

Buoy positions from R/V Kaiyo-Maru cruise KY0103-02 from Northwestern Sub-Arctic Pacific in 2001 (SEEDS I project)

Website: <https://www.bco-dmo.org/dataset/2895>

Version: 26August2008

Version Date: 2008-08-26

Project

» [Subarctic-Pacific Iron Experiment for Ecosystem Dynamics Study I](#) (SEEDS I)

Program

» [Iron Synthesis](#) (FeSynth)

Contributors	Affiliation	Role
Tsuda, Atsushi	University of Tokyo	Principal Investigator
Mackie, Doug	University of Otago	Contact
Gegg, Stephen R.	Woods Hole Oceanographic Institution (WHOI)	BCO-DMO Data Manager

Table of Contents

- [Dataset Description](#)
 - [Methods & Sampling](#)
 - [Data Processing Description](#)
- [Data Files](#)
- [Parameters](#)
- [Deployments](#)
- [Project Information](#)
- [Program Information](#)

Dataset Description

SEEDS 2001 Buoy positions

Buoy locations (lat lon) in 10 minute increments.

Methods & Sampling

Three buoys were set out: OBN4 (reference), OBN5 (centre), OBN6 (trap-IN).
Sediment traps were deployed from the buoys.

Data Processing Description

BCO-DMO Processing Notes

CSV file generated from original spreadsheet Buoy_position.xls by Doug Mackie

BCO-DMO Edits

- Parameter names modified to conform to BCO-DMO convention
- Time formatted as HHMM
- "n.d" converted to "nd" for no data

[[table of contents](#) | [back to top](#)]

Data Files

File
Buoys.csv (Comma Separated Values (.csv), 195.16 KB) MD5:d1369483ec04cb4770aabd1766460bd2 Primary data file for dataset ID 2895

[[table of contents](#) | [back to top](#)]

Parameters

Parameter	Description	Units
date.UTC	Date UTC	YYYYMMDD
time.UTC	time UTC	HHMM
lat	Latitude position for buoy negative denotes South	decimal degrees
lon	Longitude position for buoy negative denotes West	decimal degrees
Buoy	Buoy Id: OBN4 = reference buoy OBN5 = center buoy OBN6 = trap buoy (in patch)	text

[[table of contents](#) | [back to top](#)]

Deployments

KY0103-02

Website	https://www.bco-dmo.org/deployment/57835
Platform	R/V Kaiyo-Maru
Start Date	2001-07-13
End Date	2001-08-06
Description	Patch enrichment = Leg 2: 13 Jul 2001 (Kushiro)--06 Aug 2001 (Tokyo)Note: No cruise track was contributed for this deployment. Data are plotted outside what is displayed as the "best available" cruise track from the data contributed

[[table of contents](#) | [back to top](#)]

Project Information

Subarctic-Pacific Iron Experiment for Ecosystem Dynamics Study I (SEEDS I)

Website: <http://www.seeds-exp.jp/en/index.html>

Coverage: Western subarctic gyre in the North Pacific at 48.5°N, 165°E

An in situ test of the iron limitation hypothesis in the subarctic North Pacific Ocean was performed. First experiment of two (see SEEDS 2004)

A single enrichment of dissolved iron caused a large increase in phytoplankton standing stock and decreases in macronutrients and dissolved carbon dioxide. The dominant phytoplankton species shifted after the iron addition from pennate diatoms to a centric diatom, *Chaetoceros debilis*, that showed a very high growth rate, 2.6 doublings per day. Conclusion was that the bioavailability of iron regulates the magnitude of the phytoplankton biomass and the key phytoplankton species that determine the biogeochemical sensitivity to iron supply of high-nitrate, low-chlorophyll waters.

Data was collected at a total of 13 stations and from 3 moored sediment traps.

- Stations were occupied IN patch for days 0, 2, 4, 7, 9, 11 and 13.
- Stations were occupied OUT patch for days 2, 4, 7, 9, 11, 13.

It is not explicitly stated but it appears that at all stations two CTD sampling rosette casts were made: clean and rms. The clean rosette appears to have typically sampled the mixed layer (<50 m) e.g. 5, 10, 20, 30, 50 m. The rms rosette appears to have typically sampled the euphotic zone (<200m) e.g. 10, 20, 30, 40, 50, 80, 100, 150, 200 m.

Sediment traps were deployed at:

- CENTRE: 20 m
- IN: 40, 60, 100, 200 m
- OUT: 20, 40, 60 and 100 m

Traps were recovered several times. Deployment times (days):

- CENTRE: 3.95, 2.83, 2.02, 1.98, 1.93, 2.05
- IN: 3.99, 2.84, 2.03, 2.00, 1.95, 2.01
- OUT: 5.17, 3.97, 3.42

BCO-DMO/Doug Mackie Note:

Throughout these data, stations are identified as D2-I, D2-O, etc. D2-I indicates "Day 2, in patch station". while D2-O indicates "Day 2, out patch station". This applies to all station identifiers.

Related file

[SEEDS 2001 Project Documentation](#)

[[table of contents](#) | [back to top](#)]

Program Information

Iron Synthesis (FeSynth)

Coverage: Global

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

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, SOIREE, 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, CO₂ 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

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).



[[table of contents](#) | [back to top](#)]