

COORDINATING COMMITTEE ON HYDROMETEOROLOGY OF THE CASPIAN SEA (CASPCOM)

Information bulletin on the state of the Caspian Sea level
No.14
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In accordance with the data received from the National Hydrometeorological Organizations of the Caspian littoral states (NMHS) published in Bulletin of Hydrometeorological Centre of Russia No. 36 from 02 May 2017, the mean level of the Caspian Sea in 2016 fell by 1 cm as compared to 2015 and measured -27.99 m^1 .

According to the forecast of the Hydrometeorological Centre of Russia published in that bulletin, it was expected that the mean level of the Caspian Sea in the first half of 2017 would be by 2 cm higher than in the same period of the previous year, and the seasonal increase of the mean level from January to June would make 24 cm.

The data received from the NMHSs for the preparation of this Bulletin show that the mean sea level ² in the first half of 2017 was by 2 cm higher than in 2016, which is in accordance with the forecast, and its seasonal (from January to July) increase at coastal gauges ranged from 4 to 54 cm and on average measured 20 cm. Caspian Sea level cycle in the first six months of the current year can be traced by CMEMS (Copernicus Marine Environment Monitoring Service) satellite data (Fig. 1).

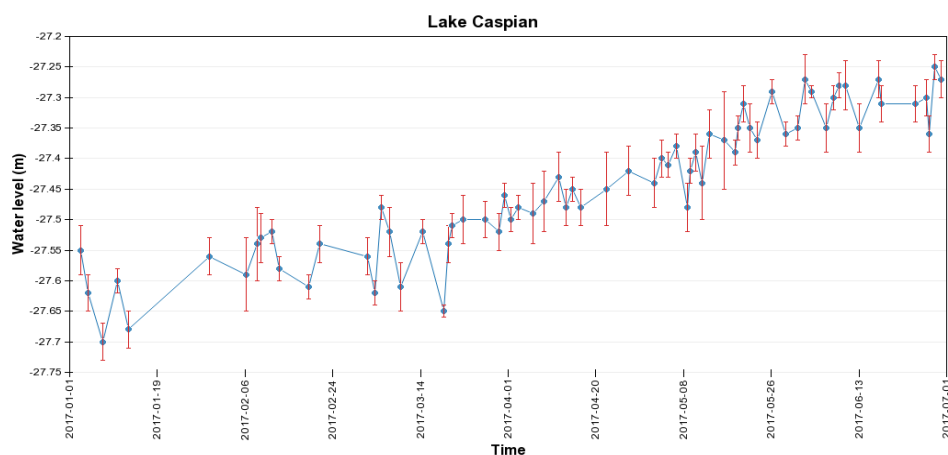


Fig. 1 Changes of the Caspian Sea level in the first half of 2017 according to CMEMS data

By the forecast of the Hydrometeorological Centre of Russia, the mean Caspian Sea level in 2017 will remain at the same elevation as in 2016 $\pm 5 \text{ cm}$, that is will measure approximately -28.0 m B.S. This mark can be expected due to the Volga flood, although not so high as last year, but abnormally extended due to extensive precipitation in the Volga basin during the summer period.

¹ 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).

² To calculate the mean level in this case we have used observations data at 4 posts: Neft Dashlary (Oil Rocks), Makhachkala, Fort-Shevchenko, Turkmenbashi (Krasnovodsk).

The seasonal run of the Caspian Sea level in 2016-2017 differs considerably from the two previous low-water years (Fig. 2)/ It shows that the interannual sea level variations shift from negative to positive, which is in compliance with the experimental Caspian Sea level forecast up to 2025, based on analysis and modelling of the long-term time series given in the General Catalogue of the Caspian Sea Level³.

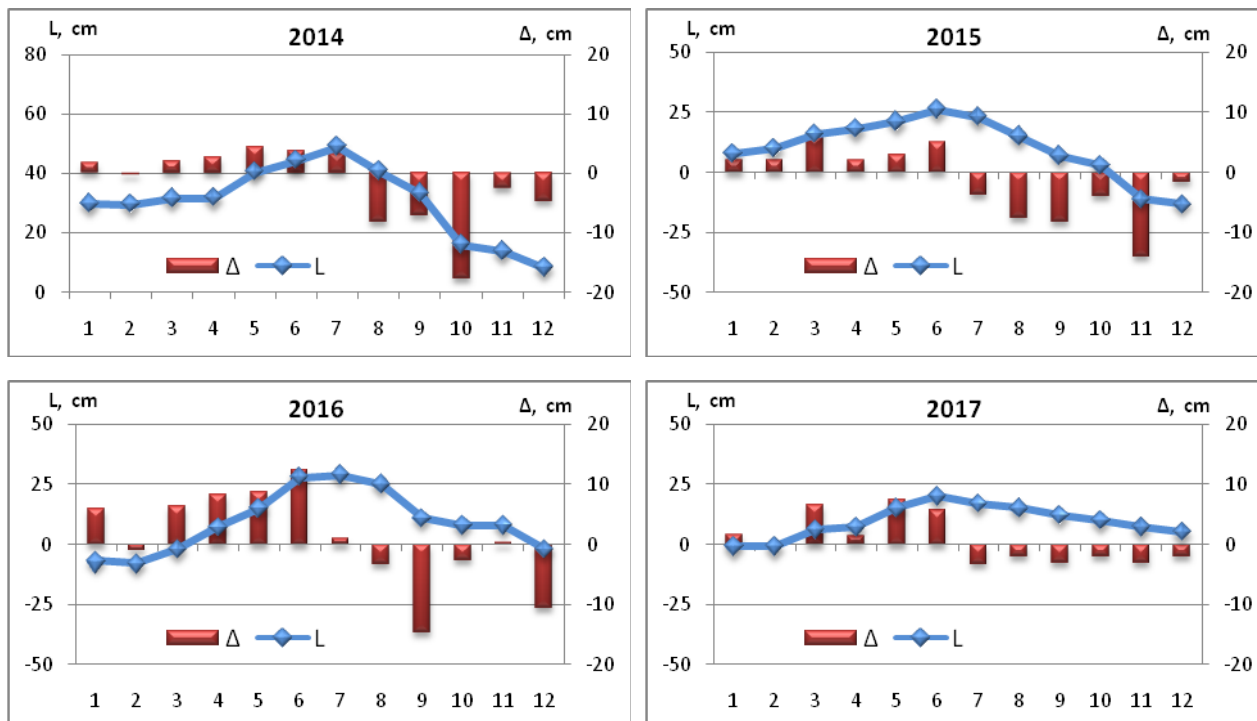


Fig.2. Seasonal variations of the mean Caspian Sea level (L, cm) and its monthly increment (Δ , cm) in 2014 -2017. The expected sea level change for the 2nd half of 2017 is forecast based on the assumption that the average rate of sea level fall would make 2-3 cm a month.

With account of the actual water content in the Volga river and the prolonged flood observed in the current year one could suppose that the rate of seasonal sea level fall in the second half of 2017 will measure about 2-3 cm a month (Fig. 2). If we base upon these figures, then the mean level of the Caspian Sea in 2017 will rise by 3-4 cm as compared to the previous year and will make -27.95.m B.S. at absolute marks.

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 exclusively 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

³ The forecast was published in Annex to Information Bulletin on the State of the Caspian Sea Level No 10 dated 5 October 2015.