# Cruise summary

1．Cruise Information：

（1） Cruise number, Ship name: KY10-02, R/V Kaiyo

（2） Title of the cruise: 2009FY “Seismic study and earthquake observation study off Shikoku and off Kii Peninsula areas”

（3） Chief Scientist [Affiliation]: Hidetoshi FUJIMORI [JAMSTEC]

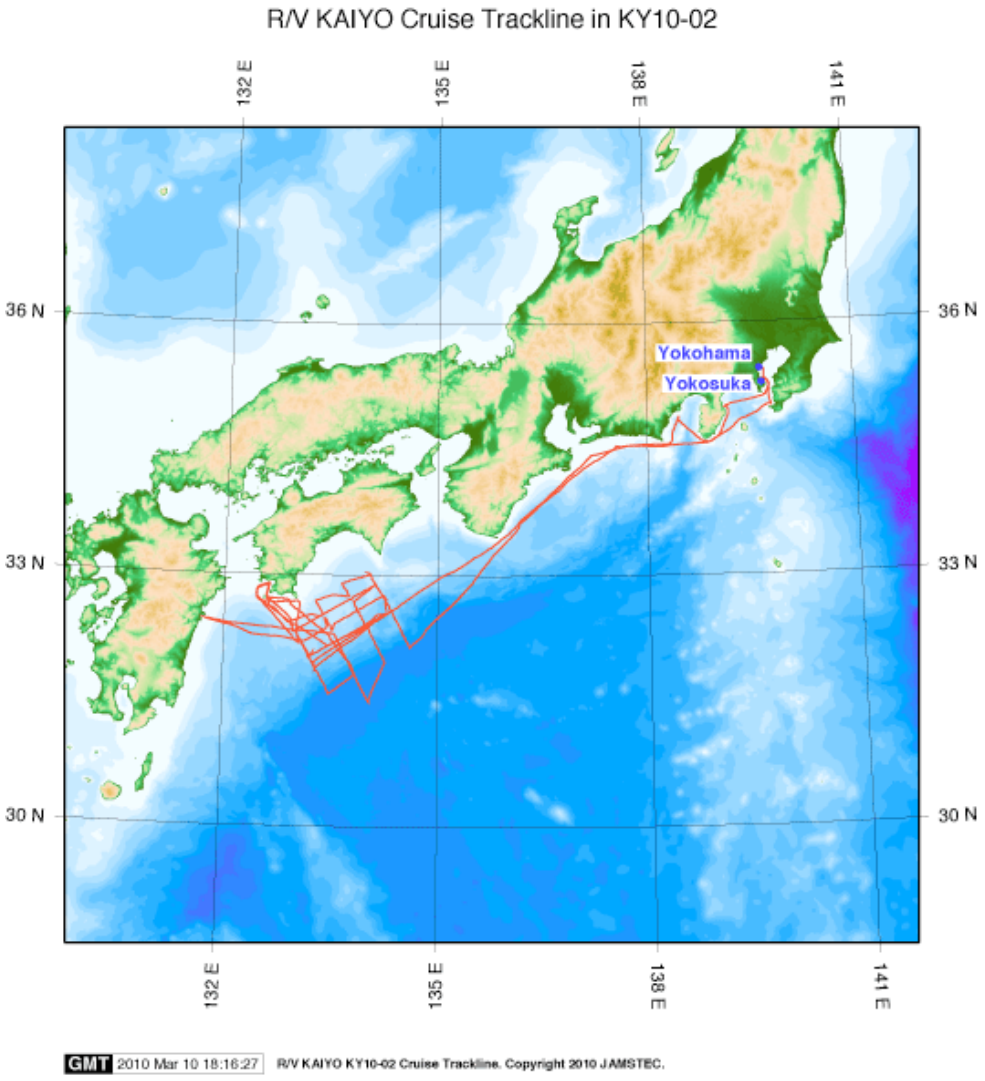
（4） Representative of Science Party [Affiliation]:
Yoshiyuki KANEDA [JAMSTEC]

（5） Title of proposal:
Seismic survey and observation study of evaluation for large earthquake synchronization in the Nankai Trough

（6） Cruise period, Port call:
2010/1/28-2/16, YOKOHAMA New Port to JAMSTEC (Yokosuka)

（7） Research Area: off Shikoku areas

（8） Research Map:



## 2．Overview of　Observation：

### （1）Objectives：

This research cruise was conducted as a part of the study of “Research program concerning interaction between the Tokai, Tonankai, and Nankai Earthquakes” funded by the Ministry of Education, Culture, Sports, Science, and Technology of Japan.

In the Nankai Trough seismic subduction zone, a number of great earthquakes (M>8), such as 1944 Tonankai and 1946 Nankai earthquakes, have been repeatedly occurred. Notable features in this region are the segmentation of the rupture zones and synchronization of these segments. To understand the structure factors controlling the segmentation and the synchronization of rupture zones, it is necessary to reveal the detailed structure variations and seismic activities in this subduction zone. The objectives of this cruise are to reveal detailed seismic structure and seismic activity off Shikoku, Nankai trough, and the activity of the low frequency tremors off Kii Peninsula. To this purpose, OBSs were deployed off Shikoku by KAIREI KR09-14 and seismic refraction and reflection surveys were done. 180 OBSs recover in this cruise. These OBSs were deployed KR09-14 and will recorded seismic refraction and reflection survey data. 21 OBSs which are recording long-term seismic data observe continuously and will recover using KAIREI in next FY.

During this cruise Bathymetry, Gravity and Geomagnetic data record continuously.

### （2）List of observation instruments：

1）Recovery of ocean bottom seismometers（OBSs）

176 OBSs were recovered on 7 survey Lines (SK01-07) off Shikoku.

2）Bathymetry, Gravity and Geomagnetic observation

During this cruise, bathymetry data have been recorded continuously by SEABEAM2100,.

3）Temperature and Conductivity observation for the correction of sonic speed

Expendable-Bathy Thermograph (XBT) has been conducted to correct the sonic speed for the bathymetry survey.