

Cruise Summary

1. Cruise Information

Cruise ID: YK18-09

Name of vessel: R/V Yokosuka, YKDT and Shinkai 6500

Title of cruise: Evaluation research on the chemical and physical composition change of concrete in the deep sea

Chief Scientist: Shun Nomura (JAMSTEC)

Representative of Science Party: Shun Nomura (JAMSTEC)

Cruise period: 2018/7/17—2018/7/20

Ports of departure / arrival: Harumi wharf/ Yokosuka JAMSTEC

Research area: Nankai Trough North Rim

Research map:

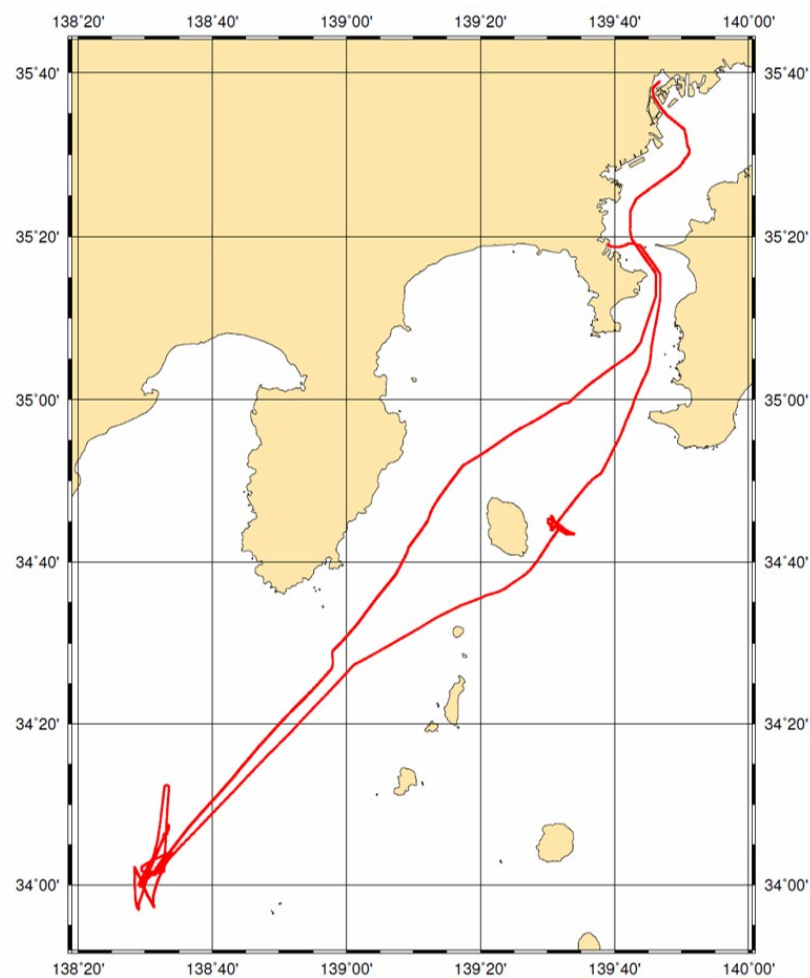


Fig. 1 Ship track of this cruise.

2. Overview of Research Activities

Purpose and background

When developing observation and measurement equipment in the deep sea, it is important to deal with the expected fluctuation by overlooking the entire environment for installation. In the case of long-term deployment, it is necessary to suppress errors due to secular change of installation place with time. At present, for the installation of structures in the deep sea, the concrete material is often used as well in the land. However, data for the durability and the aging of concrete exists only in the land or the shallow sea, thereby there is no data in the deep sea. In this cruise, concrete specimens for long-term expose test were set at Nankai Trough North Rim in the depth of 3515 m to obtain basic data for the installation of concrete structures in the sea, which is expected to increase more and more in the future.

Methods

For the long-term expose test in the deep sea, the following process was proceeded:

- 1) A seabed seating platform for exposing specimens was set up at 3500 m below sea level by "YKDT".
- 2) Concrete test specimens in plastic baskets were transported and set on the platform by "Shinkai 6500".

Dives:

YKDT #211 (2018/7/18)

6K Dive#1523 (2018/7/19)