

C14 age estimates from sediment cores from 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/2698>

Version: July 30, 2002

Version Date: 2002-07-30

Project

» [U.S. JGOFS Equatorial Pacific](#) (EqPac)

Program

» [U.S. Joint Global Ocean Flux Study](#) (U.S. JGOFS)

Contributors	Affiliation	Role
DeMaster, Dave J.	North Carolina State University - Marine, Earth and Atmospheric Sciences (NCSU MEAS)	Principal Investigator
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Dataset Description

C14 ages, sediment cores

Methods & Sampling

PI: D.J. DeMaster
of: North Carolina State University
dataset: C14 ages, sediment cores
dates: November 07, 1992 to November 30, 1992
location: N: 5.08 S: -4.9733 W: -140.15 E: -139.6363
project/cruise: EqPac/TT013, - Benthic survey
ship: R/V Thomas Thompson

Methodology:

Pope, R.H., D.J. DeMaster, C.R. Smith and H. Seltmann Jr, 1996. Rapid bioturbation in equatorial Pacific sediments: evidence from excess ²³⁴Th measurements. Deep-Sea Research II, vol. 43, No. 4-6, pp 1339-1364.

Summary Tables (MS Excel spread sheet files), as provided by the submitting PI, of core specific [radiochemical data](#) and [derived sediment accumulation rates](#) can be downloaded.

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Data Files

File
C14_dating_sed.csv (Comma Separated Values (.csv), 5.22 KB) MD5:090224746e5066a117e0829552ae3ae0
Primary data file for dataset ID 2698

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Parameters

Parameter	Description	Units
event	event number from event log	dimensionless
sta	station number from event log	dimensionless
lat_n	nominal latitude, negative = south	degrees
lon_n	nominal longitude, negative = west	degrees
core_type	type and number of core, core type encoded as follows: BC means box core MC means multi core	dimensionless
tube_num	tube or subcore number(s) from a multi core device	dimensionless
depth_core	depth in core, mid-point of interval sampled	centimeters
depth_r	depth range/interval sampled	centimeters
CO3_C14_age	carbonate C14 age dating	years
CO3_C14_age_err	carbonate C14 age dating error	years
CO3_dC14	carbonate delta C14	per mil
CO3_dC14_err	carbonate delta C14 error	per mil

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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	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.

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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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