Cruise Summary

1. Cruise Information

(1) **Cruise ID:** KR20-07

(2) **Vessel:** R/V KAIREI

(3) **Cruise Title**

Sea trial of ROV “Kaiko”

(4) **Chief Scientist**

Yoshinobu Nambu (JAMSTEC)

(5) **Representative of the Science Party**

KR20-07 Yoshinobu Nambu (JAMSTEC)

JS20-06 Shun Nomura (JAMSTEC)

TC20-KR-01 Takuro Nunoura (JAMSTEC)

(6) **Research Titles**

KR20-07 Sea trial of ROV “Kaiko”

JS20-06 Collection and instalation of concrete specimens for the long-term exposed test in the deep sea

TC20-KR-01 Sediment sampling for Open Innovation Platform (OIP)

(7) **Cruise Period**

2020/08/22 - 2020/08/26

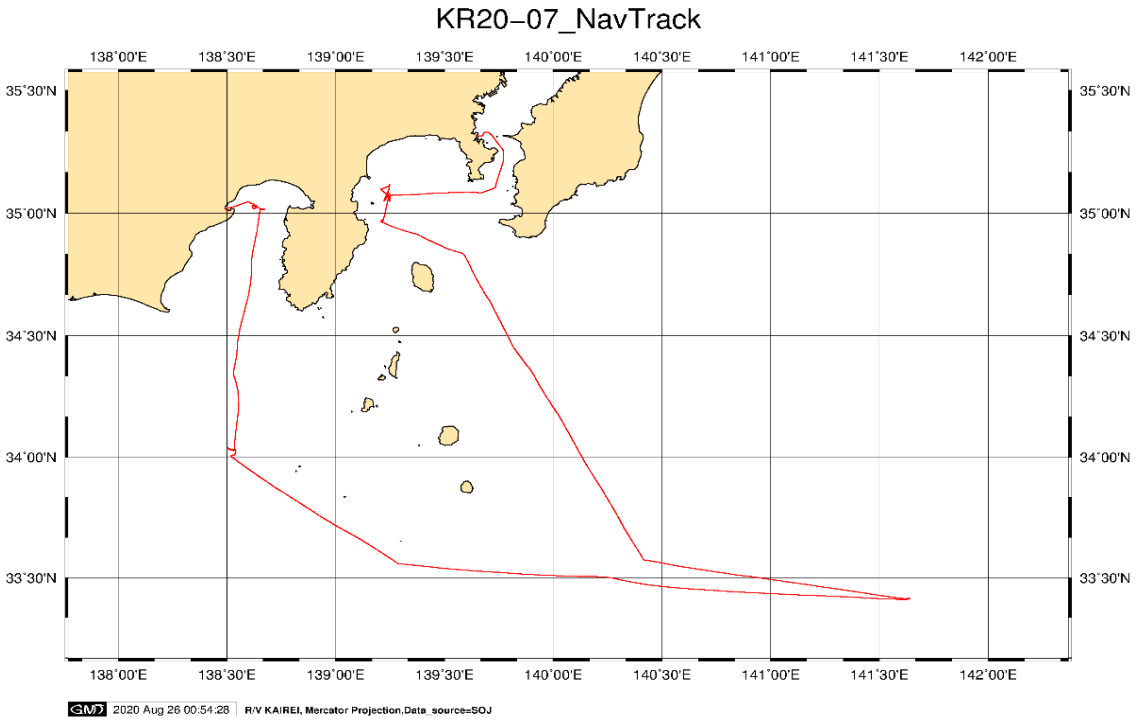
(8) **Ports of departure/call/arrival**

Yokosuka - Shimizu

(9) **Research Area**

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

(10) **Cruise Track**



2. Overview of the Observation

●Sea trial of ROV Kaiko

Annual sea trial of "KAIKO" was conducted to check the integrity of each equipment and operator training. The function test items are listed bellows.

(1) System integrity test in accordance with sea trial procedure in max. operational water depth, 5,800m.
(2) Operational test of responder/transponder with measuring acoustic noise
(3) General training for operator, such as steering vehicle and manipulator etc.

The sea trial and training, Dive #846 (WD 1,172m), #847 (WD 5,802m) and #848(WD 3,517m) were conducted. Two abnormal functions were found during sea trial and fixed it.

●Other additional work

(1)Collection and instalation of concrete specimens for the long-term exposed test in the deep sea

We proceed the trial as follows with a help of ''KAIKO'' to understand the degrade mechanisms of long-term exposed concrete specimens on which is in the seabed platform of North edge of Nankai trough.

1) Concrete specimens exposed on the platform by YK18-09 and KR19-08 cruises were collected and new materials are alternatively installed.

2) Concrete block with strain measurement devices was installed to measure the its in-situ temporal developments.

(2)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 and microbial diversity.