BOOK REVIEW

MORSKOI ATLAS (MARINE ATLAS), Vol. II Fiziko-Geograficheskiy (Physical Geography). Editor for Vol. II, L. A. Demin, Izdanie Glavnogo Shtaba Voenno-Morskikh Sil (Publication of Head Staff of Naval Forces), Moscow, 1953; 4 Sections, xviii pages, 76 Plates, no price. (In Russian.)

In 1956 copies of the "Morskoi Atlas," Volumes I and II, were purchased by the U.S. Hydrographic Office from a New York bookstore. Volume II of the atlas is of particular interest because it contains a comprehensive treatment of the marine environment of the earth. Although the atlas is not considered an effort in original research, it does provide, in one volume, one of the latest compilations and analyses of many oceanographic and marine climatic elements on a worldwide basis.

Other countries have also compiled and published similar atlases which contribute to the world knowledge of marine areas. In addition to the United States, other contributors are: the Netherlands, Great Britain, Germany, and Japan.

Volume II of the Morskoi Atlas contains 76 plates, each composed of two or more charts or chartlets. The first 6 plates present the tracks for some of the historical cruises and marine expeditions. The few charts that are included showing oceanographic cruises are far from being a complete presentation of major oceanographic cruises. The next 9 plates are devoted to a treatment of the ocean bottom, its topography and geology. Plates 16 to 37 cover the physical and chemical oceanography. The temperature, salinity, and density of the oceans are shown for the surface and selected depths on 5 plates; 4 additional plates are used to show cross sections for selected ocean areas and straits. One plate, composed of several chartlets, depicts ice formation for the Arctic and Antarctic regions. Twelve plates are required for current (7 plates), tidal (1 plate) and wave (4 plates) presentations. Marine biological information, including a treatment of marine birds, is contained in 3 plates, numbers 38 to 40.

A total of 29 plates, Plates 40 to 69, are used to present various marine climatic elements; these include presentation of the radiation-energy balance, air temperature and air-water temperature difference, atmospheric pressure, wind, precipitation, fog, cloudiness, tracks of Lows and Highs, and the climatic zones of the earth.

The last 7 plates cover related miscellaneous or general topics. The first two plates are devoted to terrestrial magnetism; the next two give a summary of techniques used in preparing cartographic projections and a comparison of the dimensions of selected seas, gulfs, and straits. The last 3 plates are related to astronomy; two of these give information on the time of sunrise and sunset, and the duration of twilight, and the final plate presents charts and diagrams of the astral sky and the solar system accompanied by explanatory text.

The entire volume is prefaced by five pages of general introductory textual material; 14 plates are also similarly preceded by explanatory text; however, these introductions appear to add little to the chart presentations. Usually the text is devoted to some rather fundamental or elementary explanations of the phenomenon charted, but, in some instances, exceptional individual occurrences (or observations) are cited in the text. All of the text as well as all chart captions and legends are in Russian; no abstract or summary in any other language is given anywhere in the publication. Since relatively few individuals in this country (the United States) have developed reading proficiency in Russian, the fact that all written material is presented only in Russian limits its general use.

Recognizing that the atlas would be a valuable reference tool not only for the relatively few professional oceanographers and climatologists but also for investigators in the fields of geography, geology, biology, hydrography, and geophysics, the Hydrographic Office undertook a detailed evaluation of Volume II. The technical content of each plate and its insets is evaluated separately in H. O. Technical Report 38; a comparison of each chart is made with existing similar charts from other sources.[1]

[1] (H.O. Technical Report 38 also includes a complete translation of the textual material introducing selected plates in the Morskoi Atlas, Volume II (Physical Geography). Translations are also provided for the Introduction, Table of Contents, and other material in Volume I (Navigation and Geography) which may be of interest to the environmentalist.)

From the very first look at the Morskoi Atlas (Vol. II) one is impressed by its size and the quality of material of which it is made. It is obvious that the U.S.S.R. has made a concentrated effort to prepare a first class publication, with costs apparently a secondary consideration. With a closer look at the individual charts, one can readily see the excellent quality of the lithography and the drafting and illustrating work.

Probably the most serious shortcoming of this atlas is the complete avoidance of any mention of the observational data used, any comment regarding its quantity and quality, and the omission of a list of the major references utilized. Inclusion of such basic information is considered normal standard practice in scientific or technical publications such as this.

Another deficiency appears in a number of the plates throughout the atlas: the omission of information for the Arctic Ocean area adjoining the U.S.S.R. In most instances, this area is covered by an inset chart showing environmental conditions which may be somewhat related to the larger chart(s). These inset charts are usually similar to presentations appearing elsewhere in the atlas at a larger scale. The Eurasian landmass, which usually contains no data, seems to offer a more appropriate location for such small scale inset charts. Information is also frequently not shown for the Baltic, Black, Caspian and Okhotsk Sea areas. In some cases such omission may be unavoidable because of sparsity of observational data or because the chart scale may be too small to depict adequately the average gradients that occur. However, these voids impair somewhat the overall comprehensive value of the atlas.

The last general criticism, while of lesser significance than those previously mentioned, is that a few of the plates contain inset charts that appear to be unrelated to the basic larger scale chart with which it is presented. Also, in one or two instances, the order of the chart presentation might be more appropriate if the sequence were changed. Some of the smaller charts might be much more useful if given at larger scales and smaller analysis intervals were used.

It is recognized that no atlas could meet every requirement when designed to meet a universal need. Aside from the three general comments mentioned above, this atlas is considered a rather excellent summary of most marine environmental conditions.

It will be noted in the use of this volume that several of the charts resemble closely charts included in publications by "western" countries.

In conclusion, it is important to recognize this publication as an index of the U.S.S.R. interest and effort in their study of the ocean environment. From the quality of material included in this Atlas it becomes obvious that U.S.S.R. meteorologists and oceanographers are well aware of work done in the "western" world.

HAROLD W. DUBACH.[1]

23 December 1958.

[1] The opinions or assertations contained in this article are the author's and are not to be construed as being officially endorsed by the U.S. Navy or Department of Defense.