Cruise Summary

1. Cruise Information

(1) **Cruise ID:** KS-22-4

(2) **Vessel:** R/V SHINSEI MARU

(3) **Cruise Title**

Quantitaitve reconstruction of the Kuroshio variability in the Okinawa Trough region since the last glacial period

(4) **Chief Scientist**

Tomohisa Irino (Hokkaido Univ.)

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

S22-30 Yoshimi Kubota (National Museum of Nature and Science, Tokyo)

(6) **Research Titles**

S22-30 Quantitaitve reconstruction of the Kuroshio variability in the Okinawa Trough region since the last glacial period

(7) **Cruise Period**

2022/04/01 - 2022/04/10

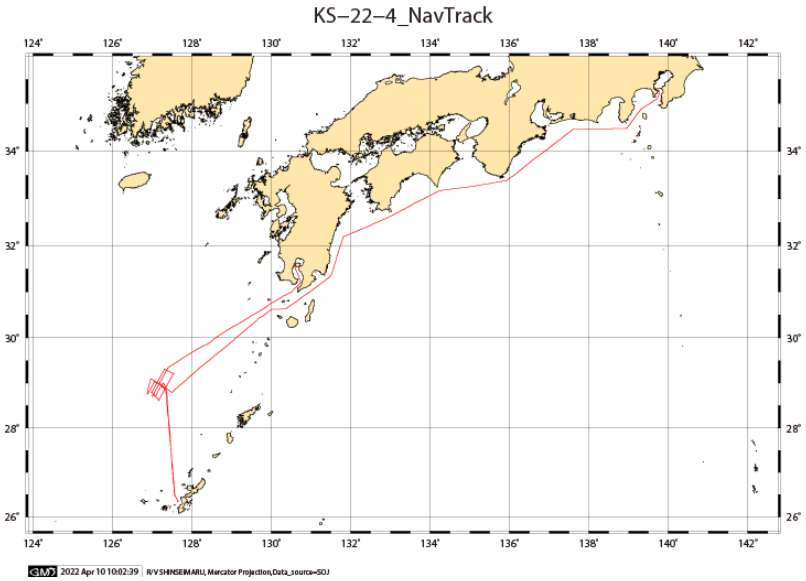
(8) **Ports of departure/call/arrival**

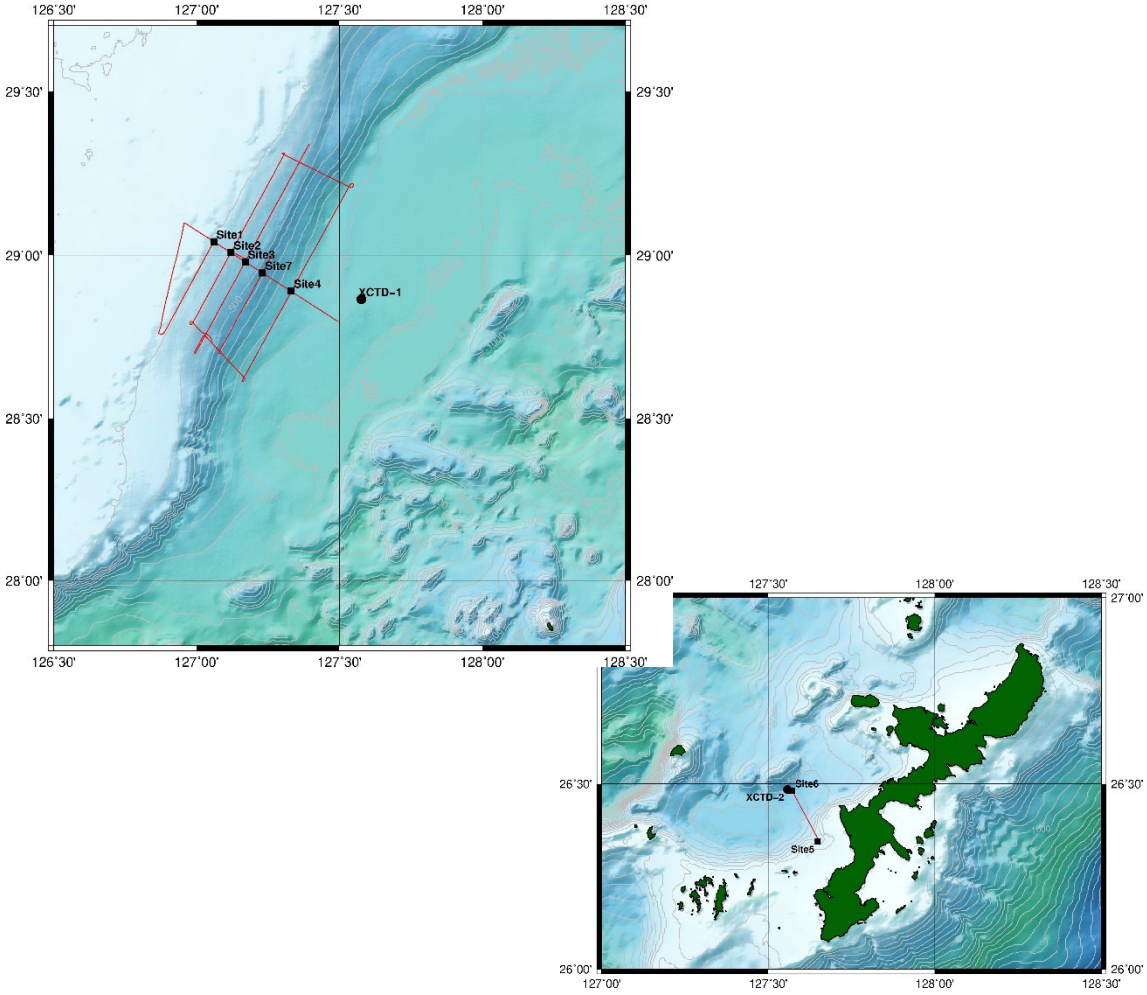
Yokosuka - Kagoshima

(9) **Research Area**

East China Sea

(10) **Cruise Track**





Coring sites and profiling tracks

2. Overview of the Observation

This research cruise aims to quantitatively reconstruct Kuroshio variability since the last glacial period through estimation of the density structure of Kuroshio flowing from south to north in the East China Sea as well as grain size changes of the bottom sediments affected by the current, which would be realized through collection of sediment cores from 200-900 m water depth in both side of the Okinawa Trough using long piston corer. For this purpose, we conducted sediment sampling using multiple corer and piston corer at 5 sites of continental slope on western side of Kuroshio axis and 2 sites off the western coast of the Okinawa Island on eastern side of the current. In order to improve precision of proxies for sea water temperature and salinity, and evaluate the Kuroshio influence on plankton communities in the western North Pacific, CTD water sampling and

plankton collection by NORPAC net were additionally conducted at 2 sites on continental slope. Bathymetric mapping and subbottom profiling across each coring sites along depth and isobath transects were also operated to examine the sedimentary environment and the mode of sedimentation at the sites. As a result, 7 multiple cores and 5 piston cores were successfully obtained, and all the core samples as well as sea water and plankon samples have been sent to the institutions of the shipboard participants. These samples will be analyzed for sediment facies by CT scanning, visual description, grain size, mineral and chemical composition measurements as well as stable carbon and oxygen isotope and trace elements analyses for planktonic and benthic foraminifers.