

## ON THE DIVISION OF THE EARTH'S SURFACE INTO ZONES OF ILLUMINATION.

by

R. PUTNINS.

(Publication of the Geographical Society of Latvia, Riga, 1935).

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This book, published in English, studies by means of geometrical considerations the duration of illumination by the Sun of the different zones of the Earth. It gives for the different latitudes the total duration of day, night and twilight for the different times of the year. The results are indicated in the form of graphs for the different zones and the writer discusses the advisability of the application of summer time in the various zones.

The work is accompanied by a historical notice and numerous bibliographical citations.

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## TIDAL ATLAS FOR KARA STRAIT.

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U.S.S.R.:

The International Hydrographic Bureau has recently received from the Arctic Institute of the U.S.S.R. an *Atlas of Constant and Tidal Currents in the Kara Strait*.

As stated in the Introduction thereto, as the Tidal Currents in the Strait are not absolutely predominant, the total current likely to be experienced can only be calculated by combining the Tidal Current, the Drift Current due to the Wind and the Constant Current. To enable this to be done the Atlas contains 24 charts showing the Tidal Currents at various positions in Kara Strait for each hour before and after High Water at Kamenka Bay, 12 for a depth of 2 metres and 12 for 10 metres; also 2 charts of Constant Currents, one showing the sets and velocities at the points of observation and one showing the general scheme based on the above. A Table of Drift Currents calculated for the different directions and velocities of the Wind is also given, and a set of blank charts for tabulating same and plotting the resulting total current is also included.

A table of coefficients and instructions to enable the mariner to recalculate the velocity of the Tidal Current if necessary is also given.

Other tables give the periods of High Water in Kamenka Bay, the principal elements of the Tide at some positions in Kara Strait and harmonic constants for various positions in that Strait.

The Atlas is very well produced and the Introduction and Instructions, which are in Russian and English, are concise and clear.

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## CURRENTS IN NARRAGANSETT BAY, BUZZARDS BAY AND NANTUCKET & VINEYARD SOUNDS.

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(Special Publication N° 208 of the Coast and Geodetic Survey by F.J. HAIGHT, Associate Mathematician, Division of Tides and Currents, Washington, D.C. 1936).

Special Publication N° 208 adds to the already numerous publications brought out by the U.S. Coast and Geodetic Survey on the subject of the tides and currents of the American coasts.

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In the course of the last few years the Coast and Geodetic Survey in collaboration with the U.S. Army Engineer Corps and the Lighthouse Service, has collected a very large number of observations on the tides and currents in the most important navigable waterways leading to the ports of the United States. The present volume deals with the region of Narragansett Bay, that of Buzzards Bay and finally with Nantucket and Vineyard Sounds.

The first part of the volume reproduces the definitions and the general information on the subject of reversing currents and rotary currents previously published in Special Publication N° 111 of the Coast and Geodetic Survey.