

Features of distribution and quality of organic matter in the bottom sediments of the Great Peter Bay (Sea of Japan)

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The nature and distribution of organic carbon in marine waters depends on: 1) biological productivity and revenue of the autochthonous organic matter to the bottom; 2) sediment grain-size composition and conditions of dumping, which in turn depends of hydrothermic regime, topography, speed River mist and received major erosion products; 3) living conditions of the benthos (the quantity consumed of OM, gas regime of habitats, physiological capacity of heterotrophs). Autochthonous OM of phytoplankton plays a dominant role in the processes of formation of humus in aquatic conditions.

Bottom sediments at different distance from the shoreline to depths from 0.5 up to 480 m of the Sea of Japan, which are formed in various conditions of facies, were selected as the objects of study.

There is no clear relationships to the amount of organic matter in bottom sediments on the characteristics of the distribution and nature of living matter in the oceans and seas. This is because the process of sedimentation and fossilization of organic matter on the seabed and the ocean floor depends on many factors (currents, depth).

Humus of studied bottom sediments in composition can be attributed mainly to the humic type. Nonhydrolyzing rest is 70-90%. This is characteristic of bottom sediments formed in facial types of small bays, internal coastal shelf bights and the underwater slope. At a fraction of the carbon of humic acids in organic matter, ranging from 4 to 80% of the amount of humic and fulvic acids. Fulvic acids content is much less. This is due to more favourable conservation situation of humic acids in precipitation with high content of organic matter, whereas fulvic acids in aquatic environments are more labile and almost not dumped. Despite the fact humic acids are not the most stable component (s), however, with increased content of humic acids, the mobility of organic matter and removing it from the bottom sediments are reduced.

Internal shelf facies of the Great Peter Bay is the most diverse on the content of the various components of the bottom sediments humus. This is because modern processes of sedimentations and humus formation are active in this zone. The greatest concentration of organic matter in conjunction with the submarine and coastal slope at depths of more than 120 m. Slight variations parameters that characterize the composition of humus, are notable for all bottom sediments, as well as the marine environment, largely cancels the General conditions of humus formation around the basin of the Sea of Japan. Organic substance moving in the water column and transforms. Only sustainable to mineralization of organic substance reaches the bottom.