P86. THE REGULARITY OF HEAVY METALS DISTRIBUTION AND BEHAVIOR IN THE BOTTOM SEDIMENTS ON THE PROFILE "NORTHERN DVINA RIVER – WHITE SEA"

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A study was conducted to investigate the level of heavy metals in bottom sediments of the Northern Dvina mouth area and the White Sea in various seasons since 2004. Of greatest interest for the study was presented as such heavy metals as Hg, Pb, Cd, Cu, Ni, Zn, Cr, which belong to the priority group of toxic elements. The heavy metals concentrations were determined with atomic absorption spectrometer. Also the grain-size composition, concentrations of organic carbon and values of hydrogen ion exponent (pH) and redox potential (Eh) in bottom sediments were determined. It was found that the levels of heavy metals in sediments significantly changed in the lateral radial direction. There is a tendency to increased concentrations of some heavy metals downstream of the river. The high concentrations of heavy metals were found within the influence of cities and towns. So the extremely high mercury concentrations were found in the sediments of small and shallow channels crossing the Arkhangelsk city. The study of heavy metal concentrations in the bottom sediments along the profile "the Northern Dvina - Dvina Bay - White sea" showed that the marginal filter contributes to the coprecipitation with suspended metals of anthropogenic genesis. These processes greatly reduce the contamination risk of the White Sea. Thus, the impact of the river on the ecosystem of the White Sea outside the marginal filter is significantly less.