

**COORDINATING COMMITTEE
ON HYDROMETEOROLOGY AND POLLUTION MONITORING
OF THE CASPIAN SEA (CASPCOM)**

**Information bulletin on the state of the Caspian Sea level
No.7
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The Bulletin on the state of the Caspian Sea level is issued twice a year in accordance with the recommendations of the Coordinating Committee on Hydrometeorology and Pollution Monitoring of the Caspian Sea and is a joint product of hydrometeorological services of the Caspian littoral states.

According to the data presented in the General Catalogue of the Caspian Sea level displayed at CASPCOM website, one can trace two periods in the variations of the Caspian Sea level throughout the past 35 years: 1) rapid increase 1978-1995; 2) slow decrease – 1996-2012 (Fig. 1).

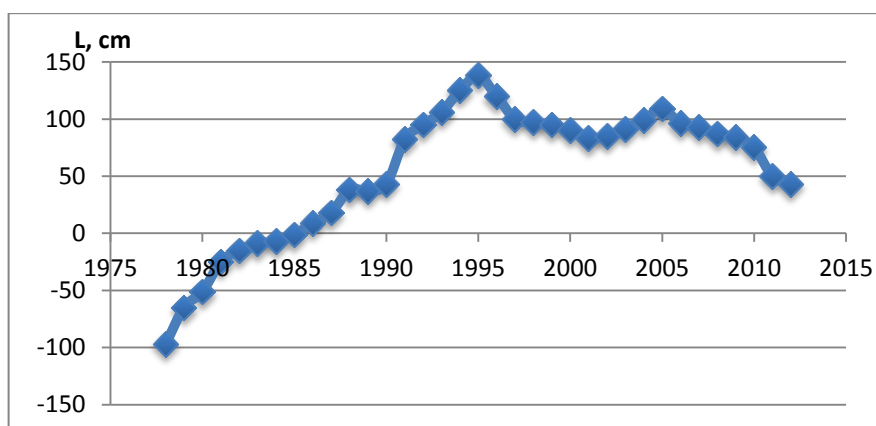


Fig. 1 Changes of the Caspian Sea level (L, cm) throughout 1977-2012

A clearer distinction between the two periods can be traced on the graph of sea level rise increments (Fig. 2). In 1978-1995 they tended to be positive, while in the following years they were negative. The increment graph shows that the changes of water regime were uneven. We can suppose that the following "leap" can result in either a sharp decrease or a steady rise of the sea level.

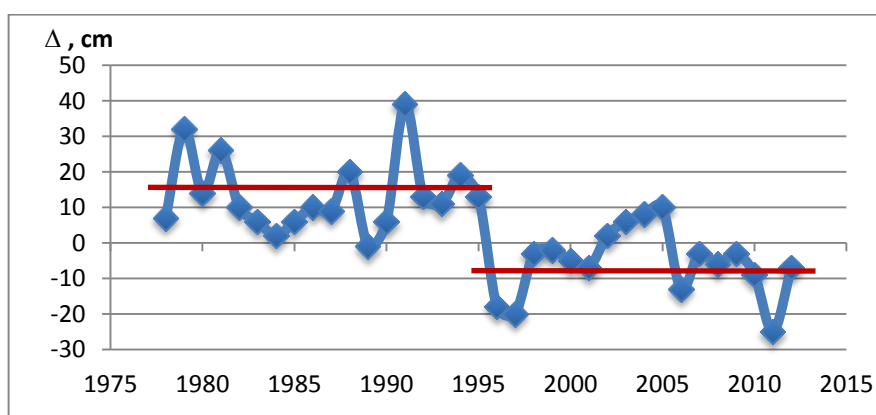


Fig. 2 Changes of increments of the average Caspian Sea level (Δ , cm) throughout 1977 - 2012.

In 2012 the sea level fell by 7 cm against the previous year level and made -27.57 m BS. According to the forecast of Hydrometeorological Centre of Russia, the sea level in 2013 was expected to fall by 3-5 cm. The decrease of the sea level was predicted in spite of the fact that the Volga discharge was expected to exceed normal. The discharge actually exceeded normal and according to the estimates it made 257.2 km³ in the Volga delta top. As it follows from the graphs, presented in Fig. 3, the increments of the sea level are more closely related with the average discharge for 2 years (the current and the previous years). As the discharge in 2012 was below normal, the forecast of Hydrometeorological Centre of Russia can be justified.

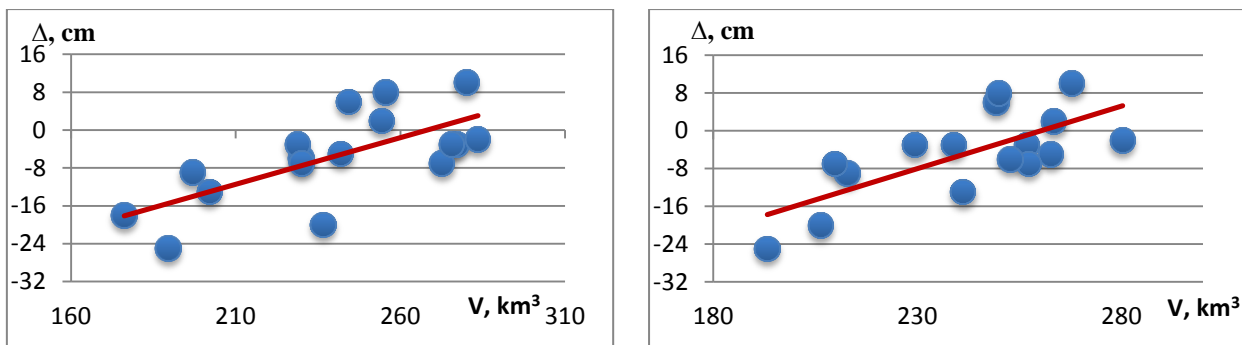


Fig. 3 The dependence of sea level increments (Δ , cm) on the Volga discharge (V , km³) in the current year (on the left) and average discharge of the current and the previous years (on the right).

The graphs presented in Fig. 4 show that in contrast to the two previous years the average sea level ¹ in 2013 "started" and "finished" at the same mark (28 cm or -27.72 m BS).

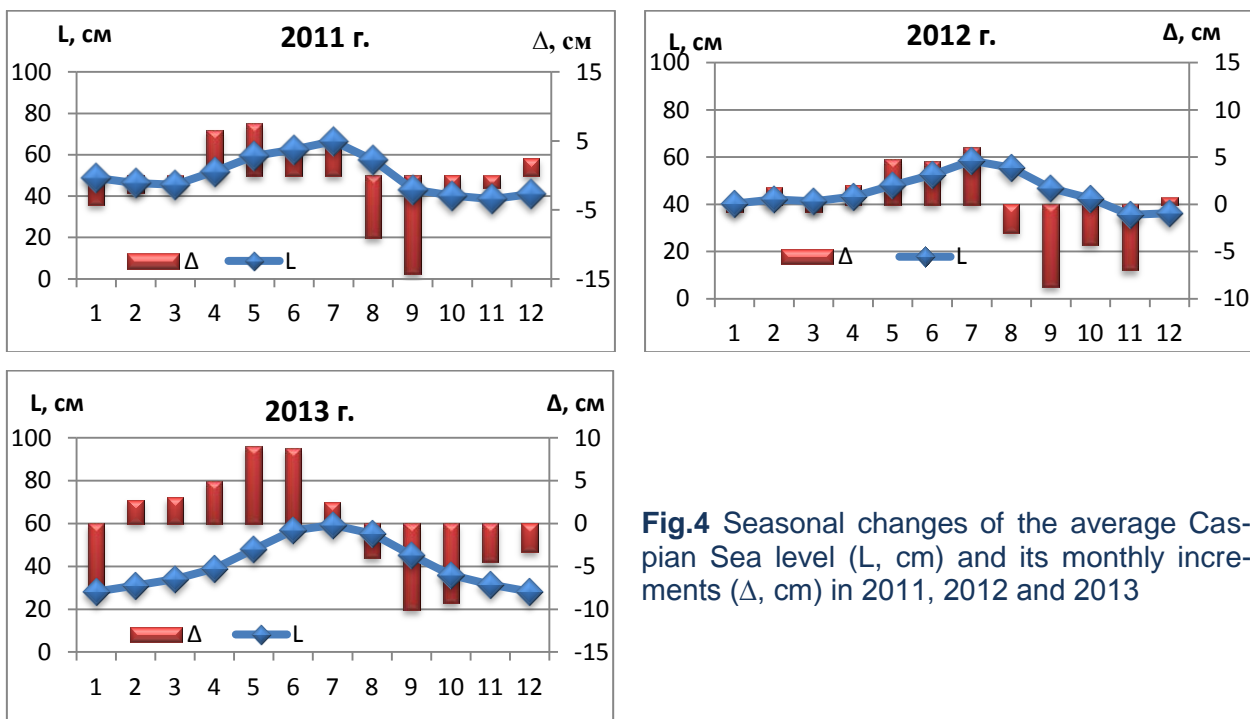


Fig.4 Seasonal changes of the average Caspian Sea level (L , cm) and its monthly increments (Δ , cm) in 2011, 2012 and 2013

¹ To calculate the mean level in this case we have used observations data at 4 posts: Makhachkala, Fort-Shevchenko, Turkmenbashi and Neft Dashlary (Oil Rocks).

The coincidence of "start" and "finish" marks indicates that the fall of the Caspian Sea level in 2013 as compared to 2012 was caused by the decrease of the sea level from December 2012 to January 2013. This winter decrease was registered at the posts located in the northern sector of the sea, but it wasn't observed in the southern sea sector.

Overall the behaviour of the sea level at the posts located in different sea sectors was not homogeneous. The ascending and descending branches of the seasonal trend were either equal or differed from each other. In the last case the ascending branch either exceeded the descending one, or vice versa.

All the facts contained in the Bulletin indicate that the average sea level in 2013 according to the estimates of Hydrometeorological Centre of Russia which are to be published in April 2014 won't significantly differ from sea level in 2012. The sea level is likely to make the mark of -27.60 m BS.

As far as the forecast is concerned, one should take into account the speed of seasonal sea level rise, which usually makes 2-4 cm per month and the 'starting' mark of -27.72 m BS (as indicated above). Consequently we can suppose that the average level of the Caspian Sea in June 2014 will be in the range of absolute marks of -27.40 and -27.50 m B.S.

This bulletin is intended for the authorities, enterprises and organizations and coastal communities as well as for all whose activities are connected with the Caspian Sea. . Its preparation became possible only due to the cooperation of hydrometeorological organizations of the Caspian littoral states. The data of the General Catalogue of the Caspian Sea level elaborated under CASPCOM umbrella were used to compile the bulletin