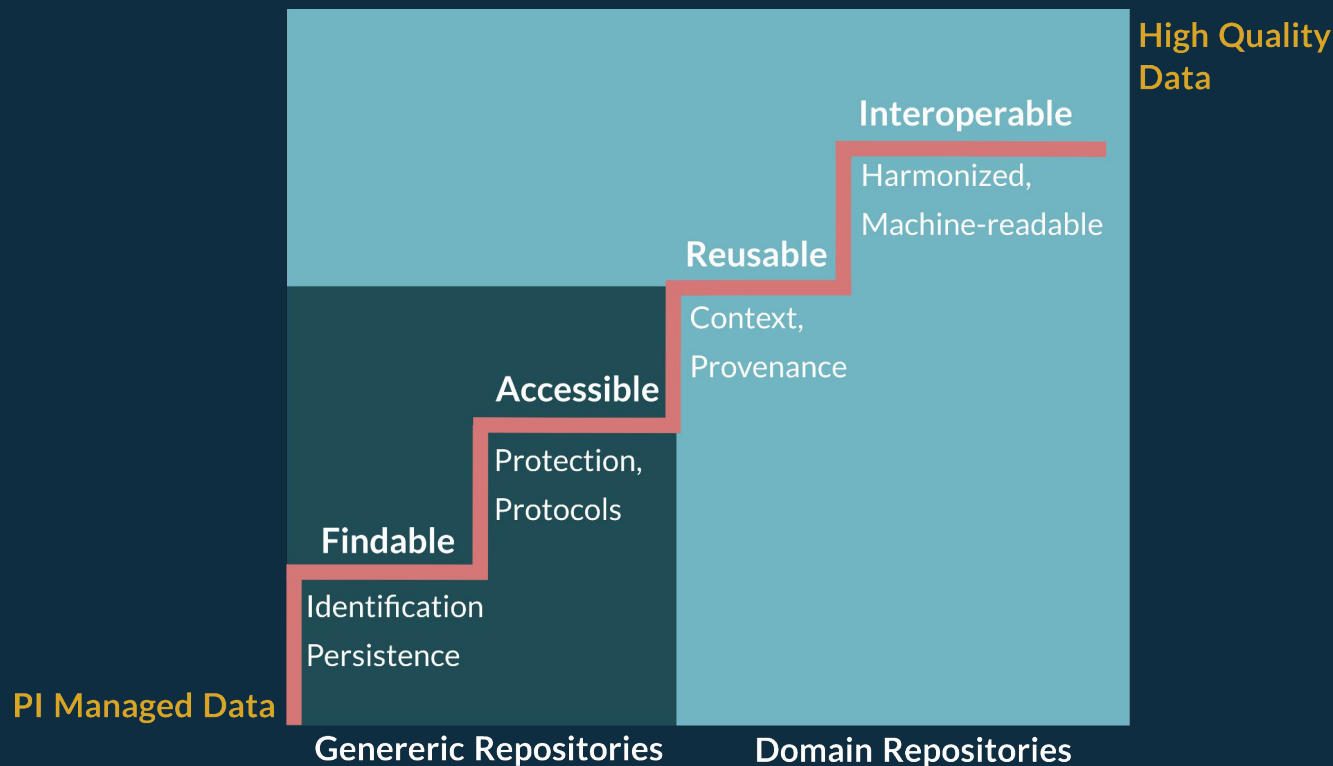


Interoperable: Data and metadata are standardized and use vocabularies. Data points to related metadata.



Reusable: Metadata are rich, and employ usage licenses, provenance, and community standards.

Sharing is Caring (but it's hard!)



Can this dataset exist on its own and be reused?

Hypotheses come and go, but data remain.

(Ramón y Cajal, 1940)

The F.A.I.R. Dataset

<https://www.bco-dmo.org/dataset/904721>

- Unique ID (DOI)
- Rich Metadata
- Indexed in searchable resource

Dataset: Bottle-calibrated dissolved oxygen profiles from yearly turn-around cruises for the Ocean Observations Initiative (OOI) Irminger Sea Array 2014 – 2022

DOI: 10.26008/1912/bco-dmo.904721.1 Version 1 (2023-07-19) Submitter Approved Dataset Type: Cruise Results

Hilary L. Palevsky (Principal Investigator)
Kristen E. Fogaren (Scientist, Contact, Long-term Contact)
Karen Soenen (BCO-DMO Data Manager)

Project: Collaborative Research: The Annual Cycle of the Biological Carbon Pump in the Subpolar North Atlantic (OOI Irminger BCP)

Abstract

This dataset contains bottle-calibrated dissolved oxygen (DO) profiles collected from Conductivity Temperature Depth (CTD) casts on turn-around cruises performed yearly to maintain the Ocean Observations Initiative (OOI) Global Irminger Sea Array (60.46°N, 38.44°W). DO profiles were used in conjunction with oxygen bottle measurements (Winklers) to produce a post-cruise oxygen-calibrated CTD product for scientific use. Bottle-calibrated CTD salinity products were used to produce post-cruise oxygen...

Show more

Dataset Files 13 904721_v1_palevsky_ctdcasts.csv (32 MB)

Description

Methods & Sampling

Data Processing

BCODMO Processing

The Ocean Observations Initiative (OOI) is a long-term NSF-funded program that deploys autonomous sensors on both moored and mobile platforms at multiple locations, including the Global Irminger Sea Array (60.46°N, 38.44°W) (Trowbridge et al., 2019). The OOI program conducts yearly turn-around cruises to the Irminger Sea Array to recover and redeploy moorings and gliders deployed year-round at this site. During these cruises the OOI program routinely conducts Conductivity Temperature Depth (CTD) casts and collects water samples from Niskin bottles on the CTD rosette for discrete sample analysis. These turn-around cruise data are critical for validation and calibration of the data from sensors deployed year-round and also provide a valuable dataset in and of themselves (Palevsky et al., 2023).

The complete collection of shipboard data and cruise documentation from these cruises is available from an OOI-managed document storage system called Alfresco (see related publications, cruise data), following the path: OOI > Global Irminger Sea Array > Cruise Data > Cruise ID. This dataset uses CTD data collected by the OOI program during the first 9 turn-around cruises of the Irminger Sea Array, alongside supplementary samples collected for this project during the AR30-03 and AR35-05 cruises (see related dataset Palevsky et al., 2023) to produce calibrated, quality-controlled oxygen depth profiles.

Parameters 20

Funding 1

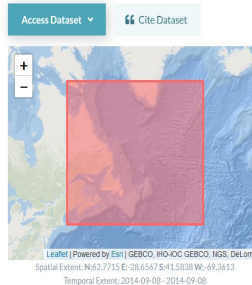
Instruments 3

Deployments 9

Archives 1

Related Datasets

Related Public



Findable

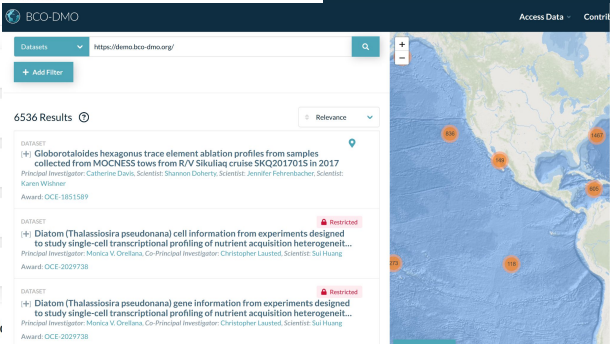
Search results for "Bottle-calibrated dissolved oxygen profiles palevsky".
All Images Videos News Maps
All regions Safe search: moderate Any time

https://www.bco-dmo.org/dataset/904721
Dataset: Bottle-calibrated dissolved oxygen profiles
Jul 19, 2023 Dataset: Bottle-calibrated dissolved oxygen profiles from yearly turn-around cruises for the Ocean Observations Initiative (OOI) Irminger Sea Array 2014 – 2022 (BCO-DMO Database 50 Programs 1593 Projects 3333 Deployments 649 Platforms 6508 Datasets 4,642 629 1,554 3,693 70...

https://par.nsf.gov/biblio/10488655-bottle-calibrated-dissolved-oxygen-profiles-from-yearly-tu...
Bottle-calibrated dissolved oxygen profiles from yearly turn-around ...
Bottle-calibrated CTD salinity products were used to produce post-cruise oxygen-calibrated CTD profiles starting in 2018 (Year 5). This document contains overviews of CTD data collection and processing and post-processing oxygen sensor calibration method.

https://par.nsf.gov/biblio/10488656-supplementary-discrete-sample-measurements-dissolved...
Supplementary discrete sample measurements of dissolved oxygen ...
Bottle-calibrated CTD salinity products were used to produce post-cruise oxygen-calibrated CTD profiles starting in 2018 (Year 5). This document contains overviews of CTD data collection and processing and post-processing oxygen sensor calibration method.

https://orcid.org/0000-0002-0488-4531
Hilary Palevsky (0000-0002-0488-4531) - ORCID
Hilary Palevsky Bottle-calibrated dissolved oxygen profiles from yearly turn-around cruises for the Ocean Observations Initiative (OOI) Irminger Sea Array 2014 – 2022 2023-08-24 Data set DOI 10.26008/1912/BCO-DMO-904721 Contributors: Kristen E. Fogaren, Hilary L. Palevsky Show more...



The F.A.I.R. Dataset

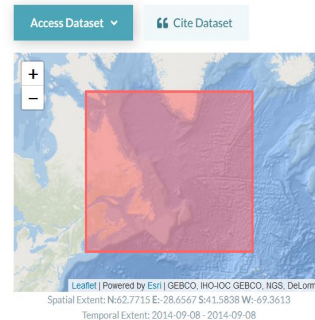
- (Meta) data are retrievable
- Embargo, until deadline set by funder requirements.

Dataset: Bottle-calibrated dissolved oxygen profiles from yearly turn-around cruises for the Ocean Observations Initiative (OOI) Irminger Sea Array 2014 – 2022

DOI: 10.26008/1912/bco-dmo.904721.1 Version 1 (2023-07-19) Submitter Approved Dataset Type: Cruise Results

Hilary I. Palevsky (Principal Investigator)
Kristen E. Fogaren (Scientist, Contact, Long-term Contact)
Karen Soenen (BCO-DMO Data Manager)

Project: Collaborative Research: The Annual Cycle of the Biological Carbon Pump in the Subpolar North Atlantic (OOI Irminger BCP)



Abstract

This dataset contains bottle-calibrated dissolved oxygen (DO) profiles collected from Conductivity Temperature Depth (CTD) casts on turn-around cruises performed yearly to maintain the Ocean Observations Initiative (OOI) Global Irminger Sea Array (60.46°N, 38.44°W). DO profiles were used in conjunction with oxygen bottle measurements (Winklers) to produce a post-cruise oxygen-calibrated CTD product for scientific use. Bottle-calibrated CTD salinity products were used to produce post-cruise oxygen...

[Show more](#)

Dataset Files

13

904721_v1_palevsky_ctdcasts.csv (32 MB)

Add to Cart

Download All

File(s)	Type	Description	Action
904721_v1_palevsky_ctdcasts.csv (32 MB)	CSV	Primary data file for dataset 904721.	Download View Table

Supplemental File(s)	Type	Description	Action
AppendixA.docx (20 KB)	Word	SBE-provided calibration coefficients for oxygen sensors	Download
Cast_Processing_Figures.docx (2 MB)	Word	Figures for bottle-calibrated DO profiles for the OOI Irminger Sea Array dataset	Download
Winkler-determined calibration coefficients.xlsx (11 KB)	Excel	Winkler-determined calibration coefficients	Download
AR07-01.zip (102 KB)	ZIP	Individual oxygen profile files for cruise AR07-01. Supplemental data for dataset 904721	Download
AR21.zip (69 KB)	ZIP	Individual oxygen profile files for cruise AR21. Supplemental data for dataset 904721	Download
AR30-03.zip (677 KB)	ZIP	Individual oxygen profile files for cruise AR30-03. Supplemental data for dataset 904721	Download
AR35-05.zip (418 KB)	ZIP	Individual oxygen profile files for cruise AR35-05. Supplemental data for dataset 904721	Download
AR46.zip (315 KB)	ZIP	Individual oxygen profile files for cruise AR46. Supplemental data for dataset 904721	Download
AR60-01.zip (238 KB)	ZIP	Individual oxygen profile files for cruise AR60-01. Supplemental data for dataset 904721	Download



Accessible

- Standards-compliant formats
- Machine readable <-> community uses



DataSet: Bottle-calibrated dissolved oxygen (DO) profiles from many year-turn-around cruises for the Ocean Observations Initiative (OOI) Imringer Sea Array 2021 – 2022

DOI: 10.26008/1312/bco-dms-904721.1 Version 1 [2023-03-19] ✓ Submitter Approved Dataset Type: Cruise Results

Hilary I. Palevsky (Principal Investigator)
Kristen E. Fogaren (Scientist, Contact, Long-term Contact)
Karen Soenen (BCO-DMO Data Manager)

Project: Collaborative Research: The Annual Cycle of the Biological Carbon Pump in the Subpolar North Atlantic (OOI Imringer BCP)

This dataset contains bottle-calibrated dissolved oxygen (DO) profiles collected from Conductivity, Temperature, Depth (CTD) casts on turn-around cruises performed yearly to maintain the Ocean Observations Initiative (OOI) Global Imringer Sea Array (60°46'N, 38°44'W). DO profiles were used in conjunction with oxygen bottle measurements (Winklers) to produce a post-cruise oxygen-calibrated CTD product for scientific use. Bottle-calibrated CTD salinity products were used to produce post-cruise oxygen...
[Show more](#)

Access Dataset [Cite Dataset](#)

[Learn It](#) (Powered by FFI) [GetBIO](#) [MGS-GEO](#) [GEOSS](#) [MGL](#) [DA](#) [ML](#)
Spatial Extent: N60.77131E-28.6567-B41.3838 W-69.3613
Temporal Extent: 2014-09-08 - 2014-09-08

Abstract

This dataset contains bottle-calibrated dissolved oxygen (DO) profiles collected from Conductivity, Temperature, Depth (CTD) casts on turn-around cruises performed yearly to maintain the Ocean Observations Initiative (OOI) Global Imringer Sea Array (60°46'N, 38°44'W). DO profiles were used in conjunction with oxygen bottle measurements (Winklers) to produce a post-cruise oxygen-calibrated CTD product for scientific use. Bottle-calibrated CTD salinity products were used to produce post-cruise oxygen...

Dataset Files 13 904721_v1_galevisy_ctdcasts.csv (32 MB)

File(s)	Type	Description	Action
● 904721_v1_galevisy_ctdcasts.csv (32 MB)	CSV	Primary data file for dataset 904721.	Download View Details
Supplemental File(s)			
● AppendixA.docx (20 KB)	Word	SBE-provided calibration coefficients for oxygen sensors	Download
● Cast_Processing_Figures.docx (24 KB)	Word	Figures for bottle-calibrated DO profiles for the OOI Imringer Sea Array dataset	Download
● Winkler_determined_calibration_coefficients.xlsx (1 KB)	Excel	Winkler-determined calibration coefficients	Download
● AR07-01.zip (352 KB)	ZIP	Individual oxygen profile files for cruise AR07-01. Supplemental data for dataset 904721	Download
● AR21.zip (97 KB)	ZIP	Individual oxygen profile files for cruise AR21. Supplemental data for dataset 904721	Download
● AR30-03.zip (97 KB)	ZIP	Individual oxygen profile files for cruise AR30-03. Supplemental data for dataset 904721	Download
● AR35-05.zip (453 KB)	ZIP	Individual oxygen profile files for cruise AR35-05. Supplemental data for dataset 904721	Download
● AR46.zip (131 KB)	ZIP	Individual oxygen profile files for cruise AR46. Supplemental data for dataset 904721	Download
● ABAGV01.zip (no ext)	ZIP	Individual oxygen profile file for cruise ABAGV01. Supplemental data for dataset 904721	Download

The F.A.I.R. Dataset

Adopting Controlled Vocabularies

- Parameters
- Instruments



**British Oceanographic
Data Centre**

NATURAL ENVIRONMENT RESEARCH COUNCIL

Parameters

Supplied Name	Supplied Description	Supplied Units	Standard Name
Year	Year/YY	unitless	year
Depth	Depth	meters (m)	depth
Transect	Transect ID number. There were 3 replicate transects per site.	unitless	transect
Site	Site name	unitless	site
Latitude	Latitude of site; negative values = South	decimal degrees	latitude
Longitude	Longitude of site; positive values = East	decimal degrees	longitude
ACR_TCD	Acroporidae- tabular/corymbose/digitate	percent cover (%)	percent_cover
ACR_BRA	Acroporidae- branching (ACR-BRA)	percent cover (%)	percent_cover
ACR_PE	Acroporidae- plating/encrusting (ACR-PE)	percent cover (%)	percent_cover
POCI	Pocilloporidae (POCI)	percent cover (%)	percent_cover
POR_MASS	Poritidae-massive (POR-M)	percent cover (%)	percent_cover
POR_ENC	Poritidae-encrusting/plating varieties (POR-PE)	percent cover (%)	percent_cover
POR_BRA	Poritidae-branching (POR-BRA)	percent cover (%)	percent_cover
FAV_LOB	Favidae-Lobophyllidae (FAV-LOB)	percent cover (%)	percent_cover
Other_hard	other hard corals (including non-scleractinian corals)	percent cover (%)	percent_cover
Soft_coral	soft coral	percent cover (%)	percent_cover
Giant_Clam	giant clam	percent cover (%)	percent_cover
Sea_Cuke	sea cucumbers	percent cover (%)	percent_cover
OTH_INV	other invertebrates	percent cover (%)	percent_cover
Macroalgae	fleshy macroalgae	percent cover (%)	percent_cover
Halimeda	calcifying algae of the genus Halimeda	percent cover (%)	percent_cover
Turf_Cyano	turf algae/cyanobacteria	percent cover (%)	percent_cover
CCA_ACA			
Sand_Sed			
Coral_Rubble			
Bleached_coral			
Bare_Rock			
Temperature_mean			
Temperature_max			
Temperature_min			
Amplitude			
DHW			

Instruments

Submitter Supplied

Name: SeaBird 911plus CTD

Description:

CTD casts were performed using a ship-provided SeaBird 911plus CTD and deck unit (<http://www.seabird.com/sbe911plus-ctd>) configured to measure pressure, temperature, conductivity, oxygen current, and other variables.

Submitter Supplied

Name: Aanderaa Oxygen Optode 4831

Description:

Community Supplied

Name: CTD Sea-Bird SBE 911plus

Acronym: CTD SBE 911plus

Description:

The Sea-Bird SBE 911 plus is a type of CTD instrument package for continuous measurement of conductivity, temperature and pressure. The SBE 911 plus includes the SBE 9plus Underwater Unit and the SBE 11plus Deck Unit (for real-time readout using conductive wire) for deployment from a vessel. The combination of the SBE 9 plus and SBE 11 plus is called a SBE 911 plus. The SBE 9 plus uses Sea-Bird's standard modular temperature and conductivity sensors (SBE 3 plus and SBE 4). The SBE 9 plus CTD can be configured with up to eight auxiliary sensors to measure other parameters including dissolved oxygen, pH, turbidity, fluorescence, light (PAR), light transmission, etc., [more information from Sea-Bird Electronics](#)

Community Supplied

Name: Aanderaa Oxygen Optodes

Acronym: AOO

Description:



Interoperable

Award @ NSF

ORCID



 Is this you? [Sign in to start editing](#)

Activities

- Works (21)

OOI Biogeochemical Sensor Data Best Practices and User Guide, Vers

2023 | Other
DOI: [10.25607/0BP-1865.2](https://doi.org/10.25607/0BP-1865.2)
CONTRIBUTORS: Hilary Palevsky; Sophie Clayton; Daria Atamanchuk; Roman Babin; Bourbonnais; Ellen M. Briggs; Filipa Carvalho; Alison P. Chase; Rachel Eveleth et al.

Access Data

DOI: 10.26008/1912/bco-dmo.904721.1 Version 1 (2023-07-19) Submitter Approved Dataset Type: Cruise Results

Project: Collaborative Research: The Annual Cycle of the Biological Carbon Pump in the Subpolar North Atlantic (OOI Irminger BCP)

Abstract

This dataset contains bottle-calibrated dissolved oxygen (DO) profiles collected from Conductivity Temperature Depth (CTD) casts on turn-around cruises performed yearly to maintain the Ocean Observations Initiative (OOI) Global Irminger Sea Array (60.46°N,

Related dataset
(calibration) @ NCEI

 National Orders for
Environmental Information[Home](#) [Products](#) [Services](#) [Resources](#) [News](#) [About](#) [Contact](#)

Water temperature, salinity, and others taken by CTD and Niskin bottles from the research vessel Neil Armstrong in the North Atlantic Ocean during 2020 Ocean Observations Initiative (OOI) Irminger Sea 7 and Overturning in the Subpolar North Atlantic Program – Greenland Deep Western Boundary Current. ONSAP-GDWBC, cruise AR46, from 2020-08-08 to 2020-08-26

This dataset contains salinity-calibrated Conductivity Temperature Depth (CTD) data from the 2020 Ocean Observations Initiative (OOI) Immerger Sea 7 and Overturning in the Subtropical North Atlantic Program - Greenland Deep Western Boundary Current (CRISP GDRWC) cruise (R886). Data quality control methods have been used to assess performance of the CTD instrument. Resulting high-quality profiles were then used together with salinity bottle data analyzed at sea to create a post-cruise salinity-calibrated CTD dataset.

This dataset has been produced as part of an ongoing effort to more fully

[Show more...](#)

Access Time & Location Documentation Description Credit Keywords Constraints Linkage

Download Data (11195 Downloads)

Distribution Formats	• Originator data format
----------------------	--

W3C Member Center for Environmental Information

Publication

Global Biogeochemical Cycles*

Research Article | Free Access

Influence of biological carbon export on ocean carbon uptake over the annual cycle across the North Pacific Ocean

Hilary I. Palevsky  Paul D. Quay

SECTIONS

Abstract

We evaluate the influences of biological carbon export, physical circulation, and temperature-driven solubility changes on air-sea CO_2 flux across the North Pacific basin (35°N – 50°N , 142°E – 125°W) throughout the full annual cycle by constructing mixed layer



Volume 31, Issue 1
January 2017
Pages 81-95

Figures References **Related** Information

Recommended

Hilary I. Palevsky, Paul D. Quay,
Deirdre E. Lockwood, David P. Nicholson

Upper ocean carbon fluxes in the Atlantic

Cruise @ R2R

 ROLLING DECK TO REPOSITORY

Search cruise...
Search device...
Keywords: ...

- API
- Publications
- Best Practices

TO REPOSITORY



Cruise ID
AT30-01 ▾

CRUISE ID	SUMMARY
AT30-01	Project: Ocean Observatories Initiative (OOI): Irminger Sea Array Leg 2 Chief: Weller, Robert

[& PRODUCTS](#) [COMMUNITY](#) [ABOUT R2R](#)

START DATE	START PORT	END DATE	END PORT
2015-08-05	Woods Hole, Massachusetts	2015-09-01	Nuuk (Godthab), Greenland

The F.A.I.R. Dataset



Reusable

- Dataset QA/QC:
 - Adding location, date, time, unique identifiers, etc.
 - Harmonization (ISO Date Time)

Field Information

Field	Units	Description	Data Type	Format
ACR_BRA	percent cover (%)	Acroporidae- branching (ACR-BRA)	number	
ACR_PE	percent cover (%)	Acroporidae- plating/encrusting (ACR-PE)	number	
POCI	percent cover (%)	Pocilloporidae (POCI)	number	
POR_MASS	percent cover (%)	Poritidae-massive (POR-M)	number	
POR_ENC	percent cover (%)	Poritidae-encrusting/plating varieties (POR-PE)	number	
POR_BRA	percent cover (%)	Poritidae-branching (POR-BRA)	number	

[« Back to Metadata](#)

[Download](#)

918134_v1_benthic_comm_comp_heron_isl_2015-2020.csv

Year	Depth	Transect	Site	Latitude	Longitude	ACR_TCD	ACR_BRA	ACR_PE	POCI	POR_MASS	POR_ENC	POR_BRA	FAV_LOB	Other_hard	Soft_coral	Giant_Clam	Sea_Cuke	OTH_INV	Macroalgae	Halimeda
2015	8.18	1	Harry's Bonmie...	-23.45977	151.9292	14.333	32.833	19.5	4	0	0	0	5.333	1.167	0.333	0	0.167	2.167	0.567	0
2015	8.18	2	Harry's Bonmie...	-23.45977	151.9292	8.848	9.791	4.206	3.086	1.563	0.089	0.693	2.259	0.780	0.441	0.341	0.379	0.846	9.164	3.993
2015	8.18	3	Harry's Bonmie...	-23.45977	151.9292	14.833	18	24	4.5	0.333	0	0	6.167	2.167	1.567	0	0.333	2	0	0
2015	6.11	1	Harry's Bonmie...	-23.45972	151.9295	17.333	42.833	7.833	2	1.333	0	0	3.833	1.5	0.5	0	0	0.333	1.533	0
2015	6.11	2	Harry's Bonmie...	-23.45972	151.9295	11.333	26.667	10.333	1.333	7.5	0	0	5.167	1.167	1.667	0	0.333	0.833	0.167	0
2015	6.11	3	Harry's Bonmie...	-23.45972	151.9295	23	19.333	13.833	3	1	0	0	6.167	4.833	0	0	0	1.333	0	0
2015	0.92	1	Reef Crest	-23.45887	151.9296	7.5	22.333	0	7.667	0.5	0	0.667	1.167	0	0	1	2	1.333	6	1.333
2015	0.92	2	Reef Crest	-23.45887	151.9296	1.167	46.333	2.5	4.5	5.833	0.667	0	3.333	0.167	0.5	0.5	0	0.833	6.833	4.667
2015	0.92	3	Reef Crest	-23.45887	151.9296	6.167	31	1.333	4.833	1.667	0	0	1.833	0	0	0	0.333	0.167	5.5	11
2015	0.71	1	Reef Flat	-23.45638	151.93	0.5	12.667	0	2.667	0.333	0	0.333	0.833	0	0	0	0.167	0.333	15.833	3
2015	0.71	2	Reef Flat	-23.45638	151.93	0.333	9.167	2.5	5	0	0	1.6	0.833	0.167	0	0	0.733	0.333	15	3.333

Declarative workflows



Reusable

Declarative workflows in data processing

- Minimize error
- Streamline process
- Improved collaboration
- Software independent
- Provenance

904722_v1_palevsky_bottles

Connected to submission [MirJnMoYVIs8w7M](#)

22 submission files

1	▼ Load [res2]	
2	▼ Find and replace [res2], (Station): ^(\d)\$ → 001	
3	▼ Find and replace [res2], (Station): ^(\d{2})\$ → 01	
4	▼ Load	
5	▼ Concatenate data sources [ar35-05_012btl, ar35-05_013btl, ar35-05_011btl, ar30-03_021btl, ar30-03_015btl, ar30-03_010btl, ar30-03_004btl, ar3...	
6	▼ Split column [bottle_merged], (file_name) + Cruise, Cast	
7	▼ Find and replace [bottle_merged], (Cast): btl.csv →	
8	▼ Join data sources [res2, bottle_merged]	
9	▼ Rename fields [bottle_merged] (Date (UTC)) + Date.UTC	
10	▼ Convert date [bottle_merged], (Date.UTC) + Date.UTC	
11	▼ Reorder fields [bottle_merged]	
12	▼ Set types [bottle_merged]	
13	▼ Rename resource bottle_merged + 904722_v1_palevsky	
14	▼ Dump final	

Oceanographic data is diverse and complex

Disciplines

- Biological
- Chemical
- Biogeochemical
- Physical
- Geophysical

Collection Types

- *In situ*
- Laboratory
- Remotely sensed
- Synthetic/derived

Additional Challenges

- Variable organization
- Varying metadata
- Local parameter terms
- Emerging data types
- Distributed complementary info

Formats

- ASCII Text (tabular)
- Binary (e.g., NetCDF)
- Images
- Acoustics
- Application (e.g., Matlab)
- Links to other data

Scale

- Molecular to Megafaunal
- Local to Global
- Discrete to continuous /synoptic



Can this dataset exist on its own and be reused?



Hypotheses come and go, but data remain.

(Ramón y Cajal, 1940)

Impact

Researcher Research Community Society

```
Jupyter Bottles_Data_Example Last Checkpoint: 16 minutes ago (autosaved)
File Edit View Insert Cell Kernel Widgets Help
In [9]: 1 import pandas as pd
        2
        3 url="https://datadocs.bco-dmo.org/file/SA1GA3vh0W1NM/904721_v1_palevsky_ctdcasts.csv"
        4 df=pd.read_csv(url)
        5 print(df.head(2))

Cruise Cast Direction Lat Lon Date_UTC CTDPRES \
0 KN221-04 2 d 61.9953 -31.8725 2014-09-08T14:44Z 12.0
1 KN221-04 2 d 61.9953 -31.8725 2014-09-08T14:44Z 14.0
2 KN221-04 2 d 61.9953 -31.8725 2014-09-08T14:44Z 16.0
3 KN221-04 2 d 61.9953 -31.8725 2014-09-08T14:44Z 18.0
4 KN221-04 2 d 61.9953 -31.8725 2014-09-08T14:44Z 20.0

CTDTEMP ITS90 CTDTEMP_flag CTDPSAL_PSS78 CTDPSAL_flag CTDPSALCUR \
0 10.912 1 34.906 1 2.2226
1 10.971 1 34.907 1 2.2252
2 10.936 1 34.906 1 2.2230
3 10.927 1 34.906 1 2.2207
4 10.925 1 34.906 1 2.2188

CTDOXYCUR_flag CTDOXY CTDOXY_flag AAOXYCUR AAOXYCUR_flag AAOXY \
0 3.0 284.3 3.0 NaN NaN NaN
1 3.0 284.5 3.0 NaN NaN NaN
2 3.0 284.4 3.0 NaN NaN NaN
3 3.0 284.1 3.0 NaN NaN NaN
4 3.0 283.9 3.0 NaN NaN NaN

AAOXY_flag file_name
0 NaN KN221-04_002d.csv
1 NaN KN221-04_002d.csv
2 NaN KN221-04_002d.csv
3 NaN KN221-04_002d.csv
4 NaN KN221-04_002d.csv
```

Google

BCO-DMO ctd

CTD data from the PULSE project, 2003-2008, Gulf of Maine from ...
bco-dmo.org
search.dataone.org
csv
Geüpdatet: Oct 14, 2010

CTD profile data from R/V Melville cruise MV1310 in the North Pacific...
bco-dmo.org
search.dataone.org
csv
Geüpdatet: Sep 2, 2014

CTD data from multiple R/V Clifford A. Barnes cruises in the...
bco-dmo.org
search.dataone.org
csv
Geüpdatet: Jun 14, 2016

CTD profile data from 2010 R/V Lyr cruises, Downeast Maine...
bco-dmo.org
erddap.bco-dmo.org
+2meer
pdf, txt, xml
Geüpdatet: May 7, 2013

CTD profile data from 2010 R/V Lyr cruises, Downeast Maine (44.1N 68.1W 44.9N. 66.9W), Saco Bay, Maine (43.45N 70.1W)

CTD Profiles

Bekijken op: [bco-dmo.org](#) [ERDDAP Data Server at BCO-D...](#) [derhive.mblwholibrary.org](#) [search.dataone.org](#)

tsv(2443694 bytes), txt(152 bytes), pdf(47740 bytes)

Unieke ID

<https://doi.org/10.1575/1912/bco-dmo.3941.1>

Dataset geüpdatet

May 7, 2013

Gegevenset geleverd door

Biological and Chemical Data Management Office

Auteurs

Philip O. Yund, Charles E. Tilburg

Licentie

Attribution 4.0 (CC BY 4.0)

Licentie-informatie is automatisch opgehaald

Gedekte periode

Jun 6, 2010 - Aug 26, 2010

Gedekt gebied



Home > Improving Federal Programs Through Data and Evidence

Improving Federal Programs Through Data and Evidence



Jump To

Challenges in Domain Curation

- It takes **time** to curate data -> often causes frustration of users
 - Long term data use vs paper publication needs
- Methodologies and instrumentation are **evolving rapidly** creating new data types of increasing size
- **Templates & Data Management plans** = structure. Once researchers adopt it, it makes it easy, but they have to get there first

info@bco-dmo.org