

1. Record Nr.	UNINA9910790275503321
Titolo	Regional geology and tectonics [[electronic resource]] . Volume 1C Phanerozoic passive margins, cratonic basins and global tectonic maps // editors, D.G. Roberts, A. W. Bally
Pubbl/distr/stampa	Amsterdam ; ; Boston, : Elsevier, 2012
ISBN	1-280-58119-0 9786613610973 0-444-56362-8
Edizione	[1st ed.]
Descrizione fisica	1 online resource (1239 p.)
Altri autori (Persone)	BallyAlbert W. <1925-2019.> RobertsD. G (David G.)
Disciplina	508 551.8
Soggetti	Geology, Structural Plate tectonics
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	Front Cover; Regional Geology and Tectonics: Phanerozoic Passive Margins, Cratonic Basins and Global Tectonic Maps; Copyright; Contents; Table of Contents for Volumes 1A, 1B and 1C; Contributors for Volumes 1A, 1B and 1C; Foreword and Introduction; Acknowledgements; Section 1: Passive margins; Chapter 1: Regional geology and tectonics of sedimentary basins; 1.1. Introduction; 1.2. A historical perspective; 1.3. Some remarks on regional geology and tectonics; 1.4. Conclusion; References; Chapter 2: De Re Salica: Fundamental principles of salt tectonics; 2.1. Introduction; What is salt? What makes salt tectonics unique?Why study salt tectonics?; 2.2. Mechanics of salt flow; Overview; Driving force: Differential loading; Factors resisting salt flow; 2.3. Processes of diapir growth; Overview; Diapir piercement during regional extension; Diapir amplification during regional shortening; 2.4. Salt and regional tectonics; Overview; Salt in regional extension; Salt in regional shortening; Salt in strike slip; 2.5. Conclusions; References; Chapter 3: Shale tectonics; 3.1. Introduction; What is shale?; Why study shale tectonics?

What makes shale-based systems unique from salt systems? 3.2. Mechanics of shale movement; Overview; Driving force: Fluid pressures; Sediment strength in shale décollements; 3.3. Shale emplacement and form; Overview; Mobile shale forms and stratigraphic relationships; Detachment folds; Diapir onlap; Diapir top drape or rollover rims; Radial faults and tilted fault blocks; Erosional truncation and associated unconformity traps; Anticlinal development through subsidence; 3.4. Shale and regional tectonics; Shale in regional tectonics; 3.5. Conclusions; References

Chapter 4: The Red Sea and Gulf of Aden basins 4.1. Introduction; 4.2. Afar; African margin; Neoproterozoic basement; Pre-rift sequence; Oligocene plume volcanism; Syn-rift Miocene volcanism; Pliocene-Pleistocene volcanism; Quaternary geology and neotectonics; Arabian margin; Precambrian basement; Pre-rift sequence; Pre-rift Oligocene plume volcanism; End Oligocene to Miocene syn-rift; Syn-drift Pliocene-Pleistocene sediments; Quaternary geology and neotectonics; 4.3. Gulf of Aden; Pre-rift setting; Basement and Paleozoic-Mesozoic cratonal strata; Mesozoic rifting; Cenozoic pre-rift strata Oligocene-Miocene continental rifting Rift initiation; Syn- to post-rift deposition; Miocene initiation of seafloor spreading; Propagation of seafloor spreading to the Gulf of Tadjoura; 4.4. Red Sea; Pre-rift setting; Neoproterozoic basement lithologies and structure; Structures related to the evolution of Neotethys; Pre-rift stratigraphy and proto-Red Sea embayments; Syn-rift evolution; Rift initiation; Main rift subsidence; Onset of Aqaba-Levant transform boundary; Mid-ocean spreading and drift phase evolution; Quaternary geology and neotectonics; 4.5. Plate scale considerations 4.6. Discussion

---

Sommario/riassunto

Expert petroleum geologists David Roberts and Albert Bally bring you *Regional Geology and Tectonics: Phanerozoic Passive Margins, Cratonic Basins and Global Tectonic Maps*, volume three in a three-volume series covering Phanerozoic regional geology and tectonics. Its key focus is on both volcanic and non-volcanic passive margins, and the importance of salt and shale driven by sedimentary tectonics to their evolution. Recent innovative research on such critical locations as Iberia, Newfoundland, China, and the North Sea are incorporated to provide practical real-world case studies

---