## POLLUTION BY PLASTICS: EXTENT OF THE PROBLEM AND KEY APPROACHES TO ITS EVALUATION

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Recently, due to the rapid development of the chemical and petro-chemical industry, and the growth in consumption of plastic products, the pollution of the World Ocean, as well as land, has become threatening to the ecosystem and human health<sup>1</sup>. UN experts rightly call such pollution "Global by scale and intergenerational by degree of impact." Moreover, plastics are a significant problem not only for the marine environment, but also for coastal and inland areas, where plastic waste propagates by rivers and air currents. There are recent works devoted to the analysis of the chemical reaction pathways of polymer decomposition in seawater<sup>2</sup>, which

makes it possible to model the condition of the anthropogenic marine litter.

In the present work, will be analyzed literature sources on modeling the fate of plastic waste in the environment - including propagation and accumulation on land, in water basins and other environmental objects. As a result, the main elements of the potential model will be revealed: sources of pollution, objects of accumulation, chains of decay products along the propagation paths, criteria for assessing the state of objects and regions. The objectives and principles of the model will be formulated, which will help assess the situation at the levels of regions, countries and the World, in order to support political and technical decision-making.

References

2. Gewert, B., Plassmann, M. M. & MacLeod, M. Pathways for degradation of plastic polymers floating in the marine environment. Environmental Science: Processes & Impacts 17, 1513–1521 (2015).

<sup>1.</sup> Plastic Pollution. Available at: http://plastic-pollution.org/. (Accessed: 29th March 2019)