



Deep Landslides in flysch formations

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Flysch, linked with the tectonic development of an area, has suffered from compressional forces being highly deformed by thrust faults and folds, containing thus often tectonically pre-sheared zones of various size. These geological characteristics may produce weak to very weak rock masses which may present instability and landslides in both mountain and local slope scale. The paper mainly discusses the “mountain” scale phenomena. The size of these masses can reach hundreds of meters in both depth and width on the valley sides.

A brief presentation of the flysch formation is presented. A typology is presented with 11 types of flysch, depending on the persistence and participation or not of the strong members (as sandstones) against the weak ones (as siltstones, shales) and the degree and scale of tectonic disturbance. These rock mass types are connected with the landslide mechanism.

In all cases the tectonic conditions of a broader area are responsible and the establishment of the tectonic-paleogeographic model is necessary before the conceptual study and design of any major infrastructure work and the choice of its alignment or location. Given the size of such instability areas remedial measures are in most cases not feasible and the realignment or relocation from the initial plans are often the only solution. Cases from highways and pipelines in Greek and Albanian territory are presented. A large number of information from lab tests, geotechnical classifications and back analyses collected from a wide variety of flysch formations is presented and discussed.