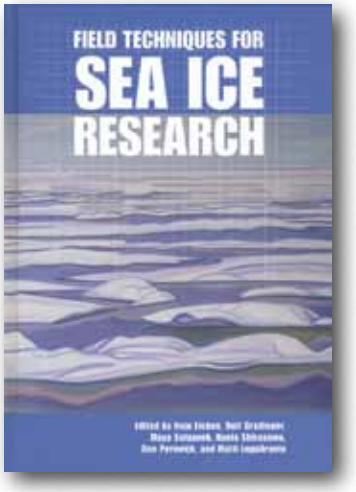
THE OFFICIAL MAGAZINE OF THE OCEANOGRAPHY SOCIETY

Oceanography

CITATION

B. Weissling. 2010. Review of *Field Techniques for Sea Ice Research*, edited by H. Eicken. *Oceanography* 23(4):173–174, doi:10.5670/oceanog.2010.18.

Field Techniques for Sea Ice Research



Edited by Hajo Eicken, University of Alaska Press (distributed by University of Chicago Press), 2010, 368 pages, ISBN 978-1-60223-059-0, Hardcover, $65 US

REVIEWED BY BLAKE WEISSLING

In 2007, I had the opportunity to participate as a PhD student in sea ice field research in the Bellingshausen Sea of Antarctica. I was a first-timer, a novice, a complete rookie in a polar environment as were all of my student colleagues. Upon arriving at our primary sea ice study site or station, we were given our first task of laying out a survey line on the sea ice, from which we would ultimately collect various physical data such as snow depth, ice thickness, and snow/ice interface temperature. It seemed like a simple task: lay out a 100-m survey tape, stake the endpoints, and mark incremental 1-m sampling locations. Our chief scientist and principal investigator, a veteran of 30-plus years of sea ice research, observed our progress in this endeavor from the ship's bridge. As we assumed the task to be trivial, we did not ask for the PI's advice, nor did we question his nonchalance in his description of the task. What followed was both an exercise in futility and a scene of epic (i.e., comic) proportions. The wind was blowing…hard. And, of course, it was bitterly cold. How hard could this be—one person holding the tape reel and the other pulling the end across the ice? Five meters out and we sensed we had an issue. Ten meters out and our seemingly inanimate tape took on a life of its own. Thirty meters out and I swear (I was the reel holder) I had hooked a fish and was reliving a Hemingwayesque battle with the mother of all swordfish. Fifty meters out, my end man let go of the tape and I was now flying an uncontrollable kite that couldn't be reeled in. Now, picture my end man running vainly to and fro (in full Antarctic-issue orange polar attire) trying to catch hold of the tape like some five year old in his/her own epic battle with a butterfly.

I can imagine the concurrent scene on the ship's bridge—one of gut-splitting laughter amid a more sober assessment of "you learn by doing" that was undoubtedly exchanged among the sea ice veterans who witnessed our field technique that day. So, where was it written that near-gale-force winds (or so it seemed) and survey tapes are incompatible partners? What manual of sea ice field technique—that should have been on our pre-cruise reading list—could have addressed this issue?

Three years too late for my initiation into sea ice research, but "couldn't have come at a better time" for the next generation of sea ice field researchers as well as my future work, comes that manual of field techniques. Principally edited by Hajo Eicken of the Geophysical Institute of the University of Alaska Fairbanks, and published by University of Alaska Press, *Field Techniques for Sea Ice Research* and accompanying DVD are a compendium of research techniques, methods of field-based measurements, observational procedures, and plenty of sage advice from the veterans of sea ice science. Although directed primarily toward Arctic sea ice field techniques—certainly not due to any geographic bias on the part of the contributors, but rather to the depth and breadth of experience and knowledge in the Arctic—the book also addresses specific issues relevant to field work in the Antarctic and to sea ice physical and biological regimes unique to the climatology of the southern latitudes.

The editors clearly had in mind a comprehensive scope and framework for the book. The breadth of content is impressive, with topics spanning both the "hard" and "soft" sciences: from the bio-geo-physical realm to the socio-political-geographical realm. If you're looking for a quick reference on sea ice pressure mechanics on fixed-location offshore structures such as drilling platforms, you'll find it. If you're interested in the international effort to develop and apply standardized sea ice observation and description protocols from both research vessels and ships of opportunity (e.g., commercial operations) in the Arctic and southern seas, you'll find it. If you've ever marveled at yet another effort of our canine friends to assist us humans in our scientific endeavors, you'll encounter in this book a delightful chapter section on training

dogs (specifically retrievers) to locate subnivean (beneath-the-snow) seal holes in the Arctic.

This book presents a great deal of useful and time-tested information on a wide range of topics. Most chapters, whether solo- or co-authored, manage to convey content in a writing style somewhere between refereed journal articles and popular literature and, as such, will appeal to a wider audience without trivializing the science. The editors clearly and successfully frame this book, and sea ice science in general (particularly for the Arctic), in its socio-cultural context, as a "highly collaborative enterprise" among researchers, the native peoples of the northern latitudes, and the many agencies, institutes, and governmental and nongovernmental organizations with a stake in the polar regions.

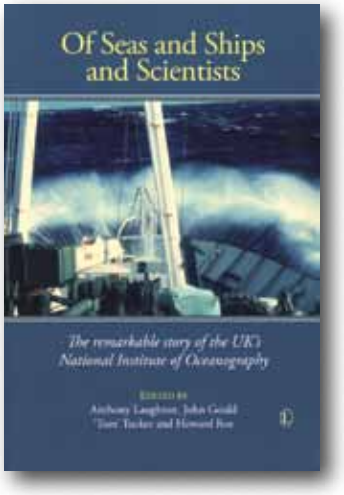
While I survived two field excursions in the Antarctic and Arctic without serious mishap and managed to collect enough useful data to put myself on a firm footing with my own sea ice research career, this book will, without a doubt, accompany me on all future excursions. The book, in its final chapter, discusses the protocols for encountering polar bears while in the field, with wise advice on how not to offend our ursine cousins. I have no doubt that distracting the bear by hurling this book at it (likely a last resort) would meet with smiling approval from several of this book's authors. Perhaps the editors will consider addressing the throwing technique in a future edition.

Blake Weissling *(bweissling@swca.com) is Environmental Geophysicist, SWCA Environmental Consultants, and Assistant Research Professor, University of Texas at San Antonio, San Antonio, TX, USA.*

Of Seas and Ships and Scientists: The Remarkable Story of the UK's National Institute of Oceanography

Edited by Anthony Laughton, John Gould, 'Tom' Tucker, and Howard Roe, The Lutterworth Press, 2010, 350 pages, ISBN 978-0-7188-9230-2, Softcover, $52.50 US

REVIEWED BY ERIC MILLS



It was the summer of 1961. I was at sea with a small group of students and some senior scientists on Woods Hole Oceanographic Institution's graceful old ketch *Atlantis*. Somewhere in the Sargasso Sea, between stations, we were on deck talking and somehow the Golden Age of classical Greece came up. One of the older scientists broke in to say that the Golden Age was right then and there. And for oceanographers, it certainly was. We had lots of research funding, ships available, chances at plum jobs, and a level of research freedom that has become more and more difficult to find since those heady days.

The United Kingdom's National Institute of Oceanography (NIO) developed just before and through that modern Golden Age. Its origins were complex, as several essays in *Of Seas and Ships and Scientists* tell us. The immediate origins lay in Group W, a group of physical scientists within the British Admiralty established during the late days of World War II to work on waves and help with predictions for amphibious landings in the Pacific. At the end of the war, Group W, composed of physicists and mathematicians, formed the nucleus of the UK's first nonacademic oceanography institution by merging with other scientists, most of them biologists, working for the Discovery Committee, which had been established in the 1920s to provide information on the physical, chemical, and zoological background of the burgeoning whale fishery centered at South Georgia.

The National Institute of Oceanography, as it began to take shape in 1949, was directed by George Deacon, who had done chemical and physical oceanographic work during the Discovery Investigations in the southern oceans and who had been the head of Group W. Under Deacon, NIO developed from scattered units to