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Outline of Seafloor Observation Network for Earthquakes and Tsunamis along the Japan Trench (S-net)

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Seafloor Observation Network for Earthquakes and Tsunamis along the Japan Trench (S-net) project to construct a large-scale seafloor network of cable-linked observatories is in progress around Japan Trench and Kuril Trench in Japan. The main purpose of the S-net project is disaster prevention by providing ground motion and tsunami height data in real time. Such real-time data from the seafloor observatories make it possible to forecast the next-generation early tsunami warning which could precisely predict coastal tsunami height. Also the data may make it possible to forecast an earthquake warning much earlier than the present system. The network consists of 150 ocean bottom observation stations. Ocean bottom fiber optic cables, about 5,700 km in total length, connect the stations to land. Observation stations will be placed on the seafloor off Hokkaido, off Tohoku and off Kanto, in a spacing of about 30 km almost in the direction of East-West (perpendicular to the trench axis) and in a spacing of about 50 - 60 km almost in the direction of North-South (parallel to the trench axis). Each station is equipped with seismometers of three types and two hydro-pressure gauges (tsunami meters) of the same type for redundancy. The digitized data will be transmitted to the data centers, JMA (Japan Meteorological Agency), and so on, using IP network. S-net is supported by MEXT financially.