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The contribution and spatial distribution of Ob and Yenisei runoff on surface layer of the Kara Sea.

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On degree of influence of river runoff on water area of the Kara Sea in general it is possible to consider as uniform estuary of two largest Siberian rivers – Ob and Yenisei. The Kara Sea has 41 % of all river runoff from a land in Arctic ocean or 56 % of a river runoff of the rivers of the Siberian sector of Arctic regions. From them of 37 % belong to waters from The Obskaya Guba (the Ob, the Taz, the Pur) and 46 % to waters of Yenisei. Spatial distribution of a river flow and its interaction with sea waters is in many respects defines various and changeable hydrometeorological conditions of the Kara Sea.

Hydrochemical researches of the Kara Sea were included into the works of complex expedition in 59th cruise of R/V "Academic Mstislav Keldysh" (on September, 11th - on October, 7th, 2011). This data supplements results of expeditions of Institute of oceanology RAS to the Kara Sea in the autumn 1993 and 2007. In these cruises were met and described lenses of fresh water contained Ob and Yenisei waters defined on hydrochemical parameters. Difference of the data of 2011 from last years is that sampling for researches of distribution of river flow (on silicon, and the general alkalinity) was spent in flowing system from horizon of 1-1,5 m on a course of a vessel with high frequency of sampling. Such technique of sampling allows to investigate a surface water area with high discretness which plays the main role in definition of the contribution of waters of Ob and Yenisei in surface water layer of the Kara Sea.

The analysis of the data shows that the area of distribution and the relative contribution of waters of a different origin considerably changes from year to year. It is connected with considerable interannual variability of hydrometeorological conditions and in particular with the general circulation of waters of the Kara Sea.

River flow distribution on the surface of the Kara Sea is difficult enough. Nevertheless, distinctions in a chemical compound of waters of Ob and Yenisei have allowed to define the contribution of the largest Siberian rivers to formation of surface water layer of the western and central parts of the Kara Sea. In previous years it was noticed that the share of the Yenisei waters makes from 20 to 40 % of surface water layer on investigated water area and can be observed considerably to the west of Ob waters. In turn the share of Ob waters can fall down practically to zero near the exit from the Gulf of Ob.