Special Project for Earthquake Disaster Mitigation in Tokyo Metropolitan Area

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In central Japan, the Philippine Sea plate (PSP) subducts beneath the Tokyo Metropolitan area, the Kanto region, where it causes mega-thrust earthquakes, such as the 1703 Genroku earthquake (M 8.0) and the 1923 Kanto earthquake (M 7.9) which had 105,000 fatalities. The vertical proximity of this down going lithospheric plate is of concern because the greater Tokyo urban region has a population of 42 million and is the center of approximately 40 % of the nation's activities.

An M 7 or greater (M 7+) earthquake in this region at present has high potential to produce devastating loss of life and property with even greater global economic repercussions. The Central Disaster Management Council of Japan estimates the next great earthquake will cause 11,000 fatalities and 112 trillion yen (1 trillion US$) economic loss. This great earthquake is evaluated to occur with a probability of 70 % in 30 years by the Earthquake Research Committee of Japan. We conducted the Special Project for Earthquake Disaster Mitigation in Urban Areas (2002-2006). This project revealed the detailed geometry of the subducted PSP and improved information needed for seismic hazards analyses of the largest urban centers.

We have started the Special Project for Earthquake Disaster Mitigation in Tokyo Metropolitan area (2007-2011).In the present project we have been deploying the Metropolitan Seismic Observation network (MeSO-net), data from which will be discussed in the present session.