Biomass by organism size fraction and depth interval from cruises TT007, TT008, TT011, TT012 in the Equatorial Pacific in 1992 during the U.S. JGOFS Equatorial Pacific (EqPac) project

Website: https://www.bco-dmo.org/dataset/2660
Version: March 6, 1995
Version Date: 1995-03-06

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

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

Contributors	Affiliation	Role
Roman, Michael R.	University of Maryland Center for Environmental Science (UMCES/HPL)	Principal Investigator
Chandler, Cynthia L.	Woods Hole Oceanographic Institution (WHOI BCO-DMO)	BCO-DMO Data Manager

Table of Contents

- Dataset Description
  - Methods & Sampling
- Data Files
- Parameters
- Instruments
- Deployments
- Project Information
- Program Information

Dataset Description

Biomass by Organism Size Fraction and Depth Interval

Methods & Sampling

See Platform deployments for cruise specific documentation

[table of contents | back to top]

Data Files

File
biomass_TT007.csv (Comma Separated Values (.csv), 7.71 KB) MD5:5d5a0c299872edb9be801b83e4bab5e4 version March 6, 1995 Mike Roman BioMass by organism size fraction and sampling zone Thomas Thompson TT007
biomass_TT008.csv (Comma Separated Values (.csv), 10.77 KB) MD5:b6dab792b73d763ee1f4ac8e5735a2fd version March 6, 1995 Mike Roman BioMass by organism size fraction and sampling zone Thomas Thompson TT008
biomass_TT011.csv (Comma Separated Values (.csv), 9.18 KB) MD5:17c31af991583ac5eb45b663e9dbab52 version March 6, 1995 Mike Roman BioMass by organism size fraction and sampling zone Thomas Thompson TT011 MOC tow 65 was taken when a large phyto bloom occurred so the biomass may be biased
biomass_TT012.csv (Comma Separated Values (.csv), 9.39 KB) MD5:085684cf262a7b7b82235a091e1013c4 version March 6, 1995 Mike Roman BioMass by organism size fraction and sampling zone Thomas Thompson TT012

[table of contents | back to top]

Parameters

Parameter	Description	Units
moc	mocness tow number, from event log	
event	event number, from event log	
range	depth interval sampled	meters
depth_mid	mid point of range	meters
bio1000	biomass, organisms greater then 1000um	mgC/m^3
bio500_1000	biomass, organisms in size fraction 500-1000 um	mgC/m^3
bio200_500	biomass, organisms in size fraction 200-500 um	mgC/m^3
bio64_200	biomass, organisms in size fraction 64-200 um	mgC/m^3
biotot	biomass, total all fractions	mgC/m^3

[table of contents | back to top]

Instruments

Dataset-specific Instrument Name	MOCNESS
Generic Instrument Name	MOCNESS
Generic Instrument Description	The Multiple Opening/Closing Net and Environmental Sensing System or MOCNESS is a family of net systems based on the Tucker Trawl principle. There are currently 8 different sizes of MOCNESS in existence which are designed for capture of different size ranges of zooplankton and micro-nekton Each system is designated according to the size of the net mouth opening and in two cases, the number of nets it carries. The original MOCNESS (Wiebe et al, 1976) was a redesigned and improved version of a system described by Frost and McCrone (1974). (from MOCNESS manual)

[table of contents | back to top]

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: Michael Roman of: Horn Point Environmental Laboratory dataset: Biomass by Organism Size Fraction and Depth Interval dates: February 05, 1992 to March 08, 1992 location: N: 11.9662 S: -12.0767 W: -140.2108 E: -135.0373 project/cruise: EQPAC/TT007 - Spring Survey ship: Thomas Thompson

TT008

Website	https://www.bco-dmo.org/deployment/57729
Platform	R/V Thomas G. Thompson
Start Date	1992-03-19
End Date	1992-04-15
Description	Purpose: Spring Time Series; Equator, 140°W TT008 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: Michael Roman of: Horn Point Environmental Laboratory dataset: Biomass by Organism Size Fraction and Depth Interval dates: March 23, 1992 to April 14, 1992 location: N: 9.0172 S: -0.101 W: -140.0905 E: -139.8415 project/cruise: EQPAC/TT008 - Spring Time Series ship: Thomas Thompson

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: Michael Roman of: Horn Point Environmental Laboratory dataset: Biomass by Organism Size Fraction and Depth Interval dates: August 10, 1992 to September 14, 1992 location: N: 12.0233 S: -11.9767 W: -141.49 E: -134.9117 project/cruise: EQPAC/TT011 - Fall Survey ship: Thomas Thompson PI-Notes: MOC tow 65 was taken when a large phyto bloom occurred so the biomass may be biased.

TT012

Website	https://www.bco-dmo.org/deployment/57731
Platform	R/V Thomas G. Thompson
Start Date	1992-09-24
End Date	1992-10-21
Description	Purpose: Fall Time Series; Equator, 140°W TT012 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: Michael Roman of: Horn Point Environmental Laboratory dataset: Biomass by Organism Size Fraction and Depth Interval dates: October 02, 1992 to October 20, 1992 location: N: 0.11 S: -0.16 W: -140.137 E: -139.8712 project/cruise: EQPAC/TT012 - Fall Time Series ship: Thomas Thompson

[table of contents | back to top]

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.

[table of contents | back to top]

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).

[table of contents | back to top]