

Cruise Summary

1. Cruise Information

Cruise ID:	KY10-06
Vessel Name:	R/V Kaiyo
Cruise Title:	Site Survey for an IODP Expedition in the Northern Izu-Bonin Area
Chief Scientist:	Kan Aoike (CDEX, JAMSTEC)
Representative of Science Party:	Takashi Agatsuma (CDEX, JAMSTEC)
Cruise Period:	20 April 2010 ~ 23 April 2010
Ports of call:	Yokosuka (New Yokosuka Port) – Yokosuka (JAMSTEC Quay)
Survey Area:	About 60 km east of Aogashima Island, northern Izu-Bonin arc

2. Overview of the Survey

2.1. Objectives

This cruise is a site survey of Integrated Ocean Drilling Program (IODP) campaign, planned primarily for the purpose of recovering two suits of mooring, which had been set in the northern Izu-Bonin arc area during KY09-04 cruise for monitoring sea current variations at the site on which deep drilling with the Chikyu's riser system is proposed in IODP proposal 698-Full2 and 698-Full2-Addendum. It is very important for planning and implementing a safe riser drilling program to know vertical profiles and time variations of the actual sea current at the site. The data obtained shall be used for the analysis on riser behavior in high current conditions (Kuroshio Current). In addition, seafloor bathymetry and sea current surveys around site was intended to be conducted supplementary in the night and redundant times with the shipboard multibeam bathymetry system and the hull-mounted ADCP as much as possible for increase the amount of our dataset.

2.2. Activities

20 April

10:00 Departure from New Yokosuka Port

11:11 Start data acquisition of the hull-mounted ADCP in bottom track mode

12:40 ~ 24:00 Evacuation from rough sea condition at off-Tateyama

21 April

0:00 ~ 08:00 Evacuation from rough sea condition at off-Tateyama

03:12 Change data acquisition mode of the hull-mounted ADCP from bottom track mode to water track mode

08:00 Departure from off-Tateyama

08:00 ~ 24:00 Sailing to the site

22 April

0:00 ~ 00:50 Sailing to the site of K-2

00:50 ~ 04:30 Stand-by at the site of K-2

04:13 Start bathythermography survey with XBT

04:30 ~ 06:40 K-2 mooring recovery work (successfully done)

06:40 ~ 07:15 Sailing to the site of K-1

07:15 ~ 09:15 K-1 mooring recovery work (successfully done)

09:26 ~ 10:27 Multibeam survey while sailing to Yokosuka

10:27 ~ 24:00 Sailing to Yokosuka

11:50 ~ 11:53 Change data acquisition mode of the hull-mounted ADCP from water track mode to bottom track mode

20:52 Terminate bathythermography survey with XBT

23 April

00:00 ~ 09:00 Sailing to Yokosuka (JAMSTEC quay)

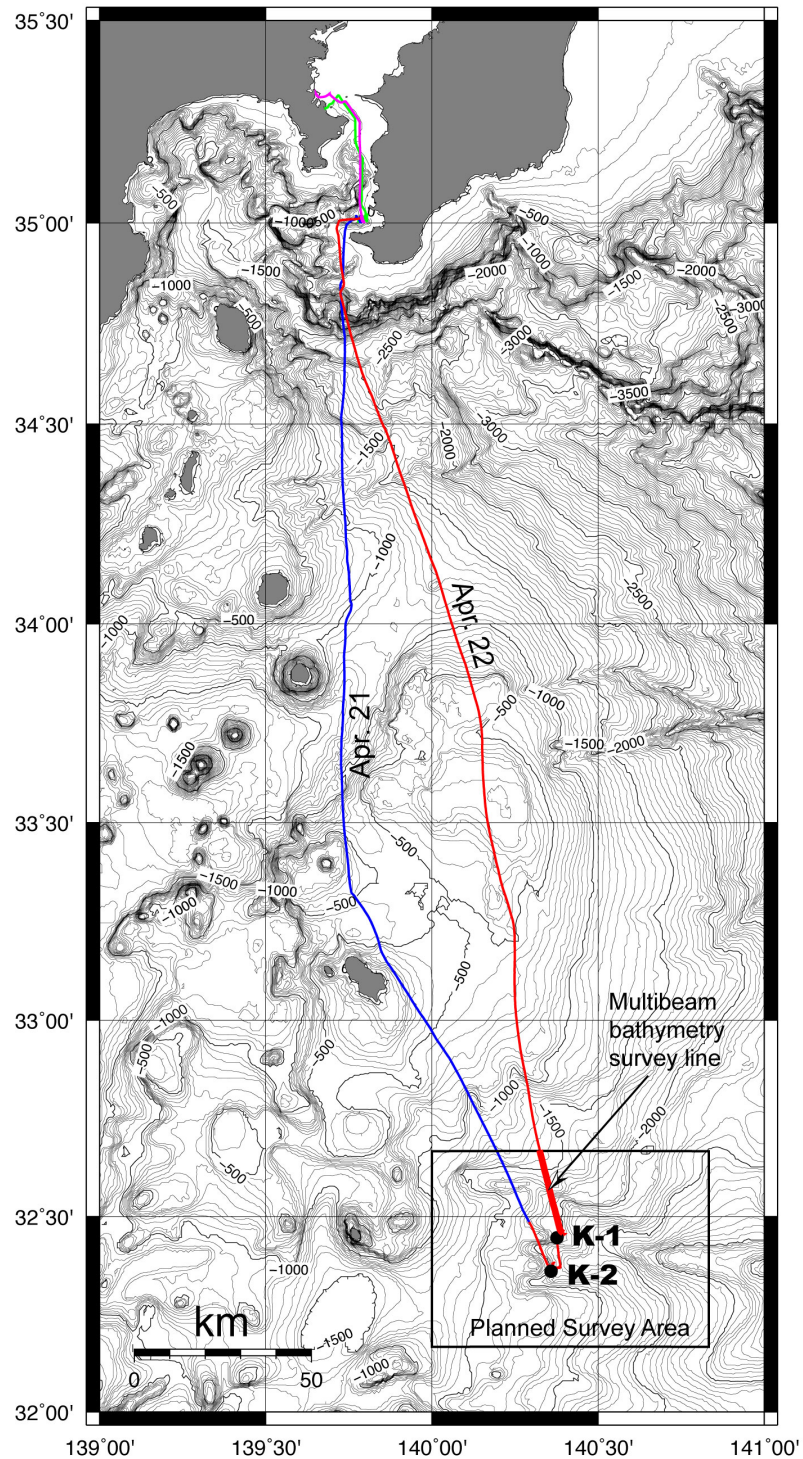
06:27 Terminate data acquisition of the hull-mounted ADCP

09:00 Alongside the JAMSTEC quay

2.3. Results

Recovery of the two sets of mooring was successfully completed quite long before the sea condition getting worth by virtue of great efforts of the captain, crew and marine technicians. Condition of recovered instruments was examined while data extraction work: minor water leakage was found in one RCM and improper action was recognized

in one releaser. Multibeam bathymetry survey besides that of the steady observation was only conducted on the way of sailing to Yokosuka with a rushing speed (~12 kt) because the rough sea condition was getting close. ADCP current survey was continuously performed while sailing.



Ship track, survey area and mooring site locations