



Towards to Resilience Science -Research on the Nankai trough seismogenic zone-

Yoshiyuki Kaneda (1,2,3), Wataru Shiraki (1), Kazuhito Fujisawa (1), and Eiji Tokozakura (4)

(1) Kagawa University, Institute of Education , Research and Regional Cooperation for Crisis Management Shikoku (IECMS), Takamatsu, Japan (kanedaykg@cc.kagawa-u.ac.jp), (2) Japan Agency for Marine-Earth Science and Technology (JAMSTEC), (3) National Research Institute for Earth Science and Disaster Resilience, (4) Tokushima Bunri University

For the last few decades, many destructive earthquakes and tsunamis occurred in the world.

Based on lessons learnt from 2004 Sumatra Earthquake/Tsunamis,

2010 Chilean Earthquake/Tsunami and 2011 East Japan Earthquake/Tsunami, we recognized the importance of real time monitoring on Earthquakes and Tsunamis for disaster mitigation.

Recently, Kumamoto Earthquake occurred in 2006. This destructive Earthquake indicated that multi strong motions including pre shock and main shock generated severe earthquake damages buildings.

Furthermore, we recognize recovers/ revivals are very important and difficult. In Tohoku area damaged by large tsunamis, recovers/revivals have been under progressing after over 5 years passed

after the 2011 Tohoku Earthquake. Therefore, we have to prepare the pre plan before next destructive disasters such as the Nankai trough mega thrust earthquake.

As one of disaster countermeasures, we would like to propose that Disaster Mitigation Science.

This disaster mitigation science is including engineering, science, medicine and social science such as sociology, informatics, law, literature, art, psychology etc.

For Urgent evacuations, there are some kinds of real time monitoring system such as Dart buoy and ocean floor network. Especially, the real time monitoring system using multi kinds of sensors such as the accelerometer, broadband seismometer, pressure gauge, difference pressure gauge, hydrophone and thermometer is indispensable for Earthquakes/ Tsunamis monitoring. Furthermore, using multi kind of sensors, we can analyze and estimate broadband crustal activities around mega thrust earthquake seismogenic zones. Therefore, we deployed DONET1 and DONET2 which are dense ocean floor networks around the Nankai trough Southwestern Japan.

We will explain about Resilience Science and real time monitoring systems around the Nankai trough seismogenic zone.