

THE OFFICIAL MAGAZINE OF THE OCEANOGRAPHY SOCIETY

# Oceanography

## CITATION

Allredge, A. 2009. Review of *Chasing Science At Sea: Racing Hurricanes, Stalking Sharks, and Living Undersea with Ocean Experts*, by E. Prager. *Oceanography* 22(1):243–244, doi:10.5670/oceanog.2009.32.

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as El Niño are also briefly introduced for information purposes, although the discussion is not very detailed. More advanced students can also use the phase planes to understand the Stommel transitions in a basin. This book provides many useful realistic examples at the end of each chapter.

In addition to boundary layer dynamics, the other important surface process that deserves specific attention in coastal dynamics is surface friction, owing to the very nature of solids and fluids. Roughness plays a major role in models of coastal basins at a variety of spatial scales. Chapter 11 on roughness, fractals, and self-similarity introduces ideas that target

multiscale dynamics in coastal basins.

In order to cover the comprehensive subject of coastal dynamics, the book briefly introduces some chemical and biological processes using simple models. Both are important dynamics in the coastal ecosystem. Further detail, however, is absent because of irrelevant mechanisms and topics.

The failure to discuss nonhydrostatic influences, not even to mention the topic, is the main weakness of this comprehensive textbook on coastal dynamics. It is well known that nonhydrostatic dynamics plays an important role in coastal dynamics. It is the critical characteristic of coastal basins, where vertical acceleration is as important

as other dynamics. Nevertheless, this book represents a significant improvement in advanced textbooks on coastal models. It brings together coastal dynamics through simple code development and encourages readers not to be afraid of using models. Most important of all, the clearly written text and materials will motivate the interested graduate student to seek a better understanding of coastal dynamics. ☐

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## Chasing Science At Sea: Racing Hurricanes, Stalking Sharks, and Living Undersea with Ocean Experts

By Ellen Prager, University of Chicago Press, 2008, 162 pages, ISBN: 978-0226678702, Hardcover, \$22.50 US

REVIEWED BY ALICE ALLDREDGE

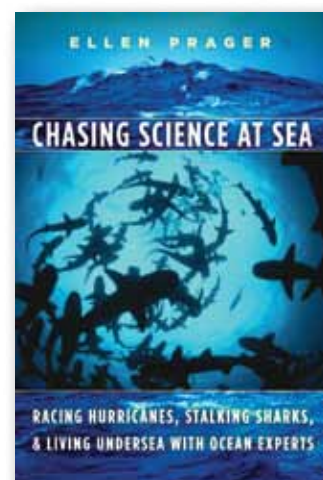
All marine scientists who work in the field have them—personal stories of amazement, discovery, awe, excitement, and even danger while conducting research. They are the stories we love to tell to friends over a beer or to rapt high school students aspiring to become marine biologists or oceanographers. And in the telling, we ourselves somehow reconnect to the deepest motivations that brought us to marine research in the first place. Reliving those marvelous adventures displaces our disgruntlement with e-mail, proposals, and mundane paper work and reminds us how lucky we are to be marine scientists.

Ellen Prager's delightful and engrossing book, *Chasing Science at Sea*, is a

compilation of hundreds of such field stories from marine scientists of all disciplines. They are woven together with interesting facts, descriptions of various field activities, and the lessons learned from setbacks to create a rich and multifaceted portrayal of the world of marine field research. But the purpose of these stories is more than just to entertain. As ocean science has become increasingly dependent on remote technologies, fieldwork has become harder to fund, less prevalent, and more difficult to undertake. Ellen Prager's hope is that these stories will illustrate the value of fieldwork, inspire the next generation of students to a renewed commitment to field-based research, and help preserve some of the history and experiences of modern marine scientists.

Written in an engaging and highly readable style, the stories in *Chasing Science at Sea* include the wonder of discovering new organisms or of seeing amazing sights such

as many whale sharks feeding together or the magic of bioluminescence. The activities of field science are also realistically described with examples including the complicated dance required to set out a deep-sea mooring and the challenges of developing appropriate technologies to investigate the deep ocean. Some of the stories, such as a firsthand account of observing the *Titanic* from a Russian submersible, make readers feel as if they had been there themselves. Many of the narratives offer riveting suspense, including tales of outrunning a hurricane, of being aboard




a ship making nearly a 90° roll, or of a submersible being attacked by a swordfish. There is good balance among disciplines, with interesting anecdotes from geologists, undersea archeologists, and physical oceanographers, as well as from biologists who study open-ocean and shallow-water habitats alike.

I found the chapter on the challenges of living and working in underwater habitats such as the early Hydrolab or its more advanced successor, Aquarius, especially interesting and filled with humor as well as insight. I had never thought about what happens to a lemon meringue pie when it is subjected to pressure (white slime and yellow goo), the long-term impacts of modest nitrogen narcosis (lots of practical jokes and some very happy scientists), or the activities of the surface support crew in monitoring the scientists and ferrying food and supplies to them. The drama and tension of removing aquanauts during a hurricane or the wonder of feeling fully accepted as just another member of a reef community are very well expressed.

Throughout the book, Prager uses stories to illustrate many principles critical to successful field science, including the importance of being able to adapt to the serendipitous, learning to balance curiosity with safety and common sense, dealing with physical discomfort and Spartan conditions, being prepared for all eventualities, and maintaining a sense of humor in the face of setbacks and downright bad luck. She points out obstacles and hardships as well as rewards. While some of the stories come from the author's own extensive experience, the many that do not are clearly identified with particular researchers. Most professional marine scientists will recognize many of the storytellers and enjoy reading tales from at least a few of their own personal friends and colleagues.

Although *Chasing Science at Sea* will certainly captivate professional field

scientists and lay people fascinated with the ocean, its most important target audience is students. This entertaining and stimulating book would be a popular and sought-after addition to any junior high, high school, or college library and would make an excellent gift for any aspiring young marine biologist or oceanographer. Its realistic descriptions of field research, its ample photographs, and its emphasis on the adventurous and amazing experiences possible in the field are bound to bring many young people into ocean science and inspire them to pursue careers in field-based research. *Chasing Science at Sea* truly succeeds in communicating the challenges, excitement, and sheer fun of marine science in a way that is accessible to all. 

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## Upcoming Special-Issue Topics

**Vol. 22, No. 2, June 2009**

**TENTH ANNIVERSARY OF THE NATIONAL OCEANOGRAPHIC PARTNERSHIP PROGRAM**

Guest Editors: Eric Lindstrom (National Aeronautics and Space Administration), Jim Kendall (Minerals Management Service), and Ben Chicowski (Consortium for Ocean Leadership)

**Vol. 22, No. 3, September 2009**

**THE REVOLUTION IN GLOBAL OCEAN FORECASTING—GODAE: 10 YEARS OF ACHIEVEMENT**

Guest Editors: Mike Bell (National Centre for Ocean Forecasting) and Pierre-Yves Le Traon (Ifremer)

**Vol. 22, No. 4, December 2009**

**THE FUTURE OF OCEAN BIOGEOCHEMISTRY IN A HIGH CO<sub>2</sub> WORLD**

Guest Editors: Richard Feely (National Oceanic and Atmospheric Administration), Victoria Fabry (California State University, San Marcos), Barney Balch (Bigelow Laboratory for Ocean Sciences), and Scott Doney (Woods Hole Oceanographic Institution)

**Future Topics**

SEAMOUNTS

OCEAN ENERGY TECHNOLOGIES

FUTURE OF OCEANOGRAPHY FROM SPACE

## Regular Issue Features

The editorial staff also encourages unsolicited manuscripts on other oceanography themes for consideration and publication under the Regular Features banner.