

Species (1873), Charles Darwin describes how he sees “beautiful adaptations everywhere and in every part of the organic world” (p. 113–114). In the Oxford English Dictionary, adaptation is defined as “the process of modifying a thing so as to suit new conditions; the action or process of adapting, fitting, or suiting one thing to another.”

In *Adaptation Policy Frameworks for Climate Change*, this broader definition of adaptation is narrowed to address issues of climate change: “Adaptation is a process by which strategies to moderate, cope with, and take advantage of the consequences of climatic events are enhanced, developed, and implemented” (p. 248). This definition is clearly human-centered, highlighting the focus of this volume and reflecting the commitments in the United Nations Framework Convention on Climate Change to reducing vulnerability and implementing adaptation to climate change. The overarching purpose of the Adaptation Policy Framework (APF) is to incorporate future climate risk into policy-making processes in both developed and developing countries. Specifically, “the purpose of the APF is to support adaptation processes to protect — and enhance — human well-being in the face of climate change” (back cover).

Adaptation Policy Frameworks for Climate Change is a technical document, not a volume to read before bedtime. It is divided into three main sections: the Guidebook, Technical Papers, and Case Studies. These three sections are formulated around four major principles that highlight the interdisciplinary nature of adaptation processes and the importance of combining qualitative and quantitative knowledge. The focus of the APF on adaptation measures that are in line with a country’s broader development goals highlights the “bottom-up” approach increasingly used by policy makers and scientists. This approach allows for the production of relevant adaptation policy that can be applied from local to national scales. The framework presented here is distinctive in its flexibility: if certain information is pre-existing, the user can begin at the appropriate section without having to reinvent the wheel. The inability of some developing countries to spend large sums of money on the research and development of adaptation policy is not only acknowledged, but taken into consideration in the formulation of this APF.

The nine Technical Papers (TPs) steer the reader from the general procedures outlined in the Guidebook to more concrete applications of the APF. Each TP addresses a specific facet of the framework, guiding users by providing methodologies and tools to help them navigate through the APF. These papers range from “Scoping and Designing an Adaptation Project,” the earliest stage of the APF, to “Continuing the Adaptation Process,” which describes the monitoring and evaluation stages at the culmination of the applied portion of the framework.

This report also brings attention to the development of tools to address climate change and variability. Human societies are in a constant state of adaptation to their changing environments — this is not a new idea. However,

the process of incorporating future climate change and vulnerability into an adaptation policy framework is novel. The need to combine climate-change science with appropriate policy measures and to apply these measures to a wide variety of conditions has long been recognized. This guide stresses the importance of formulating adaptive measures that are both transparent and easy to implement. As the process becomes increasingly transparent, stakeholders increase their involvement, a step that is crucial not only to successful implementation of adaptation policy, but to monitoring and evaluating its efficacy over the long term.

One drawback of the APF is that its initial stages require a ranking of the systems that are most vulnerable to climate change. However, vulnerability and adaptive capacity can most easily be identified locally, so problems may arise when this ranking is applied on a national scale. It is the aggregation of these local exposures that often contributes to national vulnerability debates. While the importance of the bottom-up approach is highlighted early in this document, the transformation of local adaptation measures to the national scale eclipses the importance of this first stage of vulnerability and adaptive capacity assessments.

As stated above, the purpose of this framework is to provide a flexible tool for policy-makers, project developers, technical analysts, climate project coordinators and developers, climate change policy makers, and local stakeholders in developing countries to create adaptation tools that are relevant to their specific needs. These tools will take into account not only current vulnerabilities and adaptive capacities, but future vulnerabilities to climate change and increasing variability. Above and beyond this central purpose, *Adaptation Policy Frameworks for Climate Change* has also provided a tool to aid developed countries in identifying current and future vulnerabilities and the means to address them. Not only is this book an excellent new resource in the literature on climate change, vulnerability, and adaptation, but it should take its place among the practical volumes used by scientists and policymakers concerned with adaptation to climate change.

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GLACIERS. By MICHAEL HAMBREY and JÜRGEN ALEAN. Cambridge: Cambridge University Press, 2004. ISBN 0-521-82808-2. xvi + 376 p., maps, colour illus., glossary, selected bib., index. Hardbound. US\$60.00.

A decade has passed since the (1994) reprinting of the first edition of *Glaciers*, which was published in 1992 and reviewed in this journal (Holdsworth, 1994). In 1995, the

book won the Outstanding Publication Award of the Association of Earth Science Editors. This new book preserves the visually stunning form of the first edition, with photos mostly taken by the authors, who have continued to travel the globe in order to capture images that would grace the pages of *National Geographic*. However, the authors have not just reproduced the previous photos, but have replaced most of them with new ones. Even in the few cases where first-edition photos appear to have been reproduced, they have cunningly used another photo that was shot from a slightly different angle. I discovered one case where a first-edition photo was used (p. 332), but, as if to defy exact reproduction, it now appears as the mirror image! (It is probably correct in the second edition.)

Several satellite images and figures support the text. Here, one has to be alert, as shown by two examples. On page 112, a NASA image shows a large percentage of the most extensively glaciated part of northwestern North America. A reader might gain the impression that this is all Alaskan territory (as discussed in the text), whereas a considerable portion of the Saint Elias Mountains, where extensive research in glaciology has been done, is in Yukon (Canada). On page 316, two figures illustrate the evaporation of oceanic water destined for deposition on land (with or without an ice sheet). Whereas the authors' general application of the isotope cycle is acceptable, the meteorological representation (Figure 15.2, p. 316) is completely misleading if one decides to look in detail at the complex and enigma-ridden field of isotope glaciology.

The new edition is twice as thick as the previous one, in part because the authors have expanded the text and used more photographs (now 282 versus 150 in the first edition) but also because it has a hard cover. Rather than the earlier mix of colour and black-and-white photos, all photos are now in colour. This considerably increases the impact of the presentation.

There are four more chapters (for a total of 16) that seem to cover almost every conceivable aspect of glaciers, quite typical of an encyclopedia entry. The new glossary is almost three times as long as the original one. A new addition is a list of selected references: they usefully show what is available to one audience at which this book could be aimed, science teachers preparing courses for pre-university or introductory-level courses. The other audience is the educated layman. In fact, the authors list their first edition as a "general interest book." It is a very good choice amongst the several titles that I have seen. (Counting the two editions as being sufficiently different from one another, there are now four books with this same title.)

Considering today's technology, the best format for this material would be a CD-ROM or DVD that could be projected in a classroom. In fact, the authors project the same photos we see in the book in their own classroom presentations. Extending this argument, the best teachers of this material should have "experienced" the glaciers, gathering their own collections of photographs to display for their students, just as Hambrey and Alean have done.

However, this would require them to be both well traveled and very good photographers.

In a new Endnote, the authors essentially reiterate what is in the Preface of both editions: "First and foremost we have tried to convey the beauty and fascination of glaciers, based on our personal experiences ... glaciers can only be fully appreciated by actually visiting them." Further: "we hope that [this book] will implant in the reader a desire to visit glaciers and glacial landscapes and gain a deeper appreciation of "snow and ice" (p. 351). That aim is the real essence of this book.

REFERENCE

HOLDSWORTH, G. 1994. Review of "Glaciers," by Michael Hambrey and Jürg Alean. *Arctic* 47(4):412.

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POLARFAHRER: IM BANNE DER ARKTIS [POLAR TRAVELLER: UNDER THE SPELL OF THE ARCTIC]. By THEODOR LERNER. Edited by FRANK BERGER. Zürich: Oesch Verlag, Kontra Punkt, 2005. ISBN 3-0350-2014-0, 317 p., maps, b&w illus., notes, bib. Hardbound. Eur19.90.

Until now, even in Germany, journalist Theodor Lerner has largely been a forgotten figure in Arctic history, although he spent at least six summers and one winter on Svalbard over the period 1896–1914. This situation has now been rectified through the editorial efforts of Dr. Frank Berger, curator of the Historisches Museum in Frankfurt-am-Main. Berger has edited and published Lerner's autobiographical manuscript, originally written in 1930, which is preserved among the holdings in his care, along with some 200 glass negatives from Lerner's Arctic trips.

Lerner first visited Svalbard in 1896, on board the small steamer *Expres*, which had been chartered by a British hunting party. At Virgohamna on Danskøya, he watched the preparations of Salomon Andrée of Sweden and his companions as they built a balloon hangar and made ready to attempt a flight to the North Pole in the hydrogen-filled balloon *Örnen*. In the event, persistent foul winds and the insurance stipulations on his ship *Virgo* forced Andrée to postpone his flight attempt to the following year.

Lerner managed to persuade his editor at *Die Woche* that he should return to Svalbard in 1897 to cover Andrée's renewed attempt and to give Andrée as much support as