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Título: Ocean Surface Waves. Their Physics And Prediction

Autor: Massel, Stanistaw	Precio: \$946.00
Editorial:	Año: 2005
Tema:	Edición: 1 ^a
Sinopsis	ISBN: 9789810221096

This book is intended as a handbook for professionals and researchers in the areas of Physical Oceanography, Ocean and Coastal Engineering and as a text for graduate students in these fields. It presents a comprehensive study on surface ocean waves induced by wind, including basic mathematical principles, physical description of the observed phenomena, practical forecasting techniques of various wave parameters and applications in ocean and coastal engineering, all from the probabilistic and spectral points of view.

The book commences with a description of mechanisms of surface wave generation by wind and its modern modeling techniques. The stochastic and probabilistic terminology is introduced and the basic statistical and spectral properties of ocean waves are developed and discussed in detail.

The bulk of material deals with the prediction techniques for waves in deep and coastal waters for simple and complex ocean basins and complex bathymetry. The various prediction methods, currently used in oceanography and ocean engineering, are described and the examples of practical calculations illustrate the basic text.

An appendix provides a description of the modern methods of wave measurement, including the remote sensing techniques. Also the wave simulation methods and random data analysis techniques are discussed. In the book a lot of discoveries of the Russian and East European scientists, largely unknown in the Western literature due to the language barrier, are referred to.