

1. Record Nr.	UNINA9910861086503321
Autore	Hamimi Zakaria
Titolo	The Geology of North Africa
Pubbl/distr/stampa	Cham : , : Springer International Publishing AG, , 2024 ©2024
ISBN	3-031-48299-9
Edizione	[1st ed.]
Descrizione fisica	1 online resource (670 pages)
Collana	Regional Geology Reviews Series
Altri autori (Persone)	ChabouMoulley Charaf ErramiEzzoura FowlerAbdel-Rahman FelloNuri MasrouhiAmara LeprêtreRémi
Disciplina	556.1
Lingua di pubblicazione	Inglese
Formato	Materiale a stampa
Livello bibliografico	Monografia
Nota di contenuto	Intro -- Preface -- Acknowledgments -- About This Book -- Contents -- About the Editors -- 1 Regional Synthesis and Progress on the Geological Research in North Africa -- Abstract -- 1.1 Geological Features -- 1.2 The Precambrian Times -- 1.2.1 Shields and Cratons Formation -- 1.2.2 The Cadomian Cycle and Shaping of Northern Gondwana Margin -- 1.3 A Paleozoic Story Along the Northern Gondwana Margin -- 1.3.1 A Northern Gondwana Tale: A Paleomargin with an Arch-and-Basins Structure -- 1.3.2 The Variscan Cycle -- 1.4 Mesozoic Times: Complex Oceanic Stories and Continental Basins -- 1.4.1 The "Tethys" Opening in Space and Time -- 1.4.2 Modes of Tethys Opening, Nature of the Crust and Segmentation -- 1.4.3 Interior Basins and Associated Rifts -- 1.5 From Late Cretaceous to Cenozoic: A Period of Convergence(s) -- 1.5.1 The Inverted North African Margins -- 1.5.2 The Youngsters: WMB and Red Sea -- 1.6 Concluding Remarks -- References -- 2 Deep Crustal and Upper Mantle Structures in North Africa: A Review -- Abstract -- 2.1 Introduction -- 2.2 Research and Information Sources -- 2.3 Tectonic Setting of the African Continent -- 2.3.1 African's Cratons -- 2.3.1.1 a. Archean Cratons -- 2.3.1.2 b.

Proterozoic Fold Belts -- 2.3.1.3 c. Paleozoic Tectonics -- 2.3.1.4 d. Mesozoic Rift Systems -- 2.3.1.5 e. Cenozoic Tectonics -- 2.3.2 Tectonic Plates and Arcs in North Africa -- 2.4 The Deep Crustal and Upper Mantle Structures of North Africa (North Region) -- 2.4.1 The Deep Crustal and Upper Mantle Structures in Egypt -- 2.4.2 The Deep Crustal and Upper Mantle Structures in Sudan -- 2.4.3 The Deep Crustal and Upper Mantle Structures in Maghreb Countries -- 2.4.3.1 a. The Deep Crustal and Upper Mantle Structures in Libya -- 2.4.3.2 b. The Deep Crustal and Upper Mantle Structures in Tunisia, Morocco, and Algeria. 2.4.3.3 c. The Deep Crustal and Upper Mantle Structures in Mauritanian -- 2.5 The Deep Crustal and Upper Mantle Structures of North Africa (South Region) -- 2.5.1 The Deep Crustal and Upper Mantle Structures in Madagascar -- 2.5.2 The Deep Crustal and Upper Mantle Structures in Somalia, Djibouti, and Eritrea -- 2.5.3 The Deep Crustal and Upper Mantle Structures in Ethiopia -- 2.5.4 The Deep Crustal and Upper Mantle Structures in Chad -- 2.5.5 The Deep Crustal and Upper Mantle Structures in Niger -- 2.5.6 The Deep Crustal and Upper Mantle Structures in Mali -- 2.5.7 The Deep Crustal and Upper Mantle Structures of Nigeria -- 2.5.8 The Deep Crustal and Upper Mantle Structures of Ghana and Burkina Faso -- 2.5.9 The Deep Crustal and Upper Mantle Structures of Cameroon -- 2.5.10 The Deep Crustal and Upper Mantle Structures of Liberia and Sierra Leone -- 2.5.11 The Deep Crustal and Upper Mantle Structures of Ivory Coast and Ghana -- 2.5.12 The Deep Crustal and Upper Mantle Structures of Senegal -- 2.6 Conclusion -- References -- 3 The West African Craton -- Abstract -- 3.1 Introduction -- 3.2 Geological Overview -- 3.2.1 Reguibat Shield -- 3.2.2 Leo-Man Shield -- 3.2.3 Mafic Dykes, Sills and Lava Flows -- 3.2.4 Kimberlite, Lamproite, and Alkaline Intrusions -- 3.2.5 Pan-African and Hercynian Orogenic Belts -- 3.3 Structural Evolution -- 3.4 Metamorphic Evolution -- 3.5 Metallogeny -- 3.6 Discussion -- 3.7 Conclusion -- References -- 4 The Tuareg Shield and Trans-Saharan Orogenic Belt of Central Part of Northwest Africa: An Overview -- Abstract -- 4.1 Regional Geology of the Tuareg Shield -- 4.2 Western Central Hoggar (LATEA) (Fig. ) -- 4.2.1 LATEA Archaean-Palaeoproterozoic Metamorphic Events (2.7-2.0 Ga) -- 4.2.2 LATEA Island Arc-Microcontinent Accretion Event (900-& -- It -- 680 Ma). 4.2.3 LATEA Pan-African Shear Zones, Metamorphism and Granitoids (615-580 Ma) -- 4.2.4 LATEA Post-Tectonic, Anorogenic Alkaline ('Taourirt') Intrusions, Brittle Faulting (540-525 Ma) -- 4.3 Eastern Central Hoggar -- 4.3.1 Sérourout Terrane -- 4.3.2 Orosirian Stripe -- 4.3.3 Tchilit Terrane -- 4.4 Western Hoggar (Western Terranes) -- 4.4.1 Eastern Pharusian Belt -- 4.4.1.1 Iskel (Silet) Terrane (Fig. ) -- 4.4.1.2 In Tedeini and Tin Zaouatene Terranes (Fig. ) -- 4.4.2 Iforas Cordillera -- 4.4.2.1 In Ouzzal and Iforas Granulitic Terranes -- 4.4.2.2 Tassendjanet Terrane -- 4.4.2.3 Ahnet Terrane -- 4.4.2.4 Kidal Terrane -- 4.4.2.5 Tirek Terrane -- 4.4.3 Tilemsi Belt -- 4.5 Saharan (Meta)Craton -- 4.6 Eastern Hoggar -- 4.6.1 Murzuq Craton -- 4.6.2 Djanet Terrane -- 4.6.3 Edembo Terrane -- 4.6.4 Aouzegueur Terrane -- 4.6.5 Barghot Terrane -- 4.7 Trans-Saharan Orogenic Belt -- 4.7.1 Convergence History of the TSOB in the Pharusian Belt -- 4.7.2 Convergence History of the TSOB in the Nigerian Terranes -- 4.7.3 Stages of Pan-African Closure of the Pharusian Ocean to Form the TSOB -- 4.7.4 Strike-Slip Shear Zones and Tectonic Escape -- 4.7.5 Linear Delamination, Alkaline (Taourirt) Magmatism, and Metacratonization -- References -- 5 The Arabian-Nubian Shield in Northeast Africa -- Abstract -- 5.1 Introduction -- 5.2 The Setting of the Arabian-Nubian Shield (ANS) in Northeast Africa -- 5.3 Relations of the ANS to the EAO

-- 5.3.1 The Boundaries of the EAO -- 5.3.2 The Limits and Boundaries of the ANS -- 5.3.3 The Crustal Development of the ANS in Terms of the Tectonic History of the EAO -- 5.4 Tectonic Components of ANS -- 5.5 The Egyptian Nubian Shield (ENS) -- 5.5.1 Infrastructural Gneisses of the Sinai -- 5.5.2 Infrastructural Gneisses of the North Eastern Desert -- 5.5.3 Infrastructural Gneisses of the Central Eastern Desert. 5.5.4 Infrastructural Gneisses of the South Eastern Desert -- 5.5.5 The Neoproterozoic Ophiolites -- 5.5.6 Arc Metavolcanics -- 5.5.7 Metasediments -- 5.5.8 Alaskan-Type Mafic-Ultramafic Complexes -- 5.5.9 Metagabbro-Diorite Complex -- 5.5.10 Egyptian Granitoids -- 5.5.11 Dokhan Volcanics -- 5.5.12 Hammamat Sediments -- 5.5.13 Post-Collisional Gabbroic Intrusions -- 5.6 Summary and Conclusions -- 5.6.1 Crustal Evolution Stages of the Egyptian Nubian Shield -- 5.6.2 Remaining Problems and Controversies -- 5.6.2.1 Ensimatic (Intra-Oceanic Stage) -- 5.6.2.2 Island Arc-Subduction and Arc Coalescence-Suturing Stages -- 5.6.2.3 Final Assembly-Cratonization-Post-collision Basin and Volcanism Stage -- References -- 6 The Variscides in the NW Corner of Africa -- Abstract -- 6.1 Introduction-Geological Features -- 6.1.1 Tectono-Stratigraphic Domains of NW Africa Variscan Belt -- 6.1.2 The Moroccan Meseta and Sehouf Block -- 6.1.2.1 Moroccan Meseta -- 6.1.2.2 Sehouf Block -- 6.1.3 The Anti-Atlas, Ougarta and Carboniferous Basins -- 6.1.3.1 Anti-Atlas and Carboniferous Basins -- 6.1.3.2 Ougarta Belt -- 6.1.4 Souttoufides and Mauritanides -- 6.2 Pre-variscan Events in Northern Morocco: From Mid-Late Devonian to Early Carboniferous -- 6.2.1 Moroccan Meseta-North of the SMF -- 6.2.1.1 Western Meseta -- 6.2.1.2 Eastern Meseta -- 6.2.1.3 Magmatism in the Meseta -- 6.2.1.4 The Eovariscan Events Across the Meseta -- 6.2.2 The Eovariscan Deformations and Metamorphic Conditions -- 6.2.3 Absolute Dating of the Eovariscan Deformation -- 6.2.4 Anti-Atlas, Ougarta and Carboniferous Basins-South of SMF -- 6.2.4.1 Anti-Atlas and Eastern Carboniferous Basins -- 6.2.4.2 Ougarta Belt -- 6.2.5 Souttoufides -- 6.2.5.1 The Foreland -- 6.2.5.2 The Preserved Upper Paleozoic Cover in the Sekkem-Dhlou Belt. 6.3 From Late Carboniferous to Early Permian: The Variscan Events in Northern Morocco -- 6.3.1 Meseta Domain -- 6.3.1.1 Western Meseta -- 6.3.1.2 Variscan Orogenic Events as Soon as Late Visean/Serpukhovian? -- 6.3.1.3 Eastern Meseta -- 6.3.2 South of SMF: Anti-Atlas, Ougarta and Carboniferous Basins -- 6.3.2.1 Anti-Atlas and Carboniferous Basins -- 6.3.2.2 Ougarta Domain and Adjacent Basins (Sbaa, Reggane, Timimoun) -- 6.4 The Variscan Deformation in the Souttoufides -- 6.4.1 Northern and Central Souttoufides: Plage Blanche and Dhlou-Sekkem Belts -- 6.4.2 Southern Souttoufides: Adrar Souttouf Massif (or Oulad Dlim Massif) -- 6.4.2.1 Main Characteristics of the Adrar Souttouf/Oulad Dlim Massif -- 6.4.2.2 The Variscan Cycle -- 6.5 Geodynamics of the NW Africa Variscides -- 6.5.1 When is the Onset of the Variscan Events Sensu Stricto? The Eovariscan Case -- 6.5.1.1 The Classical View on the Eovariscan Stage -- 6.5.1.2 An Alternative Scenario for the Eovariscan Stage -- 6.5.2 Variscan S.S. Geodynamic Models -- 6.5.2.1 Northern Morocco: Meseta/Anti-Atlas -- 6.5.2.2 Souttoufides Part -- 6.6 Conclusions and Perspectives -- References -- 7 Evolution of the Atlasic Domain During the Alpine Cycle in the Broader Sense: General Outline of the Evolution of the Tethys -- Abstract -- 7.1 Introduction -- 7.2 The Tethys -- 7.3 Pangaea Dislocation -- 7.4 The Triassic (Figs. and ) -- 7.5 The Jurassic Period (Figs. , , , and ) -- 7.6 The Atlas Domain -- 7.7 Coastal Basins -- 7.7.1 Agadir-Essaouira Basins -- 7.7.2 Jurassic of the Tarfaya-Dakhla Basin (Fig. a, b, c) -- 7.8 The Cretaceous (Figs. , and ) -- 7.9 Paleogene and Neogene -- 7.10 Conclusions -- References -- 8 The

North African Neoproterozoic, Phanerozoic Sedimentary Basins:  
Tectonostratigraphic Events, Lithostratigraphy, Petroleum Systems --  
Abstract -- 8.1 Introduction.  
8.2 Major Tectonostratigraphic Events and Lithostratigraphy of  
Phanerozoic Eon.

---