

<b>Report on the State of the Marine and Coastal Environment in 2015</b>	<b>“Cercetari Marine“ Issue no. 46 bis  Pages 32 - 136</b>	<b>2016</b>
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# **REPORT ON THE STATE OF THE MARINE AND COASTAL ENVIRONMENT IN 2015**

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## SUMMARY

This paper is an outline of the current state of the main components of the marine environment of the Black Sea in 2015. The data is part of the national Environmental State Report. Water temperature in 2015 was 1.68°C higher compared to the reference period (1959-2014). There is an increasing trend of 0.02°C/year throughout the period 1959-2015.

Concerning the seawater transparency, the influence of the Danube in the northern part was strongly felt. The salinity ranged within the characteristic variability range of the Romanian coast, being influenced by the fresh water input. As far as eutrophication indicators are concerned, phosphate concentrations in coastal waters recorded in 2015 values close to those of the reference period of the 1960s, being only slightly higher. It was noted the risk of not achieving the target values for GES of Romanian Black Sea waters in the context of Descriptor 5 (Eutrophication) in transitional waters (phosphates) and coastal and marine waters (inorganic nitrogen). These higher levels can occur due to both river and anthropogenic influence and the emergence of extreme climate phenomena. The results of investigations on heavy metals in water, sediments and biota demonstrated that 77% of the seawater samples, 51% of sediments and 16% of mollusks can be classified as “potentially affected”, reflecting the potential impact of natural or anthropic pressures, generated by coastal or offshore sources and activities. For pesticides, littoral waters were dominated by the presence of PCB52 and HCB, whose concentrations have exceeded the threshold proposed for water in order to define GES, while in sediments higher concentrations were measured for PCB52 and aldrin, especially in the southern area. Petroleum hydrocarbons in coastal and transitional waters, as well in marine sediments also exceeded the variation ranges of 2010-2014. The biological components (phytoplankton, zooplankton, benthos) maintained the same tendency as in previous years. However, it must be noted that algal blooms had lower intensity and frequency compared to previous years. Concerning the marine living resources, in recent years the catches recorded an increasing trend, namely 835 t/2012, 1,711 tons in 2013, 2,231 tons in 2014 and 4,847 tons in 2015 (double compared to 2014 - high Rapa whelk catches).

In conclusion, the evolution of the monitored biotic parameters confirmed the restoration trend of the marine environment in recent years, yet the concentration of contaminants in 2015 recorded higher values compared to the period 2010-2014 (when there was a decreasing trend in overall contamination), probably caused by increased anthropogenic pressures.

**Key-words:** marine environment, eutrophication, contamination, biological components, marine living resources