



Geological and Geomorphological Characterizations of Landslides on the Coast of the Biga Peninsula (Çanakkale, NW Turkey)

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The study consists of landslide movements that take place on Middle-Upper Miocene aged the terrestrial and marine sedimentary rock units on the Canakkale basin in the Biga Peninsula. As active landslide flows in the region are investigated Ambaroba Landslide, Şevketiye-Adatepe Landslides and Güzelyalı-İntepe Landslides from the east to the west along the coast of Biga Peninsula. The geological studies carried out in the Ambaroba landslide shows the unity of the Bayramic formation and Sapci volcanics demonstrated their effectiveness during the Miocene period in this area. The sandstones of Bayramic formation are seen in yellow, dirty yellow and gray, and they are not cemented very well. The units in the sliding surface of the mass movement, consist of conglomerates bonded with not hardening, loose sandy and pebbled cement forming very large blocks. The direction of movement of the sliding surface is in the direction N-NW. In Şevketiye-Adatepe Landslides, sliding movements are occurred on a yellowish brown sandstone and conglomerate units at the Fiçitepe formation. In these landslide areas, sandstones are massive and well cemented. The conglomerates are weak than the sandstones, and found in gray-beige not hardening. In Güzelyalı village and around İntepe, units of Çanakkale formation and alluvial debris are surfaced. The common outcrop consists of medium-grained yellow-beige, loose sandstone on the highway between Güzelyalı and İntepe near the landslides, and often provide a solid appearance. Furthermore, there are common sandstone lithologies in the area of the viaduct İntepe. The sandstones are in yellowish brown color, is seen as parallel planar layer and cross layer. A feature of massive, not well cementing and dispersible is offered for no layered areas. Based on the results of field studies, the effect of geological and geomorphological features are among the main predisposing and precipitating factors as well as anthropogenic causes of climate change for the landslide movements in these three regions. Loose conglomerates and sandstones observed in almost all regions are able to easily move under the influence of seasonal rainfall. The precautions to be taken are very important for areas where housing as Ambaroba and Güzelyalı. On the other hand, new movements may occur that could cause serious damages in transporting highways Şevketiye, Adatepe and İntepe Landslides.

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