

## **Integral values characterizing relative level changes of the Mediterranean and Black Seas**

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Definitions. Changes in the level of various seas are *short-term* and *long-term*. Short-term fluctuations occur due to hydrometeorological reasons and are usually caused by wind and wave storms. Long-term fluctuations of sea level take place as a result of continuous development of the water balance as well as impacts produced by tectonic processes on a geological scale. Long-term fluctuations take place over tens and thousands of years. It is that scale which is applicable to measurement of fluctuations during the last 30,000 years. Such oscillations are called *relative K<sub>y</sub>*, as they represent an algebraic sum of values representing all the causes on which these fluctuations depend. Often such causes are: quantity of water in the sea and tectonic regime of the coast and sea basin. Relative fluctuations and their impact on the coastal zone of the sea will be the subject of our report.

Structure of the values of relative sea-level changes. The quantity of water in the sea ('inflow' elements of the water balance) and the tectonic regime of the coasts and the sea basin do not, always and everywhere, define the resulting value of the relative sea-water fluctuations. There are areas where other factors may contribute considerably to the values of the rates of change. These are: a) changes in the temperature of the dynamic level of the sea; b) fluctuations in water evaporation; c) influx of sediments from various sources; d) compaction of shore and bottom sediments; e) hydraulic isostasy; and many others.

Numerical characteristic of the relative level fluctuations. To evaluate numerically the rate of relative sea-level fluctuation, it is necessary to know the numerical values and sign of each natural process. A first attempt was made to single out such values.

Distribution of numerical values characterizing contemporary level fluctuations along the coasts of the Black Sea and the Sea of Azov. Different physical and geographic conditions along the coasts of the Black Sea and Sea of Azov influence the complex distribution of contemporary values.

Evaluation of the impact of relative sea-level fluctuations on the coasts of the Black Sea and the Mediterranean. Relative fluctuations of the Black Sea and the Mediterranean Sea produce their influence, above all, on the coasts. In this context, importance is attached not only to the parameters of sea-level change but also to the sea coast structure. As the structural elements differ in various coastal areas, the coastal reaction to the effect produced any sea-level change is also different. An attempt is made to define these processes by studying coasts of various parameters.