

GLACIERS. By MICHAEL HAMBREY and JÜRIG ALEAN. Cambridge: Cambridge University Press, 1994. Reprint of 1988 edition. 208 p., 160 illus., glossary. Softbound. US\$15.95.

Glaciers seem to hold a strange fascination for many people. In one summer's day alone, 4000 ticket-toting tourists may take the 2 km trip in mammoth rubber-tired vehicles out onto the icy expanse of the Athabasca Glacier, Alberta, Canada. Still hundreds of others in Bermuda shorts and sneakers swarm over the terminal ice and peer, undaunted, into crevasses, poke the ice and pose for photographs. In the last three years one boy and a German tourist have died of hypothermia after falling into crevasses. My current wristwatch (a Timex Ironman) was found, with a broken wristband, on a ledge on the wall of a crevasse in the Athabasca Glacier in 1993.

This glacier and all the activities associated with it can easily be seen from the comfort of a vehicle travelling the Banff-Jasper Highway. The glacier has also been the object of intense scientific research by government and university scientists over three decades. Meltwater from the glacier makes its way into one of the major waterways of the western provinces. Being in a federal park, it represents a national "resource"; it also represents, in this case, a commercial resource. In addition to the glacier trips at \$26 each, one can stay at a luxury hotel in full view of the glacier and just enjoy the view. If you are interested in these and the many other aspects of glaciers, then this book certainly fits the bill.

In a little over 200 pages, the authors, who are well known in the international glaciological community, have created a highly readable and very comprehensive book about the world's glaciers. In many aspects, this book resembles an issue of the *Alaska Geographic* titled *Alaska's Glaciers* (Henning et al., 1982) but *Glaciers* gives us global coverage. Also the earlier book must be out of print and is not a competitor to *Glaciers*. The book reads like a greatly expanded entry on glaciers that one would expect to find in an encyclopedia. Most of the pictures were taken by the authors during their extensive travels around the world. Nothing seems to have been overlooked as Hambrey and Alean systematically work their way through 12 interesting and superbly illustrated chapters. The last two chapters relate glaciers to their environment, both atmospheric and terrestrial, including the biological realm. (There is even mention of ice worms, but, to actually see a picture of one, you will have to refer to *Alaska's Glaciers*).

Virtually every story that I have heard about glaciers is in the book, with the exception of the account of the finding of the 5300-year-old body of the *Iceman* in the Tyrolean Alps in 1991. (*Glaciers* is a reprint of the original 1988 edition). Mark Twain's amusing account of his "trip" down a Swiss Glacier is there, and also a well-informed answer to the most often asked question: "Are glaciers advancing or receding?"

Alternating nicely with the 85 colour pictures of National Geographic quality are about 75 black-and-white photographs and diagrams. Thus, it is a highly illustrated book. This fact and the well-written and not too technical text make this book suitable for a wide readership. The absence of equations and references is deliberate: these exist in other books, for example, Paterson (1981), which is nearing a third edition.

Typographical errors are rare. The diminutive "gletscherli" (small glacier) on Mount Titlis in Switzerland is only 80 m long (not 800 m as reported). The Krakatoa volcano erupted in 1883, not 1783, although there were two important volcanic eruptions in 1783 that may be identified in ice cores, which the authors describe. Two pictures of Mount Logan, Canada's highest glaciated mountain, are impressive; however, it is approximately 5959 m high, not 6050 m (an incorrect value commonly in use). On p. 188 Nevado Huandoy is misspelled, as is the name of the pro-glacial Lake Parón, a good map of which may be found in Ricker (1977). There is a generally well-prepared glossary of terms used in the text. The absence of equations has led to the (unavoidably) loose definition of the term *strain* as being "the amount by which an object—in this case glacial ice—becomes deformed under the influence of stress" (*stress* is not formally defined in the glossary, but may be deduced adequately from the text). This point is not raised in criticism but only because it defines the book's technical upper limit, to which the authors have paid very careful attention. Overall, this attractively priced book is both a very enjoyable read and a superbly illustrated glacier "travelogue." I highly recommend it to all those interested in glaciers, professional glaciologists included.

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#### REFERENCES

- HENNING, R.A., OLDS, B., and RENNICK, P., eds. 1982. Alaska's glaciers. *Alaska Geographic* 9(1).
- PATERSON, W.S.B. 1981. *The Physics of Glaciers*. Second edition. Oxford: Pergamon Press.
- RICKER, J.F. 1977. *Yuraq Janka (Cordillera Blanca)*. Banff, Alberta: The Alpine Club of Canada and New York, New York: American Alpine Club.
- ECOLOGY OF A POLAR OASIS, ALEXANDRA FIORD, ELLESMERE ISLAND, CANADA. Edited by J. SVOBODA and B. FREEDMAN. Toronto: Captus Press, 1994. 268 p., figs., tables, annex. Softbound. Cdn\$38.50.

Few interdisciplinary ecological studies have been undertaken in the Canadian High Arctic. They are difficult to organize and expensive to conduct. Josef Svoboda and Bill Freedman organized and directed such a project for a seven-year period, with more than 20 students, field assistants and faculty, at Alexandra Fiord on the east coast of Ellesmere Island (78°53'N). The book is organized into 25 chapters, 6 appendices of species lists, and an annex of reflections, watercolors, and poems by participants.

The Alexandra Fiord lowland is bounded by steeply dipping walls of gneisses interlaid with granite and pegmatite and capped by Lower Cambrian quartz arenite, dolostone, and conglomerate