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with the seagoing habits of oceanographers. Going to sea on extended cruises to conduct their research, oceanographers typically require specialized equipment and ships, both of which involve significantly greater investments of government funding. However, I am certain that the answer to this particular question lies deeper than simply the financial implications of oceanographers going to sea in ships. Eric Mill’s (1989) *Biological Oceanography: An Early History, 1870-1960* picks up the story of biological oceanography where Rozwadowski’s *Fathoming the Ocean* leaves off, weaving together Anglo-American traditions with influences from the European continent. Although both books provide many of the clues necessary to answer my question, neither addresses it directly. On the other hand, perhaps the sign of a really well written book, especially one devoted to history, is not only the story it tells, but also the number of intriguing questions it inspires its readers to ponder on their own.

**References**


Charles H. Greene (chg2@cornell.edu) is Director, Ocean Resources and Ecosystems Program, Department of Earth & Atmospheric Sciences, Cornell University, Ithaca, NY, USA.

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**Glaciers**

By Michael Hambrey and Jürg Alean


Hardcover: ISBN 0521828082, $60 US

**Reviewed by W.T. Pfeffer**

Glaciers have, with dinosaurs, woolly mammoths, Egyptian mummies, and pyramids, a kind of intrinsic allure that causes people to become fascinated by them not as a particular representative of a broader interest, but simply for their own sake. Consequently, glaciologists are frequently drawn into their subject based on a life-long attraction to glaciers and the world of snow and ice rather than as geologists or physicists simply seeking an application of their skills. The authors of *Glaciers*, like so many of us, evidently fall into this category, and their book is written for an undergraduate audience already attracted to glaciers and seeking an introduction to them as a field of study. The book is qualitative in nature—not the only approach to the subject, but reasonable for this audience—and filled with inspirational photographs on nearly every page. Taken on its own terms, the book might work for an undergraduate geography or geology class. However, I am troubled by a number of aspects. A student using this as a primary text would require some rather devoted guidance on the part of the instructor to wend a path through the world of glaciers as it is presented here—the instructor being a sort of a Virgil to Hambrey and Alean’s Dante.

The descriptive approach is good for an introduction to a complex subject, but description alone can become confusing without a conceptual context. The authors adhere doggedly to categorization, indicating in bold face not only the definitions of principal features such as moraines, firn, and foliation, but also those for minutiae like “basket-of-eggs topography,” “ice ships,” and “knock-and-lochan topography.” You can even learn about the relative merits of dogsledging, man-hauling, and mechanized transport, and the distinctions between Temporary Scientific Research Camps and Permanent Stations. This information gets disorienting after a bit, and I doubt the introductory student will have much success separating the critical concepts from the ephemera. In the chapter on mass balance, snow swamps are introduced with the same emphasis as funda-
An Introduction to Ocean Remote Sensing

By Seelye Martin, Cambridge University Press, 2004, 454 pages
Hardcover: ISBN 0521802806, $75 US

REVIEWED BY KRISTINA B. KATSAROS

An Introduction to Ocean Remote Sensing by Seelye Martin is an excellent textbook for teaching remote sensing of the oceans at the beginning of the 21st century. Since 1987, Dr. Martin has taught remote sensing to graduate students and senior undergraduates. Ocean Remote Sensing is a classical textbook that starts with fundamentals and basic principles. It then covers the entire field, which has been difficult to do in the past because some aspects of remote sensing were better developed than others. Now, with 40 years of meteorology and oceanography from space behind us, (beginning with the Nimbus I satellite and the early infrared measurements of sea-surface temperature in the mid-1960s), the time was ripe for a fundamental textbook on remote sensing of the ocean. There are numerous satellite systems currently gathering oceanographic data routinely, and many more are planned. The basics of the techniques are now well understood, so that more oceanographers can rely on remotely sensed data. We have now used a broad range of the electromagnetic spectrum, from the visible and infrared wavelengths, to many frequencies in the microwave region. Remote-sensing techniques have been used in passive and active modes. The active mode has mostly been used from space in the microwave range, but lasers using visible light are being used from aircraft and are planned for satellite missions. Every graduating oceanography student should now be...