

Cruise Report

YK19-02

R/V Yokosuka & Shinkai 6500

Sagami-Bay, Suruga-Bay, Nankai Trough,
Izu-Ogasawara Trench

2019

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1. Cruise Information

Cruise number: YK19-02

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

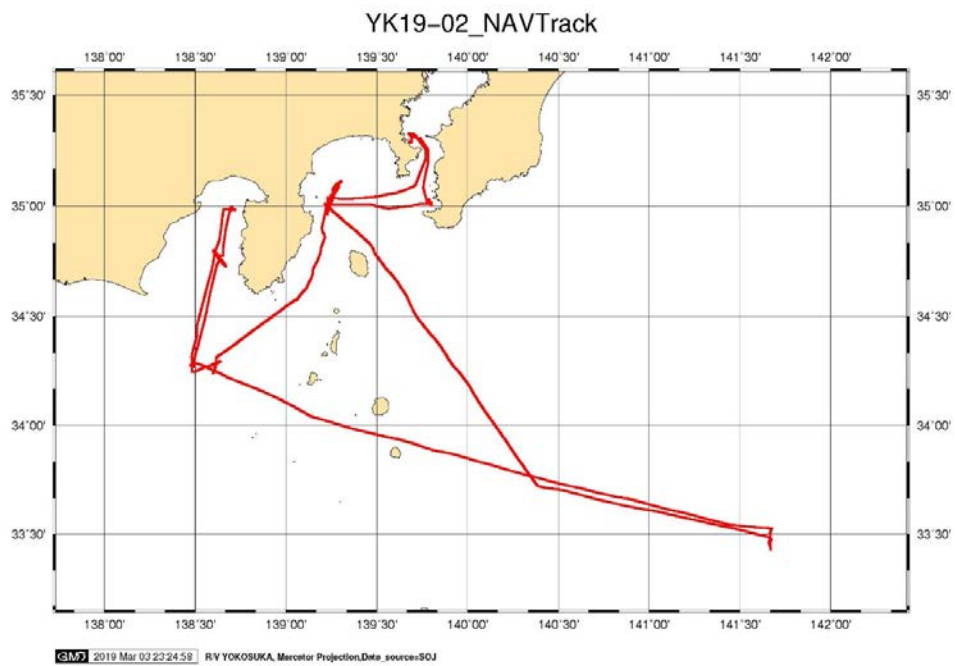
Cruise period: 26th February to 4th March 2019

Ports of call:

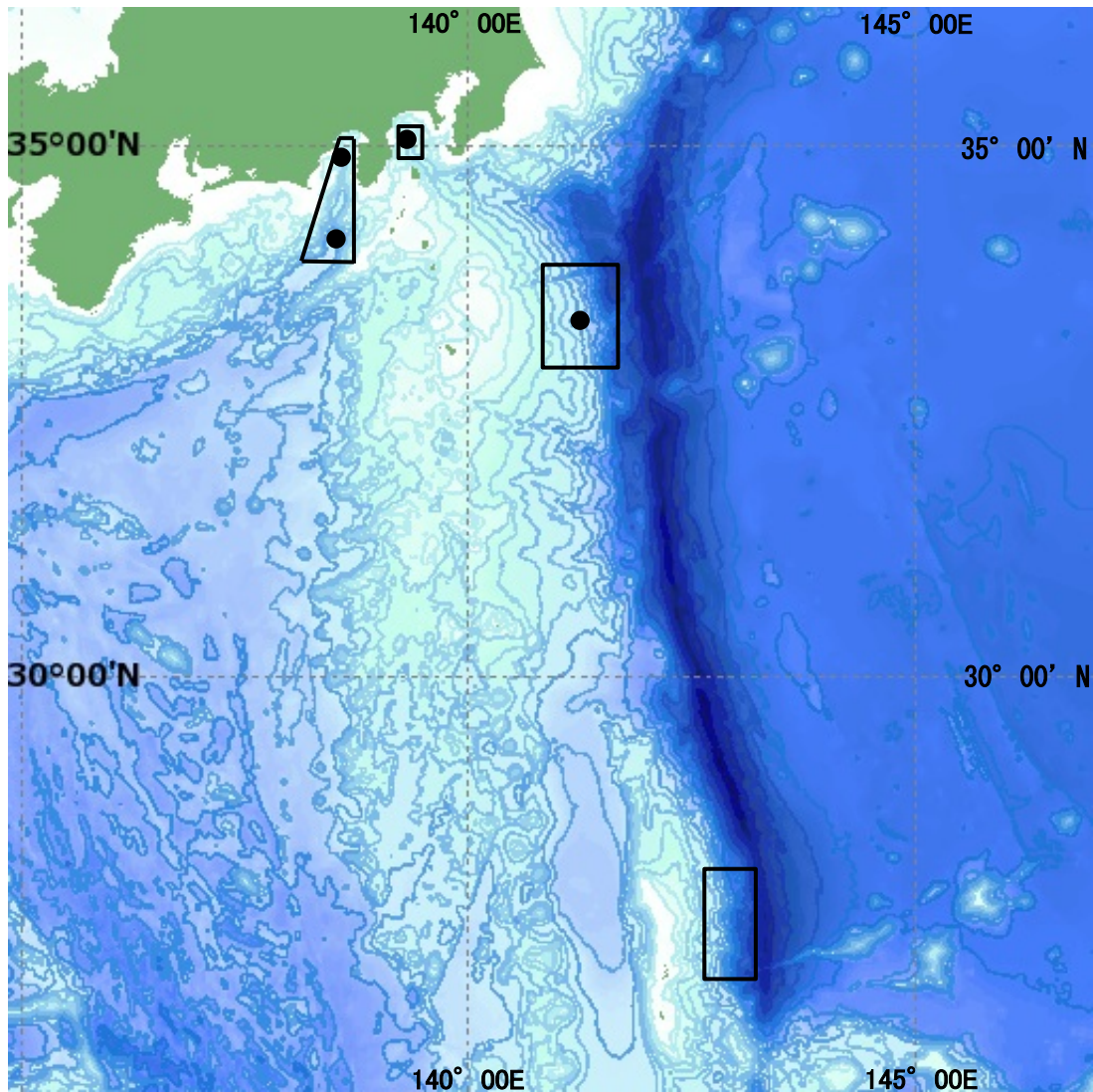
Departure: Yokosuka-Shinko, Yokosuka

Arrival: JAMSTEC, Yokosuka

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



Research map (Dive area)



● Dive point

2. Researchers

Chief Investigator:

Masanobu Yanagitani	JAMSTEC
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Onboard Researchers:

Hidetaka NOMAKI	JAMSTEC
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Masayuki MIYAZAKI	JAMSTEC
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Tomomi SUMIDA	JAMSTEC
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Miho Hirai	JAMSTEC
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Takuya Shimura	JAMSTEC
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Mitsuyasu Deguchi	JAMSTEC
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Yukihiro Kida	JAMSTEC
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Hitomi TONOSAKI	JAMSTEC
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Michake Haley	TRITON Submarines LLC
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Jeff Reynolds	REN Global Co., Ltd.
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Tomo Arichika	MHI
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Masaki Takahashi	MHI
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Kazuhiro Uchida	MHI
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Eiji Araki	MHI
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Takahiro NOMOTO	NIPPON KAIJI KYOKAI ※
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※26th February on board

Non-boarding Researchers:

Tzu-Hao Lin	JAMSTEC
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Hiromi Watanabe	JAMSTEC
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Tomoaki Kitayama	JAMSTEC
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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. Training of Shinkai6500

We took place performance test for the Shinkai 6500 such as maneuverability test and training for operation.

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. Test photography with a 250 degree camera

Attach a 250 degree fisheye lens to the mechanism-owned 4K camera, and obtain an experimental images of the deep sea.

E. Shooting of deep seafloor debris

Shinkai 6500 was taken with a 360-degree rotation, with benthic organisms and seafloor debris as subjects.

F. Acquisition of the environmental sound of the seabed by the deep sea hydrophone

It is pre-confirmed to record sounds emitted by various living things in water, and a self-recording type deep sea hydrophone with a withstand pressure of 2000 m is mounted on the Shinkai 6500, and the type and size of noise emitted from the Shinkai 6500 By grasping, background data for acquiring environmental sounds effectively is acquired.

4. DIVE summary

6K#1531, East off Hatsushima, Sagami Bay

Date: 2019/2/27

11:35

Landed on seafloor: 34-59.99N, 139-13.73E, 1228 m

-12:53

34-59.99N, 139-13.72E, 1226 m (#1531 Station 1)

Sediment sampling with H-type sediment corers (H-red-1,2,3) and MBARI-red-4.

A total of 4 sediment cores were successfully retrieved on board.

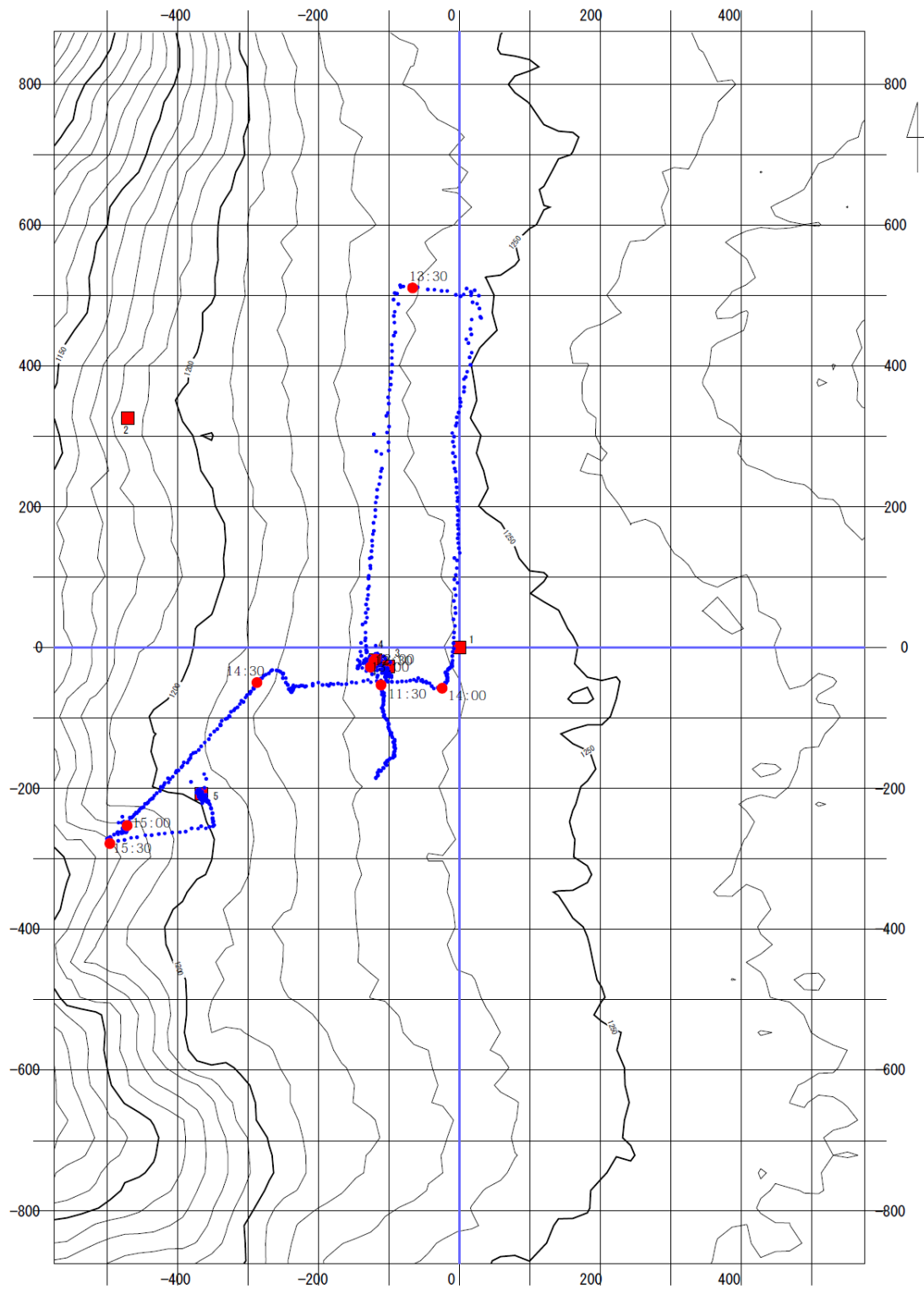
15:51

Left the bottom: 34-59.89N, 139-13.56E, 1187m

○ Two underwater sound recorders deployed on *Shinkai 6500*.

#1531DIVE
Sabgami Bay

(1 / 5000)



XY Origin Lat 35 00.00000N Lon 139 13.80000E
Center Lat 35 00.00000N Lon 139 13.80000E
Grid_File:1531_25.grd ContourInt:10m

Datum WGS 84 Proj.LTM

(UR) Lat 35 00.47376N Lon 139 14.17880E
(LL) Lat 34 59.52724N Lon 139 13.42220E
(2019 02 26)

6K#1532, Off Heda, Suruga Bay

Date: 2019/2/28

12:57

Landed on seafloor: 34-59.23N, 138-41.52E, 1299 m

-13:22

34-59.23N, 138-41.53E, 1300 m (#1532 Station 2)

Sediment sampling with H-type sediment corers (H-blue-1,2,3) and MBARI-blue-4.

A total of 4 sediment cores were successfully retrieved on board.

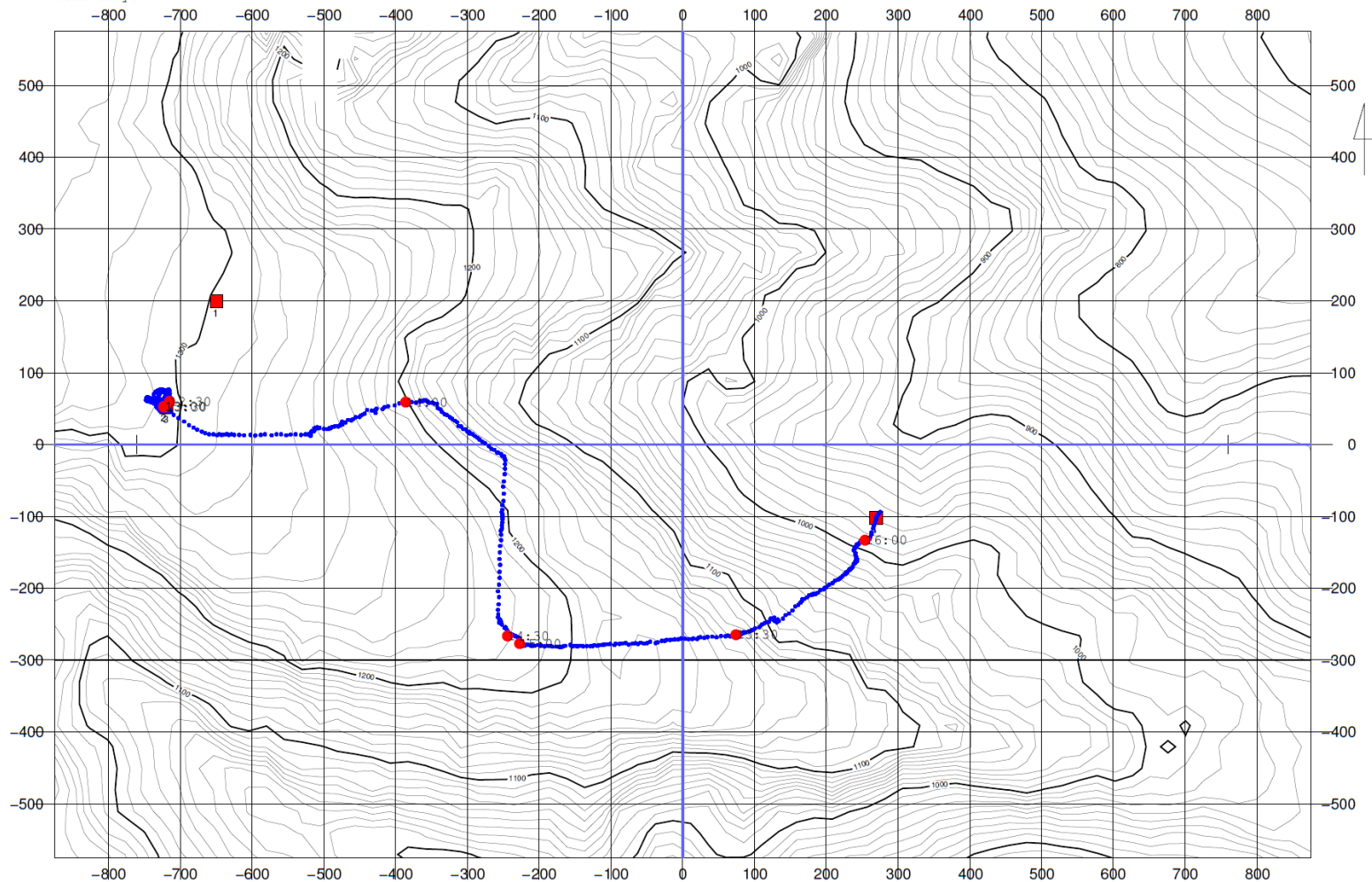
16:07

Left the bottom: 34-59.15N, 138-42.18E, 959 m

○ Two underwater sound recorders deployed on *Shinkai 6500*.

#1532DIVE
Surugawan
Heda Canyon

(1 /5000)



XY Origin Lat 34-59.20000N Lon 138-42.00000E
Center Lat 34-59.20000N Lon 138-42.00000E
Grid_File:1490_30.grd ContourInt:10m

(UR) Lat 34-59.51150N Lon 138-42.57609E
(LL) Lat 34-58.88950N Lon 138-41.42491E
(2019-02-28)

Datum WGS-84 Proj.LTM

6K#1533, Northern end of Nankai Trough

Date: 2019/3/1

12:10

Landed on seafloor: 34-16.50N,138-29.31E, 3369 m

-14:37

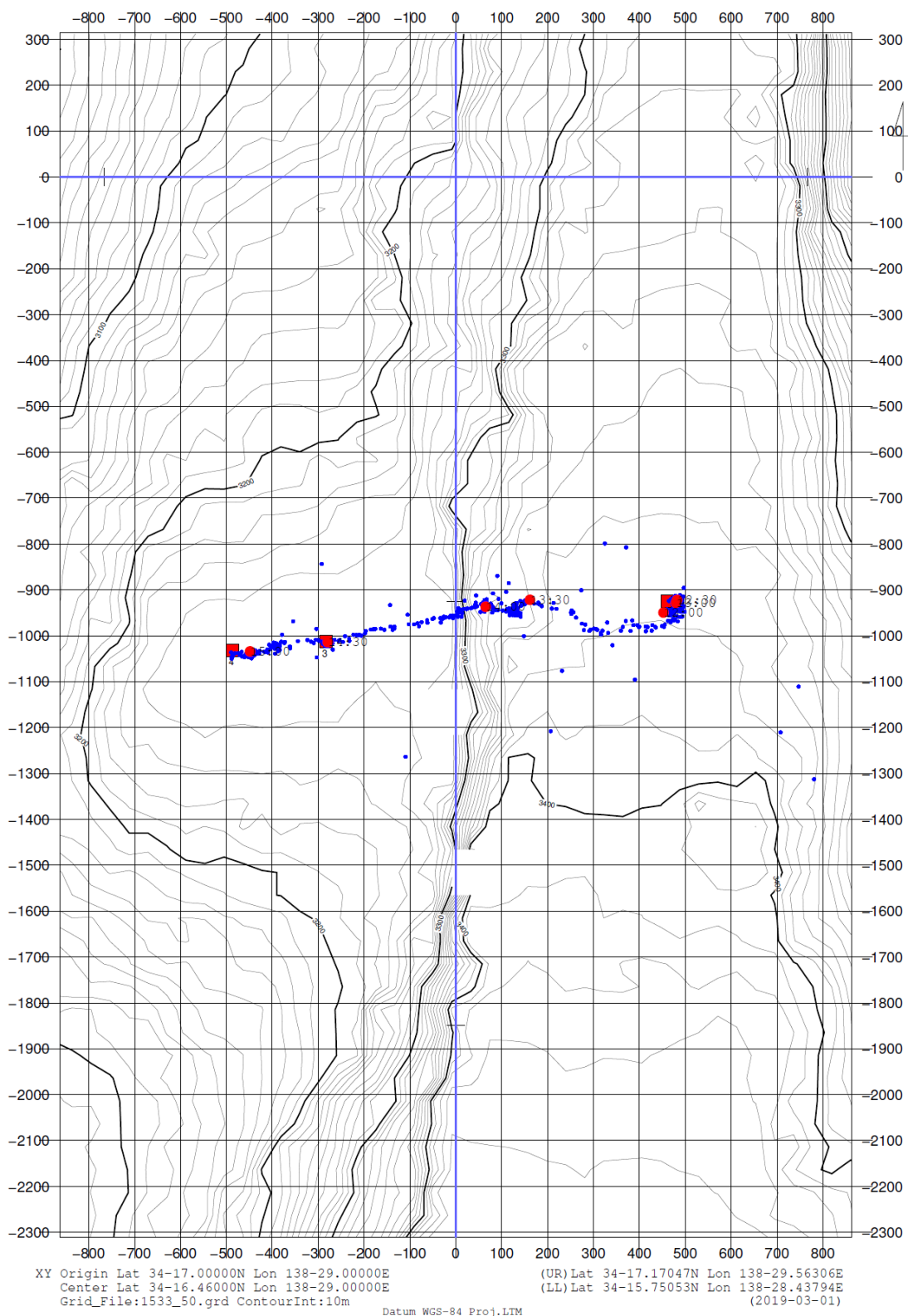
34-16.45N, 138-28.82E, 3244m (#1533 Station 3)

Sediment sampling with a H-type sediment corer (H-red-1) and a MBARI corer (H-red-4). Due to the difficulties on sediment recovery, only 2 cores with a thickness of ~5 cm were retrieved and sampled on board.

15:15

Left the bottom: 34-16.44N,138-28.68E, 3239m

(1 / 7500)



6K#1534, Izu-Ogasawara Trench

Date: 2019/3/2

11:57

Landed on seafloor: 33-28.00N,141-39.99E, 6448 m

-12:53

33-28.00N, 141-39.99E, 6448 m (#1534 Station 4)

Sediment sampling with 3 H-type sediment corers (H-blue-1, 2, 3) and a MBARI corer (H-blue-4).

-13:53

33-28.02N, 141-40.00E, 6449 m (#1534 Station 4)

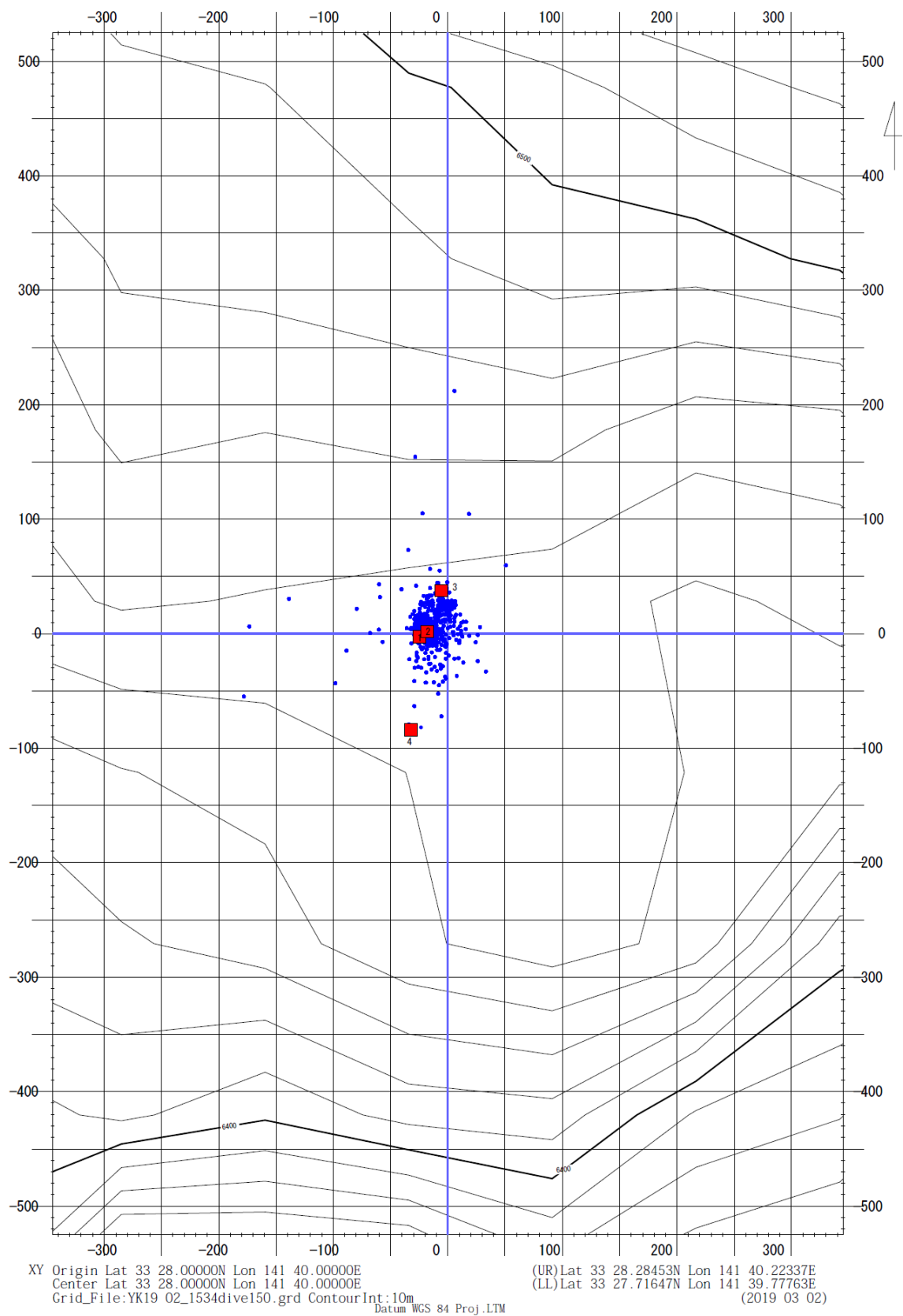
Additional core sampling with a H-type sediment corer (H-blue-5)

14:10

Left the bottom: 33-27.95N,141-39.98E, 6442 m

#1534DIVE
Izu Ogasawara Trench

(1 / 3000)



6K#1535, East off Hatsushima, Sagami Bay

Date: 2019/3/3

10:59

Landed on seafloor: 34-59.42N, 139-13.73E, 1241 m

-12:24

34-59.42N, 139-13.54E, 1201 m (#1535 Station 5)

Sediment sampling with H-type sediment corers (H-red-1,2,3) and MBARI-red-4.

H-red-2 was failed to recover, thus 3 cores were retrieved onboard.

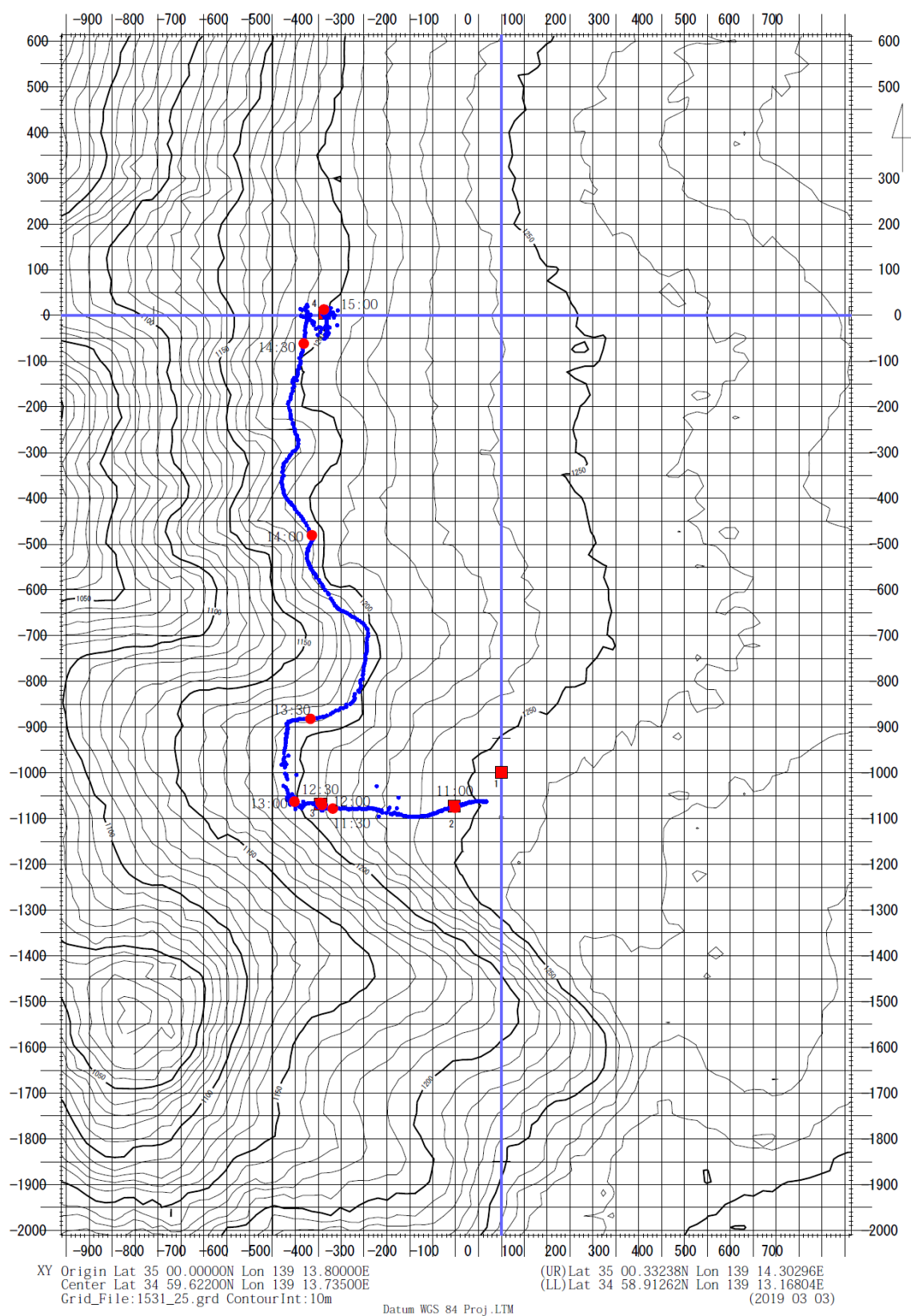
15:01

Left the bottom: 35-00.00N,139-13.55E, 1193 m

○ Two underwater sound recorders deployed on *Shinkai 6500*.

#1535DIVE
Sagami Bay

(1 / 7500)



4. Acknowledgement

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

5. 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.