CTD fluorometric chlorophyll a and total phaeopigment from R/V Thomas G. Thompson cruises TT007, TT011 in the Equatorial Pacific in 1992 during the U.S. JGOFS Equatorial Pacific (EqPac) project

Website: https://www.bco-dmo.org/dataset/2653
Version: June 24, 2002
Version Date: 2002-06-24

Project
» U.S. JGOFS Equatorial Pacific (EqPac)

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

Contributors	Affiliation	Role
Murray, James W.	University of Washington (UW)	Principal Investigator
Newton, Jan	University of Washington (UW)	Principal Investigator
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Dataset Description

CTD Fluorometric chlorophyll a and total phaeopigment

Methods & Sampling

See Platform deployments for cruise specific documentation

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Data Files

File	
chl_TT007.csv	(Comma Separated Values (.csv), 46.17 KB) MD5:93d7d59b95c036d998b05d8a17ec1c30
version June 24, 2002 (previous version June 9, 1994) Jan Newton fluorometric chlorophyll a and total phaeopigment, from CTD casts Thomas Thompson cruise TT007 Note: Due to chlorophyll degradation by the acetone (reagent grade, in cans) the data for the following CTD casts have been deleted from the file: 1, 3, 5, 6, 7, 8, 20, 23, 25, 30, 33, 35, 37 and 38.	
chl_TT011.csv	(Comma Separated Values (.csv), 47.25 KB) MD5:47588f7b6daf558387ddc2addc47a907
version June 24, 2002 (previous version Sept. 9, 1994) Jan Newton fluorometric chlorophyll_a and total phaeopigment, from CTD casts Thomas Thompson cruise TT011 Note: bottle and cast numbers revised per Newton e-mail Aug 25, 1994	

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Parameters

Parameter	Description	Units
event	event/operation number from event log	
sta	station number from event log	
cast	CTD cast number from event log	
comment	free text data quality notes	
bot	CTD rosette bottle number	
depth_n	nominal sample depth	meters
fluor_vol_filt	volume of sample filtered	liters
scale	sensitivity scale on the fluorometer	
df	door factor; true value of sensitivity scale	
B	calibration factor	
Fo	original fluorometer reading	
Fa	fluorometer reading after 2 drops 1N HCL	
chl_a_fluor	chlorophyll a; fluorometric method	micrograms/liter
phaeo	total phaeopigment	micrograms/liter
Fo_to_Fa	Fo to Fa ratio. ranges between max. 2.10, all chlorophyll-a no Phaeopigment min. 1.00, no chlorophyll-a all Phaeopigment	

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Instruments

Dataset-specific Instrument Name	Niskin Bottle
Generic Instrument Name	Niskin bottle
Dataset-specific Description	CTD clean rosette (Niskin) bottles were used to collect water samples.
Generic Instrument Description	A Niskin bottle (a next generation water sampler based on the Nansen bottle) is a cylindrical, non-metallic water collection device with stoppers at both ends. The bottles can be attached individually on a hydrowire or deployed in 12, 24, or 36 bottle Rosette systems mounted on a frame and combined with a CTD. Niskin bottles are used to collect discrete water samples for a range of measurements including pigments, nutrients, plankton, etc.

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Deployments

TT007

Website	https://www.bco-dmo.org/deployment/57728
Platform	R/V Thomas G. Thompson
Start Date	1992-01-30
End Date	1992-03-13
Description	Purpose: Spring Survey Cruise; 12°N-12°S at 140°W TT007 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. **Methods & Sampling** PI: Jan Newton/James Murray of: University of Washington dataset: CTD Fluorometric chlorophyll a and total phaeopigment dates: February 05, 1992 to March 08, 1992 location: N: 12.0284 S: -12.2083 W: -140.7452 E: -134.7269 project/cruise: EQPAC/TT007 - Spring Survey ship: Thomas Thompson PI note: Due to chlorophyll degradation by the acetone (reagent grade, in cans) the data for the following CTD casts have been deleted from the file: 1, 3, 5, 6, 7, 8, 20, 23, 25, 30, 33, 35, 37 and 38.

TT011

Website	https://www.bco-dmo.org/deployment/57730
Platform	R/V Thomas G. Thompson
Start Date	1992-08-05
End Date	1992-09-18
Description	Purpose: Fall Survey; 12°N-12°S at 140°W TT011 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. **Methods & Sampling** PI: Jan Newton and James Murray of: University of Washington dataset: CTD Fluorometric chlorophyll a and total phaeopigment dates: August 10, 1992 to September 15, 1992 location: N: 12.0183 S: -11.9667 W: -141.4433 E: -134.9267 project/cruise: EQPAC/TT011 - Fall Survey ship: Thomas Thompson EqPac bottle quality review summary from DMO

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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 Baldridge 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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