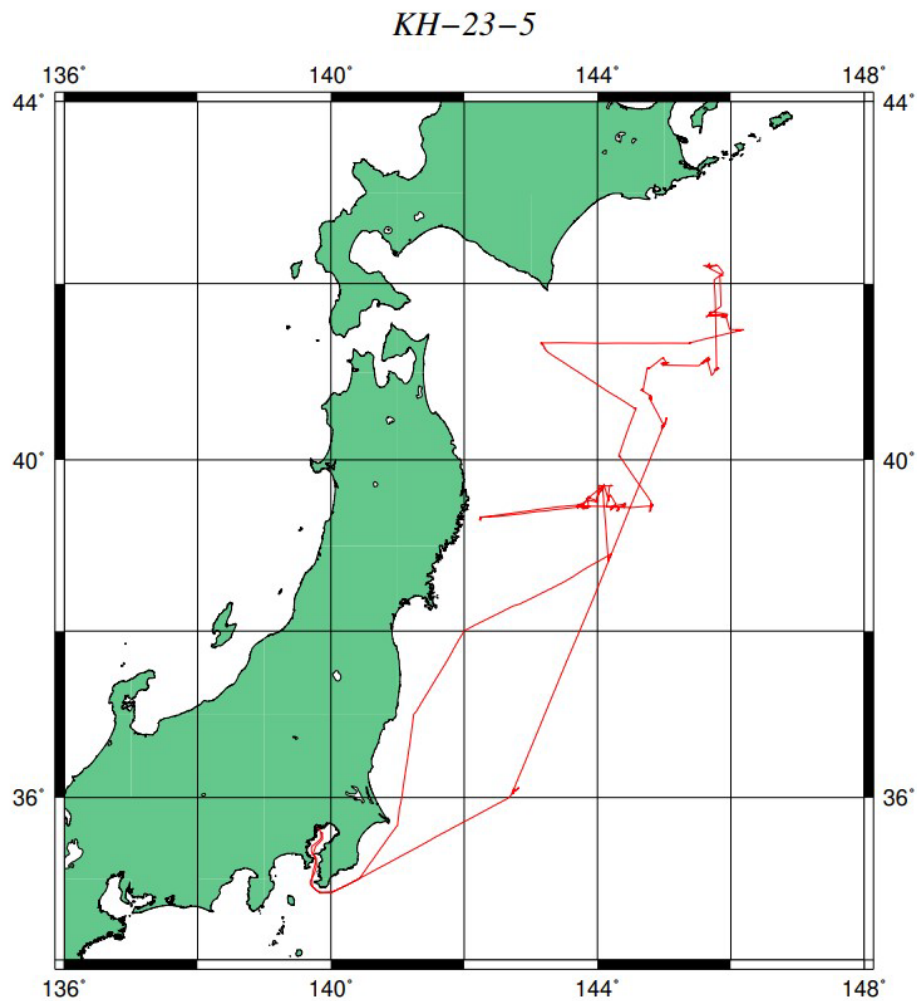


Cruise Summary

1. Cruise Information

- (1) **Cruise ID:** KH-23-5
- (2) **Vessel:** R/V HAKUHO MARU
- (3) **Cruise Title**
Fauna and evolution of benthic organisms inhabiting trench areas in the northwestern Pacific
- (4) **Chief Scientist**
Shigeaki Kojima (Graduate School of Frontier Sciences, The University of Tokyo)
- (5) **Representative of the Science Party**
SH23-13 Shigeaki Kojima (Graduate School of Frontier Sciences, The University of Tokyo)
- (6) **Research Titles**
SH23-13 Fauna and evolution of benthic organisms inhabiting trench areas in the northwestern Pacific
SGS22-01 Survey of turbidite distribution associated with hisrical earthquakes in the Kuril Trench
- (7) **Cruise Period**
2023/09/12 - 2023/10/02
- (8) **Ports of departure/call/arrival**
Ariake - Daiba
- (9) **Research Area**
Areas around the southern Kuril Trench and the Japan Trench

(10) Cruise Track



2. Overview of the Observation

In order to analyze genetic deviation and/or speciation processes of deep-sea benthic organisms between the Kuril and Japan Trenches, which were isolated from each other by the subduction of the Erimo Seamount and another landward seamount 0.3 million years ago, and reveal evolution in trench areas, we collected benthic organisms at six sites around the southernmost part of the Kuril Trench, six sites around the northernmost part of the Japan Trench, and a single site in the central part of the Japan Trench by using a 4m beam trawl, a 3m Agassiz-type trawl, and an epibenthic sled. We will determine the faunas through morphological classification and DNA barcoding and analyze their evolutionary processes based on data of nucleotide sequences and SNP analyses. In addition, to estimate planktonic

larval dispersal between two trenches, we conducted measurement of physical environments using CTD and LADCP at 9 sites.