

WORLD SURVEY OF CLIMATOLOGY, VOLUME 14: CLIMATES OF THE POLAR REGIONS. EDITED BY S. ORVIG. New York: American Elsevier Publishing Company, Inc., 1971. 8 $\frac{3}{8}$ x 11 $\frac{1}{8}$ inches, 375 pages. \$39.75.

For some time meteorologists and climatologists have been awaiting the publication of the various volumes of the World Survey of Climatology. The first volume appeared during the fall of 1969, and those interested in the polar regions should be thankful that Professor Orvig's volume was included among the first half dozen to be published. Unfortunately the enthusiasm of many individuals to purchase a copy of *The Climates of the Polar Regions* or any of its companion volumes has been somewhat dampened by the selling prices of about \$40 per volume. The volumes in this series are large, measuring approximately 8 $\frac{1}{2}$ x 12 inches, thus approaching the "coffee table book" in size as well as in price. However, inflation has been with us and while a book published on polar climatology 25 years ago might well have cost no more than a tenth of the price asked for this volume, it certainly would have contained considerably less than one tenth of the information found between the covers of Orvig's book!

In common with others in the series, this volume consists of a short introduction by the editor — McGill University's Professor Svenn Orvig, a meteorologist well-known to all students of the Arctic — and papers or chapters on the climates of the different polar regions. Mr. Putnins of the National Ocean and Atmospheric Administration in Washington contributed "The Climate of Greenland"; Professor Orvig and a colleague, Dr. E. Vowinckel, wrote "The Climate of the North Polar Basin"; and Professor W. Schwerdtfeger of the University of Wisconsin contributed "The Climate of the Antarctic". Although Professor Orvig has successfully ensured a certain uniformity of content and arrangement of the three separate chapters, there remains the undeniable stamp of the individual authors on each. The result is admirable: the book provides the standard information that its readers will be seeking and it also allows the user to observe what are really three different approaches to the study of polar climates.

In his introduction to "The Climate of Greenland", Mr. Putnins stresses the meteorological dynamics of the Greenland area, a subject which he has extensively studied and written on in the past. Although vital to meteorological synopticians, this background

climatology may not be too interesting to students and readers in other fields, but the only real criticism of Putnins' chapter is its lack of illustrative figures, and especially of maps, both for the identifying of places mentioned in the text and for casual reader reference. Putnins' descriptive text, however, contains a wealth of information as he has drawn fully on the ice-cap expedition reports and has made a complete analysis of the coastal station data. It is to be regretted, however, that in a reference book such as this, published in 1970, the most up-to-date surface climatic data should date back to 1956.

In "The Climate of the North Polar Basin", Vowinckel and Orvig have introduced their subject with an extensive review of the heat and water balance of the arctic and all the factors contributing to these balances. Both authors are the recognized experts in this field, and this section will be of inestimable value to students of arctic meteorology and climatology. Although limited to data from ice stations and from coastal and island stations bordering on the North Polar Basin, this chapter contains less typical descriptive climatology than the others. However, it is probably the best of the three chapters and the lack of detailed geographical maps is partially compensated for by the presence of two general identification maps.

For those of us who are much more interested in the Arctic than the Antarctic, Schwerdtfeger begins his chapter with the unfortunate sentence "The principal geographic characteristics of Antarctica are assumed to be known". However, atlases are available and the general reader will probably find Schwerdtfeger's "The Climate of the Antarctic" more readily understandable than either of the other chapters, because it has been written in the classical style of climatological texts. Despite the high level of meteorological research and investigation in Antarctica over the past 15 years, meteorological data and information from that part of the world are not easy to obtain, and Schwerdtfeger's text and climatic tables will be handy references for some time to come.

While Putnins' chapter is somewhat lacking in illustrative material, such a complaint cannot be made against the other two, since each contains about 40 maps and diagrams and several dozen tables, as well as several pages of references and climatic data tables for specific stations. In addition, the book contains general indexes of references, geographic locations and meteorological subjects which will be valuable to the user

who is looking for specific information and papers. In passing, this reviewer would like to note that inspection of the references cited indicates a general lack of attention given to work on polar meteorology by North Americans, and especially by Canadians. Exclusive of two contributing authors, only five other Canadian meteorologists are mentioned in the reference lists — B. W. Boville, W. L. Godson, F. K. Hare, H. A. Thompson, and Cynthia Wilson. In a country that boasts the

third largest national meteorological service in the world, there should be more people concerned with and working in the field of arctic meteorology. *The Climates of the Polar Regions* is a necessity for any meteorological and climatological library in the Americas, and because of it, it is to be hoped that more young meteorologists will be induced to study polar meteorology and polar climatology.

M. K. Thomas

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