



NATSUSHIMA Cruise Report
NT10-15

Deep-sea research 2010
“Hyper-dolphin” Research cruise

Suruga Bay, Sagami Bay

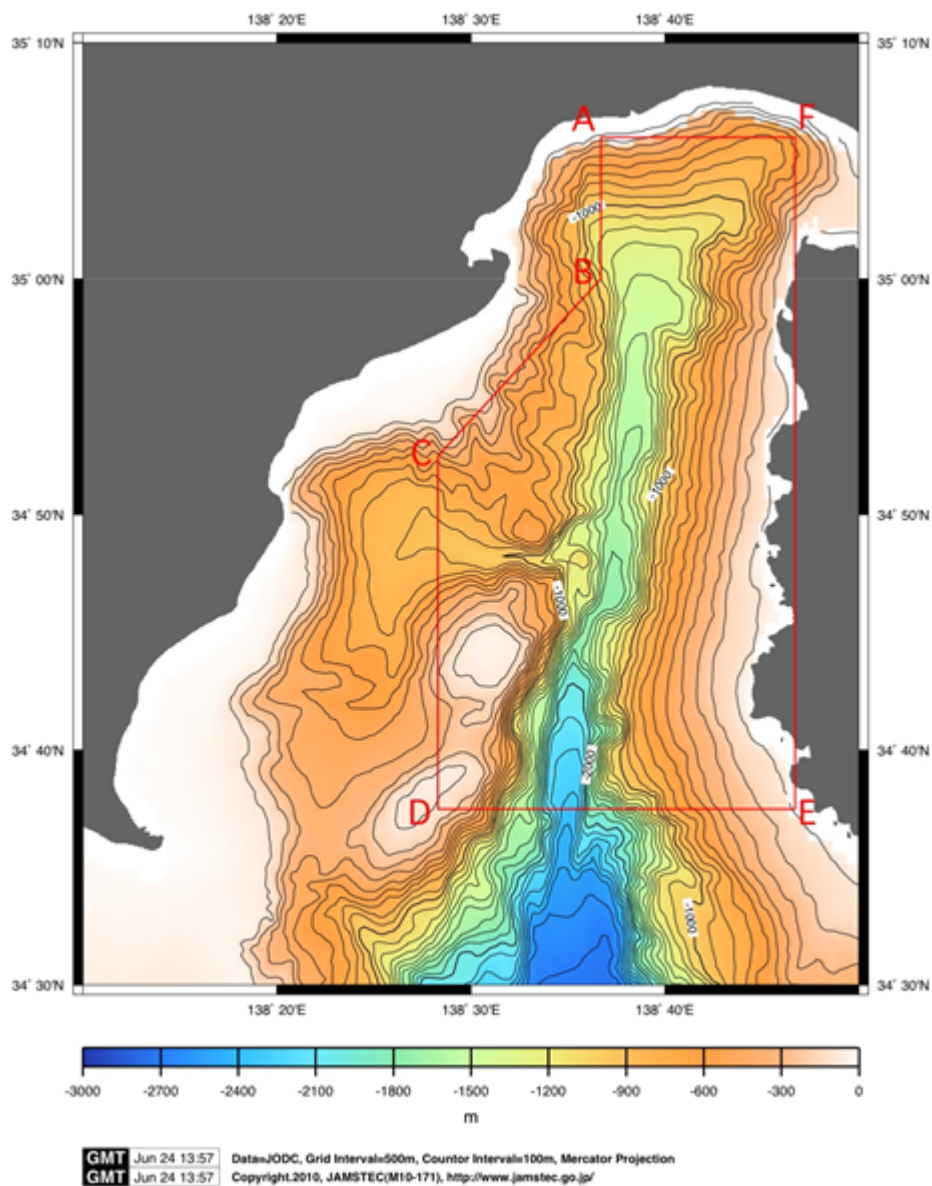
August 18 to 25, 2010

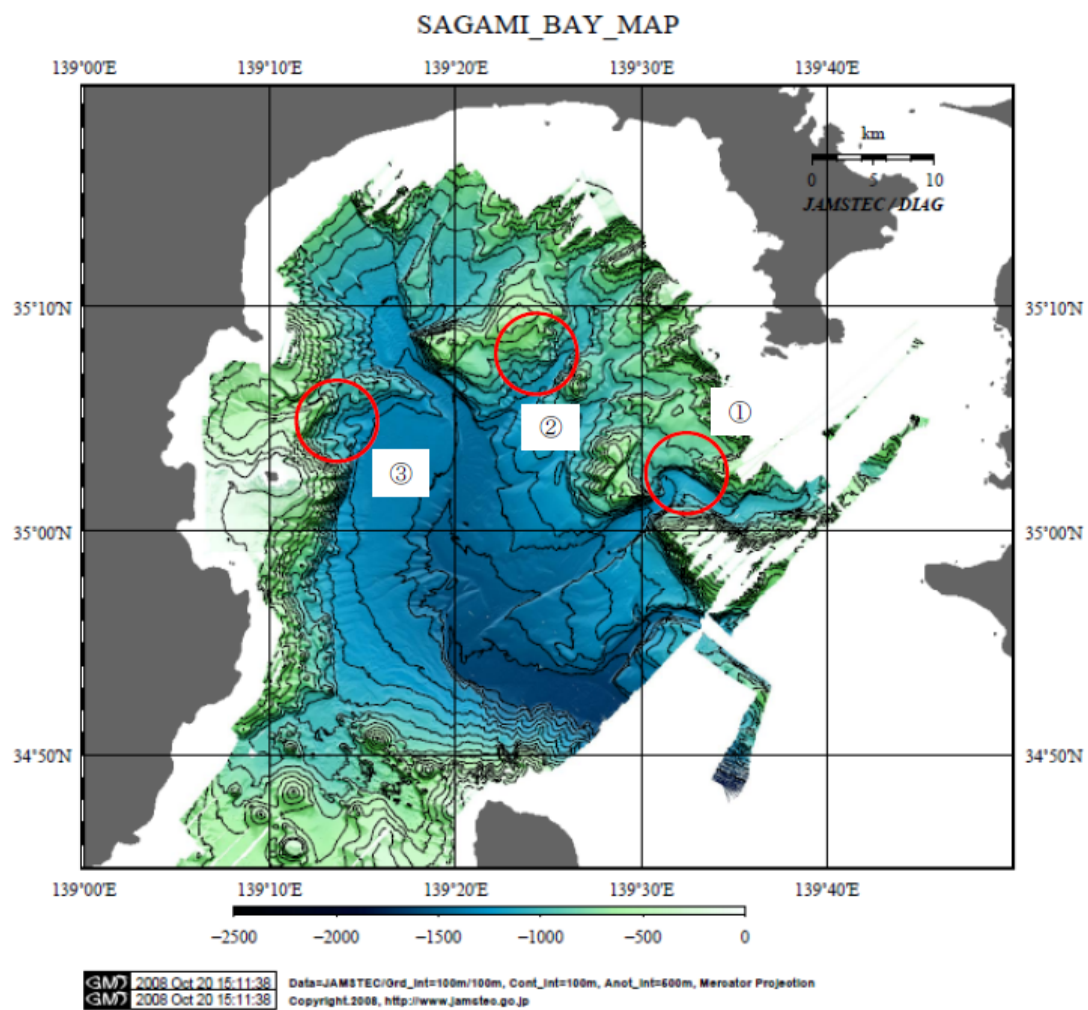
Japan Agency for Marine-Earth Science and Technology
(JAMSTEC)

1. Cruise Information

- Cruise ID NT10-15
- Name of vessel Natsushima
- Title of the cruise
Deep-sea research 2010, “Hyper-dolphin” Research cruise
- Title of proposal
Yasushi TAYA, [JAMSTEC]
Title of proposal: “Submersible exploration for filming video” and “Public relations cruise with museums and aquariums”
- Cruise period from August 18, 2010 to August 25, 2010
- Ports of departure / call / arrival Shimizu port (Sizuoka) / Yokosuka port (JAMSTEC)
- Research area Suruga Bay, Sagami Bay
- Research Map

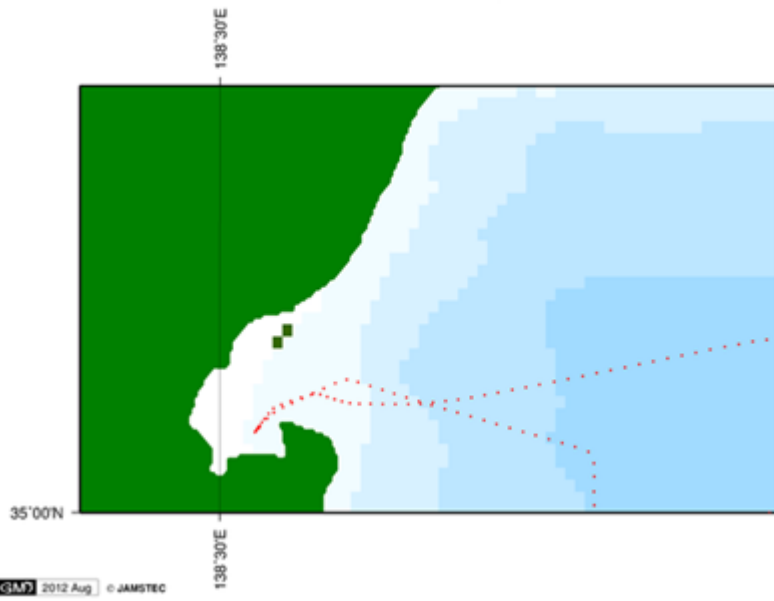
Research area



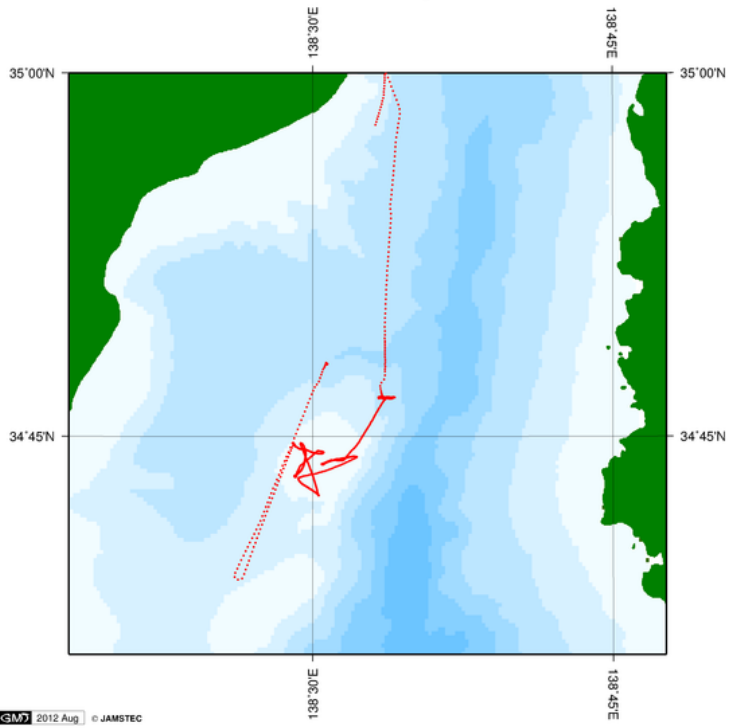


Cruise Track

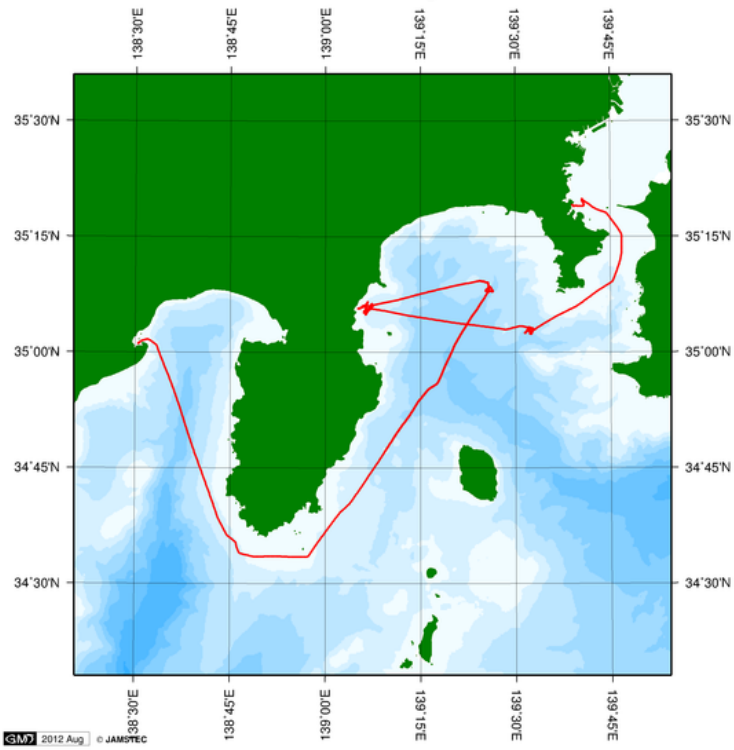
NATSUSHIMA NT10-15 Leg1 Cruise Track



NATSUSHIMA NT10-15 Leg2 Cruise Track



NATSUSHIMA NT10-15 Leg3 Cruise Track



2. Research party

- Chief Scientist:

Tetsuya Miwa, JAMSTEC

- Science Party

Leg.1

Kei Shibata	JAMSTEC, Public Relations Division
Koichi Sugeno	JAMSTEC, Public Relations Division
Nanako Mitsuyama	JAMSTEC, Public Relations Division
Sachiko Wada	JAMSTEC, Office for Press
Naoki Tanaka	Yoshimoto Kogyo Co., Ltd.
Takanori Takeyama	Sun Music
Akitoshi Hiei	TBS
Maiko Miyoshi	TBS
Masahiro Yabusaki	TBS
Tsuyoshi Saegusa	TBS
Kazuhiko Saito	TBS
Teppei Anan	TBS
Yoshihiro Shibusawa	TBS
Yuto Osaka	TBS

Leg.2

Kei Shibata	JAMSTEC, Public Relations Division
Shinichi Suzuki	JAMSTEC, Public Relations Division
Koichi Sugeno	JAMSTEC, Public Relations Division
Nanako Mitsuyama	JAMSTEC, Public Relations Division
Kimio Yuki	NHK
Masashi Wada	NHK
Takeshi Matsushita	NHK
Kazunori Miyakawa	NHK, Science & Technology Research Laboratories
Masashi Mochiduki	The University of Tokyo, Institute of Industrial Science

Leg.3

Kyohiko Mitsuzawa	JAMSTEC, Public Relations Division
Kantaro Fujioka	JAMSTEC
Takamasa Tamura	JAMSTEC, Public Relations Division
Koichi Sugeno	JAMSTEC, Public Relations Division
Chiaki Baba	JAMSTEC, Public Relations Division
Shinichi Mori	Hiratsuka City Museum
Mitsuharu Oshima	Kanagawa Prefectural Museum of Natural History
Kenichiro Shibata	Yokosuka City Museum
Naoki Takahashi	Natural History Museum and Institute, Chiba
Naritomo Iwase	Keikyu Aburatsubo Marine Park
Chikayo Noda	Keikyu Aburatsubo Marine Park
Ryosuke Mitsumori	Tokyo Sea Life Park
Momoko Hotta	Tokyo Sea Life Park
Kazuhiko Minawa	Enoshima Aquarium
Mitsugu Kitada	Enoshima Aquarium
Mika Ihara	Yokohama Hakkeijima Inc.
Fumi Matsuoka	Tokyo University of Marine Science and Technology
Emi Kaise	Yokohama National University

3. Research/Development Activities

● Research overview

Prelimi Underwater photography was conducted to obtain publicity video materials. In addition, cooperation between the museum / aquarium and the public relations section was planned. Divided into three legs, the following four themes were implemented.

<Theme 1>

The Japan Broadcasting Corporation (NHK), which applied for the open-type proposal of material-video cooperation, was selected as the video material shooting partner.

The precious ecology of deep-sea creatures from the middle to the bottom of the Suruga Bay area was recorded using advanced technology and state-of-the-art equipment. High-definition video was recorded using the “Super Harp” high-sensitivity high-definition camera installed in Hyper Dolphin. Moreover, the deep sea shark which does not appear easily under artificial lighting was photographed using an acoustic camera, and the observation record of the natural behavior of the deep sea shark that has not been photographed so far was obtained.

<Theme 2>

TOKYO BROADCASTING SYSTEM TELEVISION, INC., which applied for the open-type proposal of material-video cooperation, was selected as the video material shooting partner.

We surveyed and photographed deep-sea sharks and deep-sea creatures, and broadcasted them on the “Jump out! Kagaku-kun” program. In addition, we introduced that the sea near Japan (Suruga Bay) is one of the world's leading treasures of deep-sea creatures.

<Theme 3>

The purpose was to collect publicity video materials and samples for display (rocks, etc.). In addition, through the boarding of nearby museums, aquarium curators, etc., we promoted understanding of the mechanism work and further strengthened cooperation. The results of this cruise aimed at outreach development not only at our organization but also at special exhibitions at each building.

<Theme 4>

The experiment ideas that were recruited and selected on the homepage were tested by opening part of the payload bay of Hyper Dolphin to the individuals or groups who applied. A part of the payload bay of Hyper Dolphin (30 squares on the public offering) was used in common with each Leg.

4. Cruise Log

2010/8/18 Inboard briefing at Shimizu port, Sizuoka
2010/8/19 07:00 departed in Shimizu port (Leg.1)
2010/8/19 09:00 HPD start landing
2010/8/19 10:00 HPD come up to surface (Hydraulic problems)
2010/8/20 07:00 departed in off Shimizu
2010/8/20 08:00 arrived in off Heda
2010/8/20 08:30 HPD start landing
2010/8/20 12:42 HPD landing at 1396m depth
2010/8/20 15:35 HPD leave the bottom (Confirmed a lump of wood like a shipwreck)
2010/8/20 19:00 Change of passengers off Shimizu (Leg.2)
2010/8/21 06:30 departed in off Shimizu
2010/8/21 08:00 arrived in sea area northeast of Ishibase
2010/8/21 08:30 HPD start landing at 520m depth (The acoustic camera did not work due to trouble)
2010/8/21 16:00 HPD leave the bottom (Confirmed a lump of wood like a shipwreck)
2010/8/22 08:30 HPD start landing at 1000m depth in Yaizu submarine valley
2010/8/22 15:20 HPD leave the bottom (The acoustic camera clearly confirmed the fish shadow 18m ahead.)
2010/8/22 17:40 Change of passengers off Shimizu (Leg.3)
2010/8/22 18:00 departed in off Shimizu

2010/8/23 08:30 Dive into the Miura submarine valley, and observed and photographed benthic organisms at a depth of 1100m.

HPD approached the southeastern slope of the Sagami Knoll and observed topography and organisms. The topographic feature was a muddy slope. Rolling stones were also relatively new. Biological characteristics were that many fishes swam in the submarine valley and there were few fishes along the slope.

A large number of Predatory tunicate were seen on the southeastern slope of the Sagami Knoll near a depth of 800m. In the vicinity of 600 m, Order Amphidiscophorida was observed. Sagami Bay is a representative deep-sea creature, but it was not found in the coastal area in recent years and became a valuable video.

2010/8/23 15:35 HPD leave the bottom

2010/8/23 18:00 Change of passengers off Atami

2010/8/24 08:30 HPD began to dive into the Tokyo Bay Submarine Valley and observed and photographed benthic organisms at a depth of 1180 m. We approached the northern slope of Tokyo Bay Submarine Valley and photographed and observed the topography and surrounding organisms.

The topographical features were many outcrops and many layered rocks. Biological characteristics were that a few fish swam in the submarine valley, and there were few biota on the upper slope. It was the acquisition of a valuable image of the cross section of the seabed valley up to around 800m.

2010/8/24 16:05 HPD leave the bottom

2010/8/25 09:00 arrived JAMSTEC, Yokosuka,

5. Notice on Using

This cruise report is a preliminary documentation as of the end of cruise.

This report is not necessarily corrected even if there is any inaccurate description (i.e. taxonomic classifications). This report is subject to be revised without notice. Some data on this report may be raw or unprocessed. If you are going to use or refer the data on this report, it is recommended to ask the Chief Scientist for latest status.

Users of information on this report are requested to submit Publication Report to JAMSTEC.

<http://www.godac.jamstec.go.jp/darwin/explain/1/e#report>

E-mail: submit-rv-cruise@jamstec.go.jp