

Radionuclides from GoFlo water bottle samples from R/V Thomas G. Thompson cruise TT013 in the Equatorial Pacific in 1992 during the U.S. JGOFS Equatorial Pacific (EqPac) project

Website: <https://www.bco-dmo.org/dataset/2696>

Version: April 22, 2002

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Project

» [U.S. JGOFS Equatorial Pacific](#) (EqPac)

Program

» [U.S. Joint Global Ocean Flux Study](#) (U.S. JGOFS)

Contributors	Affiliation	Role
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Dataset Description

Radionuclides, GoFlo water bottle samples

Methods & Sampling

PI: Bob Anderson
of: Lamont-Doherty Earth Observatory
dataset: radionuclides, GoFlo water bottle samples
dates: November 02, 1992 to December 07, 1992
location: N: 8.9433 S: -11.9598 W: -140.1463 E: -134.9498
project/cruise: EqPac/TT013, Benthic survey
ship: R/V Thomas Thompson

[Methodology](#)

Notes:

The principal investigator has arranged the data to display vertical profiles at nominal geographic station locations. The composite profiles have been assembled from two or more casts within a given station/location and an individual sample can be a composite drawn from two or more bottles.

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Data Files

File
rad_GoFlo.csv (Comma Separated Values (.csv), 3.57 KB) MD5:783be082413ea4d328cc56ef6da54b87
Primary data file for dataset ID 2696

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Parameters

Parameter	Description	Units
sta_name	station name	
lat_n	latitude, nominal; minus means South	degrees
lon_n	longitude, nominal; minus means West	degrees
event	event number from event log	
sta	station number from event log	
cast	cast number, GoFlo bottle cast	
bots	composite sample drawn from two or more bottles	
depth_n	depth, nominal; average depth of bottles in composite sample	meters
Th232_tot	thorium-232 total, dissolved and particulate	dpm/1000 liters
Th232_err	thorium-232 error, plus/minus one sigma	dpm/1000 liters
Th230_tot	thorium-230 total, dissolved and particulate	dpm/1000 liters
Th230_err	thorium-230 error, plus/minus one sigma	dpm/1000 liters
Pa231_tot	protactinium-231 total, dissolved and particulate	dpm/1000 liters
Pa231_err	protactinium-231 error, plus/minus one sigma	dpm/1000 liters
Be10_tot	beryllium-10 total, dissolved and particulate	atoms/kilogram
Be10_err	beryllium-10 error, plus/minus one sigma	atoms/kilogram

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Instruments

Dataset-specific Instrument Name	Go-flo Bottle
Generic Instrument Name	GO-FLO Bottle
Dataset-specific Description	GoFlo bottles used to collect water samples
Generic Instrument Description	GO-FLO bottle cast used to collect water samples for pigment, nutrient, plankton, etc. The GO-FLO sampling bottle is specially designed to avoid sample contamination at the surface, internal spring contamination, loss of sample on deck (internal seals), and exchange of water from different depths.

Dataset-specific Instrument Name	Thermal Ionization Mass Spectrometry
Generic Instrument Name	Thermal Ionization Mass Spectrometer
Dataset-specific Description	Thermal Ionization mass spectrometry used to measure thorium isotopes and Pa-231
Generic Instrument Description	A Thermal Ionization Mass Spectrometer (TIMS) is an instrument that measures isotopic ratios after electrical excitation of a sample causes ionization of the isotopes.

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Deployments

TT013

Website	https://www.bco-dmo.org/deployment/57732
Platform	R/V Thomas G. Thompson
Start Date	1992-10-30
End Date	1992-12-13
Description	Purpose: Benthic Survey, 12°N-12°S at 140°W TT013 was one of five cruises conducted in 1992 in support of the U.S. Equatorial Pacific (EqPac) Process Study. The five EqPac cruises aboard R/V Thomas G. Thompson included two repeat meridional sections (12°N - 12°S), 2 equatorial surveys, and a benthic survey (all at 140° W). The scientific objectives of this study were to observe the processes in the Equatorial Pacific controlling the fluxes of carbon and related elements between the atmosphere, euphotic zone, and deep ocean. As luck would have it, the survey window coincided with an El Nino event. A bonus for the research team.

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Project Information

U.S. JGOFS Equatorial Pacific (EqPac)

Website: <http://usjgofs.whoi.edu/research/eqpac.html>

Coverage: Equatorial Pacific

The U.S. EqPac process study consisted of repeat meridional sections (12°N -12°S) across the equator in the central and eastern equatorial Pacific from 95°W to 170°W during 1992. The major scientific program was focused at 140° W consisting of two meridional surveys, two equatorial surveys, and a benthic survey aboard the R/V Thomas Thompson. Long-term deployments of current meter and sediment trap arrays augmented the survey cruises. NOAA conducted boreal spring and fall sections east and west of 140°W from the R/V Baldrige and R/V Discoverer. Meteorological and sea surface observations were obtained from NOAA's in place TOGA-TAO buoy network.

The scientific objectives of this study were to determine the fluxes of carbon and related elements, and the processes controlling these fluxes between the Equatorial Pacific euphotic zone and the atmosphere and deep ocean. A broad overview of the program at the 140°W site is given by Murray et al. (Oceanography, 5: 134-142, 1992). A full description of the Equatorial Pacific Process Study, including the international context and the scientific results, appears in a series of Deep-Sea Research Part II special volumes:

Topical Studies in Oceanography, A U.S. JGOFS Process Study in the Equatorial Pacific (1995), Deep-Sea Research Part II, Volume 42, No. 2/3.

Topical Studies in Oceanography, A U.S. JGOFS Process Study in the Equatorial Pacific. Part 2 (1996), Deep-Sea Research Part II, Volume 43, No. 4/6.

Topical Studies in Oceanography, A U.S. JGOFS Process Study in the Equatorial Pacific (1997), Deep-Sea Research Part II, Volume 44, No. 9/10.

Topical Studies in Oceanography, The Equatorial Pacific JGOFS Synthesis (2002), Deep-Sea Research Part II, Volume 49, Nos. 13/14.

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Program Information

U.S. Joint Global Ocean Flux Study (U.S. JGOFS)

Website: <http://usjgofs.whoi.edu/>

Coverage: Global

The United States Joint Global Ocean Flux Study was a national component of international JGOFS and an integral part of global climate change research.

The U.S. launched the Joint Global Ocean Flux Study (JGOFS) in the late 1980s to study the ocean carbon cycle. An ambitious goal was set to understand the controls on the concentrations and fluxes of carbon and associated nutrients in the ocean. A new field of ocean biogeochemistry emerged with an emphasis on quality measurements of carbon system parameters and interdisciplinary field studies of the biological, chemical and physical process which control the ocean carbon cycle. As we studied ocean biogeochemistry, we learned that our simple views of carbon uptake and transport were severely limited, and a new "wave" of ocean science was born. U.S. JGOFS has been supported primarily by the U.S. National Science Foundation in collaboration with the National Oceanic and Atmospheric Administration, the National Aeronautics and Space Administration, the Department of Energy and the Office of Naval Research. U.S. JGOFS, ended in 2005 with the conclusion of the Synthesis and Modeling Project (SMP).

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