



## **The catastrophic storm surges in the Laptev Sea.**

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The natural condition of the Laptev Sea contribute to appearance in its southern part of the significant level oscillations that considerably influence on a hydrological mode of the sea, its ecological condition and economic activities in this region. The greatest probability of occurrence significant surges in a southern part of the Laptev Sea falls at second half of September - the beginning of October. During this period the cyclonic activity connected to seasonal reorganization of atmospheric processes becomes more active, during same time there is the greatest clarification of water area of the sea from ice.

If in a southwest part exhausting essential value have tidal oscillations which size exceeds 80 - 100 cm to the east, in Olenekskiy, Yanskiy and Buor-Khaja gulfs the big role play storm surges which frequently exceed dangerous marks, and at the certain development accept catastrophic character. In the latter case abnormal sea level oscillations are marked. Thus the height of surges in 1.5-2 times exceeds the height of surges which are observed at similar development of a synoptic situation. The detailed analysis of catastrophic storm surges, observed in Laptev Sea, allows to assume, that their abnormal character is consequence of display of resonant effects.

In the report are described three catastrophic storm surges, observed in a southern part of the Laptev Sea, conditions of their occurrence and development are analyzed. During the analysis have been discovered the atmospheric pressure oscillations with the period about 12 hours which appear at regeneration of cyclones. It is shown, that abnormal development of storm surges in such situations is consequence of coincidence of the compelled oscillations with own oscillations of the basin, that are caused by resonant effects.