

Cruise Summary

1. Cruise ID/Name of vessel : KY11-03 /N/A/ R/V KAIYO
2. Title of proposal : Construction of Seafloor observation Network for Earthquakes and Tsunamis
Representative of the Science Party [Affiliation] : Yoshiyuki KANEDA/JAMSTEC/J10-12
3. Chief scientist [Affiliation] : Katsuyoshi KAWAGUCHI/JAMSTEC
4. Science party (List) [Affiliation, assignment etc.] : JAMSTEC Takashi YOKOBIKI, Hiroyuki MATSUMOTO
NME Tohru KODERA, Ken KATAYAMA
NGK Sho KANEKO
Tokyo University of Marine Science and Technology Jin-Kyu Choi
Kyushu Institute of Technology Shuhei Nishida
5. Research area : Kumano-nada
6. Cruise period : 2011/03/02(Wed) ~ 2011/03/17(Thur.)

Cruise Overview

KY11-03 is 5th expedition for DONET (Dense Ocean-floor observatory network for Earthquakes and Tsunamis) sub-sea observatory construction. At the time of the start this expedition, DONET backbone submarine cable system, five science nodes and eight observatories were already sit on the seafloor and in operation. Eleven ROV diving days were scheduled for observatory construction (include burial hole conditioning, observatory installation, and backfilling burial hole operation), and extension cable laying operation between node and observatory.

The expedition was done during March 2 to March 17, 2011.

In this duration, HPD4500 implement 11dives (Dive #1251 to #1261). There were

- Burial Hole Conditioning: 3Dives (C-9(#1251), D-14(#1257), E-20(#1252))
- Observatory Installation: 2Dives (C-9(#1256), D-14(#1260))
- Cable Laying Operation: 3Dives (B-5(#1254), C-9(#1253), D-14(#1259))
- Burial Hole fill up: 1Dive ((A-3(#1261))
- Additional Operations: 2 Dives (Backup operation for A-1 cable laying suspension(#1255), (#1258))

Summary:

In the expedition KY11-03, three new observatories were able to be activated, and total number of in-operation observatories became eleven. On March 11 when on the expedition KY11-03, a M9 class mega thrust earthquake hit the north-eastern part of Japan and associated tsunami rising over the seaboard cities. This disaster made us recognize the importance of earthquakes and tsunamis prevention over again. At that time, Ten observatories were operating in the DONET system where the approximately 800km far from hypocenter of the 2011 Tohoku-oki earthquake. From this data, it can be confirmed that the tsunami of 60cm pp surges several times in this area.