

Hyogoken-Nanbu Earthquake (Japan, 17 January, 1995). Awaji Island: Damage and Neotectonic - Geotechnical Conditions

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The $M=7.1$ R magnitude Hyogoken-Nanbu earthquake caused a multitude of victims and immense damage all over the urban complex of Kobe. Besides, significant destruction was induced at Awaji Island, where the impressive, 9-km long (max slip 1.5 m) surficial expression of the seismic fault occurred. Five locations where the intensity was greater than VIII on the E.M.S.-1992 scale were identified on the island, at the areas of Nojima, Toshima and Asano along the western coast and Karima and the main commercial port on the eastern one.

The geologic formations that outcrop at the western part, at the maximum intensity areas are tuffs, clay and sandstone of Plio-Pleistocene age and granites - granodiorites. The seismic fault has a NE-SW trend and runs parallel to the coast. At the eastern part, at the maximum intensity areas, mostly alluvial unconsolidated formation of small thickness occur, lying unconformably on the older rocks.

The correlation that was made showed that the damage at the western part was predominantly due to the occurrence of the seismic fault, whereas the destruction on the eastern part was mainly the result of the prevailing negative geotechnical conditions.