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2.2.6 Geomorphic change in low latitudes2.3 Post-glacial changes up to the present day; 2.3.1 Climatic changes in the Holocene; 2.3.2 Effects of volcanic activity; 2.4 Causes of past climate change; 2.4.1 The forcing mechanisms of climate change; 2.4.2 Sea level change; 2.5 Human impact; 2.5.1 Global warming; 2.5.2 Natural hazards and global climate change; Further reading; References; 3: Liberation and flux of sediment; Chapter summary; 3.1 Introduction; 3.2 Weathering and soils; 3.2.1 Mechanical weathering; 3.2.2 Chemical weathering; 3.2.3 Soils; 3.3 Sediment routing systems

3.3.1 The Indus sediment routing system3.3.2 Modelling the erosional engine of the sediment routing system; 3.4 Sediment and solute fluxes in drainage basins; 3.4.1 Bedload; 3.4.2 Suspended load; 3.4.3 Solute load; 3.4.4 Relation between solute and suspended load; 3.4.5 Sediment rating curves; 3.5 Sediment yield and landscape models; 3.5.1 The relation between sediment yield and environmental factors; 3.5.2 The importance of tectonic activity; 3.6 Human impact on sediment yield; 3.6.1 Human impact in the drainage basin; 3.6.2 Deforestation; Further reading; References

Part two: Acting locally: fluid and sediment dynamics4: Some fluid mechanics; Chapter summary; 4.1 Introduction: the mechanics of natural substances; 4.1.1 Dimensional analysis; 4.1.2 The mechanics of clear fluids undergoing shear; 4.2 Settling of grains in a fluid; 4.2.1 Fluid resistance or drag; 4.2.2. Stokes' law; 4.2.3 Pressure and shear forces on a particle; 4.3 Flow down an inclined plane; 4.4 Turbulent flow; 4.4.1 The experiments of Reynolds; 4.4.2 The description of turbulence; 4.4.3 Structure of turbulent boundary layers; 4.4.4 Velocity profiles in turbulent flows

4.4.5 Flow separation

Sommario/riassunto

Earth Surface Processes is an introductory text for those studying the dynamics of fluid and sediment transport in the environments, in the context of both present-day patterns as well as the environmental changes decipherable in the geological record. The book is divided into two parts. The first deals with the global-scale aspects of the earth's surface system. The second part focuses on the physical underpinnings for fluid and sediment transport in a number of settings, found at the earth's surface and in its oceans. Earth Surface Processes fits into the literature of t