

# Original scanned cast sheets (jpg and pdf formats) of the GTC rosette casts on the US GEOTRACES Pacific Meridional Transect (PMT) cruise (GP15) from September to November 2018

**Website:** <https://www.bco-dmo.org/dataset/779985>

**Data Type:** Cruise Results, document

**Version:** 2

**Version Date:** 2020-08-05

## Project

» [US GEOTRACES Pacific Meridional Transect](#) (U.S. GEOTRACES PMT)

## Program

» [U.S. GEOTRACES](#) (U.S. GEOTRACES)

Contributors	Affiliation	Role
<a href="#">Cutter, Gregory</a>	Old Dominion University (ODU)	Principal Investigator
<a href="#">Casciotti, Karen L.</a>	Stanford University	Co-Principal Investigator, Contact
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## Abstract

Original scanned cast sheets (jpg and pdf formats) of the GTC rosette casts on the US GEOTRACES Pacific Meridional Transect (PMT) cruise (GP15) from September to November 2018.

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## Coverage

**Spatial Extent:** N:56.0583 E:-151.9937 S:-19.9999 W:-156.9622

**Temporal Extent:** 2018-09-24 - 2018-11-22

## Dataset Description

Original scanned cast sheets (jpg and pdf formats) of the GTC rosette casts on the US GEOTRACES Pacific Meridional Transect (PMT) cruise (GP15) from September to November 2018. This dataset contains links to individual log sheets. Most casts have two sheets per cast, some are provided in both .jpg and .pdf formats.

A .zip folder of all the GTC cast sheets is also attached as Supplemental File "GTC\_Cast\_Logs.zip".

## Processing Description

BCO-DMO Processing:

- parsed station, cast, and type from the file names;

- aggregated files into one dataset;
- 2020-08-05: changed station number 18 to 18.6 or 18.3 where appropriate.

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## Parameters

Parameter	Description	Units
stncast	Station number + cast number; obtained from file name	unitless
station	Station number; obtained from the file name	unitless
cast	Cast number; obtained from the file name	unitless
log_type	Type of log	unitless
file_type	Type of file (.pdf or .jpg)	unitless
file_name	Name of the file	unitless
file_link	Link to the file (opens in new browser window or tab)	unitless

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## Deployments

### RR1814

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/776913">https://www.bco-dmo.org/deployment/776913</a>
<b>Platform</b>	R/V Roger Revelle
<b>Report</b>	<a href="https://datadocs.bco-dmo.org/docs/geotraces/GEOTRACES_PMT/casciotti/data_docs/GP15_Cruise_Report_with_ODF_Report.pdf">https://datadocs.bco-dmo.org/docs/geotraces/GEOTRACES_PMT/casciotti/data_docs/GP15_Cruise_Report_with_ODF_Report.pdf</a>
<b>Start Date</b>	2018-09-18
<b>End Date</b>	2018-10-21

### RR1815

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/776917">https://www.bco-dmo.org/deployment/776917</a>
<b>Platform</b>	R/V Roger Revelle
<b>Report</b>	<a href="https://datadocs.bco-dmo.org/docs/geotraces/GEOTRACES_PMT/casciotti/data_docs/GP15_Cruise_Report_with_ODF_Report.pdf">https://datadocs.bco-dmo.org/docs/geotraces/GEOTRACES_PMT/casciotti/data_docs/GP15_Cruise_Report_with_ODF_Report.pdf</a>
<b>Start Date</b>	2018-10-24
<b>End Date</b>	2018-11-24

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## Project Information

### US GEOTRACES Pacific Meridional Transect (U.S. GEOTRACES PMT)

**Website:** [http://www.usgeotraces.org/USGEOTRACES\\_website/html/pacific-alaska.html](http://www.usgeotraces.org/USGEOTRACES_website/html/pacific-alaska.html)

**Coverage:** Pacific Meridional Transect along 152W (GP15)

A 60-day research cruise took place in 2018 along a transect from Alaska to Tahiti at 152° W. A description of the project titled "Collaborative Research: Management and implementation of the US GEOTRACES Pacific Meridional Transect", funded by NSF, is below. Further project information is available on the US GEOTRACES website and on the cruise blog. A detailed cruise report is also available as a PDF. Description from NSF award abstract: GEOTRACES is a global effort in the field of Chemical Oceanography in which the United States plays a major role. The goal of the GEOTRACES program is to understand the distributions of many elements and their isotopes in the ocean. Until quite recently, these elements could not be measured at a global scale. Understanding the distributions of these elements and isotopes will increase the understanding of processes that shape their distributions and also the processes that depend on these elements. For example, many "trace elements" (elements that are present in very low amounts) are also important for life, and their presence or absence can play a vital role in the population of marine ecosystems. This project will launch the next major U.S. GEOTRACES expedition in the Pacific Ocean between Alaska and Tahiti. The award made here would support all of the major infrastructure for this expedition, including the research vessel, the sampling equipment, and some of the core oceanographic measurements. This project will also support the personnel needed to lead the expedition and collect the samples. This project would support the essential sampling operations and infrastructure for the U.S. GEOTRACES Pacific Meridional Transect along 152° W to support a large variety of individual science projects on trace element and isotope (TEI) biogeochemistry that will follow. Thus, the major objectives of this management proposal are: (1) plan and coordinate a 60 day research cruise in 2018; (2) obtain representative samples for a wide variety of TEIs using a conventional CTD/rosette, GEOTRACES Trace Element Sampling Systems, and in situ pumps; (3) acquire conventional CTD hydrographic data along with discrete samples for salinity, dissolved oxygen, algal pigments, and dissolved nutrients at micro- and nanomolar levels; (4) ensure that proper QA/QC protocols are followed and reported, as well as fulfilling all GEOTRACES intercalibration protocols; (5) prepare and deliver all hydrographic data to the GEOTRACES Data Assembly Centre (via the US BCO-DMO data center); and (6) coordinate all cruise communications between investigators, including preparation of a hydrographic report/publication. This project would also provide baseline measurements of TEIs in the Clarion-Clipperton fracture zone (~7.5°N-17°N, ~155°W-115°W) where large-scale deep sea mining is planned. Environmental impact assessments are underway in partnership with the mining industry, but the effect of mining activities on TEIs in the water column is one that could be uniquely assessed by the GEOTRACES community. In support of efforts to communicate the science to a wide audience the investigators will recruit an early career freelance science journalist with interests in marine science and oceanography to participate on the cruise and do public outreach, photography and/or videography, and social media from the ship, as well as to submit articles about the research to national media. The project would also support several graduate students.

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## **Program Information**

### **U.S. GEOTRACES (U.S. GEOTRACES)**

**Website:** <http://www.geotraces.org/>

**Coverage:** Global

GEOTRACES is a SCOR sponsored program; and funding for program infrastructure development is provided by the U.S. National Science Foundation. GEOTRACES gained momentum following a special symposium, S02: Biogeochemical cycling of trace elements and isotopes in the ocean and applications to constrain contemporary marine processes (GEOSECS II), at a 2003 Goldschmidt meeting convened in Japan. The GEOSECS II acronym referred to the Geochemical Ocean Section Studies To determine full water column distributions of selected trace elements and isotopes, including their concentration, chemical speciation, and physical form, along a sufficient number of sections in each ocean basin to establish the principal relationships between these distributions and with more traditional hydrographic parameters; \* To evaluate the sources, sinks, and internal cycling of these species and thereby characterize more completely the physical, chemical and biological processes regulating their distributions, and the sensitivity of these processes to global change; and \* To understand the processes that control the concentrations of geochemical species used for proxies of the past environment, both in the water column and in the substrates that reflect the water column. GEOTRACES will be global in scope, consisting of ocean sections complemented by regional process studies. Sections and process studies will combine fieldwork, laboratory

experiments and modelling. Beyond realizing the scientific objectives identified above, a natural outcome of this work will be to build a community of marine scientists who understand the processes regulating trace element cycles sufficiently well to exploit this knowledge reliably in future interdisciplinary studies. Expand "Projects" below for information about and data resulting from individual US GEOTRACES research projects.

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## Funding

Funding Source	Award
<a href="#">NSF Division of Ocean Sciences (NSF OCE)</a>	<a href="#">OCE-1657781</a>
<a href="#">NSF Division of Ocean Sciences (NSF OCE)</a>	<a href="#">OCE-1658318</a>
<a href="#">NSF Division of Ocean Sciences (NSF OCE)</a>	<a href="#">OCE-1657944</a>

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