



Morphodynamics of the stable system of megafestons (sand waves) of Terpeniya Bay (Sakhalin Island)

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Abstract

The beaches with irregular distribution of beach deposits along the coast as a result of the formation of megafestons (sand waves) and their systems are widely represented on the coast of Sakhalin and the Kuril Islands. A section of the coastal zone is considered in this work, for which rhythmically constructed accumulative formations of the upper part of the coastal profile have been existing for at least 65 years. Main morphometric and morphodynamic parameters have been established on the base of the analysis of morphometric observations of 2005–2017. The volumes of deformations and characteristics of changes in the spatial plan of the morphodynamic system for specific time intervals have been determined. The work does not answer the question about the cause and mechanisms of this heterogeneity appearance. However, the spatial instability of the elements of the system, the deformation of the sediment field to the depth of closure, the planned displacements of the accumulation protrusions in accordance with the direction of the alongshore migrations of sediments lead us to the idea that we are dealing here with a self-organized response of the morpholithodynamic system to the spatiotemporal instability during oblique waves arrival.

Keywords:

Sakhalin, monitoring, coastline rhythms,
morphometry of the beach, megacusps, sandwaves.

References



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