NEWS RELEASE

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Scientific Ocean Drilling Teams Sample Earthquake and Tsunami Zone

Cored Samples Provide New Insight into Earthquake Generation

EGU, Vienna, Austria, April 17, 2008—— Researchers reported today on three consecutive scientific ocean drilling expeditions that conducted historic sampling and geophysical logging of the upper end of the plate boundary system in a region off Japan's southwestern coast, in the Nankai Trough. Scientists aboard the *Chikyu* drilled major thrust faults less than 1 km below the seafloor in a region notorious for generating devastating earthquakes and tsunamis. This achievement marks the first stage of the Nankai Trough Seismogenic Zone Experiment (NanTroSEIZE), a major research initiative into the triggers and mechanisms of earthquakes and tsunamis, supported by the Integrated Ocean Drilling Program (IODP).

"Since NanTroSEIZE's start, *Chikyu* has proven to be a world-class drilling vessel capable of great things," said co-chief project scientist Masataka Kinoshita of Japan Agency for Marine-Earth Science and Technology (JAMSTEC). Dr. Kinoshita emphasized two early highlights of NanTroSEIZE: drilling the deepest (1401 mbsf) borehole, using LWD (logging-while-drilling technology) in the history of IODP and its legacy program (Ocean Drilling Program); and for the first time, penetrating the major splay thrust system that regionally divides the Nankai margin, which is implicated in tsunami generation.

The Nankai Trough is a geological trench approximately 770 kilometers long that stretches from the Suruga Bay to where the Philippine Sea Plate slips (subducts) under southwest Japan. Along this subduction zone, sediment on the underlying tectonic plate continuously scrapes off and adds material to the overriding plate, forming new geological sediments called the accretionary prism. A primary goal of the NanTroSEIZE drilling project is gaining understanding of the deformation within the accretionary prism and its fault zones to better understand how earthquakes are generated and why some earthquakes cause disturbance at the seafloor and lead to tsunamis.

"NanTroSEIZE coring unearthed excellent samples of several fault zones," said co-chief project scientist Harold Tobin of the University of Wisconsin-Madison, U.S.A. "Coring results were matched by very impressive x-ray CT imaging of the samples." Dr. Tobin added, "This first

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stage of operations produced exciting results and set the stage for highly anticipated deep-drilling operations into the seismogenic zone."

The next stage of NanTroSEIZE is scheduled to begin December 2008 with a drilling expedition of approximately six weeks duration, aimed mainly at sampling sediments, rocks, and fluids going into the subduction zone and plate boundary fault system. A second operation will follow with the primary objective of installing casing at two riserless sites, in preparation for later installation of borehole observatories that will facilitate measurement of pore pressure, strain, and seismometry. It is expected that (deep) riser drilling will start by 2010.

NanTroSEIZE operations are managed by the Center for Deep Earth Exploration/JAMSTEC for IODP, an international marine research program. IODP is dedicated to advancing scientific understanding of Earth by drilling, sampling, and monitoring subseafloor environments. Through multiple platforms, preeminent scientists explore the deep biosphere, environmental change, and solid Earth cycles. IODP scientific drilling investigations are primarily funded by the U.S. National Science Foundation and Japan's Ministry of Education, Culture, Sports, Science and Technology. Nineteen additional countries also support IODP.

Visit NanTroSEIZE Expedition pages at www.jamstec.go.jp/chikyu/eng/Expedition/index.html.

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