

MIRAI MR15-03 Leg1 Primary Production

Last Modified: 2017-10-21

[ReadMe](#) [Observation Data](#) [Data Format](#)

Cruise ID: [MR15-03 Leg1](#)

Primary Production: Processed (DMO)-QCed

Data Policy: [JAMSTEC](#)

Observation Items: POC

Science Keywords:

BIOSPHERE > AQUATIC ECOSYSTEMS > PLANKTON > PHYTOPLANKTON
BIOSPHERE > ECOLOGICAL DYNAMICS > ECOSYSTEM FUNCTIONS > PRIMARY PRODUCTION
BIOSPHERE > ECOLOGICAL DYNAMICS > ECOSYSTEM FUNCTIONS > PHOTOSYNTHESIS

Cruise Report

http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR15-03_leg1_all.pdf

For Using Data

Principal Investigator

Shigeto Nishino (JAMSTEC)

Use Constraints

See [Terms and Conditions](#) about constrain of use.

Data Citation

See [Terms and Conditions](#) about data citation.

Instrument

Instrument:

CN mass spectrometer



Overview

Primary Production Data during MR15-03 Leg1 cruise were obtained by the following methods : - Simulated in-situ incubation method (SIS)

Water sampling, incubation, and devices and tracers for analysis for each method are outlined below.

For further information, please see Cruise Report.

Outline of water sampling, incubation, and analysis

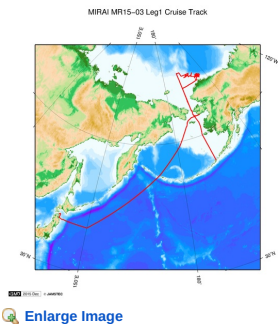
Simulated in-situ incubation (SIS)

- 1) Vertical sampling : Niskin
- 2) Surface sampling : Bucket
- 3) Sampling layer : 7
- 4) Tracer : $\text{NaH}^{13}\text{CO}_3$
- 5) Incubation period : 24hours
- 6) Filtration : Whatman GF/F 25mm filter was used at dark place.
- 7) Preservation : Filters were kept to freeze at -20degC and dried in the oven at 45degC.
- 8) Analysis place : MIRAI
- 9) Analysis device : CN mass spectrometer
- 10) Analysis method : Dumas method, Mass spectrometry

Specifications of CN mass spectrometer

- (1) Preprocessing equipment
 - Manufacturer : Sercon Ltd.
 - Instruments : ANCA-SL
 - S/N : 17001-051
- (2) Stable isotope ratio mass spectrometer
 - Manufacturer : Sercon Ltd.
 - Instruments : 20-20
 - S/N : 9007-075
- (3) Data processing
 - Device control and processing soft : ANCA ver.3.6

Related Information



MR15-03 Leg1

Ship Name: MIRAI
Period: 2015-08-23 - 2015-10-06
Chief Scientist: Shigeto Nishino (JAMSTEC)
Project Name: [Arctic Ocean Climate System Reaserch]
Proposal ▶ Observational studies on the Arctic Ocean climate and ecosystem variability
Title:

Update History

2017-10-21	An observation data was registerd.
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KAIYO
YOKOSUKA
MIRAI
KAIREI
CHIKYU
KAIMEI
SHINSEI MARU
HAKUHO MARU

Information of the Submersibles

KAIKO
SHINKAI 2000
SHINKAI 6500
DEEP TOW
HYPER-DOLPHIN
URASHIMA
YOKOSUKA DEEP TOW
6K Camera DEEP TOW
6K Sonar DEEP TOW
KM-ROV
POWER GRAB SAMPLER (SHELL)
POWER GRAB SAMPLER (CLOW)
BMS

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PPD (MIRAI-Seafile)

Format information describes column no., column heading mnemonic and comments of simulated in-situ incubation (SIS) primary productivity data sheet.
Missing value is presented by -999.

Column No.	Column Heading Mnemonic	Units Mnemonic	Comments
1	EXPCODE	-	Exploration code
2	STNNBR	-	Station number
3	CASTNO	-	Cast number
4	SAMPNO	-	Sample number
5	BTLNBR	-	Bottle number
6	BTLNBR_FLAG_W	-	Bottle quality flags *1
7	DATE	UTC	Date [MM/DD/YYYY]
8	TIME	UTC	Time [HH:MM]
9	LATITUDE	DEG	Latitude [N]
10	LONGITUDE	DEG	Longitude [E]
11	DEPTH	M	Bottom depth
12	CTDPRS	DBAR	CTD-pressure
13	CTDPRS_FLAG_W	-	Quality flags for CTD data *3
14	CTDDPT	M	CTD-depth
15	CTDDPT_FLAG_W	-	Quality flags for CTD data *3
16	CTDTMP	ITS-90	CTD-temperature (primary sensor)
17	CTDTMP_FLAG_W	-	Quality flags for CTD data *3
18	CTDTMP_1	ITS-90	CTD-temperature (secondary sensor)
19	CTDTMP_1_FLAG_W	-	Quality flags for CTD data *3
20	TCARBN	UMOL/KG	Total inorganic carbon
21	TCARBN_FLAG_W	-	Quality flags for water samples *2
22	TCARBN_1	UMOL/KG	Total inorganic carbon (replicate)
23	TCARBN_1_FLAG_W	-	Quality flags for water samples *2
24	d-POC_C1	mgC/m3/day	Carbon uptake rate
25	d-POC_C1_FLAG_W	-	Quality flags for water samples *2
26	d-POC_C2	mgC/m3/day	Carbon uptake rate (replicate)
27	d-POC_C2_FLAG_W	-	Quality flags for water samples *2
28	d-POC_C1-Dark	mgC/m3/day	Carbon uptake rate (dark)
29	d-POC_C1-Dark_FLAG_W	-	Quality flags for water samples *2
30	d-POC_C2-Dark	mgC/m3/day	Carbon uptake rate (dark)(replicate)
31	d-POC_C2-Dark_FLAG_W	-	Quality flags for water samples *2

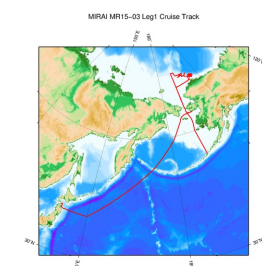
*1 refer to quality flags of Bottle.

*2 refer to quality flags of water samples.

*3 refer to quality flags of CTD data.

Data flags *1-3 are listed in [Definition of Quality Control Flags for Bottle Data](#)

Related Information



[Enlarge Image](#)

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Chief Scientist: Shigeto Nishino (JAMSTEC)

Project Name: [Arctic Ocean Climate System Reaserch]

Proposal ▶ Observational studies on the Arctic Ocean climate and ecosystem variability

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POWER GRAB
SAMPLER (SHELL)
POWER GRAB
SAMPLER (CLOW)
BMS

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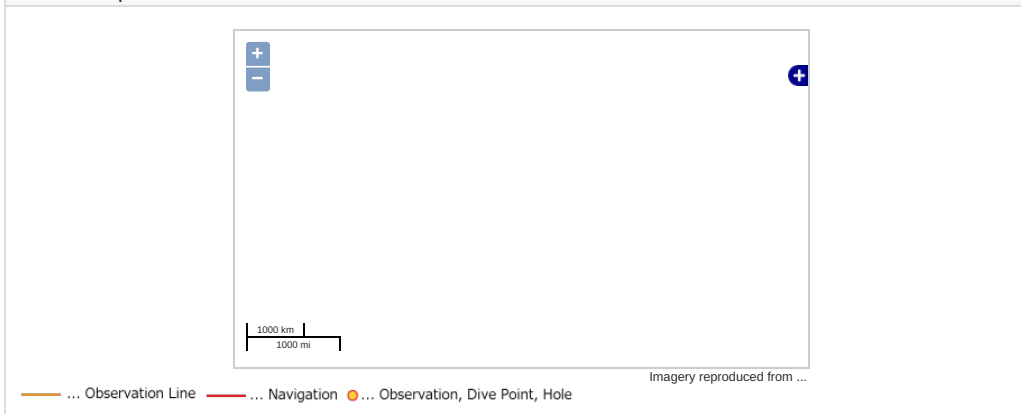
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Observation Map

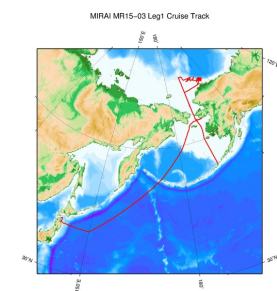


Data List

File names

☐ MR15-03_leg1_pp_SIS.csv

Related Information



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