1. Record Nr. UNINA9910985636903321

| | |
|---|---|
| Autore | Jaybhaye Pralhad |
| Titolo | The Study of Hydrology and Oceanography |
| Pubbl/distr/stampa | Burlington : , : Arcler Education Inc, , 2024<br>©2024 |
| ISBN | 9781779560315<br>1779560311 |
| Edizione | [1st ed.] |
| Descrizione fisica | 1 online resource (285 pages) |
| Soggetti | Hydrology<br>Oceanography |
| Lingua di pubblicazione | Inglese |
| Formato | Materiale a stampa |
| Livello bibliografico | Monografia |
| Nota di contenuto | Cover -- Half Title -- Title Page -- Copyright -- About the Editor -- Table of Contents -- List of Figures -- List of Abbreviations -- Abstract -- Preface -- Chapter 1: Hydrology, Its Impact and Applications -- 1.1. Hydrologists and their Scope -- 1.2. Hydrologic Science and the Interaction of Water and People -- 1.3. Surface Water -- 1.4. The Hydrological Cycle -- 1.5. Impact and Application of Hydrology -- Chapter 2: Branches and Types of Hydrology -- 2.1. Branches of Hydrology -- 2.2. Hydrography -- 2.3. Hydromorphology -- 2.4. Some Terminologies Related to Hydrology -- 2.5. Classification of Hydrology Based on Water Present in the Geographical Zone -- 2.6. Classification of Hydrology Based on Study Area -- Chapter 3: Hydrological Cycle -- 3.1. Evaporation -- 3.2. Condensation -- 3.3. Precipitation -- 3.4. A Cycle of Hydrological Recirculation -- 3.5. Different Steps of the Hydrologic Cycle -- 3.6. The Path of the Hydrologic Cycle -- 3.7. The Water Cycle's Consequences -- Chapter 4: Branches of Oceanography -- 4.1. Physical Oceanography -- 4.2. Circulation -- 4.3. Ocean Momentum -- 4.4. Planetary Waves -- 4.5. Deep Ocean -- 4.6. Gulf Stream -- 4.7. Ocean Heat Flux -- 4.8. Changes in Sea Level -- 4.9. Tsunamis -- 4.10. Chemical Oceanography -- 4.11. Chemical Pollution -- 4.12. Biological Oceanography -- 4.13. Geological Oceanography -- Chapter 5: Plate Tectonics and Marine Geology -- 5.1. Earth's Core -- |

5.2. Plate Tectonics is an Accepted Scientific Hypothesis -- 5.3. Concerning Plates and Tectonic Origin Boundaries -- 5.4. Plate Borders Have Geological Consequences -- 5.5. Oceanography -- 5.6. The Geological History of Earth's Tectonic Plates -- 5.7. Wilson's Cycles -- 5.8. The Supercontinent's Cycle -- 5.9. Rebuilding of the Continents -- 5.10. Rifts Between Continents -- 5.11. The Depth of the Ocean -- 5.12. Life -- 5.13. Evolution.
5.14. Opossum -- 5.15. Planation -- Chapter 6: Oceans and Climate -- 6.1. Introduction -- 6.2. Earth's Heat Budget -- 6.3. Surface Differential Heating of the Earth -- 6.4. Winds and the Coriolis Effect -- 6.5. Human Activities' Environmental Impacts -- 6.6. The Coriolis Effect and Other Planets' Influence -- 6.7. Winds and Climate -- 6.8. Surface Ocean Anomalies and Climate Change -- 6.9. Hurricanes -- 6.10. A Quick Overview af Hurricanes and Tropical Storms -- 6.11. Climate Change -- Chapter 7: Ocean Circulation -- 7.1. Ocean Effects on Climate Change -- 7.2. A Ring-shaped Pattern of Transients -- 7.3. The Gyres of the Subtropics -- 7.4. Three Key Factors Influence Oceanic Currents -- 7.5. What Is the Function of Ocean Flow? -- 7.6. What Effect Does the Ocean Have on the Land in Terms of Weather and Climate? -- 7.7. Driving Mechanisms -- 7.8. The Oceans and the Biogeochemical Circulation -- 7.9. Ocean Circulation Can Be Difficult to See -- Chapter 8: Waves and Tides -- 8.1. Waves -- 8.2. The Formation of Waves -- 8.3. Factors Affecting the Formation of Waves (wind Waves) -- 8.4. Dimensions Associated With Wave Propagation -- 8.5. Types of Waves -- 8.6. Spectrum of Waves -- 8.7. Shoaling and Refraction of Waves -- 8.8. Breaking of Waves -- 8.9. Types of Wave Breaking -- 8.9.5. Semidiurnal Tides -- 8.10. Characteristics of Tides -- 8.11. Tidal Constituents -- 8.12. Principal Lunar Semi-Diurnal Constituent -- 8.13. Range Variation of Tides -- 8.14. The Lunar Distance -- 8.15. Tidal Phase and Amplitude -- 8.16. The Tidal Theory -- Chapter 9: Ocean Sediments -- 9.1. Introduction -- 9.2. Origins Are Sedimentary -- 9.3. Classification of Substances in the Marine Environment -- 9.4. Organic Matter Sedimentation -- 9.5. Importance of Sediments' Economic Value -- 9.6. Hydrogen Sediment -- 9.7. Summary -- 9.8. Carbonate Distribution and Conservation.
9.9. Silica Retention in the Ocean -- 9.10. Distribution -- 9.11. Sludge from the Coast -- 9.12. Bioturbation -- 9.13. Bioirrigation -- 9.14. Coastside Sand and Gravel Deposits -- 9.15. Turbidites -- 9.16. Contourites -- 9.17. Hemipelagic -- Chapter 10: Oceanic Ice -- 10.1. Introduction -- 10.2. Oceanic Ice Formation and Features -- 10.3. Oceanic Ice Thickness Distribution -- 10.4. Importance of Oceanic Ice -- 10.5. Ocean Ice Interaction -- 10.6. Assimilation of Ice Concentration in a Coupled Ice-Ocean Model -- 10.7. Processes Affecting Oceanic Ice Levels -- 10.8. Macrobiology of Oceanic Ice -- 10.9. Oceanic Ice-Associated Mammals and Birds -- Bibliography -- Index -- Back Cover.

Sommario/riassunto

The book 'The Study of Hydrology and Oceanography' edited by Dr. Pralhad Jaybhaye provides an in-depth exploration of the complex interactions within Earth's water systems. It covers the disciplines of hydrology and oceanography, emphasizing their significance in environmental management, climate prediction, and sustainable development. The volume is designed to equip scholars, researchers, and policymakers with advanced theoretical and practical knowledge on global water systems, oceanic economic development, and environmental safety. Topics include the hydrologic cycle, biological oceanography, and the use of technologies such as GPS and AI in monitoring and forecasting. The book serves as a resource for understanding the global maritime economy and its impact on

international trade and relationships.