

# NOAA EPOCS mooring PR07 Multi-Variate Moored Systems data at 45m from the Equatorial Pacific in 1992 during the U.S. JGOFS Equatorial Pacific (EqPac) project

**Website:** <https://www.bco-dmo.org/dataset/2615>

**Version:** March 20, 1995

**Version Date:** 1995-03-20

## Project

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

## Program

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

Contributors	Affiliation	Role
<a href="#">Dickey, Tom</a>	University of California-Santa Barbara (UCSB)	Principal Investigator
<a href="#">Foley, Dave</a>	University of California-Santa Barbara (UCSB)	Co-Principal Investigator
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## Dataset Description

NOAA EPOCS mooring PR07; Multi-Variate Moored Systems data at 45m

## Methods & Sampling

**PI:** Thomas Dickey and Dave Foley  
**of:** University of California, Santa Barbara  
**dataset:** Multi-Variate Moored Systems data from Instrument at 45m  
**dates:** May 1, 1992 to September 14, 1992  
**location:** equator at 140W  
**project/cruise:** EqPac

These data were taken as part of the EPOCS mooring PR07. The data included with this set are those specific to the Multi-Variate Moored Systems (MVMS) deployed by Tom Dickey (USC). In order to provide the community with manageable files, the original data (3.75 minute sampling period) has been averaged into 1 hour bins. If higher time resolution is required, I can make the necessary arrangements.

Complimentary data from the other instruments on the mooring are also available through Mike McPhaden's group (or through me, with their permission) at NOAA/PMEL. These data include: ADCP (8m bins), Various temp. and mechanical current meters, and surface buoy meteorological data (winds, humidity, solar insolation, SST, air T).

Temperature post cal.(PMEL); Corr. for true north (+9deg)

Dave Foley  
USC Ocean Physics

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## Data Files

File
<b>45mEPOCS7.csv</b> (Comma Separated Values (.csv), 173.51 KB) MD5:b5ed3b09f6bf41d692553a0b4bfd47c0
Primary data file for dataset ID 2615

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## Parameters

Parameter	Description	Units
rec	record number	
day_decimal	day local time (start time 121.5672 1992)	decimal day
temp	temperature	degrees Centigrade
U	U component of currents	cm/sec
V	V component of currents	cm/sec
chl_a	chlorophyll-a from stimulated fluorescence	mg/m <sup>3</sup>
PAR	photosynthetically available radiation	uEin/m <sup>2</sup> /sec
Lu_683	upwelled spectral radiance at wave length 683nm	uEin/m <sup>2</sup> /sec/micron/sr

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## Instruments

<b>Dataset-specific Instrument Name</b>	Multi-Variate Moored Systems
<b>Generic Instrument Name</b>	Multi-Variate Moored System
<b>Dataset-specific Description</b>	The mooring data are collected with Multi-Variate Moored Systems (MVMS) deployed by Tom Dickey (USC).
<b>Generic Instrument Description</b>	<p>The Multi-Variate Moored Systems deployed during the US JGOFS EqPac Process Study was a package of integrated meteorological instruments. The Multi-Variate Moored System included instruments for measuring bio-optical and physical variables including water temperature, current direction and velocity, PAR, Lu683 (upwelling radiance, chlorophyll a fluorescence), and salinity. Instrumentation included: (1) a vector measuring current meter (VMCM; EG&amp;G; Weller and Davis, 1980); (2) a fluorometer measuring strobe-stimulated fluorescence (Sea Tech; Bartz et al., 1988); (3) a transmissometer measuring beam transmission at 660 nm (Sea Tech; Bartz et al., 1978); (4) a sensor measuring scalar irradiance or photosynthetic available radiation, PAR, (E-PAR) in the visible waveband (400 &lt; 700 nm, in vacua; Biospherical Instruments, QSP-200; Booth, 1976); (5) a sensor for measuring downwelled vector irradiance at 488 nm (Ed(488); Biospherical Instruments, QCP-200); (6) a sensor for measuring upwelled radiance at 683 nm (Lu683); Biospherical Instruments MRP-200); (7) a dissolved oxygen sensor (ENDECO, Inc.) and thermistors for measuring temperature. (Dickey et al. 1993 and Foley et al. 1997). References: Bartz, R., Zaneveld, J. R.V. and Pak, H. (1978) A transmissometer for profiling and moored observations in water. SPIE, Ocean Optics V, 160, 102-107. Booth, C. R. (1976) The design and evaluation of a measurement system for photosynthetically active quantum scalar irradiance. Limnology and Oceanography, 19, 326-335. Dickey, TD, Granata, T., Marra, J., Langdon, G, Wiggert, J., Chai-Jochner, Z., Hamilton, M., Vazquez, J., Stramska, M., Bidigare, R., Siegel, D. 1993. Seasonal Variability of Bio-Optical and Physical Properties in the Sargasso Sea, J. Geophys. Res., 98(C1), 865-898, doi:10.1029/92JC01830. Foley, D.G., T.D. Dickey, M.J. McPhaden, R.R. Bidigare, M.R. Lewis, R.T. Barber, S.T. Lindley, C. Garside, D.V. Manov and J.D. McNeil (1997). Longwaves and Primary Productivity Variations in the Equatorial Pacific at 0 degrees, 140 degrees W. Deep Sea Research II, 44(9-10): 1801-1826. Weller, R. A. and Davis, R. E. (1980) A vector measuring current meter. Deep-Sea Research, 27A, 565-582.</p>

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## Deployments

### EqPac-EPOCS-7

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/57751">https://www.bco-dmo.org/deployment/57751</a>
<b>Platform</b>	JGOFS NOAA EPOCS
<b>Start Date</b>	1992-04-30
<b>End Date</b>	1992-09-14
<b>Description</b>	<p>NOAA EPOCS 7 at equator, 140W, May 1, 1992 to Sept 14, 1992 NOAA boreal spring and fall section cruises east and west of 140°W: R/V Baldrige (MB-92-02 legs 1,2,3) Dates: March-May 1992 Chief Scientist: (1: L. Mangum, 2: D. Atwood, 3: R. Feely) Location: 10°N-10°S at 110°W, 125°W, 140°W, 170°W R/V Discoverer (DI-92-03 legs 3,4,5) Dates: September-November 1992 Chief Scientist: (3: R. Feely, 4: R. Wanninkhof, 5: P. Murphy) Location: 10°N-10°S at 95°W, 110°W, 125°W, 140°W, 170°W</p> <p><b>Methods &amp; Sampling</b>  PI: Thomas Dickey and Dave Foley of: University of California, Santa Barbara dataset: Multi-Variate Moored Systems data from Instrument at 45m dates: May 1, 1992 to September 14, 1992 location: equator at 140W project/cruise: EqPac These data were taken as part of the EPOCS mooring PR07. The data included with this set are those specific to the Multi-Variate Moored Systems (MVMS) deployed by Tom Dickey (USC). In order to provide the community with manageable files, the original data (3.75 minute sampling period) has been averaged into 1 hour bins. If higher time resolution is required, I can make the necessary arrangements. Complimentary data from the other instruments on the mooring are also available through Mike McPhaden's group (or through me, with their permission) at NOAA/PMEL. These data include: ADCP (8m bins), Various temp. and mechanical current meters, and surface buoy meteorological data (winds, humidity, solar insolation, SST, air T). Temperature post cal.(PMEL); Corr. for true north (+9deg) Dave Foley USC Ocean Physics</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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## Funding

Funding Source	Award
National Oceanic and Atmospheric Administration (NOAA)	<a href="#">unknown EqPac NOAA</a>

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