Application of the real time data and simulation data base for tsunami disaster mitigation and education

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Based on the lesson learnt from East Japan Earthquake 2011, we are developing early tsunami detection system using the real time data and advanced simulations. DONET systems deploying around the Nankai trough, will be applied to Tsunami early detection for the Nankai trough large earthquakes and tsunamis. And S-Net system is under construction around off Tohoku seismogenic zone for early detection of earthquakes and tsunamis. Especially, real time data from ocean floor networks are very important and indispensable for early tsunami detection. However, not only real time data system, but also advanced simulation researches are important too. For instance, the integration of real time data of tsunamis and advanced tsunami propagation and inundation simulation will be more powerful and practical information for evacuations and rescues. If we can detect tsunamis using ocean floor networks, we can estimate tsunami propagation and inundation based on the advanced tsunami data base. Furthermore, education and outreach using advanced and visualized tsunami simulation including propagations, inundations and evacuations are more important for saving lives from tsunamis. For the recovery and revival of damaged areas, evacuated people are the most important, indispensable and irreplaceable. In our presentation, we will introduce the early tsunami detection system and advanced simulation for evacuations from tsunamis and disaster mitigation.

Keywords: real-time, early detection of earthquake and tsunami, simulation, disaster mitigation, ocean floor network