M9.0 GREAT TOHOKU TECTONIC SUMMARY

The magnitude M9.0 Tohoku earthquake on March 11, 2011, which occurred on the northeastern coast of Honshu, Japan, was one of the largest earthquakes ever recorded. The earthquake was caused by the movement of the Pacific Plate relative to the Philippine Plate. The motion of the Pacific Plate is generally 60 mm/yr north westward with respect to the Philippine Plate. The motion of the Philippine Plate is generally directed to the north west across the Japan Trench. The Japan Trench subduction zone has been the source of many large earthquakes in Japan, and is responsible for much of the seismicity in the region.

The March 11 earthquake was preceded by a series of large earthquakes in the region, including the M7.1 earthquake on March 9th, which occurred approximately 260 km to the north of the March 11 event. The March 11 earthquake was accompanied by a tsunami that caused significant damage and loss of life in the region.

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