Chapter 6 on boreal animals receives only slightly better treatment, for none of the intensive as well as survey animal studies conducted under the International Biological Programme is included. Those intensive studies on animal and plant biology can hardly be called hasty, superficial or exploitation-oriented research. A comparison is made between North American and Russian ideas on the influencing concepts relative to adaptations of endotherms to arctic conditions. The author favors those concepts laid down by the late S.S. Shwartz of the USSR. Factors related to animal cycles are not discussed here, though the role of snow relative to microtine cycles is briefly discussed under research methods (Chapter 9).

Ecosystems and foodwebs are presented in Chapter 7. Again only very general foodweb diagrams are presented. Only passing reference is made to one IBP study and no details of energy flow or nutrient cycling as discussed in numerous articles and books are given. This is clearly one of the weakest chapters in the book.

Much of chapter 8 is a diatribe on northern development without even mentioning the vast amount of boreal and arctic research that has resulted from government and industrial support in the past 10 years. No mention is made of national parks and wilderness areas that are being set aside in both Canada and Alaska as a result of public concern for preserving northern lands. Reference is made to the fact that northern peoples have not gained enough strength to stop the worst of white man's exploitive schemes such as the Mackenzie Valley Pipeline, a project stopped nearly a year before this book was published.

The final chapter deals with research methods and procedures, largely a discussion of the merits of studying animal ecology in relation to snow. Cold adaptation studies are pooh-poohed on the grounds these studies were largely backed (if indirectly) by the military. No mention of plant studies is made. It appears the author has little use for physiological research though the need to better understand heat flow, permafrost, ice fog, and pollution is stressed.

References include papers in Russian, Norwegion, Danish and Finnish, a real plus for this book. There is no subject index.

In summary, those looking for a simplified presentation of northern ecology from a natural history viewpoint will find this readable book most enjoyable. Those expecting an indepth presentation of boreal ecology from an ecosystem and physiological basis will need to look elsewhere.

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FLUCTUATIONS OF GLACIERS 1970-1975 (VOLUME III) COMPILED BY FRITZ MÜLLER *Published by the International Association of Hydrological Sciences and UNESCO, Paris, 1977.*

Large-scale inventories and data banks are springing up in many earth science fields these days. In glaciology this trend is sustained by the World Glacier Inventory Project of the International Commission on Snow and Ice, and the Permanent Service on the Fluctuations of Glaciers (PSFG) of the International Union of Geodesy and Geophysics. The main function of the PSFG (which is composed mainly of Prof. Fritz Müller of the Swiss Federal Institute of Technology) has been to produce a series of volumes of data on glacier fluctuations throughout the world. The first two volumes covered the periods 1959-65 and 1965-70; a future volume will deal with 1975-80. The third volume differs from the first two in that data for it was submitted by the various collaborators on a standard PSFG data form, and in the computerization of the data. The result is a more homogeneous presentation. The stated objectives of the overall project, a contribution to the International Hydrological Programme, are 1) to afford a general view of the changes, 2) encourage more extensive measurements, 3) invite further processing of the results, 4) facilitate consultation of the further sources, and 5) serve as a basis for research.

The bulk of the book is a series of tables dealing with "general information on the observed glaciers" (name, location, morphological form, area, elevation, etc.), variations in positions of glacier fronts, mass balance variations (including some data on mass balance/elevation interval relationships), and changes in thickness, area, and volume. Time units in all cases are one year or greater. As might be expected, the number of glaciers inventoried varies radically from table to table; apart from the general information table, the one dealing with frontal positions covers the greatest number of glaciers (763).

Shortcomings of the volume stem not from faults of the editor but from inherent limitations of the project itself. Many of the world's ice-covered areas have received little or no study and even when data is available a collector finds it hard to get his hands on much of it. Consequently the geographical bias in the volume is quite large. The bulk of the data is, naturally, from North America, Scandinavia, the Alps, and Soviet Asia. There is very little from elsewhere, including the most heavily glacierized land masses, Antarctic and Greenland. Thus the book's capacity to "serve as a basis for research" (objective no. 5 above) is

somewhat limited. Other limitations, noted by the editor himself, include lack of hydrometeorological data and lack of short-term energy balance data. Beginnings in these directions may be made in future volumes. In the meantime, the volume and its predecessors are the best (by virtue of being the only) compilations available, and they do contain a great deal of information. A peripheral value of the book is its bibliography and lists of contributing authors and agencies, from which original (and additional ?) data can be obtained.

As a bonus the third volume contains a collection of 12 assorted glacier maps and orthophotographs, including 4 Canadian products. The collection is apparently designed to show the state of the art of glacier mapping. Of particular interest is a series of maps depicting thickness changes of selected glaciers in the Bavarian Alps.

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CLIMATIC ATLAS OF THE CONTINENTAL SHELF WATERS AND COASTAL REGIONS OF ALASKA: VOLUME I — GULF OF ALASKA BY WILLIAM A. BROWER JR., HAROLD W. SEARBY, JAMES L. WISE, HENRY F. DOAZ AND ANTON S. PRECHTEL: *U.S. Department of Interior's Bureau of Land Management and Alaska Outer Continental Shelf Environmental Assessment Program, 1977. 11 in x 11 in, 439 pp., $5.00.*

Climatic Atlas of the Gulf of Alaska is the first of a three-part series on the climate of the coastal region of Alaska. The other volumes, still in preparation, are the Bering Sea (Volume II) and Chukchi and Beaufort Sea (Volume III). There is some overlap in the content of the volumes, a device which hopefully should ensure continuity.

The Atlas, which was jointly produced by Arctic Environmental Information and Data Centre of the University of Alaska and the National Climatic Centre, presents a vast amount of information on atmosphere and surface marine parameters that will be useful in the assessment of risks involved in resource exploitation in the coastal waters of Alaska. Elements covered in the Atlas include temperature, wind, precipitation, pressure, fog, cloud cover, etc. Also included are icing, hypothermia, and storm surges. Statistical descriptors used in the Atlas include maxima, minima, means, standard deviations, extremes, persistence, probabilities, and return periods. The analyses are based on over a half million surface marine observations and two million three-hourly observations from 49 selected coastal stations. The results are presented in 3-color maps; graphs, in black and white; and tables depending on the type of information to be conveyed. Together, the variables, their descriptors and presentation offer as complete a climatological profile for the coastal and marine areas of the Gulf of Alaska as possible within the limitation of the data base.

Because of its early publication in relation to resource exploration and exploitation in the Alaskan region, it is reasonable to believe that the stated objective of the Atlas to provide the type of information "required for the assessment of potential impact by oil and gas exploration and development and monitoring programs that will permit resource development and ensure environmental protection", will be realised. The Atlas is very well produced, the tables are crisp, and the legends are very clear. Where the authors believe that an introduction to concepts or tables is necessary, they have passed it on in the form of brief notes and in a style that should make them understandable even to the uninformed.

The authors must be complemented on their very thorough work. It is hoped that the other volumes will achieve the same high standard set by Volume I. I highly recommend it to anyone involved in any type of work in Alaska and to every climatologist or meteorologist with an interest in the Arctic. At $5.00 a copy, it is truly a bargain. For the U.S. Department of the Interior, which funded the project, the result must be very satisfying. Their money was well spent.

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ESKIMOS OF NORTHWEST ALASKA IN THE EARLY NINETEENTH CENTURY, BASED ON THE BEECHEY AND BELCHER COLLECTIONS AND RECORDS COMPILED DURING THE VOYAGE OF H.M.S. BLOSSOM TO NORTHWEST ALASKA IN 1826 AND 1827. BY JOHN R. BOCKSTOCE. EDITED BY T. K. PENNIMAN. *Pitt Rivers Museum, 1977 (Monograph Series, University of Oxford, Pitt Rivers Museum, No. 1). 139 pages, illus., maps. No price indicated.*

When Commander Frederick William Beechey sailed H.M.S. Blossom to Alaska via Cape Horn in 1825-6 he carried orders to meet there with the exploratory parties of Captain William Edward Parry and John Franklin. Neither Parry nor Franklin, both in search of a northwest passage, travelled far enough west to make their proposed rendezvous with