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Titolo	Advances in Debris-flow Science and Practice / / edited by Matthias Jakob, Scott McDougall, Paul Santi
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ISBN	3-031-48691-9
Edizione	[1st ed. 2024.]
Descrizione fisica	1 online resource (XIX, 636 p. 272 illus., 223 illus. in color.)
Collana	Geoenvironmental Disaster Reduction, , 2946-5729
Disciplina	551 363.34
Soggetti	Natural disasters Geomorphology Sedimentology Natural Hazards
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Introduction -- Debris-flow Watersheds and Fans: Morphology, Sedimentology and Dynamics -- Fatalities from Debris Flows: Worldwide Distribution and Trends -- Flume Modeling of Debris Flows. -Numerical Modeling of Debris Flows: A Conceptual Assessment -- Sediment Entrainment and Deposition -- Causes and Triggers -- Debris-flow Dating and Magnitude Reconstruction -- Statistical Techniques for Debris-flow Frequency-Magnitude Analyses -- Climate Change Effects on Debris Flows -- Post-wildfire Debris Flows.-Lahars: Origins, Behavior and Hazards -- Regional Debris-flow Hazard Assessments -- Debris-flow Risk Assessment -- Functional Design of Mitigation Measures: From Design Event Definition to Targeted Process Modifications -- Advances in Design of Barriers for Debris-flow Impact -- Check Dam Failures -- Warning Systems and Instrumentation -- Land Use Planning on Debris-flow Fans.
Sommario/riassunto	This book provides a summary of the state of the art of all facets of debris-flow science and practice and is designed to be a comprehensive technical reference for practitioners and a state-of-the-art research overview for scientists. It is richly illustrated with

equations, graphs, photos, and tables. The book allows students, practitioners, and regulators to get a sense of the current state of the art in this science. Currently, there are 2 to 3 papers published every week on some aspects of debris-flow science. This creates a bewildering amount of literature that cannot be captured by a single individual. This book provides a comprehensive overview of all facets to date, including initial hazard assessments, detailed quantitative risk assessments, debris-flow warning systems, debris-flow mitigation structure designs, and failures of mitigation works, as well as new topics such as climate change effects on debris flows.

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