Final version bottle cast data from R/V Thomas G. Thompson 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/2651
Version: final
Version Date: 2002-09-05

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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Table of Contents

Dataset Description

Final version bottle cast data

Methods & Sampling

See Platform deployments for cruise specific documentation

[table of contents | back to top]

Data Files

File

bot_TT007.csv

(Comma Separated Values (.csv), 277.08 KB)
MD5:c267316bd052702cd94d3141492736ef

version Jul 5, 1995
Jim Murray
Thomas Thompson cruise TT007
Basic bottle cast measurements (depth, temperature, salinity, oxygen, density, potental temp., etc.).

NOTE: J. Murray has flagged the CTD up cast, bottle trip variables (Marker temperature and Marker salinity) as being suspect and should not be used. Selected down cast CTD temperatures and salinities replace these variables. However, if there is interest in the marker temperatures and salinities a file containing these variables is available from the data management office.

qflag = quality flag - J. Murray identifies stations with a *
as those having problems with the data
reported at that level. (mis-trips, suspect salinity, etc).
See Murray documentation under 'Documentation' link.

bot_TT008.csv

(Comma Separated Values (.csv), 71.95 KB)
MD5:720a46792a1258e79a5e5b974f248575

version October 17, 2002
(original version June 1, 1994)
Jim Murray
Thomas Thompson cruise TT008
Basic bottle cast measurements (depth, temperature, salinity, oxygen, density, potental temp., etc.).

NOTE: J. Murray has flagged the CTD up cast, bottle trip variables (Marker temperature and Marker salinity) as being suspect and should not be used. Selected down cast CTD temperatures and salinities replace these variables. However, if there is interest in the marker temperatures and salinities a file containing these variables is available from the data management office.

event = event/operation number from event log
sta = station number from event log.
qflag = quality flag - J. Murray identifies stations with a *
as those having problems with the data
reported at that level. (mis-trips, suspect salinity, etc).
See Murray documentation under 'Documentation' link.
cast = ctd cast number from event log
bot = ctd rosette bottle number
depth = sample depth reported as meters, units = meters
press = sample depth reported as pressure, units = decibars
pressbin = the one decibar bin averaged pressure interval from which
the following CTD variables were extracted
ctdtemp = ctd temperature, units = degress centigrade
ctdsal = ctd salinity, parts/thousand
ctdsig_t = ctd sigma-t
botox = bottle oxygen, units = milliliters/liter
botsal = bottle salinity, units = parts/thousand
ctdpotemp = ctd potental temperature, units = degrees centigrade
ctdsig_th = ctd potental density, units = kilograms/cubic meter
nd = missing data

File

bot_TT011.csv (Comma Separated Values (.csv), 310.28 KB)

MD5:ece9a3eac659b8698ffe5011a9ff7e14

version June 2, 1994
Jim Murray
Thomas Thompson cruise TT011
Basic bottle cast measurements (depth, temperature, salinity, oxygen, density, potental temp., etc.).

NOTE: J. Murray has flagged the CTD up cast, bottle trip variables (Marker temperature and Marker salinity) as being suspect and should not be used. Selected down cast CTD temperatures and salinities replace these variables. However, if there is interest in the marker temperatures and salinities a file containing these variables is available from the data management office.

event = event/operation number from event log
sta = station number from event log.
qflag = quality flag - J. Murray identifies stations with a *
as those having problems with the data
reported at that level. (mis-trips, suspect salinity, etc).
See Murray documentation under 'Documentation' link.
cast = ctd cast number from event log
bot = ctd rosette bottle number
depth = sample depth reported as meters, units = meters
press = sample depth reported as pressure, units = decibars
pressbin = the one decibar bin averaged pressure interval from which
the following CTD variables were extracted
ctdtemp = ctd temperature, units = degress centigrade
ctdsal = ctd salinity, parts/thousand
ctdsig_t = ctd sigma-t
botox = bottle oxygen, units = milliliters/liter
botsal = bottle salinity, units = parts/thousand
ctdpotemp = ctd potental temperature, units = degrees centigrade
ctdsig_th = ctd potental density, units = kilograms/cubic meter
nd = missing data

File

bot_TT012.csv (Comma Separated Values (.csv), 90.44 KB)
MD5:bee18dc2b6aedffb3c9cea3673fc6354

version September 5, 2002
(original version June 3, 1994)
Jim Murray
Thomas Thompson cruise TT012
Basic bottle cast measurements (depth, temperature, salinity, oxygen, density, potental temp., etc.).

NOTE: J. Murray has flagged the CTD up cast, bottle trip variables (Marker temperature and Marker salinity) as being suspect and should not be used. Selected down cast CTD temperatures and salinities replace these variables. However, if there is interest in the marker temperatures and salinities a file containing these variables is available from the data management office.

IMPORTANT:
See NOTE in brief description link regarding cracked conductivity sensor.

event = event/operation number from event log
sta = station number from event log. Station numbers prefixed with a
cast = ctd cast number from event log
qflag = set by J. Murray, * identifies problems with the data
reported at that level. (mis-trips, suspect salinity, etc). See
See Murray documentation under 'Documentation' link.
bot = ctd rosette bottle number
depth = sample depth reported as meters, units = meters
press = sample depth reported as pressure, units = decibars
pressbin = the one decibar bin averaged pressure interval from which
the following CTD variables were extracted
ctdtemp = ctd temperature, units = degress centigrade
ctdsal = ctd salinity, parts/thousand
ctdsig_t = ctd sigma-t
botox = bottle oxygen, units = milliliters/liter
botsal = bottle salinity, units = parts/thousand
ctdpotemp = ctd potental temperature, units = degrees centigrade
ctdsig_th = ctd potental density, units = kilograms/cubic meter
nd = missing data

DMO QC note (020905):
depth was missing for event 10061202; only nominal pressure data was reported; nominal depth was calculated from nominal press and added to this ...

[table of contents | back to top]

Parameters

Parameter	Description	Units
event	event/operation number per event log	
sta	station number per event log	
cast	CTD cast number	
bot	CTD rosette bottle number	
depth	sample depth	meters
press	sample depth reported as pressure	decibars
pressbin	sample depth from bin averaged CTD	decibars
ctdtemp	CTD temperature	degrees C
ctdsal	CTD salinity (PSS-78) when bottle tripped	dimensionless
ctdsig_t	CTD sigma-t	kilograms/cubic meter
botox	bottle oxygen	milliliters/liter
botsal	bottle salinity (Autosal; PSU)	dimensionless
ctdpotemp	CTD potental temperature	degrees centigrade
ctdsig_th	CTD potental density	kilograms/cubic meter
qflag	quality flag, good (-) or suspect (*) stations with a * have problems with the data reported for that bottle. (mis-trips, suspect salts, etc). See PI-Notes for details.	

[table of contents | back to top]

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.

[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: James Murray of: University of Washington dataset: Final version bottle cast data dates: February 03, 1992 to March 09, 1992 location: N: 12.0674 S: -12.2083 W: -140.7692 E: -134.3131 project/cruise: EQPAC/TT007 - Spring Survey ship: Thomas Thompson PI-Notes on Quality

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: James Murray of: University of Washington dataset: Final version bottle cast data dates: March 19, 1992 to April 14, 1992 location: N: 9.0905 S: -8.7858 W: -143.0025 E: -139.8528 project/cruise: EQPAC/TT008 - Spring Time Series ship: Thomas Thompson PI-Notes on Quality

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: James Murray of: University of Washington dataset: Final version bottle cast data dates: August 10, 1992 to September 15, 1992 location: N: 12.0317 S: -11.9767 W: -141.4467 E: -134.9117 project/cruise: EQPAC/TT011 - Fall Survey ship: Thomas Thompson PI-Notes on Quality

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: James Murray of: University of Washington dataset: Final version bottle cast data dates: September 25, 1992 to October 21, 1992 location: N: 0.079 S: -12 W: -145.489 E: -139.8587 project/cruise: EQPAC/TT012 - Fall Time Series ship: Thomas Thompson PI-Notes on Quality

[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]