

892308

Dynamics of earthquake-induced slope failure of Ontake
Anma, S; Maikuma, H; Yoshimura, M; Fujita, Y; Okusa, S
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An earthquake of magnitude 6.9 triggered the massive failure of volcanic materials on the southern flank of Mt Ontake. Five masses flowed at up to 40m/s. The basal part of the slide consisted of fine muddy slurry of ash and pumice, while the upper part was gravelly material containing flow mounds up to 10m or more in diameter. Debris scatter was wide. A simple model is proposed in which failure occurs in succession from the lower part to the upper part of the soil mass. This successfully describes observed behaviour.

892309

Bedding-controlled landslides in New Zealand soft rock terrain
Bell, D H; Pettinga, J R
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Areas of New Zealand with outcrops of compacted, un cemented mudstones and sandstones show areally large, deep seated landslides, due to translational movement on low shear strength bedding planes of low angle of dip, and sliding surface often rich in montmorillonite. Triggering of slides can be by seismotectonic or pore pressure effects, or failure can be due to progressive movement by creep.

892310

Instability phenomena in weathered flysch in Greece
Christoulas, S; Kalteziotis, N; Gassios, E; Sabatakakis, N; Tsiambaos, G
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Because slope failures were encountered in weathered flysch, a program was instigated to determine the mechanical properties and investigate the slide mechanism. Mineralogy was determined by X-ray analysis, and grain size distribution and Atterberg limits measured. Shear strength characteristics of loose and dense, wet and dry material were determined in a large shear box apparatus. Results were used to explain translational failure and climatological effects.

892311

Observations on landslides in typical flysch sequences of southern Apennines (Italy)
Del Prete, M; Guadagno, F M
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Heavy damage is caused every year by slope failures on outcropping Tusa tuffite flysch in the Apennines. Landslides have been examined, and geological, geomorphological, and geotechnical conditions analysed to provide some understanding of the complex mechanical behaviour of flysch rocks. The landslide hazard is associated with high tectonic stress. The condition of weathering and fragmentation and interlocking in clay rich sequences is also seen to be influential on stability.

892312

Causes of the revival of an ancient landslide on left bank of diversion canal from Tangwang river
Du, Z Q; Wang, Y Y; Jiang, Y T
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The cutting of a canal through an ancient slide caused secondary landslides and reactivation of the old slide. Geological and hydrological characteristics of the area were investigated. Secondary landslides caused by the digging of the canal were associated with tensile fractures in the soil mass or creep of clay masses. The occurrence of secondary landslides induced failure on the old slide surface. Groundwater had significant influence on the secondary slides, but not on the ancient slide whose failure surface was saturated for many years.

892313

Instability of natural slope in interbedded limestone and shale
El-Sohby, M A; Elleboudy, A M
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Massive slides have threatened the development of the Mokattam plateau, Egypt, of blocky limestone interbedded with clay shales. Back analysis of one slide is presented. Strength parameters of the rock were measured. A failure mechanism is postulated whereby water percolates through the limestone jointing, increasing water content and swelling pressure in the shales, and decreasing shear strength. Failure occurs when sliding forces exceed shear resistance of the softened shale.

892314

Kinematic mechanism of catastrophic landslides and prediction of their velocities and travelling distances
Fang, Y S; Zhang, Z Y
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Catastrophic massive landslides occur regularly in parts of China. The sliding mass is largely loose debris, with larger rock or soil masses only towards the rear of the slide. The area swept by the slide is larger than when an integral rock or soil mass slides. There is good correlation between the characteristic value of mobility and total energy of the slide. Momentum transmission is suggested as the main reason for high sliding speed and long travel. A kinematic mechanism is proposed and formulae to predict velocity and travel distance are presented.

892315

Influence of bedding plane shears on slope instability in sedimentary rocks
Fell, R; Sullivan, T D; MacGregor, J P
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A study of 4 landslides in coal measures rocks in the Sydney Basin revealed bedding plane shears with low effective shear strength, which may have been responsible for sliding. These shears also occur at a proposed open pit site, and implications for stability are discussed. It is proposed that the shear formed by stress concentration at the contact between claystones and stiffer rocks, differential compaction of coal and claystone, and stress relief as the original topography is eroded.