

MIRAI MR17-05C Remote Sensing Reflectance Spectra (Rrs)

Last Modified: 2019-09-17

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Cruise ID: [MR17-05C](#)

Remote Sensing Reflectance Spectra (Rrs) : Processed (PI)

Data Policy: [JAMSTEC](#)

Observation Items:

Science Keywords:

Data Information

Spectral remote-sensing reflectance was measured over the wavelength range 300-850 nm using a Satlantic HyperPro II operating in a surface buoy configuration. Spectral resolution of the measurements was ~3.3 nm, and data were subsequently interpolated to 1-nm resolution. One sensor mounted on the float measured spectral downwelling irradiance just above the sea-surface (Es), and a second sensor measured upwelling nadir radiance (i.e., light traveling upwards towards the sea surface) at a depth of 20 cm below the surface. The float was deployed off the stern and allowed to drift away from the ship to minimize ship effects. Typically, a 10-20 minute time series of Es and Lu were obtained at each station and portions of the time series were selected for averaging based on sky and wave variability. Data in which tilt measurements exceeded 5 deg. were excluded from averaging (note: for station 1, no data were available at < 5 deg. and the tilt threshold was expanded to 10 deg.; this data should be used with caution).

For calculation of Rrs, values of Lu measured at a depth of 20 cm were extrapolated to just below the surface ($z = 0^-$) using K_{Lu} values measured at each station with the PRR (Toru Hirawake).

$Lu(0^-) = Lu(z=0.2) \exp(K_{Lu} * 0.2)$;

Water-leaving radiance was then calculated by $Lw = Lu(0^-) * 0.5425$, and Rrs was then calculated as Lw/Es .

Cruise Report

http://www.godac.jamstec.go.jp/catalog/data/doc_catalog/media/MR17-05C_all.pdf

For Using Data

Principal Investigator

Rick A. Reynolds (Scripps Institute of Oceanography)

Use Constraints

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

Data Citation

Nishino, S., 2017, R/V Mirai Cruise Report MR17-05C, 209pp., JAMSTEC, Yokosuka, Japan.

Upon consultation in advance with the chief of investigation and the person(s) in charge of research issues who gathered that data, we request that the text of the results material contain a statement to the effect that it was obtained during the R/V Mirai cruise of MR17-05C, the Chief Scientist, Shigeto Nishino (JAMSTEC), and the following Principal Investigators (PIs) for gathering the data.

Chief Scientist

Shigeto Nishino

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PI

Toru Hirawake (Hokkaido University)

Please also mention that this cruise was supported by the Arctic Challenge for Sustainability (ArCS) Project, which was funded by the Ministry of Education, Culture, Sports, Science and Technology of Japan (MEXT), and the Global Change Observation Mission-Climate (GCOM-C) mission of Japan Aerospace Exploration Agency (JAXA).

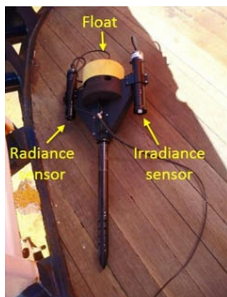
Instrument

Instrument:

Satlantic HyperPro II

Instrument Information:

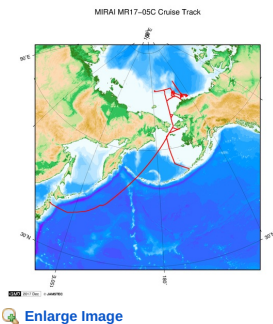
HyperProII measures down-welling irradiance just above the sea surface and up-welling radiance 20cm below the sea surface from 300 to 850nm wavelength range with ~3.3nm increment.



Data Format

The filename contains a 5 digit code consisting of XXXYY, where XXX is the SIO station number and YY is the SIO event number. The file entitled "SIO_StationLog_MR17-05C.txt" lists times and locations of these stations, as well as the corresponding station name common to the entire cruise ("Station Alias"). This information is also embedded in the header of each data file.

Related Information



MR17-05C

Ship Name: MIRAI
Period: 2017-08-24 - 2017-10-01
Chief Scientist: Shigeto Nishino (JAMSTEC)
Project Name: [Arctic Ocean Climate System Reaserch]
Proposal ▶ Arctic Challenge for Sustainability (ArCS)
Title:

Update History

2019-09-17	An observation data was registerd.
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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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Cruise ID:

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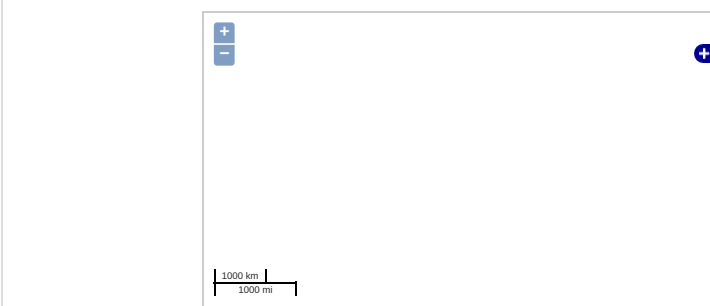
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Data Policy: [JAMSTEC](#)

Observation Items:

Science Keywords:

Observation Map



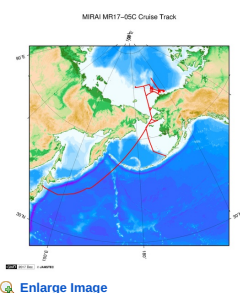
Imagery reproduced from ...

... Observation Line ... Navigation ... Observation, Dive Point, Hole

Data List

- ☐ File names
- ☐ Rrs.zip
- ☐ SIO_StationLog_MR17-05C.txt

Related Information



[Enlarge Image](#)

MR17-05C

Ship Name: MIRAI
Period: 2017-08-24 - 2017-10-01
Chief Scientist: Shigeto Nishino (JAMSTEC)
Project Name: [Arctic Ocean Climate System Research]
Proposal: ▶ Arctic Challenge for Sustainability (ArCS)
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