

THE CONCENTRATIONS OF OIL HYDROCARBONS IN COASTAL WATERS OF CRIMEA

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A quarterly study of oil hydrocarbons content in the coastal waters of the Crimean peninsula in 2016 was carried out. The content of oil and oil products in the water of the surface and near-bottom horizons was determined by IR spectrometry. It can be stated in general that the situation is favorable in the context of this pollutant. Some cases of MPC exceeding have been noted, a large part of which falls on the surface horizon. The western part of the water area is characterized by an increased content of oil hydrocarbons for these depths. The increase in content of oil hydrocarbons was noted primarily in autumn in the studied water areas, which was typical for both zero and the near-bottom depth horizons. Summarizing it was determined that in the Azov-Black Sea water area the content of oil hydrocarbons in the surface water layer was higher than in the bottom layer. And this can be a sign of their preferential receipt from the land. At the same time, increased concentrations of oil hydrocarbons near the bottom were observed at the Kalamitsky Gulf, and to a lesser extent for Laspi bay and the Kerch district proximity of the Black Sea.

Keywords: oil hydrocarbons, sea water, coast, the Black Sea, the Sea of Azov.

References

1. Shchekaturina T. L., Osadchaya T. S., Krivosheeva L. V., Background levels of pollution by oil products and benz(a)pyrene in the shelf zone of the Crimea (the Black Sea), *Marine ecology*, **59**, 80 (2009).
2. Larin A. A., Pavlenko L. F., Skrypnik G. V., Korpakova I. G., Pollution of the coastal water area of the Russian Black Sea region by oil components, *Mar. eco. Journal*, **2**, 49 (2011).
3. Matishov G. G., Inzhebeykin Yu. I., Savitsky R. M., Influence on the environment and the biota of emergency spillage of oil products in the Kerch Strait in November 2007, *Water resources*, **40** (3), 259 (2013).
4. Oradovsky S. G., A guideline to methods of chemical analysis of sea waters, (L., Gidrometeoizdat, 1977).
5. Leonenko I. I., Antonovich V. P., Andrianov A. M., Bezlutskaya I. V., Tsybalyuk K. K., Methods for determination of oil products in waters and other environmental objects, *Methods and objects of chemical analysis*, **5** (2), 58 (2010).
6. Nemirovskaya I. A., Oil in the Ocean (pollution and natural streams) (M., The scientific world, 2013).
7. Matishov G. G., Stepanian O. V., Kharkovskiy V. M., Soyev V. G., Current data on pollution of the Azov and Black seas by oil hydrocarbons, *Bulletin of the Southern Scientific Center*, **10** (4), 49 (2014).
8. Lebedev S. A. Estimation of background pollution by oil products of the Black and Caspian Seas using remote sensing data and model calculations. *Proceedings of the International Scientific and Practical Conference «Ecological Problems of the Present»* (Maykop, 2009), p. 25.
9. Dyatlov S. E., Podpletnaya N. F., Zaporozhets S. A. Variability of the content of oil products in water and bottom sediments of the Odessa region of the northwestern part of the Black Sea, *News of ONU, Ser.: Geographic and geological sciences*, **20** (2), 159 (2015).
10. Petrenko O. A., Zhugailo S. S., Avdeeva T. M., Adzhumerov S. N., The content of oil products in the aquatic environment, bottom sediments and soil of the recreational zone of the city of Kerch and Kosa Tuzla island, *Geopolitics and ecogeodynamics of regions*, **10** (1), 818 (2014).
11. Zagranichny K. A., On the question of the sources and volumes of the receipt of oil components into the Black Sea water area, *The Engineering Bulletin of the Don*, **28** (1), 80 (2014).
12. Țigănuș D., Coatu V., Lazar L., Oros A., Present Level of Petroleum Hydrocarbons in Seawater Associated with Offshore Exploration Activities from the Romanian Black Sea Sector, *Cercetări Marine*, **46**, 98 (2016).