
Press Releases



January 30, 2014
JAMSTEC
IODP

D/V *Chikyu* Completes IODP Expedition 348: “NanTroSEIZE Deep Riser - 3”

The Japan Agency for Marine-Earth Science and Technology (JAMSTEC; Asahiko Taira, President) is pleased to announce that the scientific drilling vessel D/V *Chikyu* has completed International Ocean Discovery Program (IODP)^{*1} Expedition 348 and arrived at the Port of Nagoya (Chita Wharf) in Aichi Prefecture on 30 January 2014 for the loading and unloading of equipment. Expedition 348 was the latest advance of the greater Nankai Trough Seismogenic Zone Experiment (NanTroSEIZE) project, which began in 2007. Project operations started on 13 September 2013 and were completed at 24:00 on 29 January 2014.

1. Purpose of the project

This expedition is part of a wider project, NanTroSEIZE, ultimately aiming at clarifying the mechanisms of great earthquake and tsunami generation—such as the history of mega-splay fault activity and the interior structure of the accretionary prism formed by material stripped from the subducting ocean plate—and to reveal the structure and formation process of the oceanic plate subduction zone and changes in the plate boundary faults.

On Expedition 348, the *Chikyu* began drilling at the borehole 80 km offshore from the Kii Peninsula (Site C0002 in Fig. 1; Water depth: 1939 m; Drilling since FY 2012) from a depth of 860 m below the seabed to collect geologic samples from the interior of the accretionary prism in the Nankai Trough seismogenic zone. The drilling operation reached a depth of 3058.5 m below the seafloor—the world record for the deepest scientific ocean drilling—and successfully obtained data on the physical properties of the geologic strata from logging while drilling (LWD), as well as lithological samples (cuttings and core) from deep in the interior of the accretionary prism. These data and samples are the first ever collected from an active accretionary prism, and cored a substantial fault zone deep within the prism.

Although the original plan for the current fiscal year was to drill down to a depth of 3600 m below the seafloor, drilling was stopped at a depth of 3058.5 m; this was a direct result of difficult drilling conditions in the hole at that depth. The work schedule had been extended (see JAMSTEC press release dated 1 January 2014) owing to a number of prolonged interruptions resulting from a series of poor weather and marine conditions occurring earlier in the operation, as well as

difficulties in drilling and casing the deeper sections. Future plans to extend drilling at this location will be decided after a thorough review of the data obtained during this expedition.

(Drilling data for the current fiscal year)

Water depth: 1939.0 m

The maximum borehole depth (below seafloor): 3058.5 m

Total length of core samples: 55 m, recovery rate: 56.7%

LWD: Successfully obtained the data from 877-3058.5 m.

2. Future operation of D/V *Chikyu*

· The vessel is scheduled to enter into the Port of Shimizu (Okitsu Wharf) in Shizuoka Prefecture early in February for the loading and unloading of materials and equipment as well as maintenance work.

*1 International Ocean Discovery Program (IODP)

The International Ocean Discovery Program is a multinational cooperative project launched in October 2013; this program is the direct successor of the previous Integrated Ocean Drilling Program (IODP). At present, IODP participants are comprised of 27 nations, including Japan, the USA, ECORD (19 Countries), China, South Korea, Australia, New Zealand, India, and Brazil. Led by the scientific drilling vessels *Chikyu*, operated by Japan, and the *JOIDES Resolution*, operated by the United States, a number of drilling vessels, including a special purpose drilling ship provided by Europe, are part of this international collaborative scientific effort, drilling into the seafloor to shed light on global environmental changes and the biosphere inside the earth's crust.

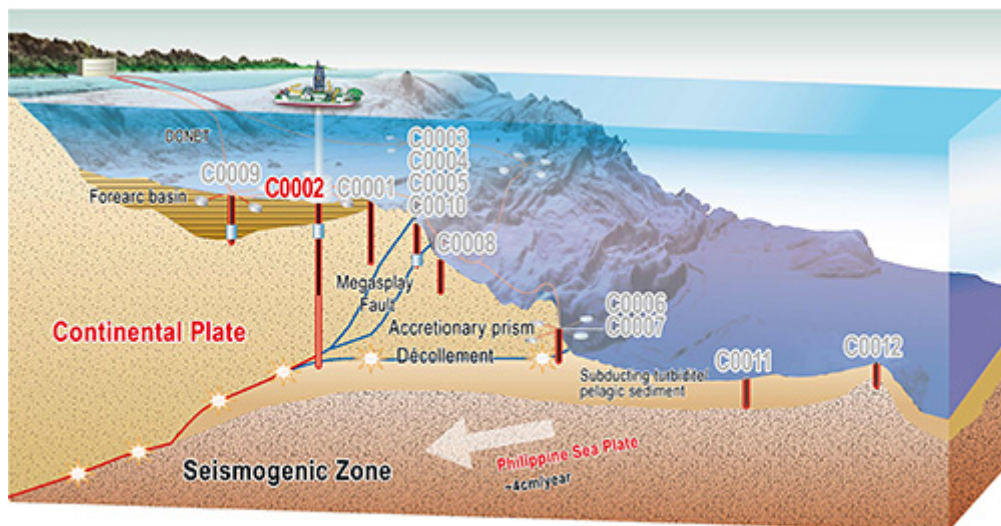
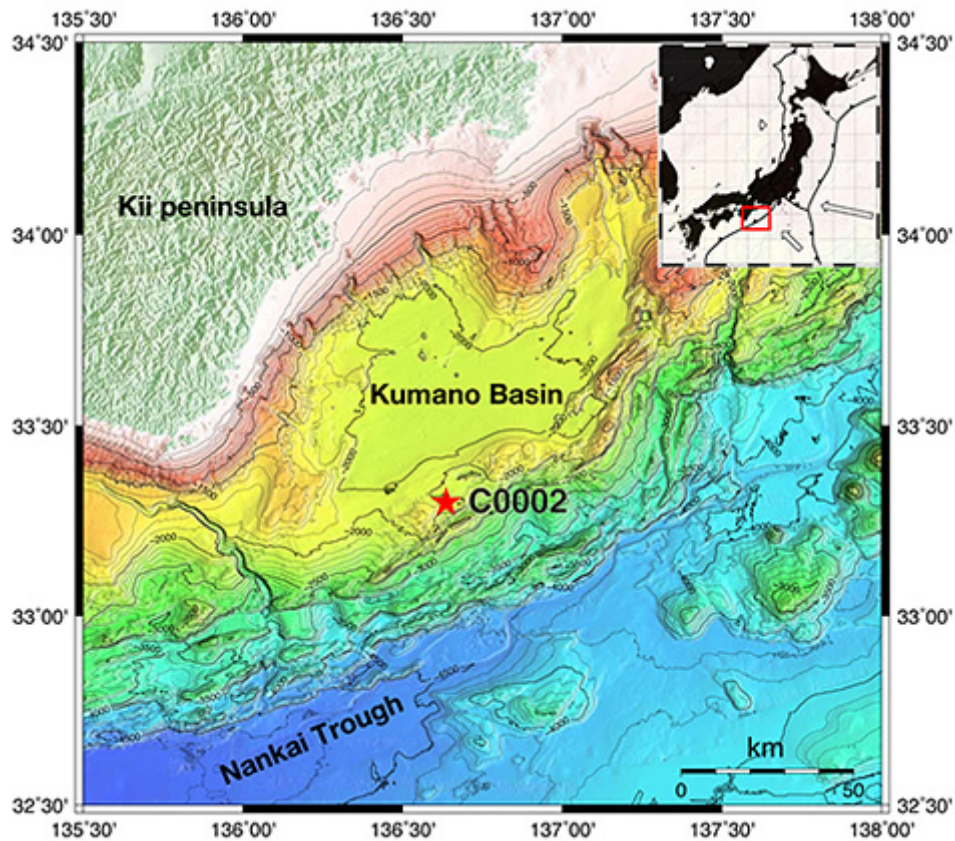


Fig. 1 Expedition 348 C0002 drilling site

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