Submission date 2013/02/25

Cruise Summary

1. Cruise ID／Name of vessel ：KY12-11 / 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/JS12-14
3. Chief scientist [Affiliation]：Hiroyuki Matsumoto / JAMSTEC
4. Science party (List) [Affiliation, assignment etc.]：
   Shuhei Nishida and Masayuki Hoshino / JAMSTEC
   Masayuki Toizumi and Hiroyasu Momma / NME
   Hiroyuki Hayashi, Akira So, Kazuhiro Yoshida, Naohito Mori and Yukihiko Nakano / MWJ
5. Research area： off Kii-suido and Kumano-nada
6. Cruise period ：2012/09/03(Monday) ～ 2012/09/30(Sunday)

Cruise Summary:

The present survey KY12-11 aims to obtain in-situ information of seismic observatories, to deploy the bottom casing platform, and to distinguish cable route applicability in the DONET2 area off Kii-suido. Sediment sample have been obtained from 25 observatories among 31 observatories in total by using a piston core (PC) sampler as shown in Figure 1. We expect most observatories can be acceptable as DONET observatories regarding sedimentation since the relatively weak share stress was measured, but it seems to be difficult to deploy the bottom casing at some observatories around the *Tosa-baye* height. Other tools such as ROV hammer system needs to bury the casing below the ocean-bottom. On the last day of PC survey, two bottom casing have been deployed at 1D-21b and 1E-22b observatories. These two platform will be made to be used by ROV dive in the near future.

We also carried out three "Deep Tow" dives on the cable route. One survey line is not acceptable for the current status because the "Deep Tow" was captured on the way. We will do route clearance in the next survey. Other two route is suitable for cable route.

In conclusion, we could fix the observatories location after the present survey. Weather was bad in the period of "Deep Tow" survey, whereas that of PC survey was pretty good. As a result, sediment could be obtained at more than 80 % observatories of DONET2. Both PC and "Deep Tow" surveys will be scheduled next May to June, and we expect it will be completed the pre-survey for DONET2 construction.

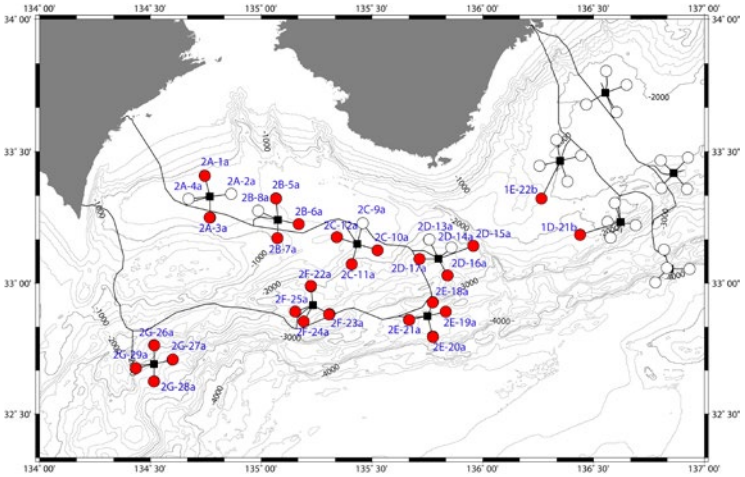

Figure 1. DONET2 observatories to be deployed in which red color represent the PC sample has been done.