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KAIREI Cruise Report

KR18-10

Prize Cruise for the Postcard Design Contest

Suruga Bay

August 4 - 5, 2018

Japan Agency for Marine-Earth Science and Technology

(JAMSTEC)

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1. Cruise Information

1.1. Cruise ID: KR18-10

1.2. Name of vessel: Kairei

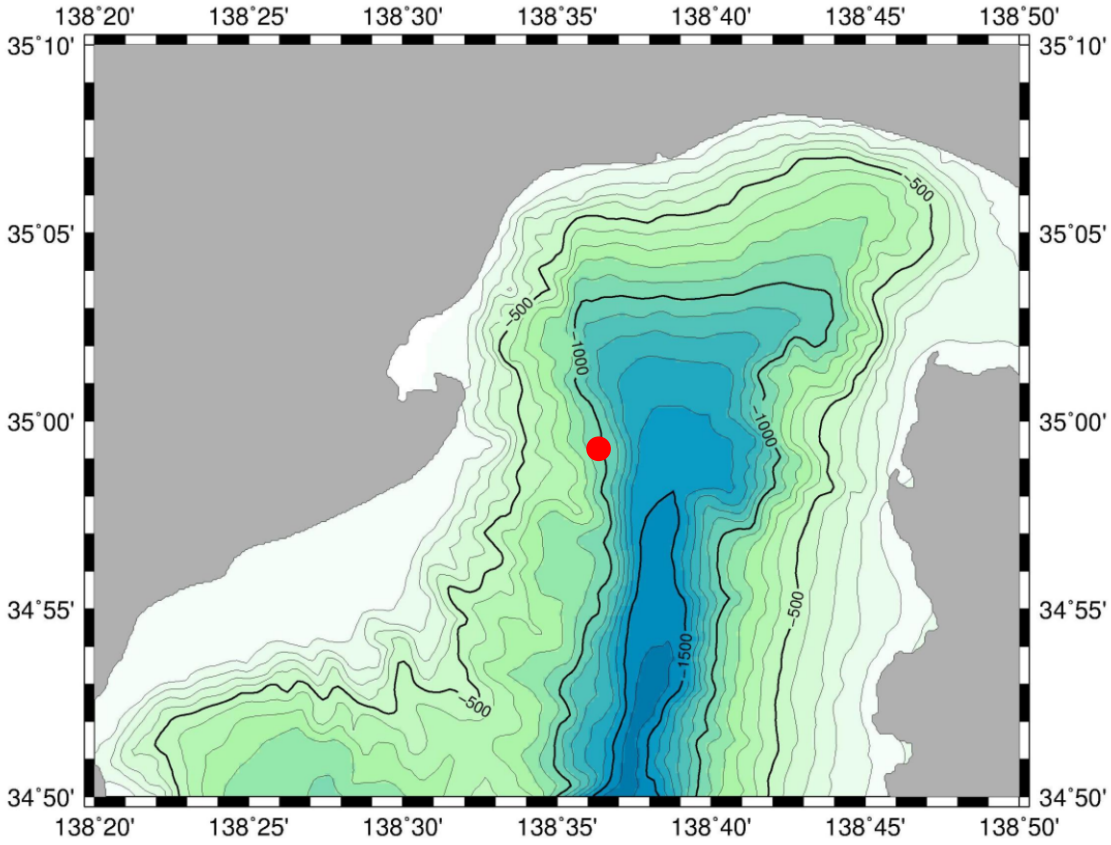
1.3. Title of the cruise and proposal: Prize Cruise for the Postcard Design Contest

1.4. Cruise period: August 4, 2018 – August 5, 2018

1.5. Ports of departure / arrival: Shimizu - Shimizu

1.6. Research area: Suruga Bay

1.7. Research Map



34°58.90'N, 138°36.51'E (Depth: 975)

2. Researchers

2.1. Chief scientist [Affiliation]: Uiko Kemmotsu [JAMSTEC, Public Relations Division]

2.2. Passengers: 38 persons in total of 2 days include prize winner

2.3. Staffs: Takamasa Tamura [JAMSTEC, Public Relations Division]
Tadashi Yoshizawa [JAMSTEC, Public Relations Division]
Yoshiyuki Ogita [JAMSTEC, Public Relations Division]
Kaori Sato [JAMSTEC, Public Relations Division]
Ami Shirano [JAMSTEC, Public Relations Division]
Hiromu Takayoshi [JAMSTEC, Public Relations Division]
Naoto Higa [JAMSTEC, Global Oceanographic Data Center]
Asami Oshiro [JAMSTEC, Global Oceanographic Data Center]
Ayaka Ikegami [JAMSTEC, Finance and Accounting Division]
Makoto Sugimura [Enoshima Aquarium]
Yoshihiro Suzuki [Enoshima Aquarium]
Atsushi Kaneko [Okinawa Churaumi Aquarium]
Ryosuke Komi [Tokyo Sea Life Park]
Shota Haba [Tokyo Sea Life Park]

3. Observation

3.1. Cruise Summery

JAMSTEC provided a single-day boarding experience on the R/V Kairei to the children who won prizes in the 20th Postcard Design Contest and their parents, in order that they had a better understanding of and deeper interests in the oceans. In addition, we corrected samples for outreach activities to strengthen the relationship with aquariums and science museums. We accepted TV company staff on board for publicity activities of the contest. And we conducted live coverage on the internet and a viewing event for children on the land cooperated with a video distribution company and a newspaper company.

Boarding experiences on the R/V Kairei were carried out in the two days including the tour of the R/V Kairei and the underwater navigations of the remotely operated vehicle Kaiko. During the underwater navigations of Kaiko, we carried out deep-sea experiments and observed organisms such as *Enypniastes eximia*, *Pannychia sp.*, *Benthodytes sp.*, Ophiuroidea, Synaphobranchidae, Macrouridae and *Centroscymnus owstonii*. In addition, the children tried to control the Kaiko from the control room on the R/V Kairei. After the underwater navigation, the children observed the organisms collected by Kaiko on board.

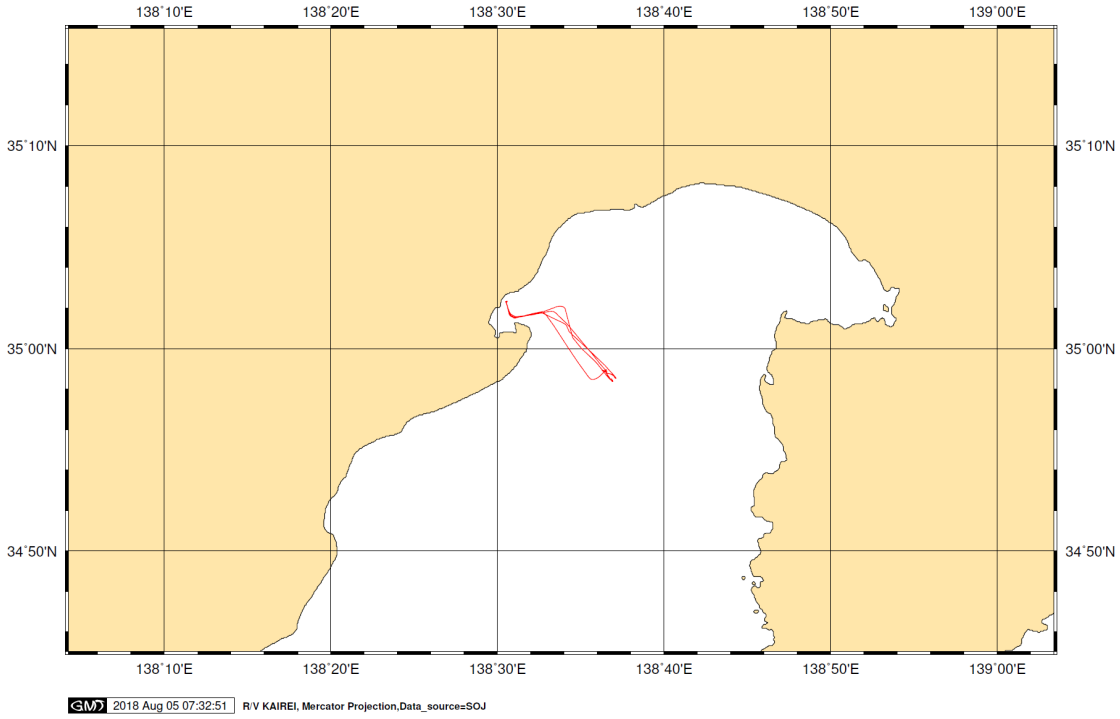
3.2. Dive information

(1) Dive KK#782

Date: August 4, 2018 (JST)
Site: Offshore of Miho Peninsula (34° 58.90N, 138° 36.50E), Depth: 975m
Landing (Time, Depth): 11:50, 975m
Leaving (Time, Depth): 12:59, 975m

(2) Dive KK#783
Date: August 5, 2018 (JST)
Site: Offshore of Miho Peninsula (34° 58.90N, 138° 36.50E), Depth: 975m
Landing (Time, Depth): 11:39, 977m
Leaving (Time, Depth): 13:07, 977m

3.3. Cruise track

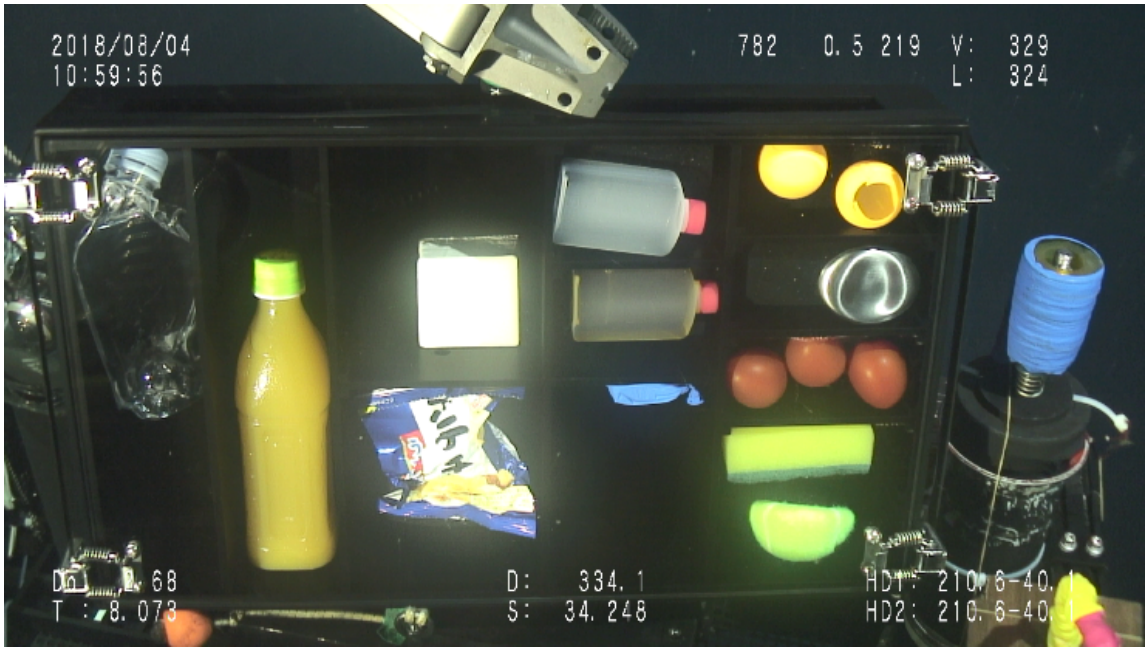


3.4. Submarine Experiments

(1) Observations of items under high pressure

We observed the changing of items such as empty plastic bottle, water filled plastic bottle, snack food, styrene foam, balloon, hollow stainless steel soap and ping-pong ball under high pressure condition of the deep sea.

The result was that the items contain the air was shrunk. The participated children observed this result and understand very well that the air is compressed by deep sea pressure.



A part of submarine experiments. From left, empty plastic bottle, orange juice filled plastic bottle, tofu (soy bean curd), snack food, water filled and oil filled plastic small bottle, balloon, ping-pong balls, hollow stainless steel soap, tomatoes, sponge and tennis ball under high pressure of 334m depth.

After diving. Empty plastic bottle, balloon and tennis ball returned to the original (filled with the air) but hollow stainless steel soap and ping-pong balls were broken by water pressure.

(2) Observation of the color in the sea

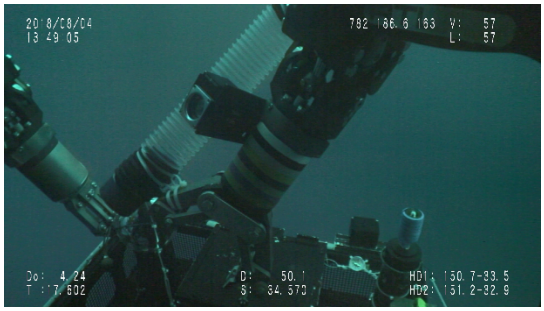
We observed color bar made by plastic tapes without lighting in the sea during Kaiko coming to the surface. In 100m depth, it was getting bright slightly but we

could not recognize the shape of a manipulator of Kaiko. In 50m depth, we could recognize the color bar but the colors are not clear. In 20m depth, we could recognize white and yellow but colors look different from in the light, for example, red seems like black.

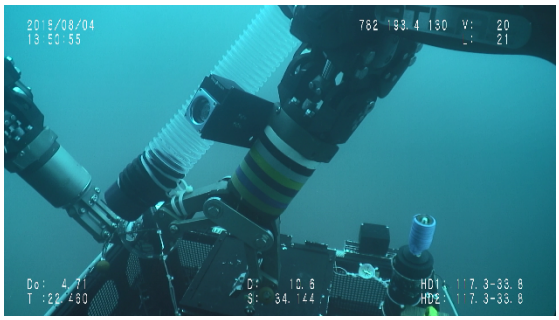
The participated children found that the view performance is changed in the sea because the red light of the sun is absorbed by water.

Before lightind off.

In 100m without lighting.



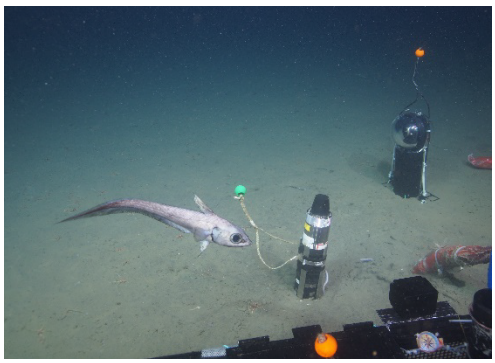
In 50m without lighting.



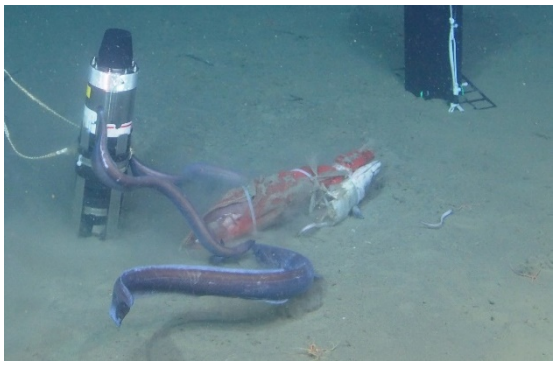
In 20m without lighting.

3.5. Observed organisms

During the underwater navigations, we observed the organisms such as conger, rockfish, holothurian, ophiuroid and galatheoidea.



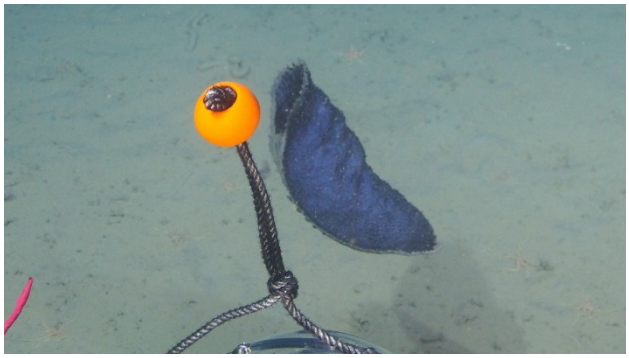
Macrouridae



Synaphobranchidae

Enypniastes eximia

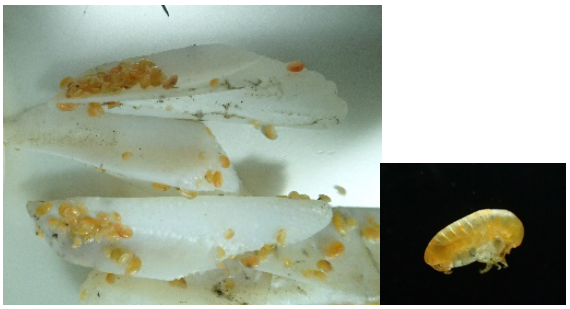
Pannychia sp.



Benthodytes sp.

Solasteridae

Centroscymnus owstonii



Amphipoda on chicken cartilages

4. 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.