Carbohydrate weight percentages from composite plankton tows 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/2640
Version: June, 1996
Version Date: 1996-06-01

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

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

Contributors	Affiliation	Role
Hedges, John	University of Washington (UW)	Principal Investigator
Lee, Cindy	Stony Brook University (SUNY Stony Brook)	Co-Principal Investigator
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Dataset Description

Carbohydrate weight percentages from composite plankton tow collections

Methods & Sampling

See Platform deployments for cruise specific documentation

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Data Files

File	
carbPT_TT007.csv	(Comma Separated Values (.csv), 450 bytes) MD5:941b5e02fb37ca33716d25182577561a
version June, 1996 Peter Hernes (Hedges/Lee/Wakeham) Carbohydrate percentages from plankton tows along 140 West Equatorial Pacific, Thomas Thompson cruise TT007 The plankton net tows were oblique tows from 0-100m. In most cases, the samples analyzed are composites of two or more tows. As a result, no event numbers are reported.	
carbPT_TT011.csv	(Comma Separated Values (.csv), 517 bytes) MD5:113fd29d00004d7f8c17576241ef64ca
version June, 1996 Peter Hernes (Hedges/Lee/Wakeham) Equatorial Pacific, Thomas Thompson cruise TT011 Carbohydrate percentages from composite plankton tows along 140 West The plankton net tows were oblique tows from 0-100m. In most cases, the samples analyzed are composites of two or more tows. As a result, no event numbers are reported.	

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Parameters

Parameter	Description	Units
sta	station number from event log	
lat_n	nominal latitude of mooring in whole degrees (negative = south)	degrees
lon_n	nominal longitude of mooring in whole degrees (negative = west)	degrees
sizefrac	sample size fraction/interval	micrometers
lyxose	lyxose monomer of total carbohydrates	weight percent
arabinose	arabinose monomer of total carbohydrates	weight percent
rhamnose	rhamnose monomer of total carbohydrates	weight percent
ribose	ribose monomer of total carbohydrates	weight percent
xylose	xylose monomer of total carbohydrates	weight percent
fucose	fucose monomer of total carbohydrates	weight percent
mannose	mannose monomer of total carbohydrates	weight percent
galactose	galactose monomer of total carbohydrates	weight percent
glucose	glucose monomer of total carbohydrates	weight percent
carb_tot_POC_ratio	weight ratio of mg total carbohydrates per 100mg organic carbon in particulate matter	mg per 100mg

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Instruments

Dataset-specific Instrument Name	Plankton Tow
Generic Instrument Name	Plankton Net
Generic Instrument Description	A Plankton Net is a generic term for a sampling net that is used to collect plankton. It is used only when detailed instrument documentation is not available.

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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: John Hedges (Hedges/Lee/Wakeham) of: University of Washington dataset: Carbohydrate percentages from composite plankton tow collections dates: February 3, 1992 to March 9, 1992 location: N: 5 S: -2 W: -140 E: -140 project/cruise: EQPAC/TT007 - Spring Survey Cruise ship: Thomas Thompson Note: The plankton net tows were oblique tows from 0-100m. In most cases the samples analyzed are composites of two or more tows. As a result, no event numbers are reported.

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: John Hedges (Hedges/Lee/Wakeham) of: University of Washington dataset: Carbohydrate weight percentages from composite plankton tow collections dates: August 5, 1992 to September 18, 1992 location: N: 9 S: -5 W: -140 E: -140 project/cruise: EQPAC/TT011 - Fall Survey ship: Thomas Thompson Note: The plankton net tows were oblique tows from 0-100m. In most cases the samples analyzed are composites of two or more tows. As a result, no event numbers are reported.

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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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