

INFORMATION-MEASURING SYSTEM OF THE ASSESSMENT THE EUTROPHICATION STATUS OF THE WATER BODY

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Abstract. The paper describes the information-measuring system to assess the eutrophication extent of a water body using the example of the Gulf of Taganrog of the Sea of Azov. This system allows a comprehensive assessment of the eutrophication of the reservoir and its biogenic load. In particular, it includes information capturing by various sensors, system analysis using a variety of devices and technical means, the solution of the most important tasks of environmental monitoring in this field of knowledge and the eutrophic status of the water area forecasting.

- Waters eutrophication is a peculiar phenomenon of the ecosystem, which is achieved by the enrichment of the biogenic organic matter, which, as a rule, stimulates the growth and flowering of algae, and this, in turn, leads to the deterioration in the quality and condition of natural waters. In recent decades, this has become a global environmental problem. Therefore, to develop measures to reduce eutrophication of the water area, first, it is necessary to understand its processes.
- It is important to organize the appropriate system for modeling and forecasting the ecological situation of the water area from the position of eutrophication. The solution to these problems requires the operating reliable information.

The developed information-measuring system to assess the eutrophication extent of a water body is a component of system for environmental monitoring, which includes the following basic procedures:

- the allocation of the monitoring object and its key parameters;
- the research of the allocated water area including: planning and measurements conducting;
- the compilation of a database of the studied water area;
- the construction and verification of the information and mathematical model for the object under the study;
- the assessment of the state of the water from the position of the eutrophication;
- the forecasting of change in the state of the reservoir;
- the systematization of the information received.

The main functions and advantages of this information-measuring system:

- The information about the eutrophic state of the reservoir can come in real time, which makes it possible, if necessary, to conduct the operational analysis of the geo-ecological situation of the water area from the position of the eutrophication.
- When systematizing, the data are presented in a form convenient for the study: mathematical models, graphs, tables, diagrams, maps, equations.
- All received data is accumulated and archived. Thus, a regularly updated database is created, which includes the information search capabilities.
- Mathematical modeling is carried out for the various environmental processes that allow the most complete assessment of the water quality from the position of the eutrophication.
- A detailed analysis and assessment of the water body from the position of the eutrophication is carried out, forecasting tasks are carried out.