

Cruise summary

1. Cruise Information:

(1) **Cruise number, Ship name:** KM17-06C, R/V *KAIMEI*

(2) **Title of the cruise:** 2017 FY “Integrated Research Project on Seismic and Tsunami Hazards Around the Sea of Japan”

(3) **Chief Scientist [Affiliation]:** Tetsuo NO [JAMSTEC]

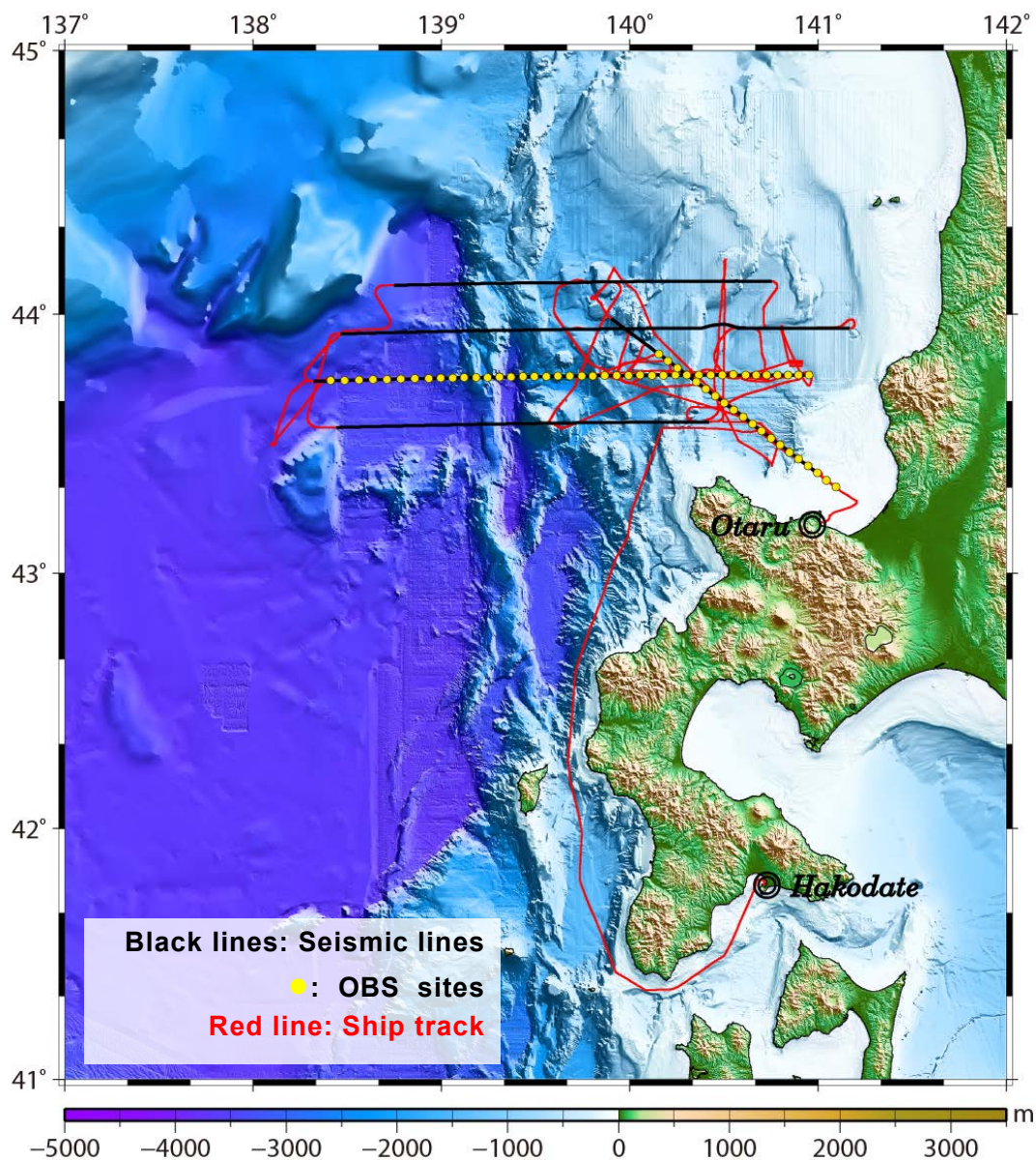
(4) **Representative of Science Party [Affiliation]:** Shuichi KODAIRA [JAMSTEC],

(5) **Title of proposal:** Integrated Research Project on Seismic and Tsunami Hazards Around the Sea of Japan

(6) **Cruise period, Port call:** 2017/6/22 - 7/11, Otaru port to Hakodate port

(7) **Research Area:** Off northwestern Hokkaido, Japan Sea

(8) **Research Map:**



2. Overview of Observation:

(1) Objectives:

We have participated in “Integrated Research Project on Seismic and Tsunami Hazards Around the Sea of Japan” conducted by the MEXT of Japan since 2014. In June-July 2017, we conducted a marine seismic survey to study the crustal structure around the area off northwestern Hokkaido using the R/V *KAIMEI*. The survey covered the areas from the continental shelf to the Japan Basin. In addition, the line SJ17IS was connected to the land seismic survey in the Ishikari Plain which was carried out by the Earthquake Research Institute, University of Tokyo, in the same period.

(2) List of observation instruments:

1) MCS survey:

MCS survey were acquired along 5 lines with a total length of approximately 838 km. Some seismic lines were crooked to avoid the many fishing operations and equipment in the survey area. To obtain high-quality MCS data, we shot an air gun array at a spacing of 50 m or 25 m. The tuned air gun array had a maximum volume of 5,300 cu.in. and consisted of 22 air guns. The standard air pressure was 2,000 psi (approximately 14 MPa). During the experiment, the air gun array depth was maintained at 10 m below the sea surface. During the shooting, we towed a hydrophone streamer cable with a group interval of 3.125 m. The towing depth of the streamer cable was maintained at 12 m below the sea surface by depth controllers.

2) Refraction survey using OBSs:

We deployed 60 OBSs along the line SJ1707 and SJ17IS, and performed a refraction survey using an airgun array with a spacing of about 200 m. The airgun array in the line SJ17IS of OBS survey used the same configuration as in the MCS survey, whereas the source configuration of the line SJ1707 had a maximum capacity of 10,000 cu.in. and consisted of 43 air guns.

3) Bathymetry, magnetic, and gravity observations:

Bathymetry, magnetic, and gravity data were recorded continuously during the survey.