

# CTD, TM Rosette nutrients and chlorophyll data from the R/V Melville IronEx II cruise in the Equatorial Pacific Ocean in 1995 (IronEx II project)

**Website:** <https://www.bco-dmo.org/dataset/3153>

**Version:** 22July2009

**Version Date:** 2009-07-22

## Project

» [Iron Experiment II](#) (IronExII)

## Program

» [Iron Synthesis](#) (FeSynth)

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## Dataset Description

IronExII CTD, TM Rosette CTD, nutrients and chlorophyll data

## Data Processing Description

### BCO-DMO Note:

No metadata supplied with these data

Some parameters and units require additional work

### BCO-DMO Processing Notes

Prepared by WHOI OCB-DMO from original file: FeX2 edited CTD, TM ROS, nuts and C.XLS

Original file was downloaded on 16June2008 from [http://www.mbari.org/sofex/IronEx\\_II.htm](http://www.mbari.org/sofex/IronEx_II.htm)

### Changes made to original file:

- Extensive editing to remove blank lines, organize data (stations, etc) into rows/columns
- Multiple occurrences of parameter header lines throughout file removed
- Single parameter header line at top retained after reformatting
- Misc comments replicated in cast log removed from file

- Parameter names edited to conform to BCO-DMO convention
- **Discrepancy in units for parameters Total\_PP and Total\_HP**
- **Units reported as µgC/l in some cases, µM C in others**
- **This discrepancy still needs to be resolved (BCO-DMO, 22July2009)**
- Duplicate parameter names Phaeo changed to Phaeo\_a and Phaeo\_b
- Station changed to Station\_Id as parameter name
- Station\_ids using multiple rows combined into one station id
- Spaces replaced with underscores in station\_ids
- "#305" is sample number for Transect\_thru\_hull\_#305 in these stations
- date, time, event, cast, lat, lon manually inserted from Cast Log using event in Cast Log
- Original lat/lons, dates, times checked against same data in Cast Log before using
- Found SLIGHT differences between original and cast log
- Used cast log values throughout (appeared to be more reliable/consistent)
- Original event replaced with event from Cast\_Log for consistency
- "nd" inserted as no data value in blank cells

### Issues/Notes:

TM-Rosette-test: "note NO3 rinse" comment removed

Cochlan (in original event column) - What does Cochlan mean/signify??

Event: 19951473510 - obvious incorrect time but no correction found

Station\_Id: TM-Rosette\_259 Original Time is 1440, Cast Log time is 1727 (Used Cast Log)

Station\_Id: TM-Rosette\_314 Original Time is 1402, Cast Log time is 0000

(Used Cast Log - 1402 is closer to on deck time)

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## Data Files

File
<b>CTD_TM_Nuts_Ch1.csv</b> (Comma Separated Values (.csv), 171.96 KB) MD5:23c58ea4246a9c1f57bd8a20b4913d04 Primary data file for dataset ID 3153

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## Parameters

Parameter	Description	Units
date	Date UTC	YYYYMMDD
time	Time UTC	HHMM
lat	latitude, negative denotes South	decimal degrees
lon	longitude, negative denotes West	decimal degrees
event	Unique event number (Generated by BCO-DMO)	YYYYDAYHHMM
yrday	Day of year	integer
cast	Cast id	integer
depth	Depth in meters	meters
POC	POC	ug
Oxygen	Oxygen	uM
Chla	Chl-a	mg/m3
NH4	NH4	uM
PO4	PO4	uM
SiO4	SiO4	uM
NO3	NO3	uM
Station_Id	Cruise station id	text
Phaeo_a	Phaeo_a	mg/m3
Phaeo_b	Phaeo_b	microM(??)
SF6	SF6	mol dm-3
Potemp	Potemp	(tbd)
Sal	Sal	(tbd)
Fluor	Fluor	(tbd)
Trans	Trans	(tbd)
Sigmat	Sigmat	(tbd)
Total_PP	Total_PP	microM
Total_HP	Total_HP	microM
Synoc	Synoc	(tbd)
RFP	RFP	(tbd)
Prymn	Prymn	(tbd)
Dino	Dino	(tbd)
Diatom	Diatom	(tbd)
H_Flagell	H_Flagell	(tbd)
H_Dino	H_Dino	(tbd)
H_Ciliate	H_Ciliate	(tbd)
A_Ciliate	A_Ciliate	(tbd)

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## Instruments

<b>Dataset-specific Instrument Name</b>	Conductivity, Temperature, Depth
<b>Generic Instrument Name</b>	CTD - profiler
<b>Generic Instrument Description</b>	The Conductivity, Temperature, Depth (CTD) unit is an integrated instrument package designed to measure the conductivity, temperature, and pressure (depth) of the water column. The instrument is lowered via cable through the water column. It permits scientists to observe the physical properties in real-time via a conducting cable, which is typically connected to a CTD to a deck unit and computer on a ship. The CTD is often configured with additional optional sensors including fluorometers, transmissometers and/or radiometers. It is often combined with a Rosette of water sampling bottles (e.g. Niskin, GO-FLO) for collecting discrete water samples during the cast. This term applies to profiling CTDs. For fixed CTDs, see <a href="https://www.bco-dmo.org/instrument/869934">https://www.bco-dmo.org/instrument/869934</a> .

<b>Dataset-specific Instrument Name</b>	Trace Metal Bottle
<b>Generic Instrument Name</b>	Trace Metal Bottle
<b>Generic Instrument Description</b>	Trace metal (TM) clean rosette bottle used for collecting trace metal clean seawater samples.

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## Deployments

### IronExII\_MV

<b>Website</b>	<a href="https://www.bco-dmo.org/deployment/57830">https://www.bco-dmo.org/deployment/57830</a>
<b>Platform</b>	R/V Melville
<b>Start Date</b>	1995-05-13
<b>End Date</b>	1995-06-21
<b>Description</b>	Cruise Summary: 5/14/95 Depart Papeete, Tahiti 5/14/95 to 5/23/95 Transit & Test stations 5/23/95 to 5/29/95 Survey for Fe release 5/29/95 to 5/30/95 Fe release #1 5/30/95 to 6/1/95 In & out sampling 6/1/95 to 6/1/95 Fe release #2 6/1/95 to 6/5/95 In & out sampling 6/5/95 to 6/5/95 Fe release #3 6/6/95 to 6/8/95 In & out sampling 6/8/95 to 6/9/95 Control patch (SF6 only), 2nd Fe patch release (0.4 nM Fe) 6/9/95 to 6/15/95 In & out sampling of all 3 patches 6/15/95 to 6/21/95 Transit to Acapulco, Mexico

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## Project Information

### Iron Experiment II (IronExII)

**Coverage:** Equatorial Pacific Ocean

One of two (see IronEx I Oct/Nov 1993) small scale iron fertilization experiments conducted in the Equatorial Pacific Ocean.

### Summary:

5/14/95 Depart Papeete, Tahiti  
5/14/95 to 5/23/95 Transit & Test stations  
5/23/95 to 5/29/95 Survey for Fe release  
5/29/95 to 5/30/95 Fe release #1  
5/30/95 to 6/1/95 In & out sampling  
6/1/95 to 6/1/95 Fe release #2  
6/1/95 to 6/5/95 In & out sampling  
6/5/95 to 6/5/95 Fe release #3  
6/6/95 to 6/8/95 In & out sampling  
6/8/95 to 6/9/95 Control patch (SF6 only), 2nd Fe patch release (0.4 nM Fe)  
6/9/95 to 6/15/95 In & out sampling of all 3 patches  
6/15/95 to 6/21/95 Transit to Acapulco, Mexico

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## Program Information

### Iron Synthesis (FeSynth)

**Coverage:** Global

The two main objectives of the Iron Synthesis program (SCOR Working Group proposal, 2005), are:

1. Data compilation: assembling a common open-access database of the *in situ* iron experiments, beginning with the first period (1993-2002; Ironex-1, Ironex-2, SOIRE, EisenEx, SEEDS-1; SOFeX, SERIES) where primary articles have already been published, to be followed by the 2004 experiments where primary articles are now in progress (EIFEX, SEEDS-2; SAGE, FeeP); similarly for the natural fertilizations S.O.JGOFS (1992), CROZEX (2004/2005) and KEOPS (2005).
2. Modeling and data synthesis of specific aspects of two or more such experiments for various topics such as physical mixing, phytoplankton productivity, overall ecosystem functioning, iron chemistry, CO<sub>2</sub> budgeting, nutrient uptake ratios, DMS(P) processes, and combinations of these variables and processes.

SCOR Working Group proposal, 2005. "The Legacy of *in situ* Iron Enrichments: Data Compilation and Modeling".

[http://www.scor-int.org/Working\\_Groups/wg131.htm](http://www.scor-int.org/Working_Groups/wg131.htm)

See also: SCOR Proceedings Vol. 42 Concepcion, Chile October 2006, pgs: 13-16 2.3.3 Working Group on The Legacy of *in situ* Iron Enrichments: Data Compilation and Modeling.

The first objective of the Iron Synthesis program involves a data recovery effort aimed at assembling a common, open-access database of data and metadata from a series of *in-situ* ocean iron fertilization experiments conducted between 1993 and 2005. Initially, funding for this effort is being provided by the Scientific Committee on Oceanic Research (SCOR) and the U.S. National Science Foundation (NSF).

Through the combined efforts of the principal investigators of the individual projects and the staff of Biological and Chemical Oceanography Data Management Office (BCO-DMO), data currently available primarily through

individuals, disparate reports and data agencies, and in multiple formats, are being collected and prepared for addition to the BCO-DMO database from which they will be freely available to the community.

As data are contributed to the BCO-DMO office, they are organized into four overlapping categories:

1. Level 1, basic metadata  
(e.g., description of project/study, general location, PI(s), participants);
2. Level 2, detailed metadata and basic shipboard data and routine ship's operations  
(e.g., CTDs, underway measurements, sampling event logs);
3. Level 3, detailed metadata and data from specialized observations  
(e.g., discrete observations, experimental results, rate measurements) and
4. Level 4, remaining datasets  
(e.g., highest level of detailed data available from each study).

Collaboration with BCO-DMO staff began in March of 2008 and initial efforts have been directed toward basic project descriptions, levels 1 and 2 metadata and basic data, with detailed and more detailed data files being incorporated as they become available and are processed.

## Related file

[Program Documentation](#)

The Iron Synthesis Program is funded jointly by the Scientific Committee on Oceanic Research (SCOR) and the U.S. National Science Foundation (NSF).



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## Funding

Funding Source	Award
<a href="#">NSF Division of Ocean Sciences (NSF OCE)</a>	<a href="#">OCE-9217518</a>
Office of Naval Research (ONR)	<a href="#">N00014-94-10125</a>

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