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CRITICS

A New Map of Modern Bottom Sediments in Mediterranean and Black Seas

(E.M. Emelyanov, K.M. Shimkus, P.N. Kuprin *et al.*, 1996. *Unconsolidated Bottom Sufrace Sediments of the Mediterranean and Black Seas*, Intergovernmental Oceanographic Commision (UNESCO), IBCM Geol.–Geophys. Series, Scale 1 : 1000000, 10 sheets, St. Petersburg, Russia)

In 1996, the Central Cartographic Enterprise of the Russian Navy in St. Petersburg published an outstanding cartographic work, the multicolor map of bottom surface sediments of the Mediterranean and Black Seas at a scale of 1 : 1000000 (10 sheets). Thus, the long-term meticulous work by an international team of marine geologists from Russia, Great Britain, Germany, Greece, Israel, Spain, Turkey, and France has been completed. This work was carried out in a program conducted by the Intergovernmental Oceanographic Commission (IOC) of UNESCO and the Russian Oceanigraphic Committee. E.M. Emelyanov, K.M. Shimkus (Shirshov Institute of Oceanology, RAS), and P.N. Kuprin (Lomonosov Moscow State University) are main authors of the map. E.M. Emelyanov was the supervisor of the program; P.N. Kuprin, the scientific coordinator; and A.V. Popov, the editor-in-chief. Carlo Morelli (Italy) was the head of the editorial board.

The compilation of map sheets was based on an immense body of granulometric, chemical, and mineralogical analyses performed in laboratories of countries-participants using various techniques and classification scales. The authors succeeded in summarizing these heterogeneous data in a vivid and easily readiable legend, retaining the strict quantitative approach to discrimination of sediment types. As a result, a common map of the entire water area has been created in agreement with seafloor topography and regularities of the modern sedimentation. The scientific and applied implications of the map are difficult to overestimate. It is also important that the principles and methods of Russian marine geology inherited from classical works by N.M. Strakhov, P.L. Bezrukov, and A. P. Lisitsyn have been preserved.

Genetic (terrigenous, biogenic, volcanogenic, and chemogenic) types of sediments are shown on the map by different colors, while the granulometric composition is displayed by a black hatching. In addition, the grain size of sediments at each site is exhibited by a bar chart. Biogenic carbonate sediments are shown by a blue color of various intensity depending on the $CaCO_3$ content. They are subdivided into shelly, coral–shelly, foraminiferal, and coccolithic sediments. In my opinion, the subdivision of volcanogenic sediments into pyroclastic and volcanoclastic sediments is not quite appropriate, although their demarcation on the map is very important.

The map is of great interest not only for marine geologists that deal with modern sedimentation but also for lithologists engaged in the reconstruction of sedimentation in paleoenvironments using the comparative lithological method developed by N.M. Strakhov and his followers. Scientists and practical workers from Mediterranean and Black Sea regions have received a unique and large-scale map of bottom sediments in the vast water area, with which their centuries old history and the current life are related. The map may serve as a manual and a base for geoecological studies. It also bears the information necessary for the planning of marine geological exploration and development of mineral and biological resources of seas.

I. O. Murdmaa, DSc (Geol.–Miner.)

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