Slope Tectonics

Edited by
M. Jaboyedoff

Usually geomorphology, structural geology and engineering geology provide descriptions of slope instability in quite distinctive ways. This new research is based on combined approaches to providing an integrated view of the operative slope processes. 'Slope Tectonics' is the term adopted here to refer to those deformations that are induced or fully controlled by the slope morphology, and that generate features which can be compared to those created by tectonic activity. Such deformation can be induced by the stress field in a slope which is mainly controlled by gravity, topography and the geological setting created by the geodynamic context.

The content of this book includes slope-deformation characterization using morphology and evolution, mechanical behaviour of the material, modes of failure and collapse, influence of lithology and structural features, and the role played by controlling factors. The contributions cover broad aspects of slope tectonics that attempt to underline a multidisciplinary approach, which should create a better framework for studies of slope instability.

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Cover illustration:

Shiaolin landslide induced by the Typhoon Morakot in Taiwan, which occurred 8 August, 2009 and killed 318 people.

Photograph taken by Prof. Masahiro Chigira, Kyoto Univers in March 2010.

Contents