

Cruise Report

YK18-04

R/V Yokosuka & Shinkai 6500

Dive for test & training Shinkai 6500

Sagami-Bay, Suruga-Bay, Nankai Trough,

Izu-Ogasawara Trench

22nd to 30th March 2018

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1. Cruise Information

Cruise number: YK18-04

Name of vessel and submersible vehicle: R/V Yokosuka and Shinkai 6500

Title of cruise: Dive for test & training Shinkai

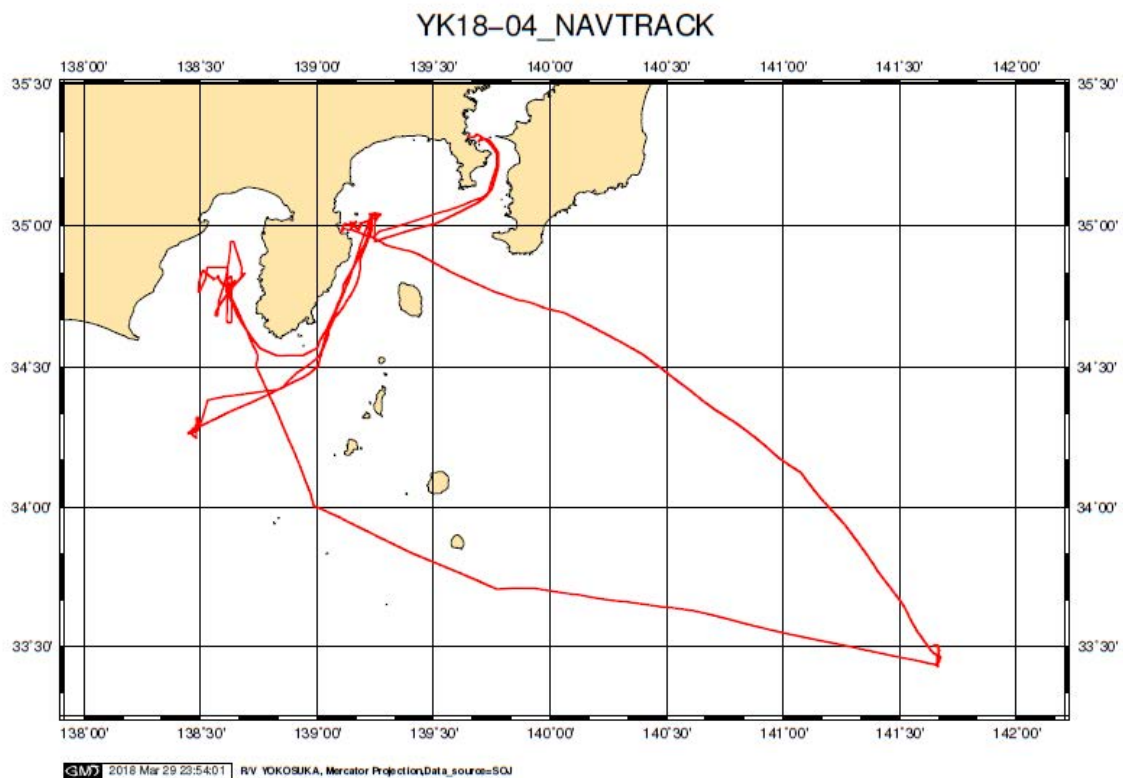
Cruise period: 22nd to 30th March 2018

Ports of call:

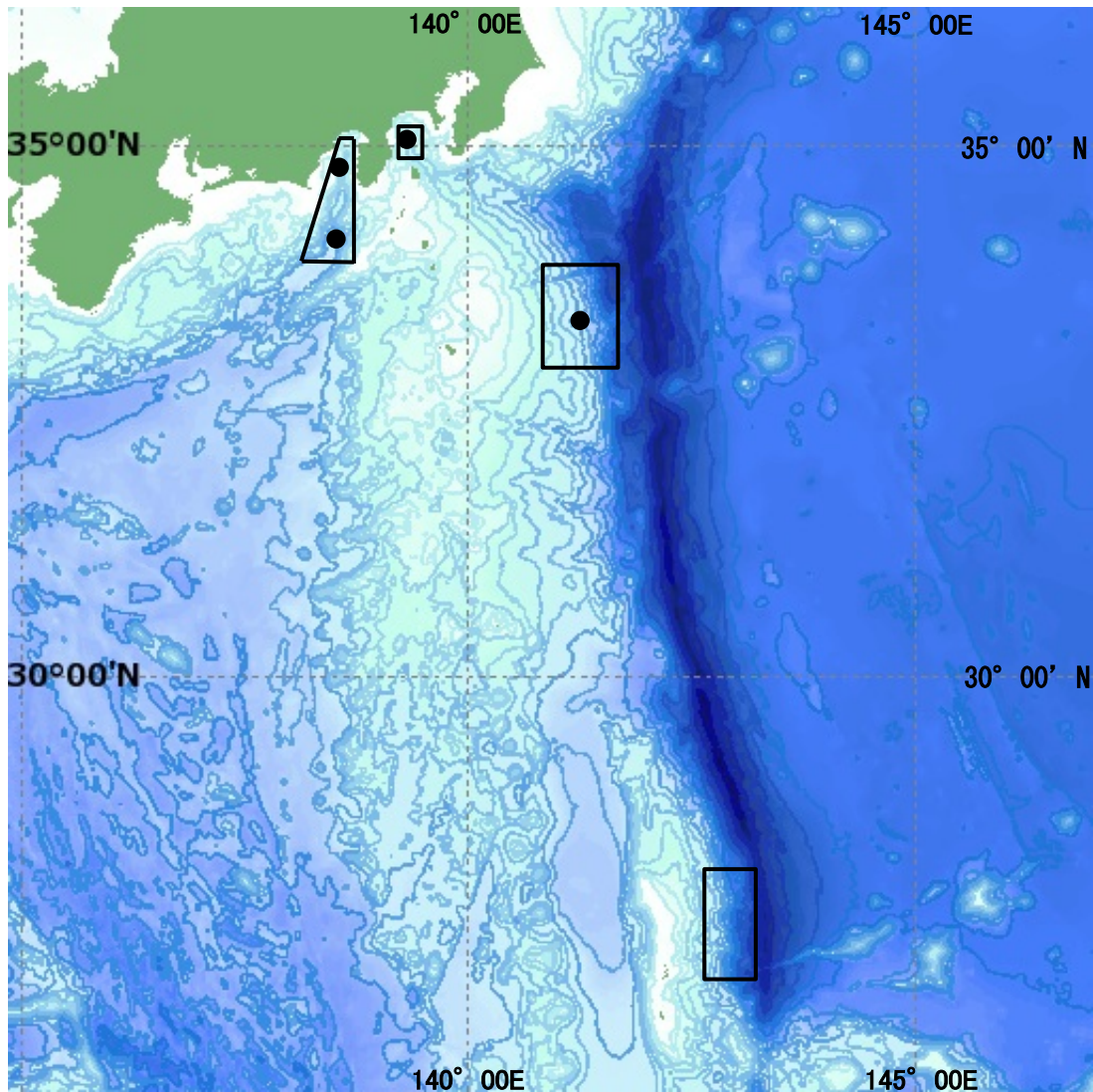
Departure: JAMSTEC, Yokosuka

Arrival: Yokosuka-shinko, Yokosuka

Research area: Sagami Bay, Suruga Bay, North of Nankai Trough,
Izu-Ogasawara trench



Research map (Dive area)



● Dive point

2. Researchers

Chief Investigator:

Masanobu Yanagitani JAMSTEC

Onboard Researchers:

Takuro NUNOURA JAMSTEC

Masashi TSUCHIYA JAMSTEC

Eiji TASUMI JAMSTEC

Masahiko Ida JAMSTEC

Takuya Shimura JAMSTEC

Mitsuyasu Deguchi JAMSTEC

Yukihiro Kida JAMSTEC

Atsushi Tsujigami MHI

Masaki Takahashi MHI

Kyouhei Tamura MHI

Kazuhiro Uchida MHI

Eiji Araki MHI

Shinichi Nakano OST

3. Overview of Research Activities

A. Test of Shinkai6500

We took place performance test for the Shinkai 6500 such as maneuverability test and pilot training. And we confirmed every functions of the Shinkai 6500 after annual maintenance.

B. Test of YKDT

We took place performance test for the YKDT such as maneuverability test and towing training.

C. Sediment sampling for Open Innovation Platform (OIP)

OIP provides microbiological and environmental genetic resources such as microbial strains, deep-sea sediments for isolation of microbes and for environmental DNA, and environmental DNA sequences, to industry and academy for industrial purposes. During this cruise, OIP takes deep-sea sediment samples for the resources and samples for environmental parameters associated with them such as pore-water geochemistry, sediment organic geochemistry, microbial and meiofaunal diversity.

D. Sediment sampling for plastic litter

The amount of plastic litter input to marine environments has been increased drastically in the last decades. Because plastics are difficult to be degraded in nature and have some negative impacts on marine ecosystems, quantitative evaluation of plastic distribution in the ocean are required for an effective pollution control measure in a future. However, there are limited information on plastic distribution in the deep-sea floor, in particular at the Pacific Ocean. In this cruise, we attempt quantitative evaluation of microplastic (smaller than 5 mm) distribution of the bathyal Suruga Bay, using push corers equipped an aluminum-made pipe. Collected sediments were carefully processed with plastic-free labo wear, spatula and sampling bottles in a fume hood onboard *R/V Shinsei-maru*. This is a part of feasibility study for the JAMSTEC future research plan.

4. DIVE summary

6K#1511

Date: 2018/3/23

11:37

Landed on seafloor: 35- 0.1423N, 139-13.7687E, 1235 m

-12:52

35- 0.1532N, 139-13.7608E, 1236 m (#1511 Station 1)

Sediment sampling with H-type sediment corers (polycarbonate or aluminum).

A total of 5 sediment cores were successfully retrieved on board.

-13:57

34-59.7910N, 139-13.7373E, 1225 m (#1511 Station 2)

Sediment sampling with H-type sediment corers (polycarbonate or aluminum).

A total of 5 sediment cores were successfully retrieved on board.

16:31

Left the bottom: 34-59.4793N,139-13.4714E, 1134m

6K#1512

Date: 2018/3/24

12:38

Landed on seafloor: 34-16.9246N, 138-28.9759E, 3228 m

-14:51

34-16.4324N, 138-28.9595E, 3238 m (#1512 Station 1)

Sediment sampling with a H-type sediment corer, but no sediment was retrieved.

-15:45

34-16.4189N, 138-28.8781E, 3233 m (#1512 Station 2)

A total of 9 H-type sediment corers were used for sediment sampling around this site, and only 2 short sediment cores (4 cm) were obtained.

15:45

Left the bottom

6K#1513

Date: 2018/3/24

12:46

Landed on seafloor: 33-27.8053N, 141-40.2473E, 6384 m

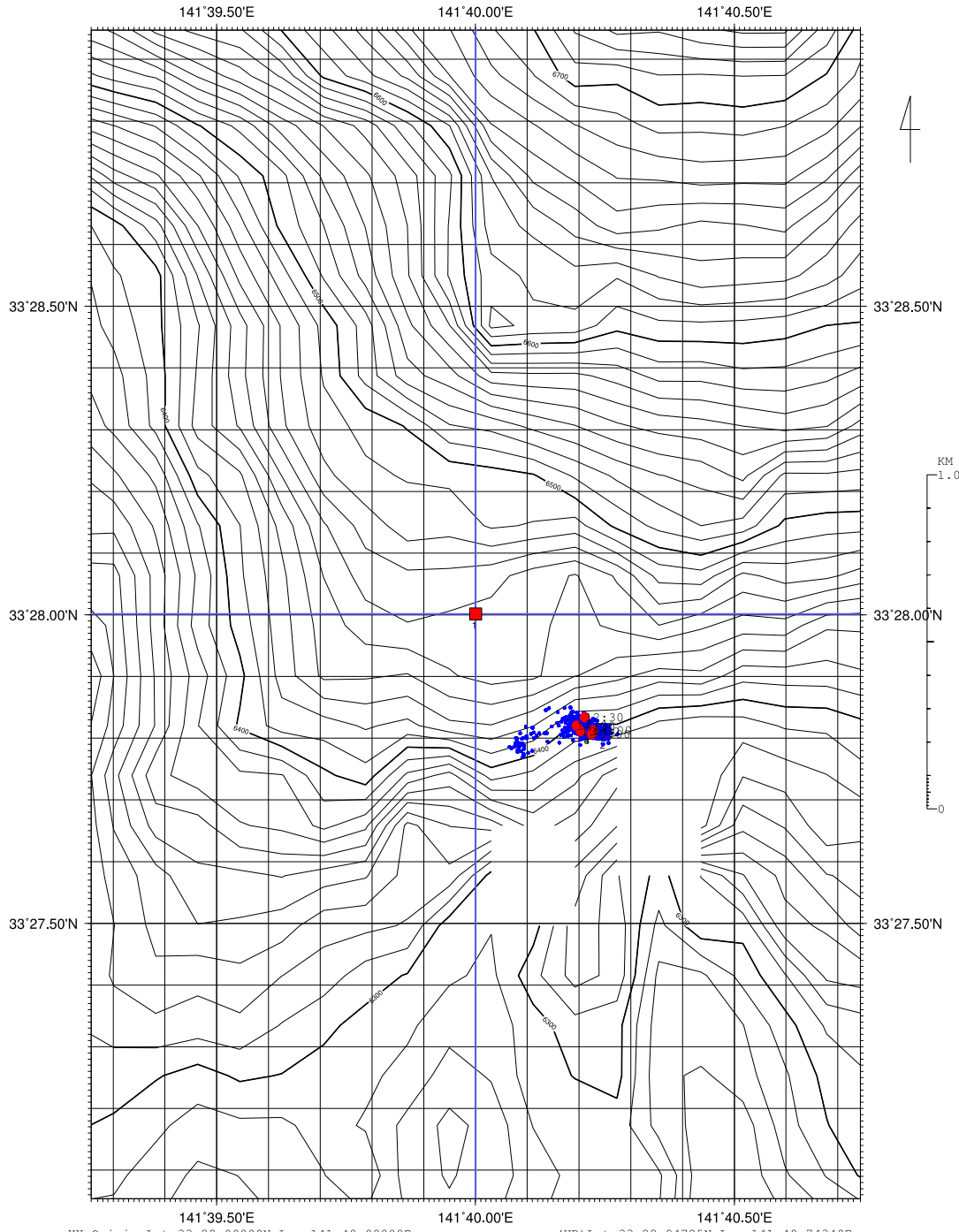
-14:21

33-27.8133N, 141-40.2167E, 6378m (#1513 Station 1)

Sediment sampling with a total of 8 H-type sediment corers.

14:47

Left the bottom



XY Origin Lat 33-28.00000N Lon 141-40.00000E (UR) Lat 33-28.94725N Lon 141-40.74340E
Center Lat 33-28.00000N Lon 141-40.00000E (LL) Lat 33-27.05375N Lon 141-39.25760E
Grid_File:1513_150.grd ContourInt:10m Datum WGS-84 Proj.MER (2018-03-26)

6K#1514

Date: 2018/3/28

11:12

Landed on seafloor: 34-47.0846N, 138-38.0712E, 1651 m

-12:12

34-47.0840N, 138-38.0703E, 1652 m (#1514 Station 1)

Sediment sampling with H-type sediment corers, and 3 of 5 were successfully retrieved.

-15:52

34-46.8550N, 138-38.0994E, 1641 m (#1514 Station 2)

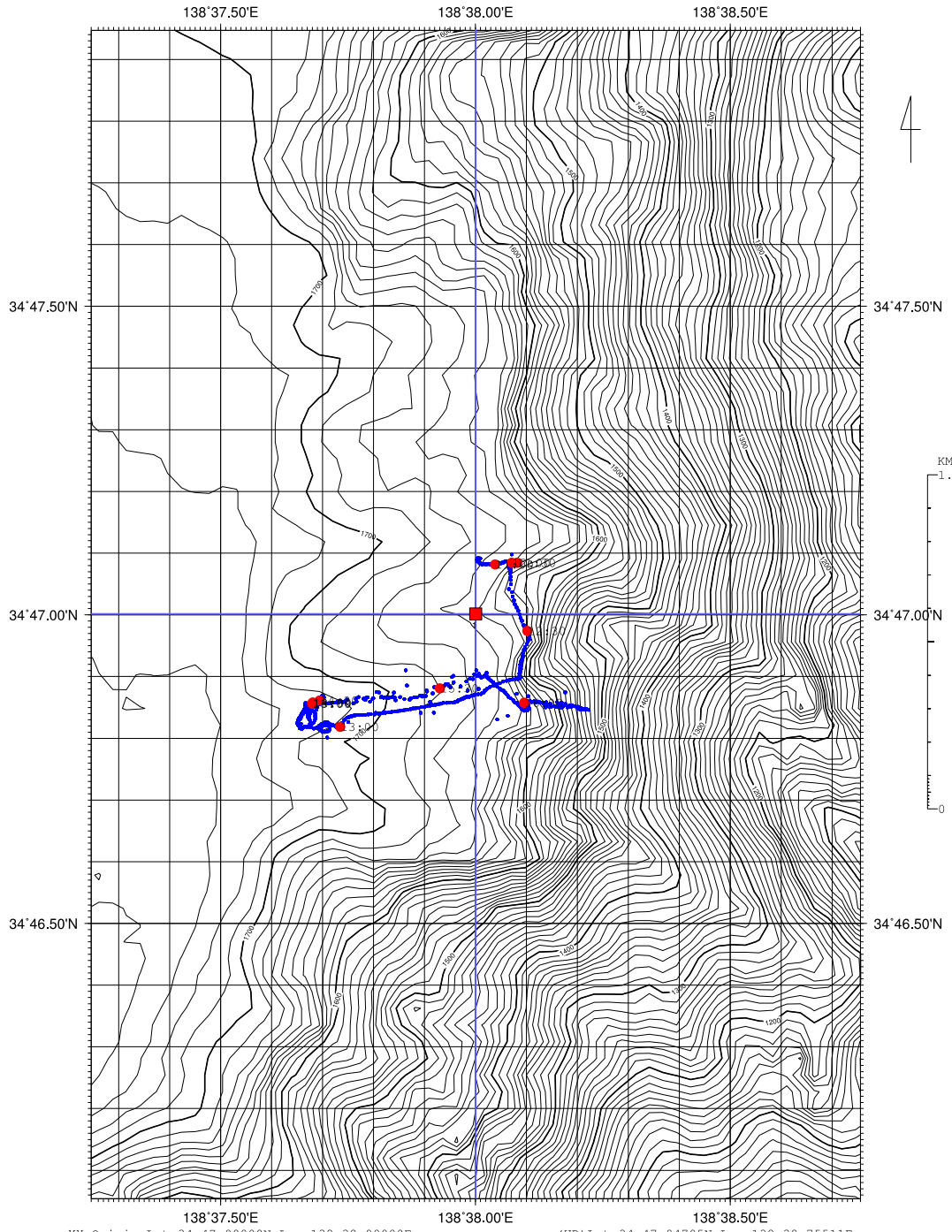
A total of 5 H-type sediment corers were used for sediment sampling and retrieved onboard.

16:25

Left the bottom

#1514DIVE
SURUGABAY
MATSUZAKI OFFING

(1 / 10000)



138°37.50'E 138°38.00'E 138°38.50'E
XY Origin Lat 34-47.00000N Lon 138-38.00000E (UR) Lat 34-47.94705N Lon 138-38.75511E
Center Lat 34-47.00000N Lon 138-38.00000E (LL) Lat 34-46.05395N Lon 138-37.24589E
Grid_File:1514_50.grd ContourInt:10m Datum WGS-84 Proj.MER (2018-03-28)

5. Acknowledgement

We are grateful thank to all crew of “R/V Yokosuka” and “Shinkai 6500” operation team for the sampling and observation.

6. Notice on Using

Notice on using: Insert the following notice to users regarding the data and samples obtained.

This cruise report is a preliminary documentation as of the end of the cruise. This report may not be corrected even if changes on contents (i.e. taxonomic classifications) may be found after its publication. This report may also be changed without notice. Data on this cruise report may be raw or unprocessed. If you are going to use or refer to the data written on this report, please ask the Chief Scientist for latest information. Users of data or results on this cruise report are requested to submit their results to the Data Management Group of JAMSTEC.