

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

Information bulletin on the state of the Caspian Sea level  
No.6  
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*The 17th Session of Coordinating Committee on Hydrometeorology and Pollution Monitoring of the Caspian Sea (CASPCOM) which was held in Astana, the Republic of Kazakhstan, on 16-17 October 2012, took a decision to continue issuing of the "Bulletins on the state of the Caspian Sea" twice a year.*

In accordance with the data received from the national hydrometeorological organizations of the Caspian littoral states (NMHSs) and the data published in Bulletin No.36 from 25 April 2013 issued by Hydrometeorological Center of Russia, the average level of the Caspian Sea in 2012 fell by 7 cm as compared to 2011 and measured -27.57 m B.S<sup>1</sup>.

According to the forecast published in the mentioned bulletin of Hydrometeorological Center of Russia, the average level of the Caspian Sea was expected to rise by 32 cm throughout January - June 2013, though by 7 cm lower than in the same period of the last year.

The data received from NMHSs for the preparation of this bulletin for 18 points covering the sea coastline (with the exception of the Azerbaijani coast) show that the seasonal (January - June 2013) sea level rise made 4-43 cm. The level fell by 3-15 cm as compared to the first half of the previous year. The average annual rise of the sea level at century posts amounted to 28 cm, down 10 cm against the last year figures<sup>2</sup>.

According to the forecast issued by Hydrometeorological centre of Russia the average level of the Caspian Sea in 2013 will drop by 3-5 cm against 2012, despite the increased water content in the Volga river. The level rise in the 2nd half of the year as compared to the 1st half expected due to the increased water content in the Volga river will not be so significant as to compensate for the previous decrease of the sea level.

If we consider the water discharges from the Volgograd HPS, the lowest point in the Volga- Kama cascade, then the Volga discharge in the high water period (April - June 2013) rose by 11% above normal<sup>3</sup>. The discharge volume in the second quarter made 125.3 km<sup>3</sup> and was higher than that in 2011 by 48 km<sup>3</sup> and in 2012 by 27 km<sup>3</sup> (fig. 1).

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<sup>1</sup> To calculate the mean value of the sea level for the whole sea water area we have used observations data at "century" posts: Baku, Neft Dashlary (Oil Rocks), Makhachkala, Fort-Shevchenko, Guvlymayak (Kuuli-Mayak), Turkmenbashi (Krasnovodsk), Garabogaz (Kara-Bogaz-Gol).

<sup>2</sup> To calculate the mean level in this case we have used observations data at 3 "century" posts: Makhachkala, Fort-Shevchenko, Turkmenbashi (Krasnovodsk)

<sup>3</sup> The normal value was calculated for the period 1961 - 1990.

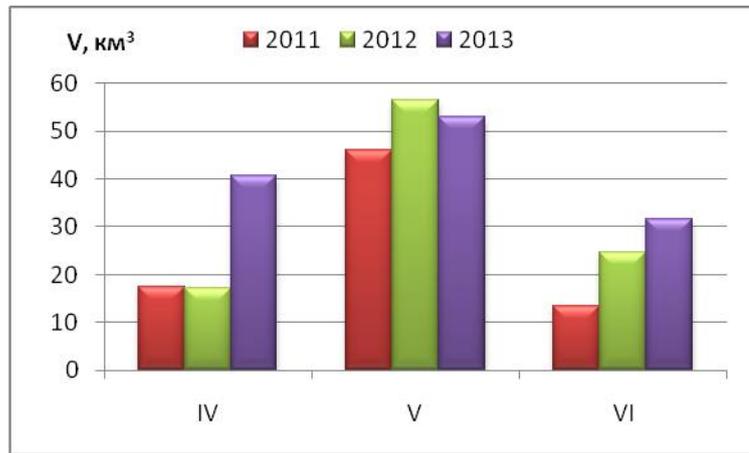


Fig. 1. Water discharges from Volgograd HPS ( $V, \text{km}^3$ ) throughout April - June 2011 - 2013.

The trend of the Caspian Sea level fall can be clearly traced starting from 2006. Throughout 2006 - 2012 the rate of sea level fall (cm per month) in the second year half was higher than the rate of sea level rise in the first year half. In 2010 the rate of sea level fall in the period July - December made 6 cm per month, in 2011 - 5 cm per month, and in 2012 - 4 cm per month (Fig. 2).

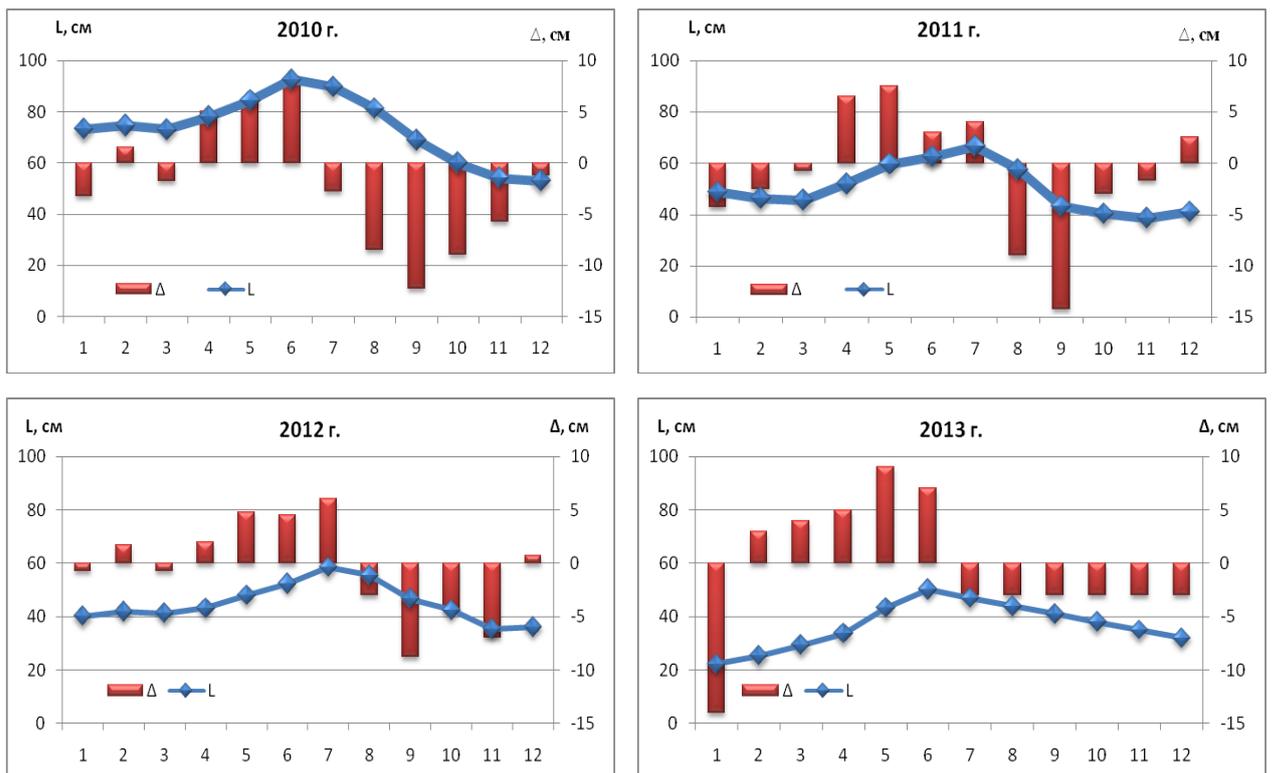


Fig.2. Seasonal changes of the average Caspian Sea level ( $L, \text{cm}$ ) and its monthly increment ( $\Delta, \text{cm}$ ) in 2010 -2013. The expected sea level change for the 2nd half of 2013 is predicted based on the assumption that the average rate of sea level decrease would make 3 cm a month.

If one takes into account the actual water content in the Volga river in the first half of 2013 one could suppose that the rate of sea level fall in the second half of 2013 will be lower than in 2012 and will make about 3 cm a month (Fig. 2). If we base upon these figures, then the average level of the Caspian Sea in 2013 will fall by 6 cm as compared to the previous year and will make -27.63 cm 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*