The Metropolitan Seisimic network (MeSO-net) for Detection of Mega-thrust beneath Tokyo Metropolitan Area

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We have just started the special project for earthquake disaster mitigation in the Metropolitan Tokyo area and constructed the MeSO-net (Metropolitan Seismic Observation network) as part of the project. The MeSO-net consists of 400 stations and 46 stations including Gohongi elementary school have been deployed at mainly elementary and junior high schools. To achieve stable seismic observation avoiding surface ground noise, sensors were installed in boreholes at depth of 20m. This observation network has a wide dynamic range (135dB), wide frequency band (DC to 80Hz). Data is digitized with 200Hz sampling and telemetered to the Earthquake Research Institute. The MeSO-net has conducted an observation at the beginning of this year. It will provide an accurate estimation of the plate boundaries of the Philippine Sea (PSP) and the Pacific plates under the metropolitan area, resulting in possible to discuss clear understanding of the relation between a deformation of PSP and a generation of intra-slab M7+ earthquakes. The MeSO-net will also present a high resolution tomographic image to show a low velocity zone which suggests a possible internal failure of the slab, i.e., a possible source region of the M7+ intra-slab earthquake. Our special project will contribute directly to the next assessment of the seismic hazard in the Tokyo metropolitan area.