1. Record Nr. UNINA9910458246603321 Autore Weeks W. F Titolo On sea ice [[electronic resource] /] / by W.F. Weeks; with W.D. Hibler III Fairbanks,: University of Alaska Press, c2010 Pubbl/distr/stampa **ISBN** 1-60223-101-X Descrizione fisica 1 online resource (682 p.) Altri autori (Persone) HiblerW. D., III. Disciplina 551.34/3 Soggetti Sea ice Ice Electronic books. Lingua di pubblicazione Inglese **Formato** Materiale a stampa Livello bibliografico Monografia Description based upon print version of record. Note generali Nota di bibliografia Includes bibliographical references and index. Nota di contenuto Contents; Preface; About This Book; Acknowledgments; Figure Sources; 1. Introduction; 2. Historical Background; 2.1 Introduction; 2.2 Some Ancient History; 2.3 The 19th Century; 2.4 The 20th Century; 3. The Ocean Setting: 3.1 Topography: 3.2 Hydrology: 3.3 Currents: 3.4 Water Masses; 4. An Introduction to Sea Ice Growth; 4.1 A Growth Model; 4.2 Multiyear Ice; 5. Components; 5.1 Water; 5.2 Seawater and Brine; 5.3 Ice; 5.4 Solid Salts; 6. The Phase Diagram; 6.1 Fundamentals; 6.2 Experiments and Analysis; 6.3 Questions; 7. Sea Ice Structure; 7.1 **Environmental Pathways and Terminology** 7.2 First-Year Ice7.3 Old Ice; 7.4 Reality; 8. Sea Ice Salinity; 8.1 Introduction; 8.2 Observations; 8.3 Mechanisms; 8.4 Theories; 8.5 Inclusion Geometry; 9. Sea Ice Growth: The Details; 9.1 Introduction; 9.2 A Thin FY Ice Model; 9.3 A Thick Ice Model; 9.4 Further Efforts; 10. Properties; 10.1 Density; 10.2 Gas Content and Composition; 10.3 Thermal Properties; 10.4 Mechanical Properties; 10.5 Electromagnetic Properties; 10.6 Concluding Remarks; 11. Polynyas and Leads; 11.1 Introduction; 11.2 Polynyas; 11.3 Leads; 12. Deformation; 12.1 Introduction; 12.2 Terminology; 12.3 Field Observations

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Sommario/riassunto

Covering more than seven percent of the earth's surface, sea ice is crucial to the functioning of the biosphere-and is a key component in our attempts to understand and combat climate change. With On Sea Ice, geophysicist W. F. Weeks delivers a natural history of sea ice, a fully comprehensive and up-to-date account of our knowledge of its creation, change, and function. The volume begins with the earliest recorded observations of sea ice, from 350 BC, but the majority of its information is drawn from the period after 1950, when detailed study of sea ice became widespread. Weeks de