



September 27, 2012  
JAMSTEC

### **Integrated Ocean Drilling Program (IODP) Deep-Sea Scientific Drilling Vessel *Chikyu* Completes Expedition 337 "Deep Coalbed Biosphere off Shimokita"**

The deep-sea drilling vessel *Chikyu*, operated by the Japan Agency for Marine-Earth Science and Technology (JAMSTEC) (President: Asahiko Taira), conducted Integrated Ocean Drilling Program (IODP) Expedition 337: Deep Coalbed Biosphere off Shimokita, from 26 July 2012. It completed work at the research area on 23 September 2012 and arrived at the port of Shimizu on 26 September 2012.

#### 1. Research Summary

Understanding the system of carbon cycling, including methane hydrates and natural gas, below the continental coastal sea floor is not only directly linked to issues of Japan's energy resources but is also an important scientific area for understanding past global environmental warming events, ecosystem changes, and for building a future sustainable low-carbon society.

This expedition aims to clarify deep underground biological activity that is believed to play an important role in the system of carbon cycling below the sea floor. Along with collecting physical data on the formations at the sea area offshore of Hachinohe ([Figure 1](#)), core samples ([Figure 2](#)) were collected from 1,276.5 m to 2,466 m below the sea floor.

We will carry out cutting-edge research merging earth and life sciences to assess the activity of underground microorganisms involved in producing methane hydrates and natural gas originating in coal beds under the deep sea floor. This will include analyzing microbial DNA and microbial culture experiments to investigate their metabolic function and evolutionary processes.

Detailed research results from this expedition will be published in international journals.

#### 2. Upcoming *Chikyu* Schedule

3 October 2012: Depart Shimizu Port

3 October 2012 to 13 January 2013: IODP Expedition 338: NanTroSEIZE ([Press Release 25 September 2012](#))

\*1. The Integrated Ocean Drilling Program (IODP).

IODP is an international marine research-drilling program dedicated to advancing scientific understanding of the Earth by monitoring and sampling seafloor environments. Through multiple platforms, scientists explore

IODP's principal themes: the deep biosphere, environmental change, and solid Earth cycles. IODP has been in operation since October 2003, funded jointly by the Japan Ministry of Education, Culture, Sports, Science and Technology and by the U.S. National Science Foundation. The 18-member European Consortium of Ocean Research Drilling (ECORD), the People's Republic of China, the Republic of Korea, India, Australia and New Zealand (ANZIC), Federative Republic of Brazil provide additional support.

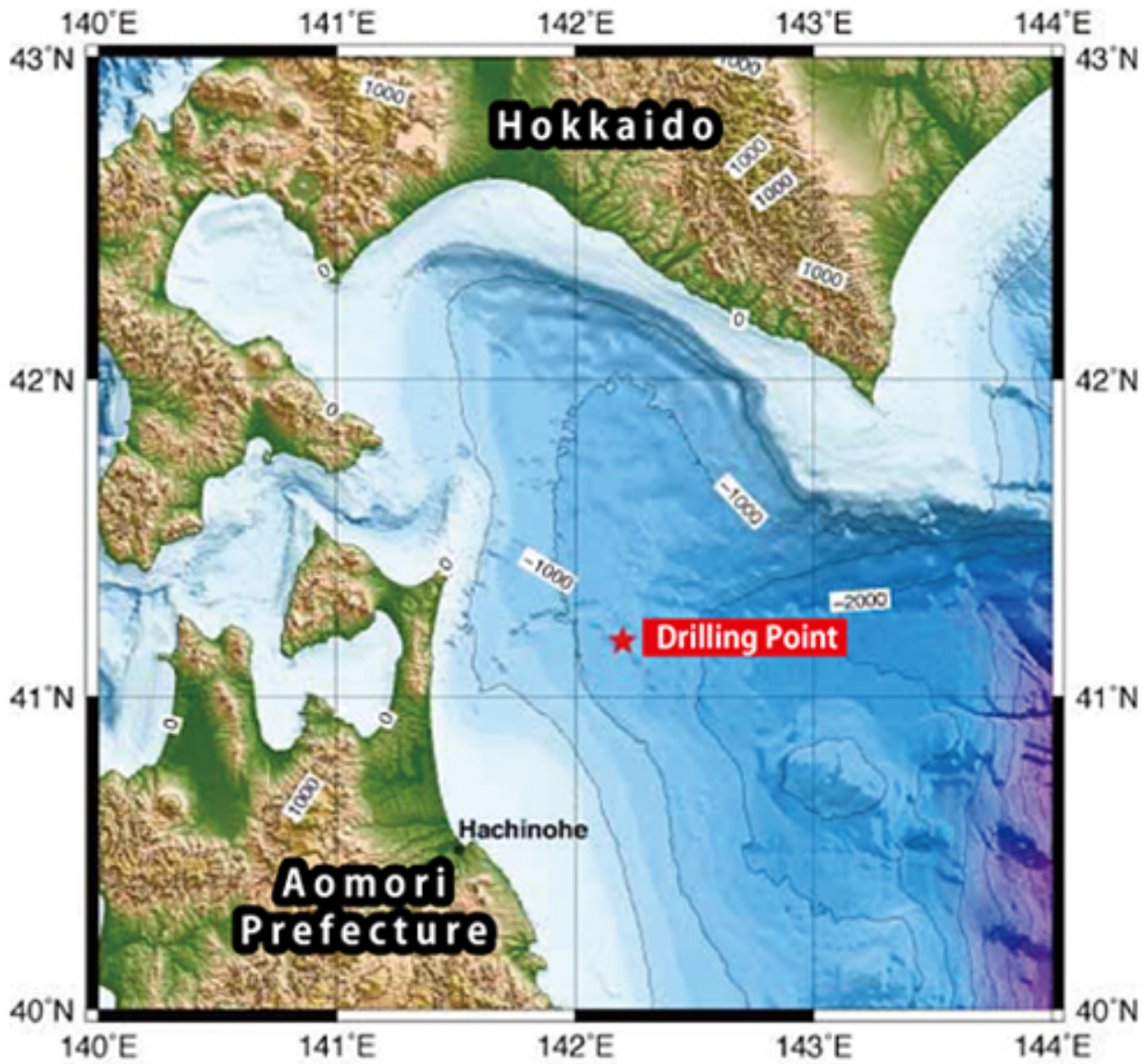


Figure 1. Study area




			
<b>Features</b>	<b>Deep sea formation revealing strata of fossilized bivalves and molluscs</b>	<b>Coal strata. Part of one 7 m thick formation.</b>	<b>Shallow water to terrestrial strata of thin coal seams in fine-grained sandstone layers.</b>
<b>Coring interval below seafloor (m)</b>	<b>1,747-1,756.5</b>	<b>1,919-1,928.5</b>	<b>1,973-1,981.5</b>

Figure 2 Core samples collected during this Expedition

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