

Data Inventory from R/V Kaiyo-Maru cruises KY0103-01 and KY0103-02 in the Northwestern Sub-Arctic Pacific in 2001 (SEEDS I project)

Website: <https://www.bco-dmo.org/dataset/3156>

Version: 31July2009

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Project

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

Program

» [Iron Synthesis](#) (FeSynth)

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Dataset Description

SEEDS 2001, KY0103 Legs 1 and 2 Cruise Data Inventory

Status of expected SEEDS 2001 data contributions

Methods & Sampling

Generated by BCO-DMO staff from project documentation report compiled and submitted by Doug Mackie, UofOtago.>br> Available as a [PDF file](#)

Data Processing Description

Generated by BCO-DMO staff from project documentation report compiled and submitted by Doug Mackie, UofOtago.
Available as a [PDF file](#)

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Data Files

File
Inventory.csv (Comma Separated Values (.csv), 1.85 KB) MD5:967beeb3d289ca279a8d0e3adac05ab5
Primary data file for dataset ID 3156

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Parameters

Parameter	Description	Units
Data_Measurement	Text description of type of data or measurement(s)	text
PI_name	name of principal investigator	text
coPI_name	name of co-principal investigator	text
Contributed	flag indicating if data have been contributed; y=yes, n=no and p=preliminary or partial dataset	text
QA	Quality flag indicating if quality control has been completed; are data final, yes or no	text
On_System	flag indicating whether data are available online: y = in OCB database; n = not available yet; L = link to local resource; R = link to remote resource	text
Status_or_Link	Indication of dataset status; comment or link to data	text
Meta	Flag indicating metadata have/have not been contributed for these data (Y/N) In some inventories, also links to the metadata file	text
Access	Data Access Flag O - Open R - Restricted	text
BCO_DMO_DataSet_Id	Data set Id assigned in BCO-DMO database	text

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Deployments

KY0103-01

Website	https://www.bco-dmo.org/deployment/57834
Platform	R/V Kaiyo-Maru
Start Date	2001-06-28
End Date	2001-07-10
Description	Pre-infusion observations = Leg 1: 28 Jun 2001 (Tokyo) to 10 Jul 2001 (Kushiro) 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

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

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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](#)

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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, 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).



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