

Cruise Summary

1. Cruise Information

- Cruise ID: YK12-12
- Name of vessel: R/V Yokosuka
- Title of the cruise:
 - (1) Reconnaissance investigation for YK12-13 cruise of the Shinkai 6500, impact by the huge earthquake on marine ecosystem including environment, chemical, geology and geophysics in the Japan Trench
 - (2) Ecosystem dynamics in deep-sea fishery area off Sanriku under the Tohoku Ecosystem-Associated Marine Sciences, since 2011 (TEAMS)
- Chief scientist [Affiliation]: Katsunori Fujikura (BioGeos, JAMSTEC)
- Representative of the Science Party [Affiliation]

YK12-12 Scientist List

| 名前 | Name | position | affiliation |
|-------|------------------------|---------------------------------|---|
| 藤倉 克則 | FUJIKURA, Katsunori | Principal Scientist | Biodiversity Research Program, Institute of Biogeosciences, JAMSTEC |
| 古島 靖夫 | FURUSHIMA, Yasuo | Research Scientist | Biodiversity Research Program, Institute of Biogeosciences, JAMSTEC |
| 土田 真二 | TSUCHIDA, Shinji | Research Scientist | Biodiversity Research Program, Institute of Biogeosciences, JAMSTEC |
| 加藤 千明 | KATO, Chiaki | Principal Scientist | Biodiversity Research Program, Institute of Biogeosciences, JAMSTEC |
| 中嶋 亮太 | NAKAJIMA, Ryota | Postdoctoral research fellow | Biodiversity Research Program, Institute of |

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|-------|----------------------|------------------------|---|
| | | | Biogeosciences, Japan JAMSTEC |
| 座間 千夏 | ZAMA, Chinatsu | Research Scientist | Biodiversity Research Program, Institute of Biogeosciences, JAMSTEC |
| 金子 健司 | KANEKO, Kenji | Assistant Professor | Graduate School of Faculties Sciences, Tohoku University |
| 金子 純二 | KANEKO, Junji | Research Scientist | Data Research Center Research Institute, |
| 柴田 晴佳 | SHIBATA, Haruka | Ph.D. student | Graduate School of Fisheries, Kitasato University |
| 樋泉 昌之 | TOIZUMI, Masayuki | Marine Technician | Nippon Marine Enterprises, LTD |

- Cruise period: 30 July, 2012- 8 August, 2012
- Ports of call: Yokosuka, JAMSTEC 30 July, 2012 – Yokosuka, JAMSTEC 8 August, 2012
- Research area: General survey area, Off Sanriku and Japan Trench (water depth range : 200m~7,500m) .
37°30'N : 141°40'E-----37°30'N : 144°00'E----39°45'N : 144°30'E----39°45'N:142°07'E

2 . Overview of the Observation

(1) Reconnaissance investigation for YK12-13 cruise of the Shinkai 6500, impact by the huge earthquake on marine ecosystem including environment, chemical, geology and geophysics in the Japan Trench

The purpose of this cruise is safety check for next HOV diving survey. The HOV cruise will be conducted to understand impact to marine ecosystems by the 2011 Off Tohoku Earthquake. Due to the earthquake, various phenomena such as,

- Gushing out unique fluids from ocean bottoms,
- Occurrence of large scale turbinate,
- Supplement of huge amount of stuff including artificial materials from land areas,
- Huge mass accumulation of stuff in the trench bottom,
- Extinction of marine organisms

have been occurred in Off Sanriku area, northern Japan. We investigate about relationship between marine ecosystems and earthquake using mainly 6000 m-class deep towing TV camera system. We also focus on not only biology but also geology, chemical, and geophysics aspects. Additionally, this cruise is reconnaissance for the HOV Shinkai 6500 dive in next month, August 2012.

(2) Ecosystem dynamics in deep-sea fishery area off Sanriku under the Tohoku Ecosystem-Associated Marine Sciences, since 2011 (TEAMS)

The purpose of this cruise is to understand impacts on marine ecosystems by the 2011 Earthquake of the Pacific coast of Tōhoku and Tsunami, and to contribute for recover and rebuild of Sanriku fisheries activities in terms of marine science. Target areas are continental slope and shelf off Sanriku. This cruise is conducted under the TEAMS project, namely Tohoku Ecosystem -Associated of Marine Sciences. Detail investigation subjects are topographic surveys, mapping of scattered debris, distribution patterns and diversity of benthic organisms and sediments components. Based on these data and samples, we will construct habitat map for ecosystem management in Sanriku areas.

During this cruise in Off Iwate and Miyagi areas, we investigated following subjects,

- Distribution patterns of benthic organism, geological, debris distribution, chemical and physics analyses using 6000 m class deep-towing TV camera system: YKDT,
- Topographic surveys using MBES,
- Geophysical survey using Gravity & Magnet meters.

All data will be analyzed to estimate impact to the marine ecosystems by the 2011 Off Tohoku Earthquake and tsunami.