



R/V YOKOSUKA Cruise Report
YK07-14

Deep-sea research 2007, “Shinkai6500” Research cruise

Kuril Kamchatka Trench South

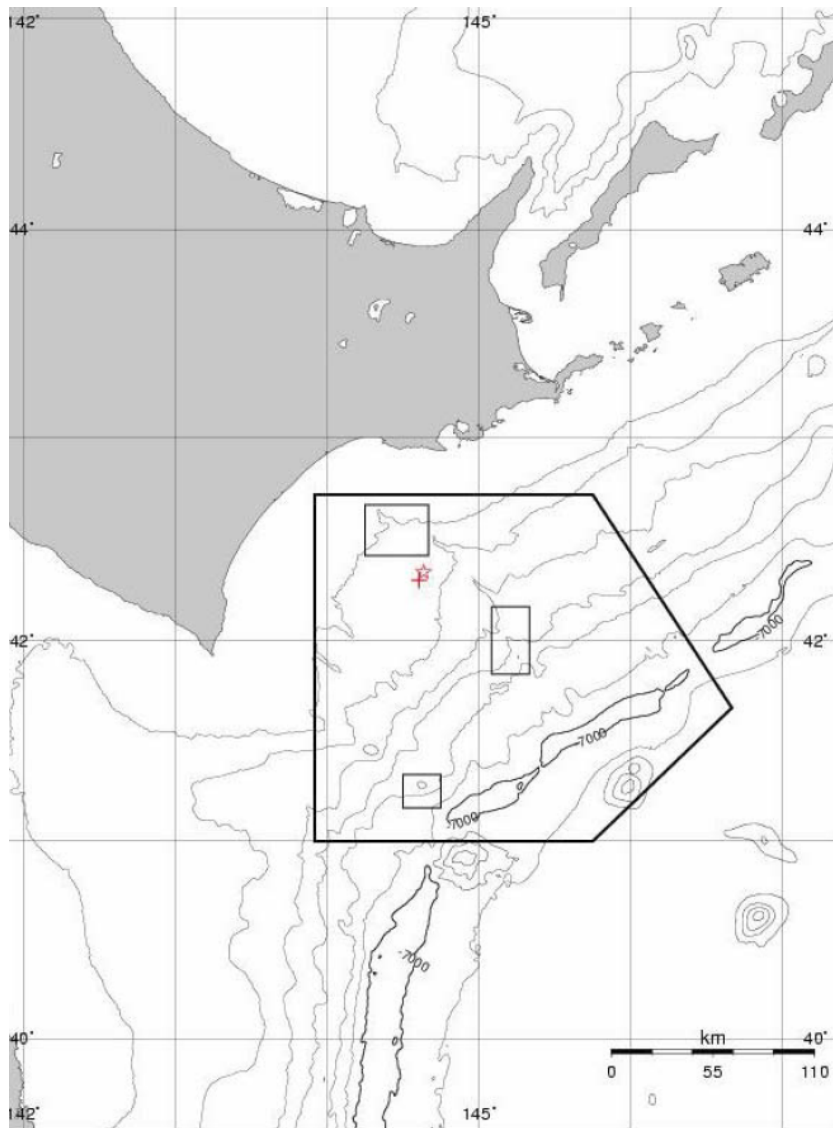
September 25, 2007 to October 9, 2007

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

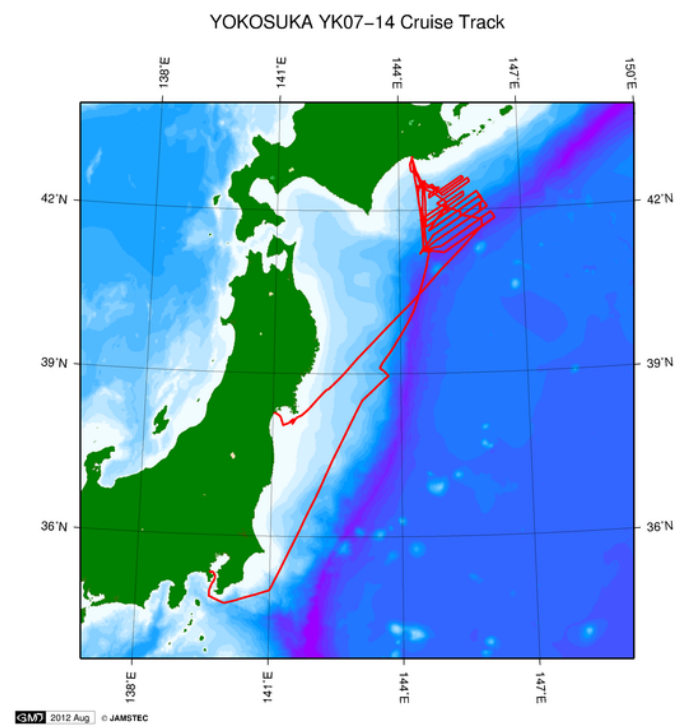
1. Cruise Information

- Cruise ID YK07-14
- Name of vessel R/V YOKOSUKA
- Title of the cruise
Deep-sea research 2007, “Shinkai6500” Research cruise
- Title of proposal
Tetsuya Miwa, JAMSTEC
Title of proposal: Study on living capture of cold water seeps and deep-sea creatures on the Kuril Trench slope
Taquimi TuZino, AIST
Title of proposal: Kuril arc - Northeast Japan arc meeting part; Development history of Kushiro Submarine Valley
- Cruise period from September 25, 2007 to October 9, 2007
- Ports of departure / call / arrival from Yokosuka (JAMSTEC) to Sendai port (Miyagi, Japan)
- Research area Kuril Kamchatka Trench South, Kushiro Submarine Valley
- Research Map

Research area



Cruise Track



2. Research party

- Chief Scientist:
Tetsuya Miwa JAMSTEC
- Representative of the science party:
Tetsuya Miwa JAMSTEC
Taquumi TuZino AIST
- Science party:
Sumihiro Koyama JAMSTEC
Satoshi Konishi JAMSTEC
Chiaki Kato JAMSTEC
Yuichi Nogi JAMSTEC
Hiromi Uchida JAMSTEC
Yushi Iwatani JAMSTEC
Jyun Baba JAMSTEC
Tomoyuki Nagahara JAMSTEC
Takao Yoshida JAMSTEC
Suguru Nemoto Enoshima Aquarium
Fumi Adachi Enoshima Aquarium
Oliver Friedrich University of Heidelberg
Kiichiro Kawamura Fukada Geological Institute
Shigeki Matsunaga The University of Tokyo
Tomoyuki Sasaki The University of Tokyo
Hitoshi Ida Kitasato University
- Observation engineer
Misumi Aoki NME

3. Research/Development Activities

● Research overview

This Research carried out two subjects by the same cruise.

Study on living capture of cold water seeps and deep-sea creatures on the Kuril Trench slope (Tetsuya Miwa)

Survival capture of organisms from environments deeper than 2000m has been completely praised. Even in short-term breeding, it is limited to shellfish, and observation means can only be obtained from video images of submersibles. In this time, we will attempt to capture organisms from a depth of 3000m to 6000m using the "DEEP AQUARIUM", a pressure-contained breeding tank, and observe the environmental responsiveness of organisms during the decompression process. Using the newly developed "DEEP AQUARIUM" for 6000m, we will compare and observe the effect of decompression in the ascent process with the creatures caught by the shuttle elevator.

Kuril arc - Northeast Japan arc meeting part; Development history of Kushiro Submarine Valley (Taquumi TuZino)

This study investigates the Kushiro Submarine Valley, one of the largest submarine valleys in Japan, where the surrounding topography and acoustic stratigraphy have been clarified. Many researches in the submarine valley are not easily affected by tectonics. In the plate convergence zone, a submarine valley where the riverbed is dug develops, but the reason for its development is unknown. In this survey, we will investigate the side wall and compare it with a model using acoustic exploration.

Submersible ship work

In #1029-#1035 dives, we did the following:

- 1) Biological capture by DEEP-AQUARIUM
- 2) Biological collection using the shuttle elevator
- 3) Peripheral observation by visual observation and topographic and geological survey using an underwater video camera
- 4) Sediment structure survey and survey of Calyptogenia in cold seeps
- 5) Collecting rock samples
- 6) Collecting organisms and microorganisms

R/V work

- 1) The shuttle elevator was loaded and recovered.
- 2) Conducted submarine topographic survey using multi-beams

Performed Shinkai6500 dives

- 1) Top of Cadet Sea Mt 41-15.9856°N 144-35.1860°E D=3571m
- 2) Slope of Cadet Sea Mt 41-15.2516°N 144-38.5864°E D=4832m
- 3) Kushiro Submarine Valley 42-20.5°N 144-34.7°E D=1320m
42-29.5°N 144-39.5°E D=1520m
- 4) Kushiro Submarine Valley 42-3.3572°N 145-9.9686°E D=3900m
42-04.2°N 145-09.2°E D=3500m

The Cadet Seamount has living communities depending on cold seeps along the slope. There were springs at the summit of the Cadet Seamount, and there were living communities. A large fault was found in the downstream area of Kushiro Submarine Valley.

4. Cruise Log

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>

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