

## Science plan for Integrated Ocean Drilling Program Expeditions 319 and 322

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<http://www.jamstec.go.jp/chikyu/eng/Expedition/NantroSEIZE/>

Integrated Ocean Drilling Program (IODP) Nankai Trough Seismogenic Zone Experiment (NanTroSEIZE) Stage 2 consists of two expeditions of Deep Sea Drilling Vessel *Chikyu* from May to October in 2009.

**Expedition 319 'Riser/Riserless Observatory 1'**. This expedition will prepare two boreholes at two sites to be used for future installations of the long-term borehole monitoring systems. At the first site at the accretionary prism in the Kumano Basin (Site NT2-11; 33 deg 27 amin N, 136 deg 32 amin E, water depth 2,061 m), riser drilling and casing operations will proceed down to approximately 1,600 m below seafloor. Coincident with the drilling, logging while drilling (LWD), measurement while drilling (MWD) and wireline logging will be conducted in order to assess hole conditions and formation properties of the cover sediments of Kumano Basin and the underlying accretionary prism. Additionally, spot coring and downhole measurements will be also operated. At the second site (NT2-01J; 33 deg 13 amin N, 136 deg 41 amin E, water depth 2,535 m), riserless drilling and casing will proceed to 525 m, coincident with LWD. No coring or downhole measurements will be conducted from the riserless drilling site.

**Expedition 322 'Subduction Input'**. This expedition will investigate input material to the seismogenic zone, by characterizing the composition, architecture and state of sediments that will be transported by the subduction system offshore Kii Peninsula, Japan. Site NT1-07 (32 deg 50 amin N, 136 deg 53 amin E, water depth 4,062 m) will be drilled through turbidite-rich strata overlying smooth oceanic basement. The expected results of this expedition will provide key constraints on the initial conditions for the 'subduction conveyor', which transports the incoming sediments and ocean crust to higher P-T conditions. These materials are hypothesized to be an important factor to drive the seismogenic fault behavior.