



**MINISTRY OF ECOLOGY AND NATURAL RESOURCES OF
THE REPUBLIC OF KAZAKHSTAN
RSE «KAZHYDROMET»**

SCIENTIFIC RESEARCH CENTER

CASPIAN SEA WEEKLY BULLETIN 1

December 31, 2025, Friday

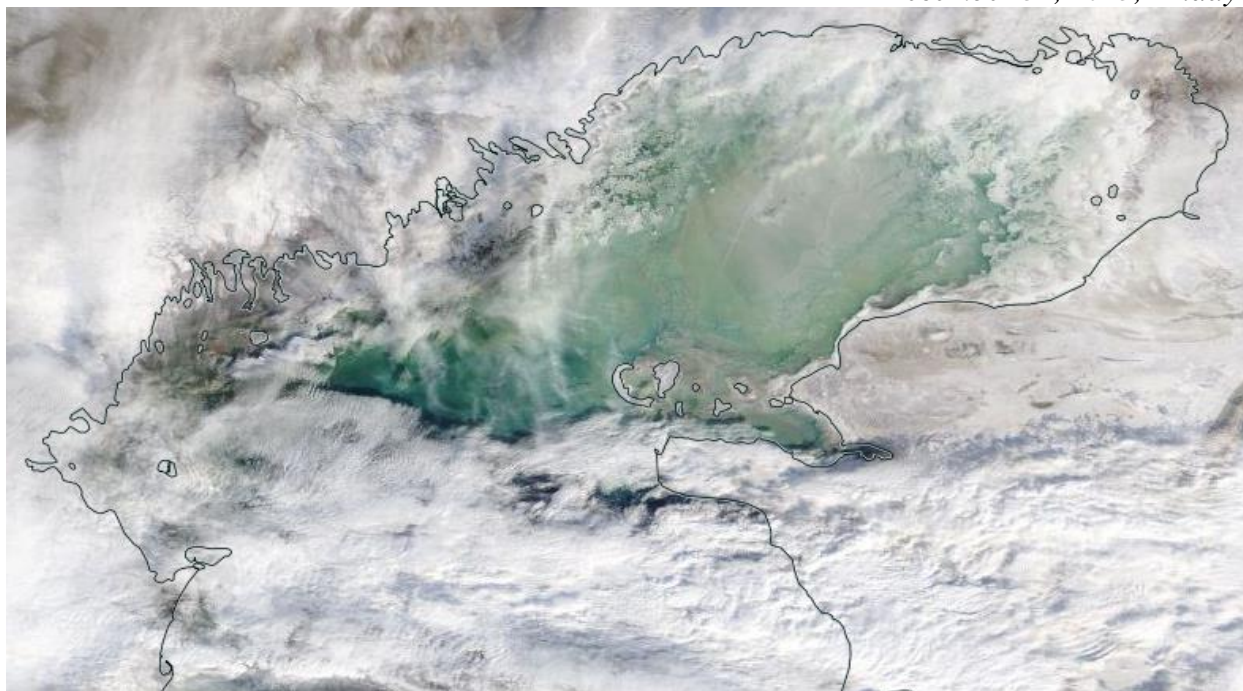


Fig.1 Space image of the Caspian Sea, December 26, 2025 (NASA/GSFC)

**FORECAST OF LEVEL AND SURGE PHENOMENA IN THE MIDDLE
PART OF THE CASPIAN SEA ON DECEMBER 30, 2025 – JANUARY 04,
2026**

SEA LEVEL.

In the period on December 30 – January 04, the sea level is expected to fluctuate around the mark of minus 29.62 m BS. The range of fluctuations in sea level is from minus 29.26 m to minus 29.94 m.

Figure 2 shows a graph of the predicted sea level values at various points in the Middle part of the Caspian Sea.

SURGE PHENOMENA.

In the area of Fort Shevchenko, Kuryk, Aktau, Saura, Kuryk, Fetisovo and Makhachkala, surge events are not expected, sea level fluctuations will not exceed **14 cm.**

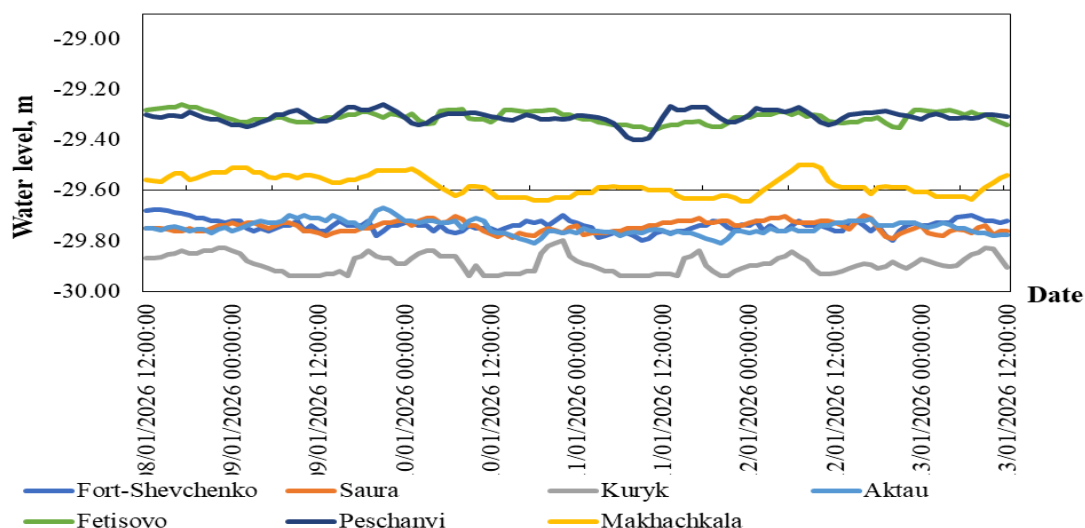


Fig. 2 Forecast of sea level in the points of the Middle Caspian

FORECAST VALUES OF SEA LEVEL FLUCTUATIONS AT VARIOUS POINTS OF THE KAZAKHSTANI COAST

| Point name | Maximum | | Minimum | | Average |
|--------------------|--------------------------------|------------------------|--------------------------------|------------------------|--------------------------------|
| | Level, sm (m BS) | date, time, GMT* | Level, sm (m BS) | date, time, GMT* | Level, sm (m BS) |
| Middle Part | | | | | |
| Fort-Shevchenko | -166 (-29,66) | 01/01/2026 15:00:00 | -180 (-29,80) | 02/01/2026 15:00:00 | -172 (-29,72) |
| Saura | -165 (-29,65) | 31/12/2025 09:00:00 | -176 (-29,76) | 04/01/2026 09:00:00 | -171 (-29,71) |
| Kuryk | -181 (-29,81) | 02/01/2026 06:00:00 | -194 (-29,94) | 30/12/2025 14:00:00 | -189 (-29,89) |
| Aktau | -163 (-29,63) | 04/01/2026 11:00:00 | -177 (-29,77) | 01/01/2026 12:00:00 | -172 (-29,72) |
| Fetisovo | -122 (-29,22) | 31/12/2025 00:00:00 | -136 (-29,36) | 04/01/2026 05:00:00 | -130 (-29,30) |
| Peschanyi | -150 (-29,50) | 03/01/2026 07:00:00 | -164 (-29,64) | 02/01/2026 23:00:00 | -158 (-29,58) |
| Makhachkala | -126 (-29,26) | 02/01/2026 21:00:00 | -140 (-29,40) | 02/01/2026 03:00:00 | -131 (-29,31) |

GMT* - Greenwich Mean Time

REVIEW

CASPIAN SEA WATER STAGE FROM DECEMBER 23 – 29, 2025

According to the operational data of the sea stations of Kazhydromet: Fort-Shevchenko, Aktau, Fetisovo and Roshydromet (Makhachkala), the average value of the level of the Caspian Sea, in its deep part, corresponded to minus 29.41 m, the maximum minus 29.13 m, the minimum minus 29.78 m.

REVIEW OF ICE CONDITIONS IN THE CASPIAN SEA, December 23 – 29, 2025

Satellite imagery (Figure 1) and operational data from marine stations and observatories along the northern coast of the Caspian Sea indicate the formation of an ice cover.

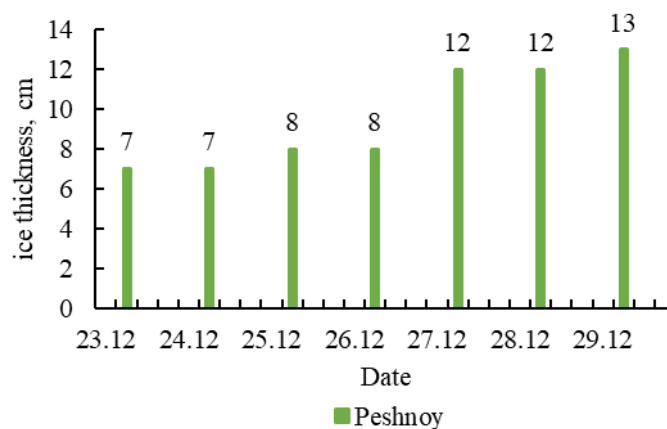


Fig. 3 Ice thickness according to operational data of marine stations

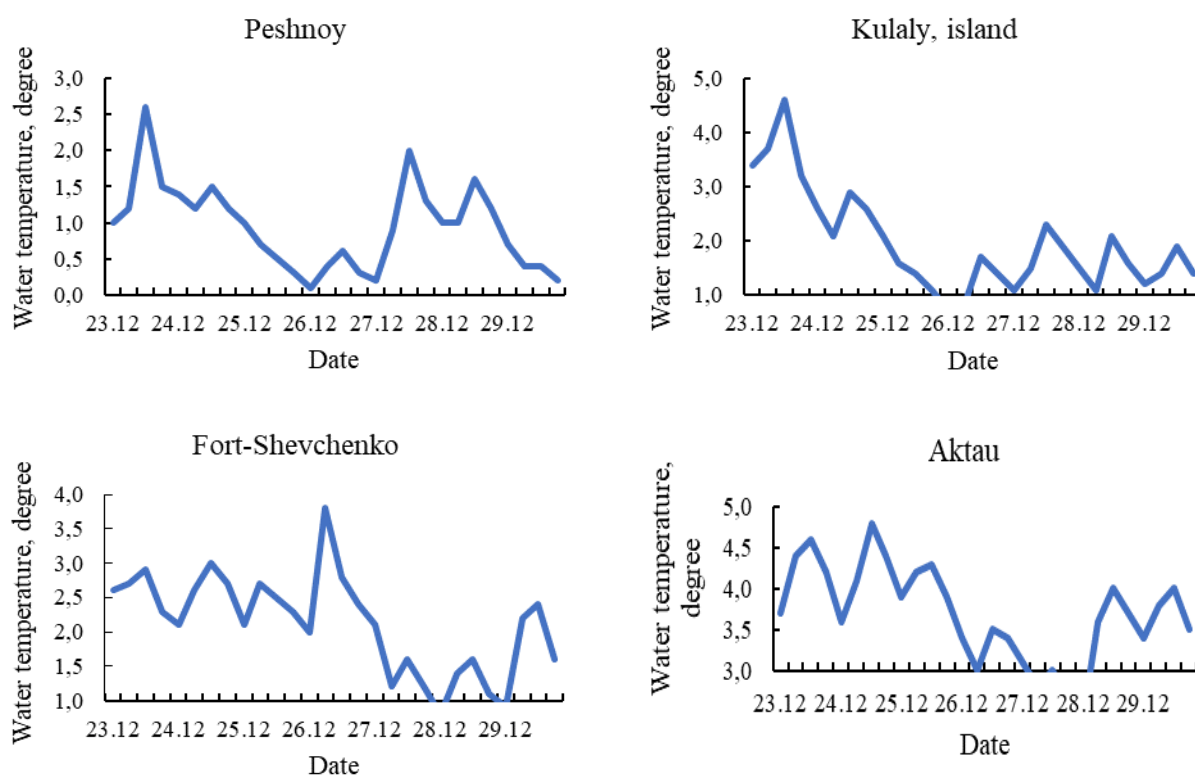


Fig. 4 Water temperature varies according operative data from Caspian Sea stations

CRITERIA OF DANGER OF THE STORM SURGES IN THE NORTHEAST COAST

| | Rise/Fall, cm | Characteristic*** | Consequences |
|------------|------------------|-------------------|--|
| Up surge | 50 | Critical | Flooded coast area to 5 km |
| | 65 | Danger | Flooding and flooding of dams and buildings up to 10 km |
| | 110 | Especially danger | Flooding of the coast for more than 10 km, destruction of dams and buildings |
| Down surge | -50 | Critical | worsening navigation conditions for small ships |
| | -65 | Danger | Worsening of navigation conditions for small and medium-sized ships |
| | -100 | Especially danger | Ships would be aground |

** The calculated characteristics were obtained using the hydrodynamic module of the MIKE 21 Flow Model, adapted in RSE "Kazgidromet" to the conditions of the Caspian Sea. Data of sea level measurements and pressure field numerical forecasting for 24 –120 hours were used in computation.*

*** At definition of characteristic marks local conditions were considered.*

**** Critical – 50 % frequency, danger – 25 % frequency, especially danger– 2 % frequency. The calculation was carried out for the period 1940-2020 according to the data of Peshnoy station.*

BS – Baltic System

The bulletin was compiled by the Department of Hydrometeorological Research of the Caspian Sea

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When using materials of the bulletin the link to RSE "Kazhydromet" is obligatory