Development of Download System for Waveform Data Observed at Long-Term Borehole Monitoring System installed in the Nankai Trough

Seiji Tsuboi (1), Hiroki Horikawa (1), Morifumi Takaesu (2), Kentaro Sueki (1), Eiichiro Araki (1), Akira Sonoda (1), and Narumi Takahashi (3)

(1) JAMSTEC, Yokohama, Japan (tsuboi@jamstec.go.jp), (2) Nippon Marine Enterprises, Ltd, Japan, (3) National Institute for Earth Science and Disaster Prevention, Japan

The Nankai Trough in southwest Japan is one of most active subduction zone in the world. Great mega-thrust earthquakes repeatedly occurred every 100 to 150 years in this area, it's anticipated to occur in the not distant future. For the purpose of elucidation of the history of mega-splay fault activity, the physical properties of the geological strata and the internal structure of the accretionary prism, and monitoring of diastrophism in this area, we have a plan, Nankai Trough Seismogenic Zone Experiments (NanTroSEIZE), as a part of Integrated Ocean Drilling Program (IODP).

We have a plan to install the borehole observation system in a few locations by the NanTroSEIZE. This system is called Long-Term Borehole Monitoring System, it consists of various sensors in the borehole such as a broadband seismometer, a tiltmeter, a strainmeter, geophones and accelerometer, thermometer array as well as pressure ports for pore-fluid pressure monitoring. The signal from sensors is transmitted to DONET (Dense Ocean-floor Network System for Earthquake and Tsunamis) in real time. During IODP Exp. 332 in December 2010, the first Long-Term Borehole Monitoring System was installed into the C0002 borehole site located 80 km off the Kii Peninsula, 1938 m water depth in the Nankai Trough.

We have developed a web application system for data download, Long-Term Borehole Monitoring Data Site. Based on a term and sensors which user selected on this site, user can download monitoring waveform data (e.g. broadband seismometer data, accelerometer data, strainmeter data, tiltmeter data) in near real-time. This system can make the arbitrary data which user selected a term and sensors, and download it simply. Downloadable continuous data is provided in seed format, which includes sensor informations. In addition, before data download, user can check that data is abailable or not by data check function.

In this presentation, we show our web application system and discuss our future plans for developments of monitoring data download system.