



BOOK REVIEWS

Practical Handbook of Marine Science, Second Edition, Michael J. Kennish, 1994. 566p. (HC) ISBN 0-8493-3712-7, \$89.95 (PBK)/\$115.00.

This handbook is presented in 5 sections. The first 4 sections, which are extended from its first edition by the addition of updated information, covers the four basic branches of marine science: Physical Oceanography, Marine Chemistry, Marine Geology, and Marine Biology. A new section, Marine Pollution, is added to discuss some important scientific and societal issues pertaining to the relationship between the human and marine environment. The whole book is well illustrated with 267 figures and 293 tables cited from professional books, journals, and other academic publications. A short, but informative, introduction to the major topic to be addressed is given at the beginning of each section. Tables and figures are then presented to describe the theories, natural phenomena, statistics and up-to-date information.

Section 1 (69 figures and 22 tables) gives the reader a synoptic introduction to the major studies in the field of physical oceanography. Open ocean circulation, thermohaline circulation, waves and coastal and estuarine circulation are emphasized. Properties of important oceanographic and estuarine signatures such as Gulf Stream, water masses, Kelvin waves, tsunamis, and fronts, are succinctly described. Commonly used constants (e.g., sea water properties) are tabulated. Section 2 (16 figures and 50 tables) concentrates on the discussion of elements (major, minor, trace, and nutrient) and organic matter in open oceans, estuaries and atmosphere. This section provides a comprehensive description of the physical and biogeochemical processes of carbon, nitrogen, phosphorus, and trace metals. Section 3 (102 figures and 39 tables) presents several aspects of marine geology focusing on the theory of plate tectonics. It offers a large amount of seismic, magnetic, gravity, and heat-flow data related to the ocean basins, major structural features of the seafloor, and mechanisms of plate tectonics. Instru-

mentation commonly used in deep-sea research is also briefly described. The majority of the emphasis is placed in deep-sea marine geology in this section with some discussions of coastal marine geology and geomorphology at the end of the section. Section 4 (31 figures and 71 tables) deals specifically with marine biology. Spanning from bacteria to fish, it covers the major faunal and floral groups found in estuarine and marine environments. The classification, spatial distribution, biomass and density, feeding strategies of the fauna and flora, as well as their trophic relationships are well illustrated. Section 5 (49 figures and 106 tables) pollutants and the pollutants' fate in the marine environments are discussed very well. In addition, a review of the environmental legislation is provided. The addition of this section will have more appeal toward practitioners, administrators and other management users.

The strength of the book is that it provides the scientist and student a wide spectrum of information covering all of the major disciplines of marine science. The references provided for all the tables and figures will also help the reader when additional research is necessary. A significant weakness, however, is the poor quality of many figures used in the text. The cartographic quality of many figures is nothing short of abysmal and quite inexcusable given this is the second edition. Regardless, this is a comprehensive, practical handbook of marine science. Readers will like its wide scope of information and easy-to-use format.

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Before & After an Oil Spill, J. Burger (ed), 1994. New Brunswick, New Jersey: Rutgers University Press, 305p., ISBN 0-8135-2095-9, \$50.00.