

## Cruise Summary

1. KY09-04 *R/V KAIYO*
2. Site survey for the IBM drilling proposal in Izu-Ogasawara
3. Participants aboard the *R/V KAIYO* cruise KY09-04
 

YAMAMOTO Fujio*	JAMSTEC/CDEX
GOTO Shinya	JAMSTEC/CDEX
TOMIYAMA Takayuki	JAMSTEC/Kochi Institute for Core Sample Research

\*Chief of the cruise

4. Representative of the science party
 

SAGA Hajime	JAMSTEC/CDEX
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5. Survey area : Izu-Ogasawara
6. Cruise Period : 2009/7/23(Oppama) ~ 2009/7/29(Oppama)
7. Over view of the observation (Purpose and results)

To investigate drilling hazards around proposed drilling site in the Izu-Ogasawara area, following site surveys were conducted for safety and efficient riser drilling by *D/V CHIKYU*.

(A) Long term sea current measurement by mooring system

To acquire long term sea current magnitude and direction data including its vertical profiles, two mooring systems were installed around proposed drilling site. One Acoustic Doppler Current Profiler (ADCP: 150 kHz), four RCM-11(2MHz) Doppler current meters, 3 CTDs, and 2 acoustic releasers were attached in an each system. The recoveries of these mooring systems are planned in the next Japanese fiscal year. Obtained data will be used for riser analysis.

(B) Core sampling by piston corer

Because mechanical strength of the core sample for the riser tophole section is required for future drilling planning, piston coring operation was performed near drilling site. Piston core sampler consists of an 800 kg-weight, a total 6 m-long stainless tube with plastic inner tube, and a pilot core sampler.

The obtained core is 480cm long and consists of silt to sandy silt intercalated with several tephra layers. 3 whole-round core samples (30 cm long) were chosen from an entire core sample based upon magnetic susceptibility data measured during the cruise. Shear strength measurements for the whole-round core samples obtained during this cruise will be performed by a geological company after the cruise.

(C) Single Channel Seismic survey (SCS)

To investigate the shallow hazards such as shallow gas, shallow water flow, and shallow faults, single channel seismic survey was conducted around proposed drilling sites. The cluster gun system(2800LL-X Cluster) is effective to obtain images for the shallower part, down to a few hundred meters. A total of 141.6 km of SCS data was collected during the cruise.

(D) Bathymetric survey and sea current survey

Bathymetric survey and sea current survey by ship's hull mounted systems were also conducted during the cruise. SeaBeam(12kHz) system was used for bathymetric survey and ADCP(38 kHz) was used for sea current measurement.

Figure 1 shows the results of KY09-04 cruise. Bathymetric survey lines and SCS lines are also plotted in this figure.

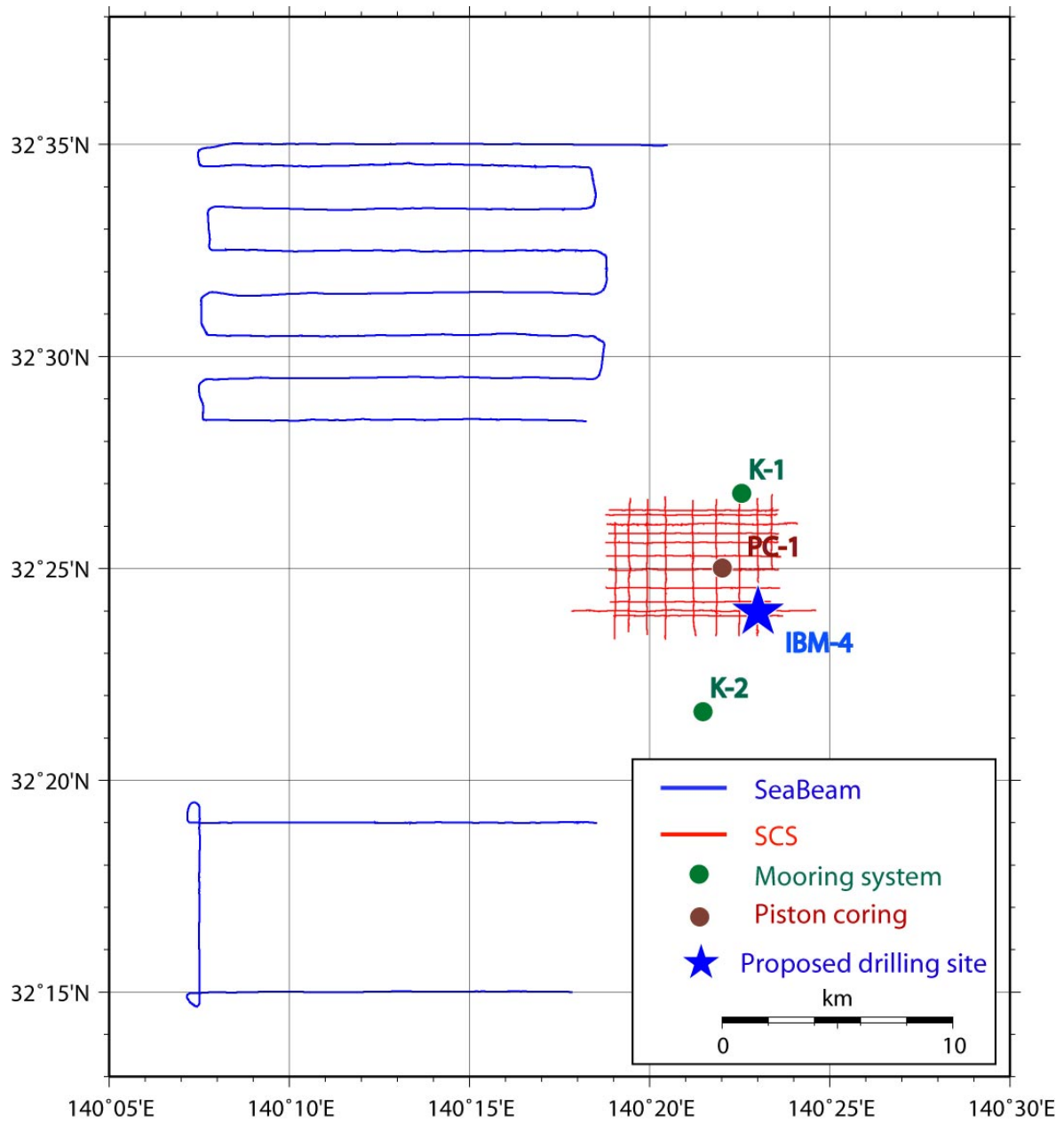


Figure 1 Survey points and lines during the KY09-04 cruise

We greatly appreciate to the Captain KOUJI Sameshima, crew and technical staffs for Installations of mooring systems, piston coring and SCS experiments during the KY09-04 cruise.