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Compressibilities of sand and clayey sediments; Experimental values; Compaction of carbonates; References; CHAPTER 3. STRESSES IN SEDIMENTS
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The geotechnical features of sedimentsModelling of the phenomenon; Impact of subsidence on an area and remedies; Case history of the Po Delta; Venice case history; Ravenna case history; Bologna case history; Modena case history; Other cases of subsidence; Acknowledgements; References; CHAPTER 6. SUBSIDENCE IN THE WILMINGTON OIL FIELD, LONG BEACH, CALIFORNIA, USA; Introduction; Geology; Structure; Drilling and completion methods; Subsidence; Results of laboratory tests; Field measurement of compaction and subsidence; Repressurization and rebound; Effects of water injection
References and bibliographyCHAPTER 7. SUBSIDENCE IN VENEZUELA; Introduction; Bolivar coastal fields (Tfa Juana, Lagunillas, Bachaquero); Orinoco Belt subsidence; References; CHAPTER 8. RESERVOIR COMPACTION AND SURFACE SUBSIDENCE IN THE NORTH SEA EKOFISK FIELD; Introduction; Discovery and exploration in the North Sea; Production; Ekofisk Field description; Platforms sinking; Causes of subsidence; Measurements of subsidence; Temporary remedial measures; Permanent remedial measures; Characteristics of the Ekofisk reservoir rocks; Mechanics of the Ekofisk reservoir rocks
Constitutive modeling of the reservoir rocks

Sommario/riassunto

Subsidence of geologic surface structures due to withdrawal of fluids from aquifers and petroleum reservoirs is a phenomenon experienced throughout the world as the demand for water and hydrocarbons increases with increasing population growth. This book addresses the definition and theories of subsidence, and the influences of unique conditions on subsidence; it includes discussions of specific field cases and a basic mathematical model of reservoir compaction and accompanying loss of porosity and permeability. The book is designed as a reference for readers giving immediate access to the geol