

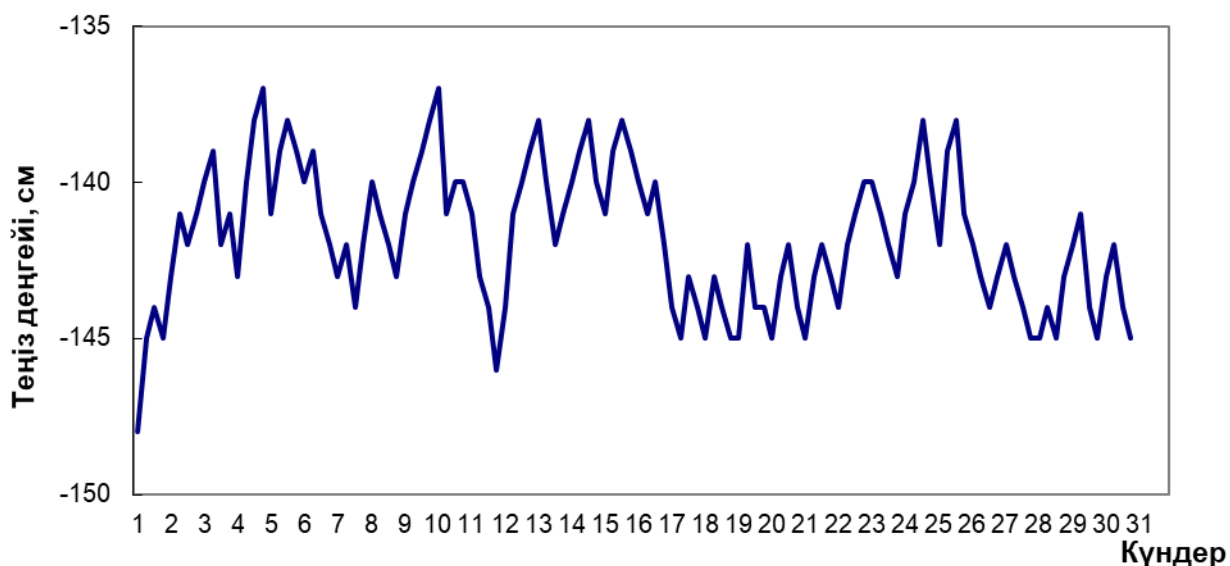


**MINISTRY OF ECOLOGY AND NATURAL RESOURCES  
OF THE REPUBLIC OF KAZAKHSTAN  
RSE «KAZHYDROMET»**

**RESEARCH CENTER**

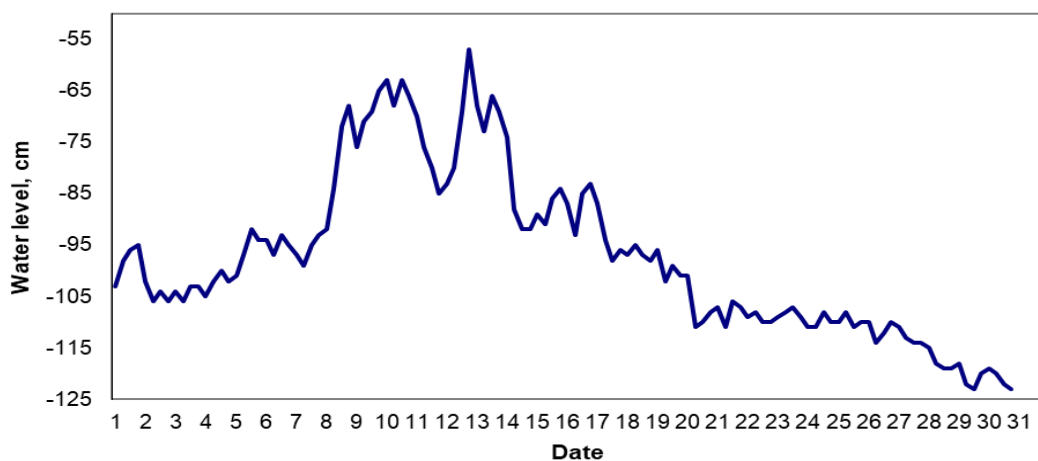
**OVERVIEW OF UP SURGE AND DOWN SURGE EVENTS  
in September 2026**

**Kulaly**



The runup and surge level fluctuations did not exceed 11 cm. The sea level change during the month varied from minus 29.48 m BS to minus 29.37 m BS.

**Peshnov**



| Date          | Level rise,<br>cm | Level fall,<br>cm | Prevailing wind direction, rhumb | Maximum wind speed, m/s |
|---------------|-------------------|-------------------|----------------------------------|-------------------------|
| 07-08.09.2026 | 31                |                   | WSW                              | 10                      |
| 10-11.09.2026 |                   | 19                | W, NW                            | 6                       |
| 13-14.09.2026 |                   | 26                | E                                | 4                       |
| 16-17.09.2026 |                   | 15                | W                                | 6                       |

- On September 07–08, a sea level rise of 31 cm was observed, from minus 28.99 m BS to minus 28.68 m BS. Wind speed reached 10 m/s, predominantly from the west-southwest;

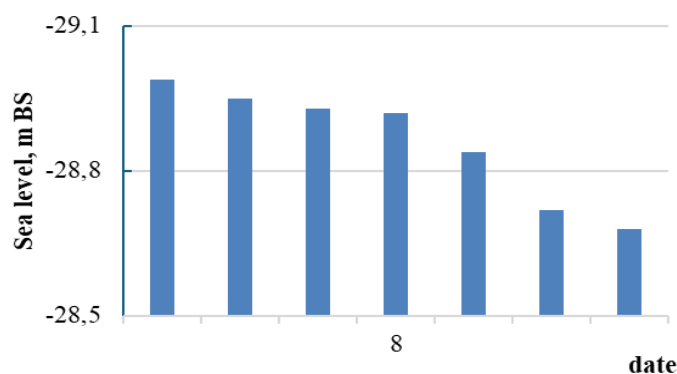


Figure 1. Graph of sea level changes in Peshnoy on September 07-08, 2026

- On September 10–11, a sea level drop of 19 cm was observed, from minus 28.66 m BS to minus 28.85 m BS. Wind speed reached 6 m/s, predominantly from the west-northwest;

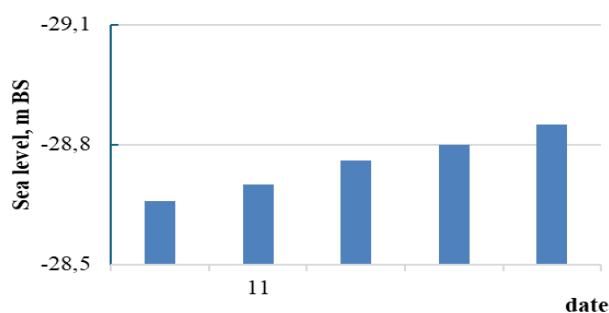


Figure 2. Graph of sea level changes in Peshnoy on September 10-11, 2026

- On September 13–14, a sea level drop of 26 cm was observed, from minus 28.66 m BS to minus 28.92 m BS. Wind speed reached 4 m/s, predominantly from the east;

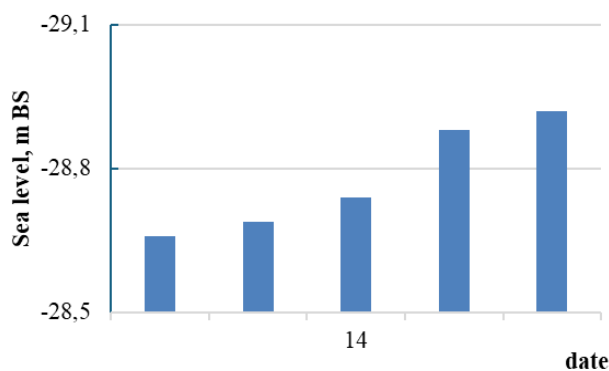


Figure 3. Graph of sea level changes in Peshnoy on September 13-14, 2026

- On September 16–17, a sea level drop of 15 cm was observed, from minus 28.83 m BS to minus 28.98 m BS. Wind speed reached 6 m/s, predominantly from the west;

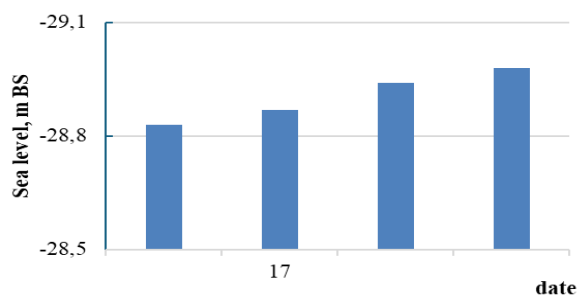
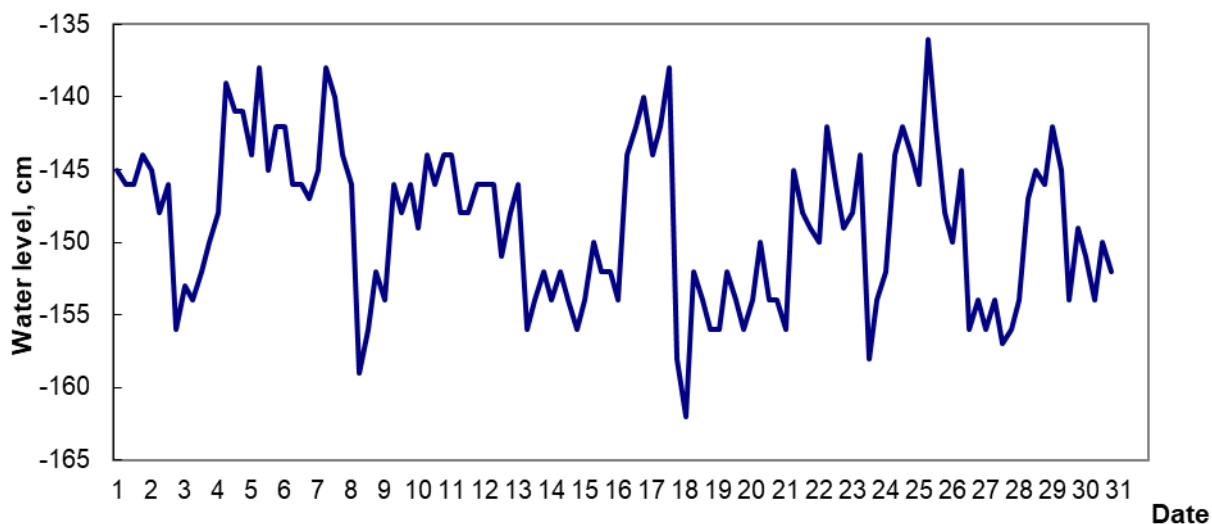


Figure 4. Graph of sea level changes in Peshnoy on September 16-17, 2026

### Fort-Shevchenko



| Date          | Level rise, cm | Level fall, cm | Prevailing wind direction, rhumb | Maximum wind speed, m/s |
|---------------|----------------|----------------|----------------------------------|-------------------------|
| 03-04.09.2026 | 15             |                | SE                               | 7                       |
| 07-08.09.2026 |                | 21             | NW                               | 10                      |
| 17-18.09.2026 |                | 24             | N                                | 4                       |
| 23-24.09.2026 | 16             |                | SE                               | 10                      |

- On September 03–04, a sea level rise of 15 cm was observed, from minus 29.54 m BS to minus 29.39 m BS. Wind speed reached 7 m/s, predominantly from the southeast;

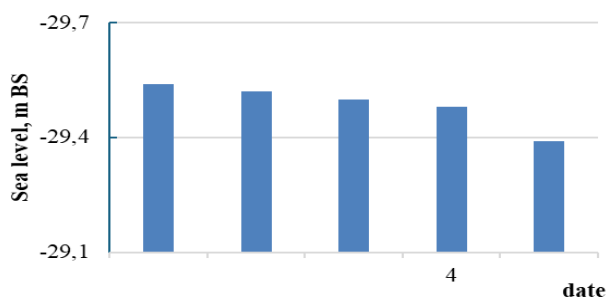


Figure 5. Graph of sea level changes in Fort-Shevchenko on September 03-04, 2026

- On September 07–08, a sea level drop of 21 cm was observed, from minus 29.38 m BS to minus 29.59 m BS. Wind speed reached 10 m/s, predominantly from the northwest;

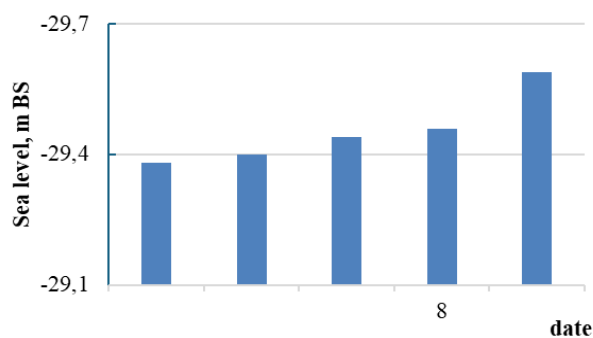


Figure 6. Graph of sea level changes in Fort-Shevchenko on September 07-08, 2026

- On September 17–18, a sea level drop of 24 cm was observed, from minus 29.38 m BS to minus 29.62 m BS. Wind speed reached 4 m/s, predominantly from the north;

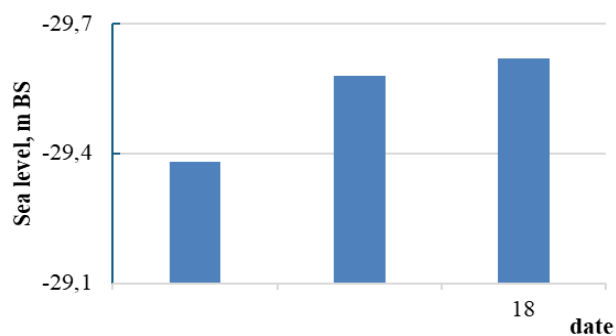


Figure 7. Graph of sea level changes in Fort-Shevchenko on September 17-18, 2026

- On September 23–24, a sea level rise of 16 cm was observed, from minus 29.58 m BS to minus 29.42 m BS. Wind speed reached 10 m/s, predominantly from the southeast;

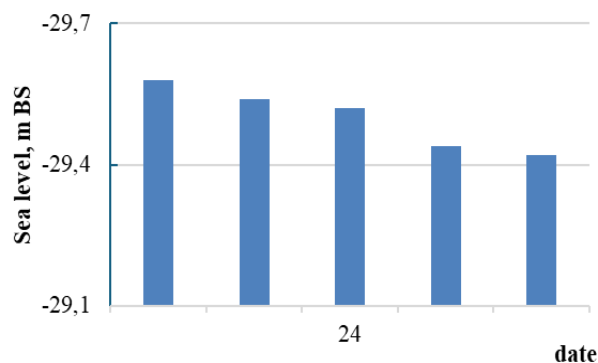
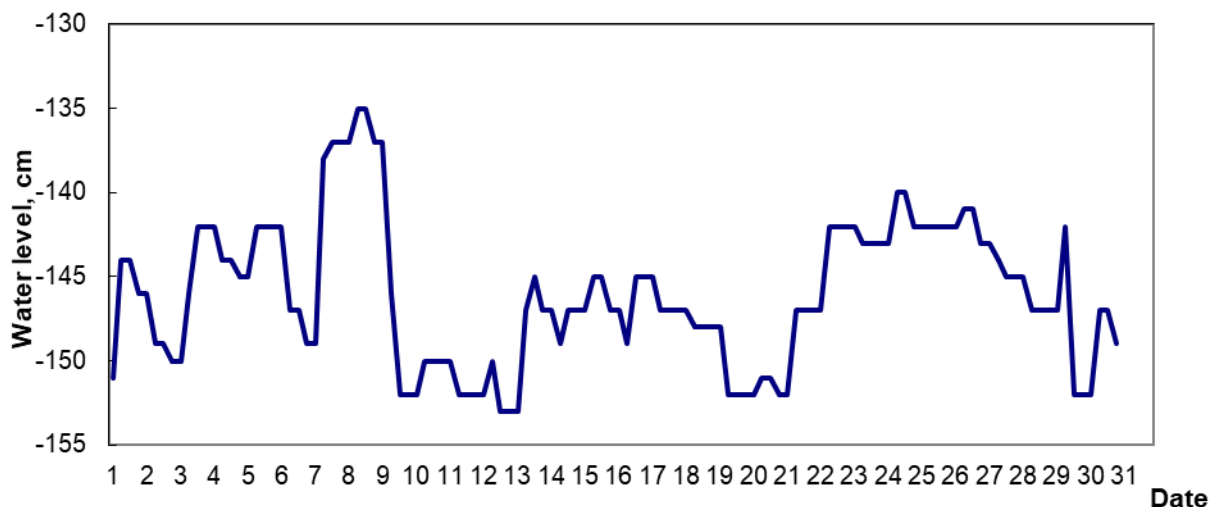


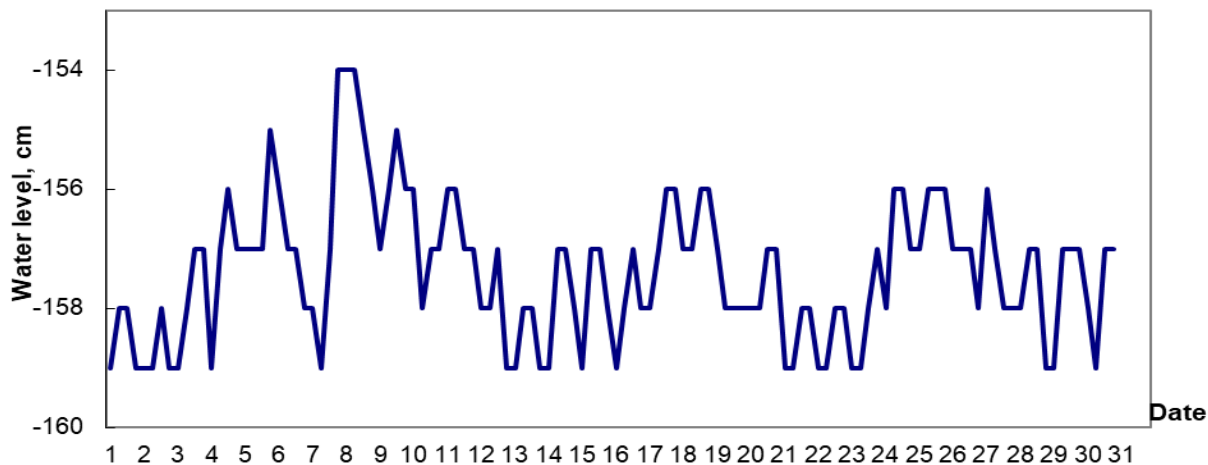
Figure 8. Graph of sea level changes in Fort-Shevchenko on September 23-24, 2026

### Saura



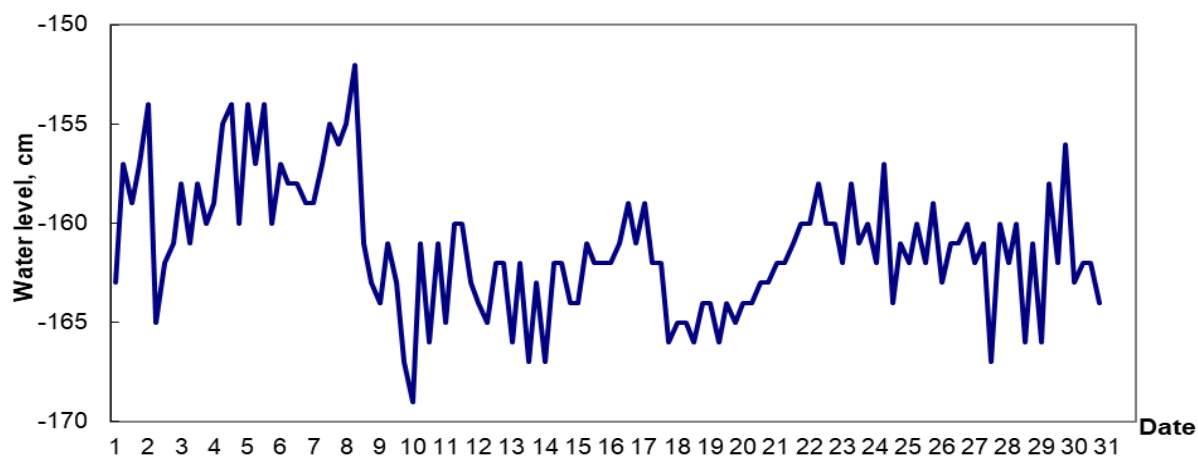
The runup and surge phenomena were not recorded. The sea level change during the month varied from minus 29.53 m BS to minus 29.35 m BS.

### Peschany



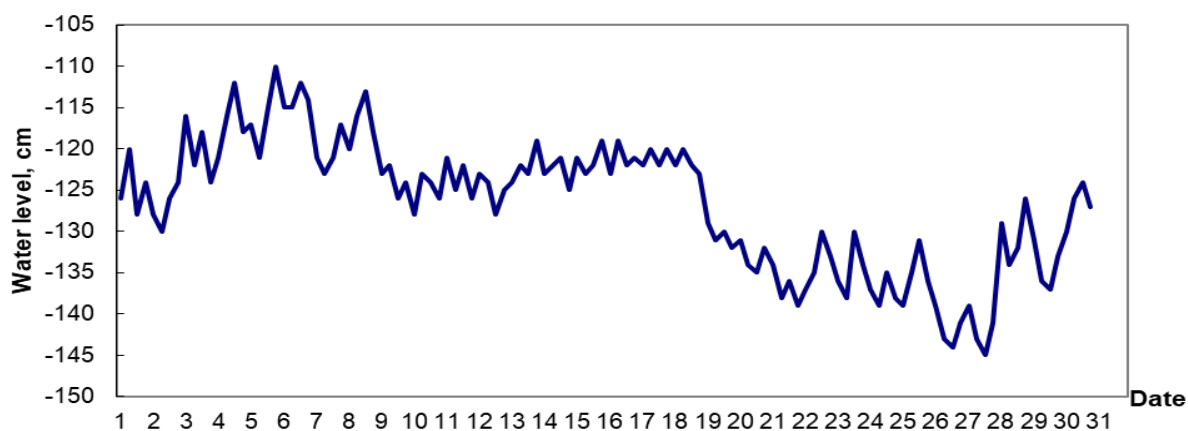
The runup and surge level fluctuations did not exceed 5 cm. The sea level change during the month varied from minus 29.59 m BS to minus 29.54 m BS.

### Aktau



The runup and surge phenomena were not recorded. The sea level change during the month varied from minus 29.69 m BS to minus 29.52 m BS.

### Fetisovo



| Date          | Level rise, cm | Level fall, cm | Prevailing wind direction, rhumb | Maximum wind speed, m/s |
|---------------|----------------|----------------|----------------------------------|-------------------------|
| 27-28.09.2026 | 16             |                | B                                | 6                       |

- On September 27–28, a sea level drop of 16 cm was observed, from minus 29.45 m BS to minus 29.29 m BS. Wind speed reached 6 m/s, predominantly from the east;

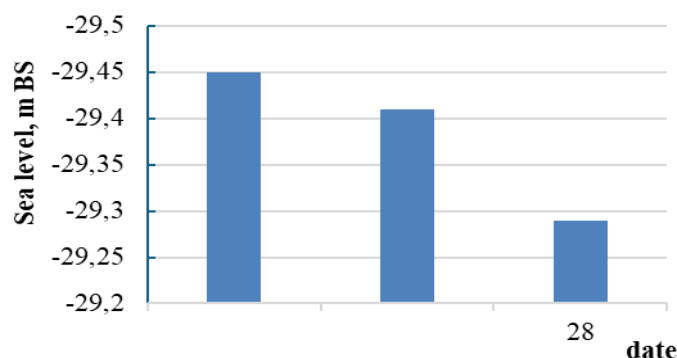


Figure 9. Graph of sea level changes in Fetisovo on September 27-28, 2026

*Note:*

*Analysis of the Zhanbay upsurge and downsurge events was not performed due to the receipt of hydrometeorological data with gaps.*

### STORM SURGE HAZARD CRITERIA FOR THE NORTHEASTERN COASTLINE

|            | Rise/Fall,<br>cm ** | Characteristic*** | Consequences                                                                 |
|------------|---------------------|-------------------|------------------------------------------------------------------------------|
| up surge   | 49                  | Critical          | flooded coast area to 5 km                                                   |
|            | 60                  | Danger            | flooding and flooding of dams and buildings up to 10 km                      |
|            | 109                 | Especially danger | flooding of the coast for more than 10 km, destruction of dams and buildings |
| down surge | -46                 | Critical          | worsening navigation conditions for small ships                              |
|            | -60                 | Danger            | worsening of navigation conditions for small and medium-sized ships          |
|            | -104                | Especially danger | ships would be aground                                                       |

*Note:*

*The calculated characteristics were obtained using the hydrodynamic module of the MIKE 21 Flow Model, adapted in RSE “Kazhydromet” to the conditions of the Caspian Sea.*

*\*\*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 1940-2024 according to the data of Peshnoy station.*

*BS – Baltic System*

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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*

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