

عنوان مقاله:

The Destructive Effects of 17th August 1999 Earthquake on Izmit Gulf Coasts and Marmara Sea

محل انتشار:

چهارمین کنفرانس بین المللی سواحل و بنادر و سازه های دریایی (سال: 1379)

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خلاصه مقاله:

The Northern Anatolian Fault with 900 km of length, is extended from Varto City in Eastern Turkey to the Marmara Sea. This fault is one the most active faults of the world and it's magnitude is recognised by observing it's extension over Plio-quadernary deposits adjoining Izmit Gulf, as well as the strength of the earthquakes being around 7.5 to 7.7 M, and finally, the destruction of a region covering over 400 km of area. Observations by GPS show a depth slide of 24 ± 4 mm per year for the Northern Anatolian Fault. This fault is known as a strike-slip fault and it's hypocenter lies in the small town of GolCuk on southern margins of Izmit Gulf. The fault has led to 7 strong and formidable earthquakes during the period of 1939 to 1999. These earthquakes have created many cracks and crevasses alongside the Northern Anatolian Fault, and have been oriented from the east to the west. It is supposed that the fault has undergone more stresses during 1997 compared to previous movements and earthquakes. Therefore, it has a high potential of releasing energy whereby the 17th August 1997 earthquakes created a 120 km long fault from Doozjeh City (220 km to the east of Istanbul) to Izmit Gulf margins. The vertical displacement of the fault around Izmit Gulf was 2.7 m that finally led to the following incidents: Occurrence of Tsunami phenomenon, throwing away of a small ship to the flanks of the Gulf, the heavy progression of water toward GolCuk City, and finally, submergence of many residential settlements, flats, the mayor's office, a Launa Park, and a limited number of streets and lanes. This article is an attempt to present the importance and the range of damages caused by movements of the Fault. The article will ultimately represent some guidelines and blueprints for reducing the future damages, reinforcing the equipment, proper studies of soil mechanics, and geotechniques as well as geophysics of soils

کلمات کلیدی:

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