



## R/V Kairei Cruise Report

KR17-14 Leg2

Multi-channel seismic reflection survey

- Site survey related IODP project: Mohole Project -

East off Hawaii islands

Sep. 26, 2017 – Oct. 2, 2017



Japan Agency for Marine-Earth Science and Technology

(JAMSTEC)

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1. Cruise Information:

(1) Cruise number, Ship name: KR17-14 Leg2, R/V Kairei

(2) Title of the cruise: 2017FY "Site survey related IODP project: Mohole Project"

(3) Chief Scientist [Affiliation]: Mikiya Yamashita [JAMSTEC]

(4) Representative of Science Party [Affiliation]:

Shuichi Kodaira [JAMSTEC]

(5) Title of proposal: Site survey related IODP project: Mohole Project

(6) Cruise period, Port call:

2017/9/26-10/2, Honolulu Port to Honolulu Port (USA)

(7) Research Area: East off Hawaii islands

(8) Research Map:

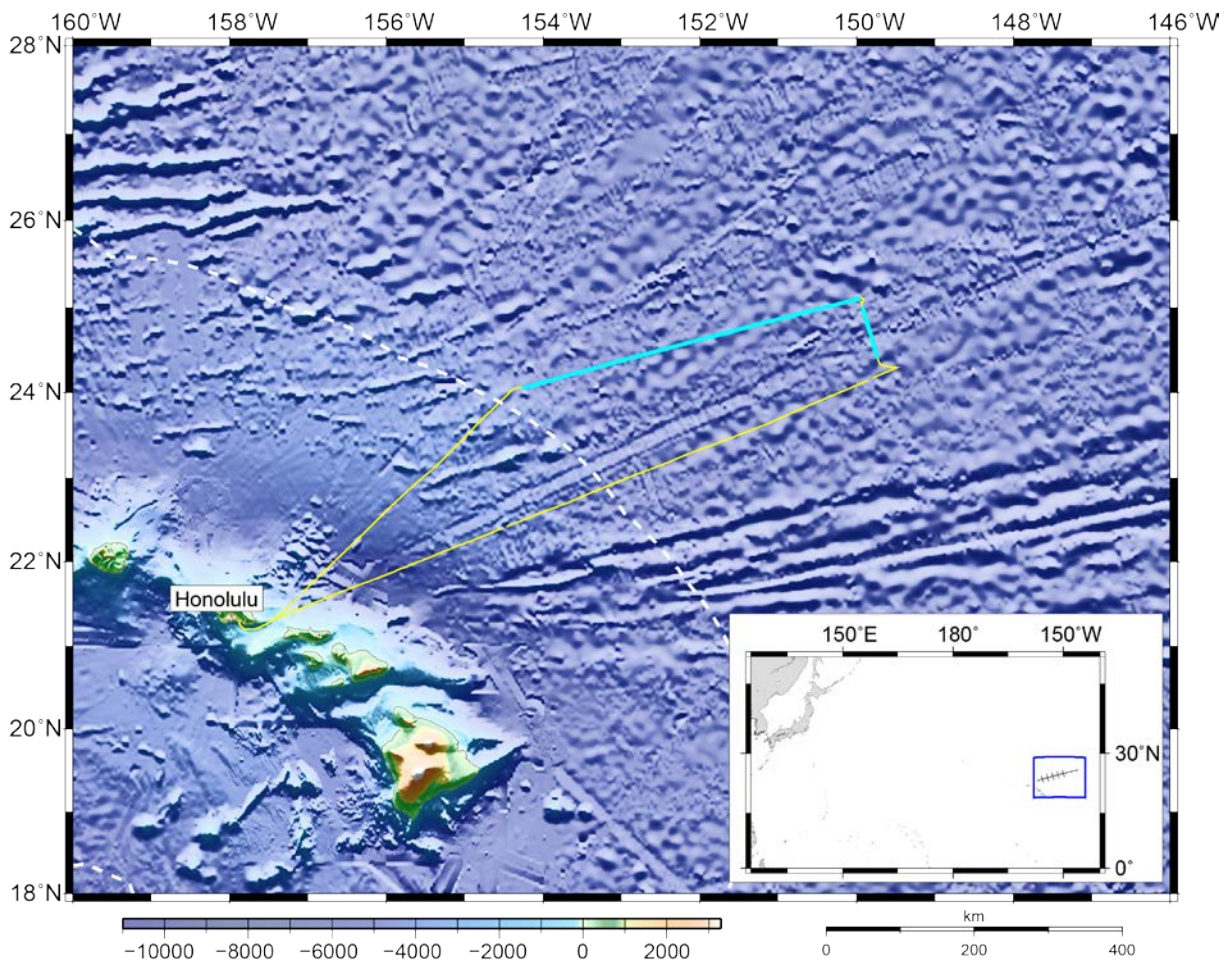


Figure shows the ship track during KR17-14 Leg2 cruise.

## 2. Researchers

(1) Chief Scientist [Affiliation]: Mikiya Yamashita [JAMSTEC]

(2) Representative of Science Party [Affiliation]:

Shuichi Kodaira [JAMSTEC]

(3) Science part list:

Seiichi Miura [JAMSTEC] (not on board)

Yasuyuki Nakamura [JAMSTEC] (not on board)

Go Fujie [JAMSTEC] (not on board)

Yuka Kaiho [JAMSTEC] (not on board)

Tetsuo No [JAMSTEC] (not on board)

Mikiya Yamashita [JAMSTEC] (on board)

Taro Shirai [JAMSTEC] (not on board)

Ryuta Arai [JAMSTEC] (not on board)

Ayako Nakanishi [JAMSTEC] (not on board)

Koichiro Obana [JAMSTEC] (not on board)

Tsutomu Takahashi [JAMSTEC] (not on board)

Yojiro Yamamoto [JAMSTEC] (not on board)

Yoshihiko Tamura [JAMSTEC] (not on board)

Shigeaki Ono [JAMSTEC] (not on board)

Natsue Abe [JAMSTEC] (not on board)

Yuko Sugioka [JAMSTEC] (not on board)

Gregory F. Moore [University of Hawaii] (not on board)

Susumu Umino [Kanazawa University] (not on board)

Katsuyoshi Michibayashi [Shizuoka University] (not on board)

Moe Kyo [JAMSTEC] (on board)

Kiyoshi Suyehiro [JAMSTEC] (on board)

### 3. Overview of Observation :

#### (1) Objectives :

The primary objective of this study is to image a typical/stable oceanic crust, mantle and Moho, on the basis of crust and uppermost mantle structure imaged by seismic refraction and reflection data. To understand nature of Moho (seismically defined crust/mantle boundary) is an ultimate goal of this study.

#### (2) List of observation instruments :

##### 1) Seismic reflection survey

Seismic reflection surveys were carried out on all survey lines east off Hawaii Islands using the airgun array of 7,800 cu. inch and a 444-ch. hydrophone streamer. This survey was conducted under passive acoustic monitoring and marine mammal observation.

The ranking of survey line had been changed from original plan due to the sea condition and schedule of port call.

##### 2) Bathymetry observation

During this cruise, bathymetry data have been recorded continuously by Sea Beam 3012. This observation was conducted under passive acoustic monitoring and marine mammal observation.

##### 3) Temperature, Conductivity and Depth observation for oceanic fine imaging in reflection experiment

We conducted 2 XCTD (eXpendable Conductivity, Temperature and Depth).

##### 4) Sub-bottom profiler survey

During this cruise, Sub-bottom profiles have been acquired along MCS survey lines. This observation was conducted under passive acoustic monitoring and marine mammal observation.

##### 5) Gravity observation

Gravity data had been acquired during this cruise by onboard MGS-6 Gravity Meter.

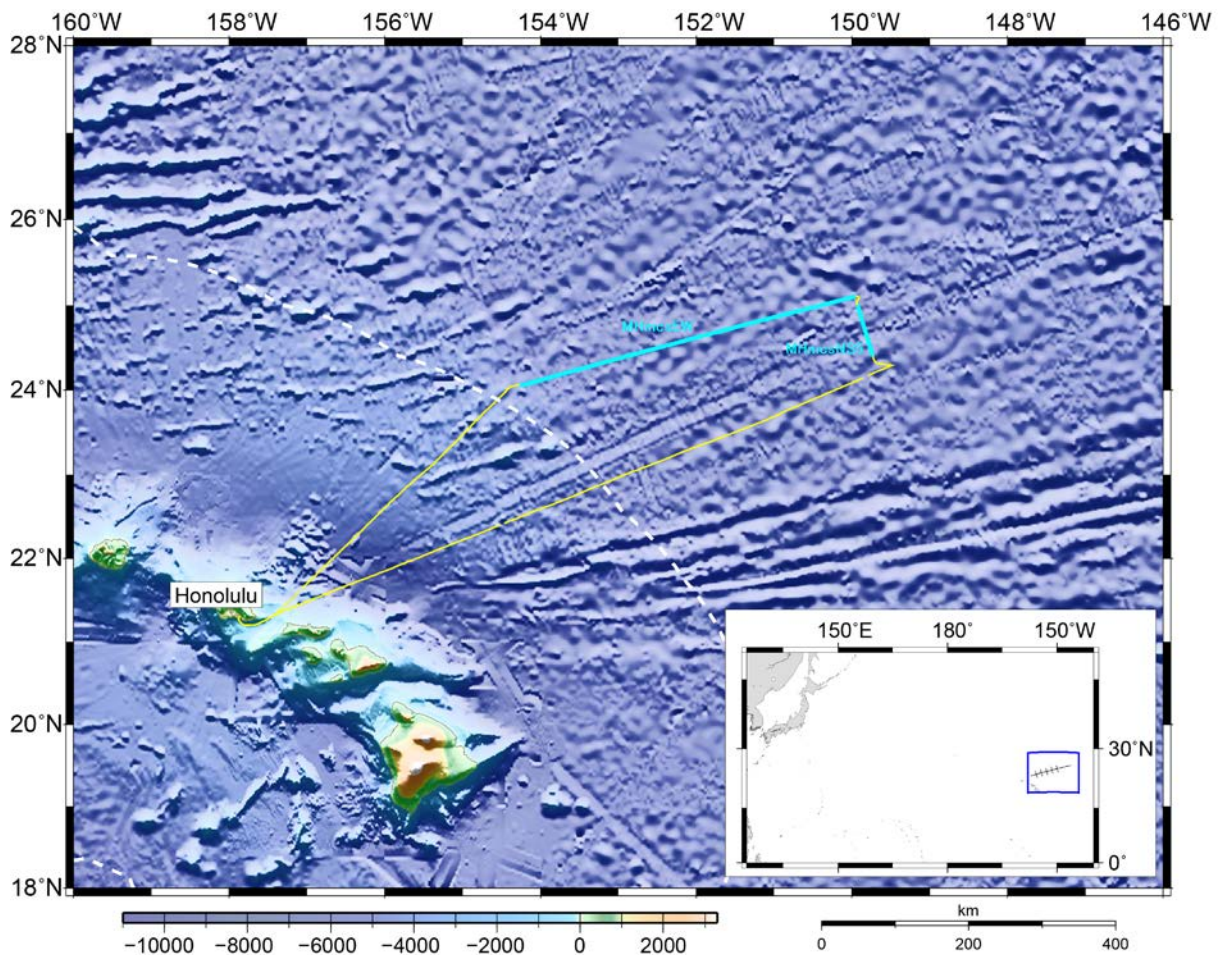


(3) Cruise log:

Date		Remarks
2017/09/26	Tue	Departure from Honolulu Port, and transit to survey area
2017/09/27	Wed	MCS survey on line MHmcsEW
2017/09/28	Thu	MCS survey on line MHmcsEW
2017/09/29	Fri	MCS survey on line MHmcsEW
2017/09/30	Sat	MCS survey on line MHmcsNS5
2017/10/01	Sun	MCS survey on line MHmcsNS5, and transit to Honolulu Port
2016/10/02	Mon	Arrive at Honolulu Port

(4) Multi-channel seismic reflection survey

a) Map of survey line



White lines show the MCS survey line of KR17-14 Leg2 cruise.

b) Shooting coordinates

Line name	Latitude (N)	Longitude (W)
MHmcsEW	24_07.17062'	153_59.64297'
	25_06.22096'	149_56.91996'
MHmcsNS5	24_58.45224'	149_55.11699'
	24_24.23634'	149_43.99849'

c) Preliminary results

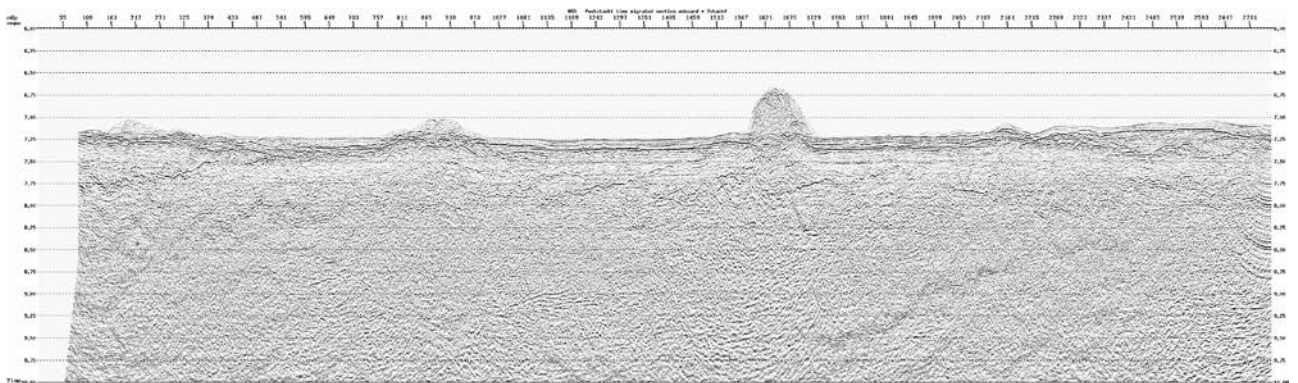


Figure shows onboard seismic reflection section of line MHmcsNS5

**4. Notice on Using**

Notice on using: Insert the following notice to users regarding the data and samples obtained.

This cruise report is a preliminary documentation as of the end of the cruise.  
This report may not be corrected even if changes on contents (i.e. taxonomic classifications) may be found after its publication. This report may also be changed without notice. Data on this cruise report may be raw or unprocessed. If you are going to use or refer to the data written on this report, please ask the Chief Scientist for latest information.  
Users of data or results on this cruise report are requested to submit their results to the Data Management Group of JAMSTEC.