The Monitoring of Fast Progressive Landslide Movements in Taşkent/Konya via Rapid Static GNSS Techniques

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SUMMARY

Landslides, which leave deep scars in the topography and occur quite fast in a short time, are one of the most dangerous types of natural disasters. Therefore many methods have been developed for the monitoring of landslides. The technique of GNSS is one of the most widely used techniques for the prediction of landslides. In this study scope was covers GNSS works on the progressive Taşkent / Konya landslide. This study site was chosen as a result of the landslide that destroyed the Balcılar road, which provided transportation in the Taşkent province between the other towns and villages in the Tashkent district. Recently, due to the impact of global warming, the sudden and excessive rains trigger landslides in this region. However, the landslide size had been determined by coordinate changes which were obtained by means of the rapid static GNSS method and with the help of statistical algorithms that had been used for fast analysis. The field studies, which were conducted three different times in 2010, had been evaluated. According to the results of this analysis over 1m landslide movements were determined. Thus, revealing that we are able to provide the time to take the necessary precautions so that landslide damage can be prevented. In this paper, the data acquisition, analysis of data, and evaluation of the process's stages are presented. As a result, we'll show that GPS techniques are reliable, inexpensive and a good technique that enables high accuracy in predicting fast and constantly moving landslides.