Sarcodine counts and carbon biomass from R/V Thomas G. Thompson cruises TT007, TT011, TT012 in the Equatorial Pacific in 1992 during the U.S. JGOFS Equatorial Pacific (EqPac) project

Website: https://www.bco-dmo.org/dataset/2663
Version: final
Version Date: 2002-06-26

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

Sarcodine counts and carbon biomass

Methods & Sampling

See Platform deployments for cruise specific documentation

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Data Files

File	
sarcodine_TT007.csv	(Comma Separated Values (.csv), 1.83 KB) MD5:46d50122289524195f01a1fdbccff624
version 24 May 2002 (original version 24 August 1995) Diane Stoecker Sarcodine counts and carbon biomass Thomas Thompson cruise TT007	
sarcodine_TT011.csv	(Comma Separated Values (.csv), 2.17 KB) MD5:14da691fe9105a47a5a0747958a746cc
version June 26, 2002 (previous version May 1, 1997) D. Stoecker Sarcodines counts and carbon biomass Thomas Thompson cruise TT011 Samples obtained by filtering 37 to 55.5 liters of water from Niskin bottles using a modified Buchner funnel with a 20 um nitex mesh screen. Samples were preserved with 20% buffered formalin. Strontium chloride was added to aid with acantharian preservation. Samples stored in dark and refrigerated.	
sarcodine_TT012.csv	(Comma Separated Values (.csv), 659 bytes) MD5:e41f1a36cd1477ac3345e5da4854a2f2
version June 26, 2002 (previous version 24 August 1995) D. Stoecker Sarcodines counts and carbon biomass Thomas Thompson cruise TT012 Samples obtained by filtering 37 to 55.5 liters of water from Niskin bottles using a modified Buchner funnel with a 20 um nitex mesh screen. Samples were preserved with 20% buffered formalin. Strontium chloride was added to aid with acantharian preservation. Samples stored in dark and refrigerated.	

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Parameters

Parameter	Description	Units
event	event number from event log	
sta	station number from event log	
cast	CTD cast number from event log	
depth_n	nominal depth of sample	meters
h_t_Dino	counts of heterotrophic thecate dinoflagellates	cells/liter
Rad	counts of radiolarians	cells/liter
Foram	counts of foraminiferans	cells/liter
Acanth	counts of acantharians	cells/liter
h_t_Dino_C	carbon biomass, heterotrophic thecate dinoflagellates	nanograms C/liter
Rad_C	carbon biomass, radiolarian	nanograms C/liter
Foram_C	carbon biomass, foraminiferan	nanograms C/liter
Acanth_C	carbon biomass, acantharians	nanograms C/liter

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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: Diane Stoecker of: Woods Hole Oceanographic Institution dataset: Sarcodine counts and carbon biomass, large volume water samples dates: February 07, 1992 to March 09, 1992 location: N: 9.01 S: -12.1193 W: -140.4469 E: -135.0121 project/cruise: EqPac/TT007 - Spring Survey ship: Thomas Thompson PI-Notes: Samples obtained by filtering 37 to 55.5 liters of water from Niskin bottles using a modified Buchner funnel with a 20 um nitex mesh screen. Samples were preserved with 20% buffered formalin. Strontium chloride was added to aid with acantharian preservation. Samples stored in dark and refrigerated.

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: Diane Stoecker of: Woods Hole Oceanographic Institution dataset: Sarcodine counts and carbon biomass, large volume water samples dates: August 10, 1992 to September 13, 1992 location: N: 12.005 S: -11.9683 W: -140.5917 E: -134.9817 project/cruise: EqPac/TT011 - Fall Survey ship: Thomas Thompson PI-Notes: Samples obtained by filtering 37 to 55.5 liters of water from Niskin bottles using a modified Buchner funnel with a 20 um nitex mesh screen. Samples were preserved with 20% buffered formalin. Strontium chloride was added to aid with acantharian preservation. Samples stored in dark and refrigerated.

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: Diane Stoecker of: Woods Hole Oceanographic Institution dataset: Sarcodine counts and carbon biomass, large volume water samples dates: September 29, 1992 to September 30, 1992 location: N: -2 S: -4.9487 W: -140.0883 E: -139.9715 project/cruise: EqPac/TT012 - Fall Time Series ship: Thomas Thompson PI-Notes: Samples obtained by filtering 37 to 55.5 liters of water from Niskin bottles using a modified Buchner funnel with a 20 um nitex mesh screen. Samples were preserved with 20% buffered formalin. Strontium chloride was added to aid with acantharian preservation. Samples stored in dark and refrigerated.

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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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