

EGU2020-123

<https://doi.org/10.5194/egusphere-egu2020-123>

EGU General Assembly 2020

© Author(s) 2020. This work is distributed under the Creative Commons Attribution 4.0 License.



Geographic features of the distribution of bottom fluxes of nutrients (N, P, Si) in the frontal zone of the Ob River estuary

Gennadii Borisenko

Shirshov Institute of Oceanology RAS, Biohydrochemistry, Moscow, Russian Federation (gennady.val.borisenko@gmail.com)

Gulf of Ob - the closing estuary of the Ob River, where fresh and saltwater are mixing. This is a very large and long stretch of water: about 800km in length and 30 to 90 km in width. The impressive size of the Gulf of Ob and the impact on the Kara Sea (runoff 530 km³ / year) give to Ob Estuary regional significance. River Ob bringing the largest amount (75%) of freshwater to the Gulf of Ob - an important industry flux and transport artery of Western Siberia, which in turn creates anthropogenic load on the estuary (surfactants, oil products, excess amounts of organic substances).

Changes in salinity, acidity, alkalinity in frontal zones cause a chain reaction of subsequent physicochemical processes leading, in turn, to the deposition of more than 90% of sedimentary material and dissolved organic matter inputted by Ob. Inorganic forms flows of phosphorus from the sediment at the frontal zone is low, which is explained by the high content of Ferrum(III+) oxide.

The fluxes of silicon and nitrogen did not significantly change, however, high absolute values of the silicon content in the mixing zone of fresh and sea waters are observed, which may be associated with the phenomenon of "avalanche" sedimentation observed in this zone.

This work was supported by the grant of the Russian Science Foundation 19-17-00196 Dissolved transformation runoff in estuarine regions of Russian rivers of various climatic zones

How to cite: Borisenko, G.: Geographic features of the distribution of bottom fluxes of nutrients (N, P, Si) in the frontal zone of the Ob River estuary, EGU General Assembly 2020, Online, 4–8 May 2020, EGU2020-123, <https://doi.org/10.5194/egusphere-egu2020-123>, 2019