

1. Record Nr.	UNINA9910826196803321
Titolo	Gravel bed rivers : processes, tools, environments // edited by Michael Church, Pascale Biron, Andre Roy ; with associate editors Peter Ashmore ... [et al.]
Pubbl/distr/stampa	Chichester, West Sussex ; ; Hoboken, N.J., : Wiley-Blackwell, 2012
ISBN	9786613621887 9781119952497 1119952492 9781280592058 1280592052 9781119952503 1119952506
Edizione	[1st ed.]
Descrizione fisica	1 online resource (606 p.)
Altri autori (Persone)	ChurchMichael Anthony <1942-> BironPascale RoyAndr G AshmorePeter
Disciplina	551.48/3 551.483
Soggetti	River channels Hydraulic engineering
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Note generali	Description based upon print version of record.
Nota di bibliografia	Includes bibliographical references and index.
Nota di contenuto	Gravel-bed Rivers: Processes, Tools, Environments; Contents; List of Contributing Authors; Preface; SECONDARY FLOWS IN RIVERS; 1 Secondary Flows in Rivers: Theoretical Framework, Recent Advances, and Current Challenges; 2 Secondary Flows in Rivers: The Effect of Complex Geometry; 3 Aspects of Secondary Flow in Open Channels: A Critical Literature Review; SEDIMENT TRANSPORT; 4 Gravel Transport in Granular Perspective; 5 On Gravel Exchange in Natural Channels; MODELLING MORPHODYNAMICS; 6 Morphodynamics of Bars in Gravel-bed Rivers: Bridging Analytical Models and Field Observations 7 Field Observations of Gravel-bed River Morphodynamics: Perspectives

and Critical Issues for Testing of Models8 Morphodynamics of Bars in Gravel-bed Rivers: Coupling Hydraulic Geometry and Analytical Models; 9 Modelling Sediment Transport and Morphodynamics of Gravel-bed Rivers; 10 The Potential of using High-resolution Process Models to Inform Parameterizations of Morphodynamic Models; 11 The Importance of Off-channel Sediment Storage in 1-D Morphodynamic Modelling; RIVER RESTORATION AND REGULATION; 12 Stream Restoration in Gravel-bed Rivers; 13 River Restoration: Widening Perspectives
14 Restoring Geomorphic Resilience in Streams15 The Geomorphic Response of Gravel-bed Rivers to Dams: Perspectives and Prospects; 16 Mitigating Downstream Effects of Dams; ECOLOGICAL ASPECTS OF GRAVEL-BED RIVERS; 17 River Geomorphology and Salmonid Habitat: Some Examples Illustrating their Complex Association, from Redd to Riverscape Scales; 18 Incorporating Spatial Context into the Analysis of Salmonid-Habitat Relations; 19 Animals and the Geomorphology of Gravel-bed Rivers; 20 Geomorphology and Gravel-bed River Ecosystem Services: Workshop Outcomes; TOOLS FOR STUDY
21 Remote Sensing of the Hydraulic Environment in Gravel-bed Rivers22 LiDAR and ADCP Use in Gravel-bed Rivers: Advances Since GBR6; 23 Remotely Sensed Topographic Change in Gravel Riverbeds with Flowing Channels; 24 Modern Digital Instruments and Techniques for Hydrodynamic and Morphologic Characterization of River Channels; 25 Mapping Water and Sediment Flux Distributions in Gravel-bed Rivers Using ADCPs; STEEP CHANNELS; 26 Recent Advances in the Dynamics of Steep Channels; 27 Examining Individual Step Stability within Step-pool Sequences
28 Alluvial Steep Channels: Flow Resistance, Bedload Transport Prediction, and Transition to Debris FlowsSEMI-ALLUVIAL CHANNELS; 29 Semi-alluvial Channels and Sediment-Flux-Driven Bedrock Erosion; 30 Transport Capacity, Bedrock Exposure, and Process Domains; 31 Nomenclature, Complexity, Semi-alluvial Channels and Sediment-flux-driven Bedrock Erosion; RIVER CHANNEL CHANGE; 32 Changes in Channel Morphology Over Human Time Scales; 33 Channel Response and Recovery to Changes in Sediment Supply
34 Alluvial Landscape Evolution: What Do We Know About Metamorphosis of Gravel-bed Meandering and Braided Streams?

Sommario/riassunto

Gravel-Bed Rivers: Processes, Tools, Environments presents a definitive review of current knowledge of gravel-bed rivers, derived from the 7th International Gravel-bed Rivers Workshop, the 5-yearly meeting of the world's leading authorities in the field. Each chapter in the book has been specifically commissioned to represent areas in which recent progress has been made in the field. The topics covered also represent a coherent progression through the principal areas of the subject (hydraulics; sediment transport; river morphology; tools and methods; applications of science
