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Autore	Dey Subhasish
Titolo	Fluvial Hydrodynamics : Hydrodynamic and Sediment Transport Phenomena / / by Subhasish Dey
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ISBN	3-642-19062-6
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Descrizione fisica	1 online resource (706 p.)
Collana	GeoPlanet: Earth and Planetary Sciences, , 2190-5193
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Soggetti	Sedimentology Physical geography Geophysics Fluid mechanics Physical Geography Geophysics and Environmental Physics Engineering Fluid Dynamics
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	Introduction -- Hydrodynamic Principles -- Turbulence in Open Channel Flows -- Sediment Threshold -- Bed-Load Transport -- Suspended-Load Transport -- Total-Load Transport -- Bedforms -- River Processes: Meandering and Braiding -- Scour -- Dimensional Analysis and Similitude.
Sommario/riassunto	The state-of-the-art in fluvial hydrodynamics can be examined only through a careful exploration of the theoretical development and applied engineering technology. The book will be primarily focused, since most up-to-date research findings in the field will be presented, on the research aspects that involves a comprehensive knowledge of sediment dynamics in turbulent flows. It begins with the fundamentals of hydrodynamics and particle motion followed by turbulence characteristics related to sediment motion. Then, the sediment dynamics will be described from a classical perspective by applying the mean bed shear approach and additionally incorporating a statistical description for the role of turbulence. The book will finally describe the

local scour problems at hydraulic structures and scale models. It is intended to design as a course textbook in graduate / research level and a guide for the field engineers as well, keeping up with modern technological developments. Therefore, as a simple prerequisite, the background of the readers should have a basic knowledge in hydraulics in undergraduate level and an understanding of fundamentals of calculus.