

Arctic and Antarctic is a very well-produced book, as it should be in view of its cost, and has few misprints. There are, as there must be in any book of this length, some errors and, as is inevitable when so much ground is being covered, some over-simplifications. The following are some instances.

It is certainly true that melting snow makes travel over the sea-ice difficult in late spring, but for a period of a few days, when the water drains off the ice, greater distances can be covered than at any other time of the year. The snow-house may not be a Dorset culture invention. Frobisher's "gold ore" was probably not iron pyrites. The concentration of the Greenlandic population in the major fishing ports was halted in the '70s for political rather than economic reasons. Oil was discovered at Prudhoe Bay in 1968, not 1969. Not many trappers could operate out of a single trading post, especially before over-snow vehicles were used. The map showing the pattern of the human system in Arctic Canada is poor, with, for instance, Arctic Bay in the wrong place, the Haines Cutoff road and Cape Dorset omitted, the wrong legend for railways, and Repulse Bay shown as a weather/defence site. Dr. Sugden seems least at home when describing the Inuit. "Wasting food in orgies of over-eating" is not an Inuit trait. They respected the old, and leaving them behind was at the old peoples' request. Women were not treated as little more than vital possessions, and an Inuit hunter would be surprised to read that he was "used to irregular, short hours of hunting separated by long periods of rest".

Many of these criticisms are matters of opinion and may be considered as illustrations of the well-known fact that two people who have been in the north rarely agree. They should certainly not discourage anybody who is interested in the polar regions from reading such a thought-provoking book.

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INSTITUTIONAL ARRANGEMENTS FOR WATER MANAGEMENT IN THE MACKENZIE RIVER BASIN. Edited by BARRY SADLER. Banff, Alberta: The Banff Centre School of Management, 1984. 125 p. Cdn.\$10.00.

The title alone is enough to drive away the timid, but don't go. It is a good book.

The Mackenzie River Basin is a very large area and to date has been relatively untouched by technological man. We still have both the opportunity and ability to live in harmony with this great river system and make use of the resources it offers, if we have the will.

This book examines the entire question and offers some very worthwhile conclusions. The 29 delegates represent an excellent cross section of the proposed future management jurisdictions with one notable exception. I trust that the absence of the British Columbia government does not indicate lack of interest or, worse, the non-consultative approach that province adopted in the Bennett Dam project. On the plus side, the excellent contributions made by Herb Norwegian, vice president of the NWT Dene Nation, and Peter Stone, Chairman, Kaska Dene Council, provide a point of view so often lacking in these forums.

The volume is well put together and easy to read. Appendix II, "The Master Agreement and Operating Procedures — Prairie Provinces Water Board", provides a ready reference for what could well become the model for the Mackenzie Basin group. The six jurisdictions envisaged should be enlarged to include direct representation of native people.

The book should have wide appeal to all concerned citizens of the west and northwest areas of Canada and is an excellent follow-up to the Mackenzie River Basin Study Report (1981).

Strong political will is necessary to implement the delegates' recommendations. A vocal contributor to the sessions is now a senior minister in the government of Canada. He just may have the will to push the establishment of a Mackenzie Basin Water Board. I hope so.

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USSR/USA BERING SEA EXPERIMENT. Editor-in-chief: K.YA. KONDRAT'EV. Proceedings of the Final Symposium on the Results of the Joint Soviet-American Expedition, Leningrad, 12-17 May 1974. Rotterdam: A.A. Balkema, 1982. ISBN 90-6191-403-5. 307 p. + vii. US\$20.00.

This book consists of 20 papers presented at the final symposium held by 14 groups of Soviet and 6 groups of American authors that summarize the scientific results obtained from "The Bering Sea Experiment" carried out from 15 February to 7 March 1973. It is a translation of the original 1975 Russian version, but the 6 American articles are reproduced in their original form. The measurements undertaken in 1973 concerned the microwave radioemission from ice cover, wind-driven sea surfaces, and clouds and precipitation. The results of these measurements were very important at the time, and it is most unfortunate that the proceedings were not published simultaneously in Russian and English. This belated translation, appearing some ten years later, is primarily of historical interest, since there have been enormous advances in the design of microwave radiometers and of the image-processing capabilities of computers during this period. The translation of the Russian papers is quite good but there are annoying lapses that should have been eliminated by an editor or a reviewer.

This work is concerned primarily with a joint research experiment carried out in international waters in the Bering Sea by American and Russian scientists using aircraft, helicopters, ice breakers, and ground observations. The objective was to obtain microwave radiometric data from aircraft altitudes and to correlate them with ground-based meteorological and oceanographic observation data concerning precipitation zones, sea surface temperature and states, and the various types of ice cover. The objective was to improve the interpretative quality of satellite microwave radiometric scans of the earth's surface.

The measurements determined that the microwave brightness temperature at frequencies from 10 to 37 GHz were linear functions of the atmospheric water vapour and cloud liquid water content and of the surface wind speed and are in good agreement with meteorological and in situ measurements and with theory. They found that the variation in the brightness near an ice edge is due primarily to an areal decrease in the coverage of thin film streaks. The salinity, density, and temperature profiles of sea ice were correlated with microwave and optical photographs. The microwave signatures were strongest for upper frazil ice layers. Another new signature due to a moisture film over grey ice is attributed to a high salt concentration on the ice surface. The increased response to these factors is greatest at 2 GHz and does not fit usual models, but 10 μ m infrared measurements do. The latter are severely limited by ground haze and air turbulence. It was found that the theoretical models for sea surface emissivity that take account of the wave geometry yield comparable results for both wind-driven and ripple waves. However, the fact that experimental measurements are always higher than predicted is attributed to the effect of foam emission, which occurs when the waves break. The total