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Nota di contenuto	Chapter 1 Introduction -- Part 1 Whitecap Parameterizations -- Chapter 2 Parameterizing Coverage using Sea Surface Imagery -- Chapter 3 Estimates of Whitecap Wave Breaking Energy Dissipation Rate from Measurements of Whitecap Coverage -- Chapter 4 Inferences to be Drawn from a Consideration of Power-Law Descriptions of Multiple Data Sets Each Comprised of Whitecap Coverage, WB and 10m-Elevation Wind Speed Measurements -- Chapter 5 Wave Breaking and Spray -- Chapter 6 Measurements of Air-Side Shear- and Wave-Induced Viscous Stress over Strongly Forced, Young Wind Waves -- Part 2 Whitecaps and Gas Transfer -- Chapter 7 What Controls Air-Sea Gas Exchange at Extreme Wind Speeds? Evidence from Laboratory Experiments -- Chapter 8 Studying the Role of Gas Bubbles on Air-Sea Gas Transfer Using Computer Models -- Chapter 9 The role of physical chemical properties of gases in whitecap facilitated Gas Transfer -- Chapter 10 Sea Spray and gas transfer -- Part 3 Whitecaps and Remote Sensing -- Chapter 11 Global Whitecap Coverage from Satellite Remote Sensing and Wave Modelling -- Chapter 12 The Case for Measuring Whitecaps Using Ocean Color and Initial Linkages to Subsurface Physics -- Chapter 13 Bright Oceans: Spectral differentiation of whitecaps, sea ice, plastics, and other flotsam -- Part 4 A Historical Perspective --

Chapter 14 Twixt Wind and Waves: A first-person account of the early years of the study of oceanic whitecaps.

Sommario/riassunto

This book provides the reader with a comprehensive summary of the recent advances in the study of whitecaps. It is the first major publication focusing specifically on whitecaps and their role in a variety of climate-relevant air-sea interaction processes since the publication, in 1986, of *Oceanic Whitecaps, and Their Role in Air-Sea Exchange Processes*, edited by Edward Charles Monahan and Gearoid Mac Niocaill (published by Springer). This book also provides the interested reader with a review of the initial work done on this topic in the second half of the 20th Century.