

Event log from R/V Falkor cruise 160115 on the ProteOMZ expedition in the Central Pacific during 2016 (ProteOMZ project)

Website: <https://www.bco-dmo.org/dataset/708384>

Data Type: Cruise Results

Version: 3

Version Date: 2018-12-07

Project

» [The ProteOMZ Expedition: Investigating Life Without Oxygen in the Pacific Ocean](#) (ProteOMZ (Proteomics in an Oxygen Minimum Zone))

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Abstract

R/V Falkor 160115 event log from the ProteOMZ expedition in the Central Pacific during 2016.

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Coverage

Spatial Extent: N:20.5 E:-139.8 S:-13.055 W:-157.63333

Temporal Extent: 2016-01-16 - 2016-02-05

Dataset Description

R/V Falkor 160115 event log from the ProteOMZ expedition in the Central Pacific during 2016.

Methods & Sampling

R/V Falkor 160115 event log data.

Sampling was conducted using a CTD, Trace Metal Clean Rosette, McLane Pump, Net Tow, or Surface Pump.

Data Processing Description

BCO-DMO Data Processing Notes:

- reformatted column names to comply with BCO-DMO standards.
- replaced spaces in column names with underscores.

- removed special characters from column names.
- removed units from column names
- converted longitude values to negative (W)
- revised station 1 and 3 latitudes

Data version 2: 2018-11-19 replaces data version 1:

* revised station 1 and 3 lats to corrected and positive values and changed all lons to negative (W).

Data version 3: 2018-12-07 replaces version 2: 2018-11-19

* UTC Date and DateTimes in ISO format added from local date and time columns (HST = UTC-10).

* Time value 5:00 changed to 5:00

* values "blank" changed to empty cells

* commas in comments changed to semicolons in order to support correct export as csv from the BCO-DMO data system.

* all lat/lons converted to abs(180) format. Checked by plotting over R2R cruise track.

* values with word "blank" changed to empty cells for consistency

* McLane pump at station 7 changed from McLane-6 to McLane-5

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Data Files

File
event_log.csv (Comma Separated Values (.csv), 7.97 KB) MD5:b2b28900299707498a7c52c98f948514 Primary data file for dataset ID 708384

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Parameters

Parameter	Description	Units
cruise	Cruise name	unitless
event	Event ID number	unitless
date	Date of sampling; YYYY/MM/DD in time zone HST (UTC-10)	unitless
station	Station number	unitless
event_type	Event type; CTD, TMR, McLane, Net Tow, or Surface Pump	unitless
lat	Latitude; N is positive	decimal degrees
lon	Longitude; E is positive	decimal degrees
timezone	Timezone where sampling occurred	unitless
start_time_local	Local time of sampling; HH:MM in time zone HST (UTC-10)	unitless
end_time_local	Local time of sampling; HH:MM in time zone HST (UTC-10)	unitless
contact	Shore contact	unitless
cast_ID	Cast ID number	unitless
comments	Notes on sampling	unitless
ISO_Date.UTC	ISO formatted date (yyyy-mm-dd) in UTC	
start_ISO_DateTime.UTC	Sampling date and time (UTC) in ISO datetime format yyyy-mm-ddTHH:MMZ.	yyyy-MM-dd'THH:mm'Z'

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Instruments

Dataset-specific Instrument Name	CTD
Generic Instrument Name	CTD - profiler
Dataset-specific Description	Used for water sampling
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	McLane
Generic Instrument Name	McLane Pump
Dataset-specific Description	Used for water sampling
Generic Instrument Description	McLane pumps sample large volumes of seawater at depth. They are attached to a wire and lowered to different depths in the ocean. As the water is pumped through the filter, particles suspended in the ocean are collected on the filters. The pumps are then retrieved and the contents of the filters are analyzed in a lab.

Dataset-specific Instrument Name	Net
Generic Instrument Name	Phytoplankton Net
Dataset-specific Description	Used for all net tows
Generic Instrument Description	A Phytoplankton Net is a generic term for a sampling net having mesh size of 150 microns or less that is used to collect phytoplankton. It is used only when detailed instrument documentation is not available.

Dataset-specific Instrument Name	Surface pump
Generic Instrument Name	Pump surface
Dataset-specific Description	Used for water sampling
Generic Instrument Description	A source of uncontaminated near-surface seawater pumped onto the deck of the research vessel that can be sampled and analyzed. This pumped seawater supply is from an over-the-side pumping system, and is therefore different from the vessel underway seawater system.

Dataset-specific Instrument Name	TMR
Generic Instrument Name	Trace Metal Bottle
Dataset-specific Description	Trace Metal Clean Rosette
Generic Instrument Description	Trace metal (TM) clean rosette bottle used for collecting trace metal clean seawater samples.

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Deployments

FK160115

Website	https://www.bco-dmo.org/deployment/708387
Platform	R/V Falkor
Report	https://service.rvdata.us/data/cruise/FK160115/doc/FK160115_OfficialCruiseReport_Saito_v3.pdf
Start Date	2016-01-16
End Date	2016-02-11
Description	Project: Using Proteomics to Understand Oxygen Minimum Zones (ProteOMZ) More information is available from the ship operator at https://schmidtocean.org/cruise/investigating-life-without-oxygen-in-the-... Additional cruise information is available from the Rolling Deck to Repository (R2R): https://www.rvdata.us/search/cruise/FK160115

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Project Information

The ProteOMZ Expedition: Investigating Life Without Oxygen in the Pacific Ocean (ProteOMZ (Proteomics in an Oxygen Minimum Zone))

Website: <https://schmidtocean.org/cruise/investigating-life-without-oxygen-in-the-tropical-pacific/#team>

Coverage: Central Pacific Ocean (Hawaii to Tahiti)

From Schmidt Ocean Institute's ProteOMZ Project page:

Rising temperatures, ocean acidification, and overfishing have now gained widespread notoriety as human-

caused phenomena that are changing our seas. In recent years, scientists have increasingly recognized that there is yet another ingredient in that deleterious mix: a process called deoxygenation that results in less oxygen available in our seas.

Large-scale ocean circulation naturally results in low-oxygen areas of the ocean called oxygen deficient zones (ODZs). The cycling of carbon and nutrients – the foundation of marine life, called biogeochemistry – is fundamentally different in ODZs than in oxygen-rich areas. Because researchers think deoxygenation will greatly expand the total area of ODZs over the next 100 years, studying how these areas function now is important in predicting and understanding the oceans of the future. This first expedition of 2016 led by Dr. Mak Saito from the Woods Hole Oceanographic Institution (WHOI) along with scientists from University of Maryland Center for Environmental Science, University of California Santa Cruz, and University of Washington aimed to do just that, investigate ODZs.

During the 28 day voyage named “ProteOMZ,” researchers aboard R/V *Falkor* traveled from Honolulu, Hawaii to Tahiti to describe the biogeochemical processes that occur within this particular swath of the ocean’s ODZs. By doing so, they contributed to our greater understanding of ODZs, gathered a database of baseline measurements to which future measurements can be compared, and established a new methodology that could be used in future research on these expanding ODZs.

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Funding

Funding Source	Award
Gordon and Betty Moore Foundation: Marine Microbiology Initiative (MMI)	GBMF3782
Alfred P. Sloan Foundation (Sloan)	Unknown ProteOMZ Sloan Foundation
Schmidt Ocean Institute (SOI)	R/V Falkor 160115 SOI ProteOMZ Expedition

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