

# R/V Falkor 160115 TMR log from the ProteOMZ expedition in the Central Pacific during 2016 (ProteOMZ project)

**Website:** <https://www.bco-dmo.org/dataset/708543>

**Data Type:** Cruise Results

**Version:** 2

**Version Date:** 2018-11-20

## Project

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

Contributors	Affiliation	Role
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## Coverage

**Spatial Extent:** N:17 E:-145 S:8 W:-156.9507

**Temporal Extent:** 2016-01-17 - 2016-02-04

## Dataset Description

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

## Methods & Sampling

R/V Falkor 160115 TMR log data.

Sampling was conducted using a Trace Metal Clean Rosette (TMR).

## 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

- added ISO\_DateTime\_UTC

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## Data Files

File
<b>TMR_log_v2.csv</b> (Comma Separated Values (.csv), 21.34 KB) MD5:e1649d0706481f688da2e563b51fc657 Primary data file for dataset ID 708543

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## Parameters

Parameter	Description	Units
cruise	Cruise name	unitless
station	Station number	unitless
date	Date of sampling; YYYY/MM/DD	unitless
time	Local time of sampling; HH:MM	unitless
lon	Longitude; E is positive	decimal degrees
lat	Latitude; N is positive	decimal degrees
cast	Cast ID number	unitless
TMR_pin	Trace Metal Clean Rosette pin number	unitless
niskin_num	Niskin bottle number	unitless
sample_num	Sample number	unitless
prog_depth	Prog depth	meters
real_depth	Actual depth where sample was measured	meters
notes	Notes on sampling	unitless
ISO_DateTime_UTC	Date ISO formatted; UTC	unitless

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## Instruments

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

## Deployments

### FK160115

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

## Project Information

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

**Website:** <https://schmidttocean.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.

## Funding

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

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