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Descrizione fisica	1 online resource (XII, 235 p. 157 illus., 74 illus. in color.)
Disciplina	551.307
Soggetti	Engineering geology Engineering—Geology Foundations Hydraulics Geotechnical engineering Natural disasters Soil science Soil conservation Geoengineering, Foundations, Hydraulics Geotechnical Engineering & Applied Earth Sciences Natural Hazards Soil Science & Conservation
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Background -- Analytical solution to 1D coupled infiltration and deformation in unsaturated porous media -- Effects of gravity and hysteresis on 1D unsaturated infiltration -- 2D Infiltration in unsaturated porous media -- Physical simulation of rainfall infiltration into unsaturated slope under rainfall -- Slope stability analysis based on coupled approach.
Sommario/riassunto	Most landslides are triggered by rainfall. In previous studies, slope stability is often evaluated based on the infiltration analysis. Hydro-mechanical coupling is significant to rainfall-caused landslide evolution. This book covers theoretical models of unsaturated infiltration, and provides hydro-mechanical models for rainfall-induced

landslides. The influences of rainfall patterns, boundary conditions, layered structures, and SWCC hysteresis on the coupled unsaturated infiltration and deformation are discussed. Laboratory testing of rainfall-induced landslides is performed to study the developing process of landslide upon rainfall infiltration. The results provide a better understanding of rainfall-induced landslides.

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