

FIRST RESULTS OF THE SCIENTIFIC WORK OF THE PAPANIN EXPEDITION

by

G.A. USCHAKOW

Moscou, Leningrad 1938.

(Summary of the Report made by Hedwig STALTENBERG in the "*Annalen der Hydrographie*", Pamphlet IV of 15 April 1940).

The Papanin Expedition had as its primary mission the study of the drift of the ice in order to improve, by means of prognostications of its movements, the possibility of navigation on the northern maritime routes. About 600 direct measurements were made on the speed of the drift and the current, supported by 143 astronomical determinations of the position, as well as measurements of depth between Greenland and the North Pole. Near the pole the depth reached 4,000 meters. It has been ascertained that there is neither an island nor land in the vicinity. During the drift the observers took 38 series measurements and verified the fact that the Atlantic waters play a predominant role in the region of the Arctic Ocean and that they extend as far as the pole.

While making important meteorological observations, the observers also undertook 22 measurements of gravity, which, taken together with observations made in less northerly latitudes, permit a determination of the shape of the earth in the great sector Greenland-North Pole-Isles of New Siberia.

The magnetic observations are of particular importance. They were rendered especially difficult in this region which is troubled by numerous magnetic storms. FEDOROW, one of the observers, has succeeded in establishing a magnetic chart which can be relied upon for voyages at sea and in the air in these high arctic latitudes. At the pole the angle between the line of the Greenwich meridian and the magnetic meridian has a value of only about 40° instead of that of 50° to 60° usually attributed to it.

The biological observations of SCHIRMOW have shown that there are a large quantity of animals and plants, not only on the borders of the polar basin, but also in the central regions.

