

Benthic macrofauna from sediment box cores collected during 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/2705>

Version: December 12, 2001

Version Date: 2001-12-12

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

Benthic macrofauna > 300 µm, sediment box cores

Methods & Sampling

PI: Craig R. Smith
of: University of Hawaii
dataset: Benthic macrofauna gt300 um, sediment box cores
dates: November 16, 1992 to December 06, 1992
location: N: 8.934 S: 0.1103 W: -140.149 E: -139.6417
project/cruise: EqPac/TT013 - Benthic Survey
ship: R/V Thomas Thompson

Methodology:

Paterson, G., Wilson, G., Cosson, N. and Lamont, P. 1998. Hessler and Jumars (1974) revisited: abyssal polychaete assemblages from the Atlantic and Pacific. Deep-Sea Research II 45: 225-251.

PI note: Macrofauna data come from the upper 10 cm of the cores.

DMO note: See TT013 [event log](#) for precise sample locations.

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Data Files

File

macro_fauna.csv(Comma Separated Values (.csv), 1.23 KB)
MD5:d19b7081add454a03206f74e4ca5eff

Primary data file for dataset ID 2705

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Parameters

| Parameter | Description | Units |
|---------------|--------------------------------------|----------------------|
| event | event number from event log | |
| sta | station number from event log | |
| lat_n | nominal latitude, minus equals south | degrees |
| lon_n | nominal longitude, minus equals west | degrees |
| Aplacophora | Aplacophora, Phylum MOLLUSCA | individuals/1800 cm2 |
| Gastropoda | Gastropoda, Phylum MOLLUSCA | individuals/1800 cm2 |
| Scaphopoda | Scaphopoda, Phylum MOLLUSCA | individuals/1800 cm2 |
| Bivalvia | Bivalvia, Phylum MOLLUSCA | individuals/1800 cm2 |
| Polychaeta | Polychaeta, Phylum ANNELIDA | individuals/1800 cm2 |
| Oligochaeta | Oligochaeta, Phylum ANNELIDA | individuals/1800 cm2 |
| Cumacea | Cumacea, Phylum ARTHROPODA | individuals/1800 cm2 |
| Tanaidacea | Tanaidacea, Phylum ARTHROPODA | individuals/1800 cm2 |
| Isopoda | Isopoda, Phylum ARTHROPODA | individuals/1800 cm2 |
| Amphipoda | Amphipoda, Phylum ARTHROPODA | individuals/1800 cm2 |
| Decapoda | Decapoda, Phylum ARTHROPODA | individuals/1800 cm2 |
| PORIFERA | PORIFERA | individuals/1800 cm2 |
| Hydrozoa | Hydrozoa, Phylum COELENTERATA | individuals/1800 cm2 |
| Turbellaria | Turbellaria, Phylum PLATYHELMINTHES | individuals/1800 cm2 |
| NEMERTEA | NEMERTEA | individuals/1800 cm2 |
| SIPUNCULA | SIPUNCULA | individuals/1800 cm2 |
| ECHIURA | ECHIURA | individuals/1800 cm2 |
| BRYOZOA | BRYOZOA | individuals/1800 cm2 |
| ENTOPROCTA | ENTOPROCTA | individuals/1800 cm2 |
| Ophiuroidea | Ophiuroidea, Phylum ECHINODERMATA | individuals/1800 cm2 |
| Echinoidea | Echinoidea, Phylum ECHINODERMATA | individuals/1800 cm2 |
| Holothuroidea | Holothuroidea, Phylum ECHINODERMATA | individuals/1800 cm2 |
| HEMICHORDATA | HEMICHORDATA | individuals/1800 cm2 |
| Ascidiacea | Ascidiacea, Phylum PLOTCHORDATA | individuals/1800 cm2 |
| unk_worms | unkown worms | individuals/1800 cm2 |
| unk_others | unkown others | individuals/1800 cm2 |

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Instruments

| | |
|---|--|
| Dataset-specific Instrument Name | Box Corer |
| Generic Instrument Name | Box Corer |
| Generic Instrument Description | <p>General description of a box corer: A box corer is a marine geological tool that recovers undisturbed soft surface sediments. It is designed for minimum disturbance of the sediment surface by bow wave effects. Traditionally, it consists of a weighted stem fitted to a square sampling box. The corer is lowered vertically until it impacts with the seabed. At this point the instrument is triggered by a trip as the main coring stem passes through its frame. While pulling the corer out of the sediment a spade swings underneath the sample to prevent loss. When hauled back on board, the spade is under the box. (definition from the SeaVox Device Catalog)</p> <p>Box corers are one of the simplest and most commonly used types of sediment corers. The stainless steel sampling box can contain a surface sediment block as large as 50cm x 50cm x 75cm with negligible disturbance. Once the sediment is recovered onboard, the sediment box can be detached from the frame and taken to a laboratory for subsampling and further analysis. The core sample size is controlled by the speed at which the corer is lowered into the ocean bottom. When the bottom is firm, a higher speed is required to obtain a complete sample. A depth pinger or other depth indicator is generally used to determine when the box is completely filled with sediment. Once the core box is filled with sediment, the sample is secured by moving the spade-closing lever arm to lower the cutting edge of the spade into the sediment, until the spade completely covers the bottom of the sediment box. (definition from Woods Hole Oceanographic Institution).</p> |

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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 | <p>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.</p> |

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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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