

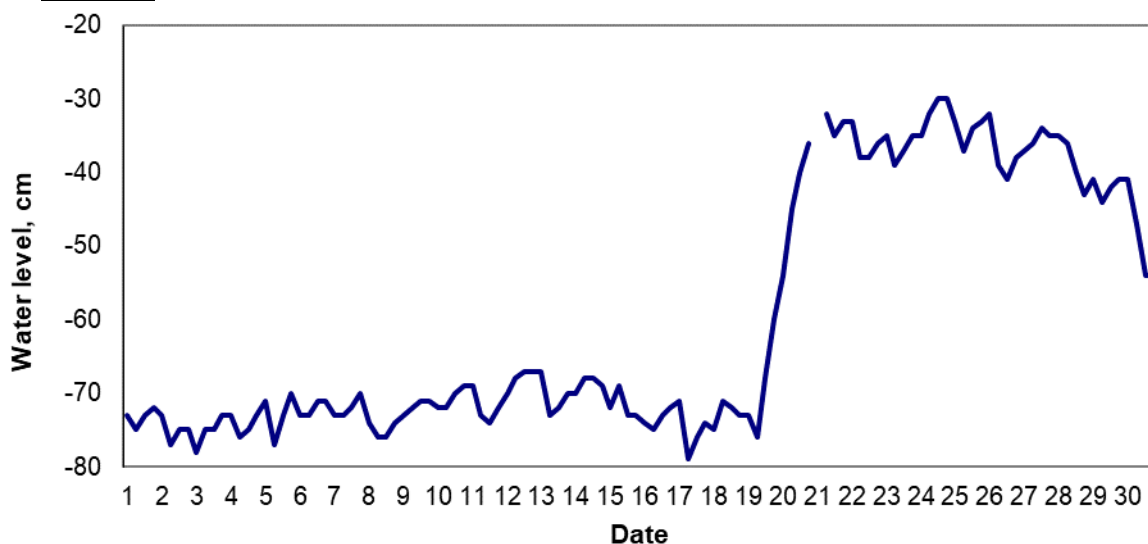


**MINISTRY OF ECOLOGY AND NATURAL RESOURCES
OF THE REPUBLIC OF KAZAKHSTAN
RSE «KAZHYDROMET»**

RESEARCH CENTER

**OVERVIEW OF UP SURGE AND DOWN SURGE EVENTS
in June 2025**

Peshnoy



Date	Level rise, cm	Level fall, cm	Prevailing wind direction, rhumb	Maximum wind speed, m/s
19-21.06	44		SW	16

- On 19-21 June, a sea level rise by 44 cm was observed from minus 28.76 m BS to minus 28.32 m BS. The wind speed reached 16 m/s, predominantly from the southwest directions;

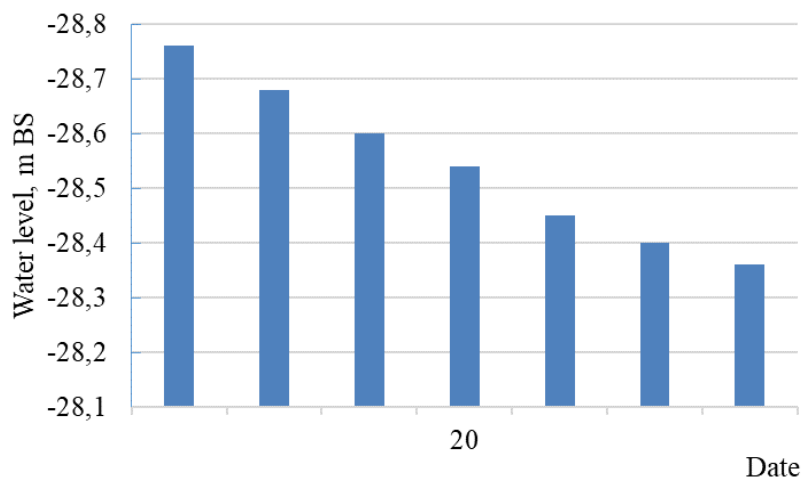
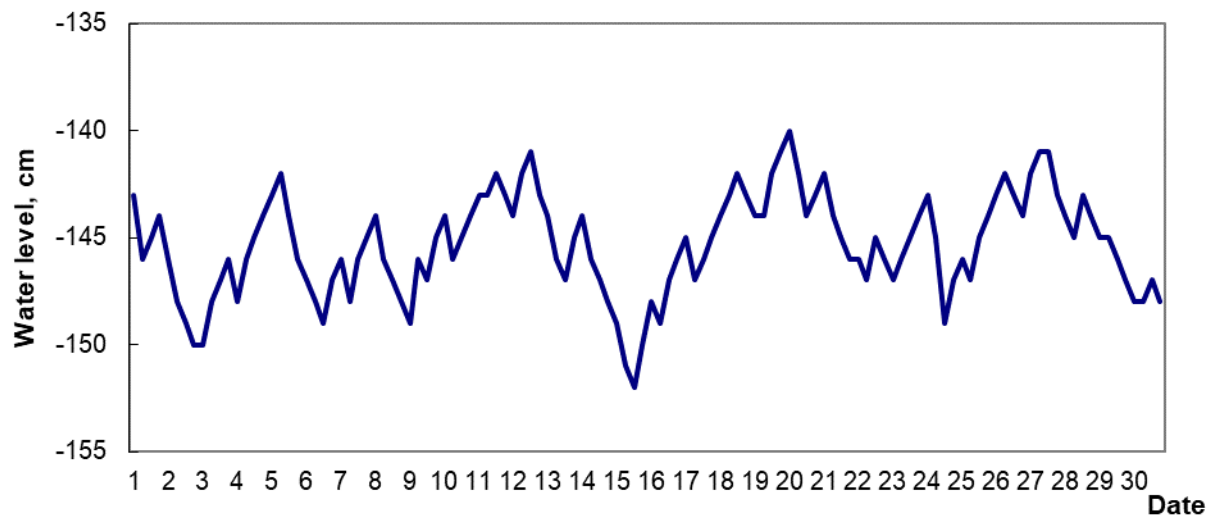


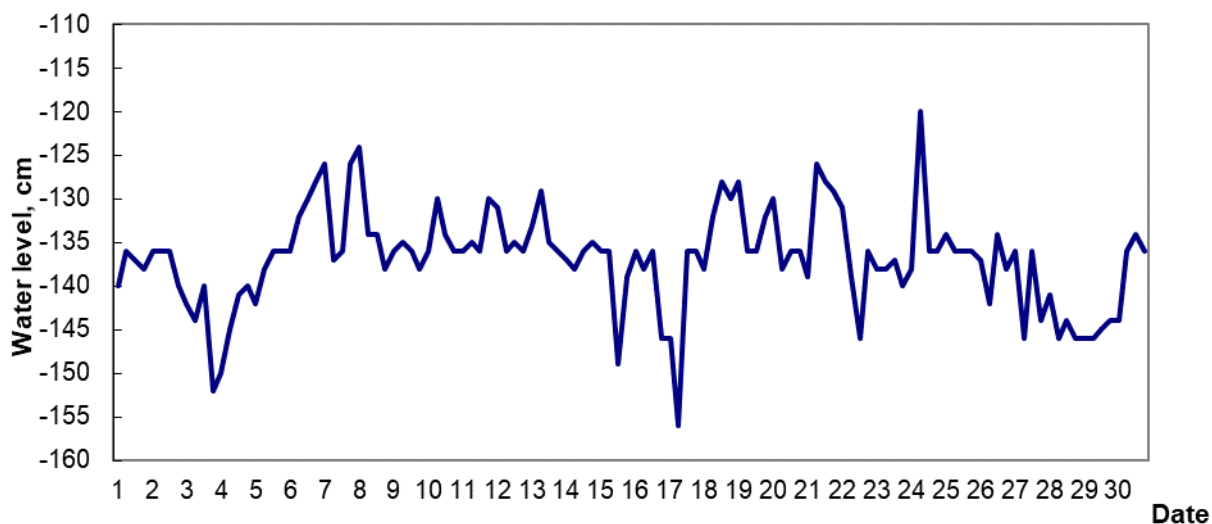
Figure. Graph of sea level changes in Peshnoy on June 19-21, 2025.

Kulaly, island



The runup and surge level fluctuations did not exceed 12 cm. The sea level change during the month varied from minus 29.52 m BS to minus 29.40 m BS.

Fort-Shevchenko



Date	Level rise, cm	Level fall, cm	Prevailing wind direction, rhumb	Maximum wind speed, m/s
17.06	20		N	7
23-24.06	20		SW	12

- On 17 June, a sea level rise by 20 cm was observed from minus 29.56 m BS to minus 29.36 m BS. The wind speed reached 7 m/s, predominantly from the north direction;

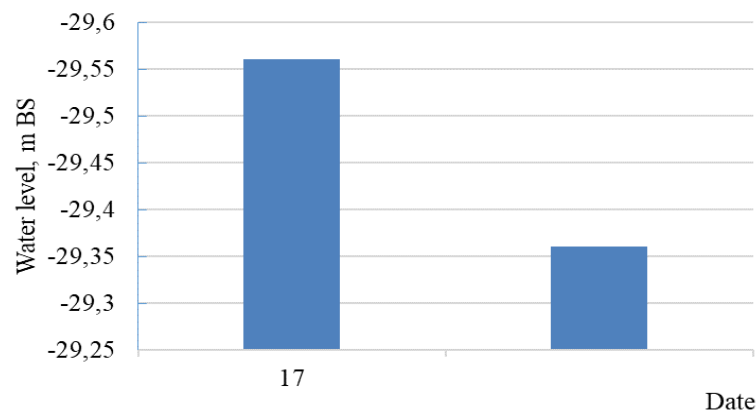


Figure. Graph of sea level changes in Fort-Shevchenko on June 17, 2025.

- On 23-24 June, a sea level rise by 20 cm was observed from minus 29.40 m BS to minus 29.20 m BS. The wind speed reached 12 m/s, predominantly from the north direction;

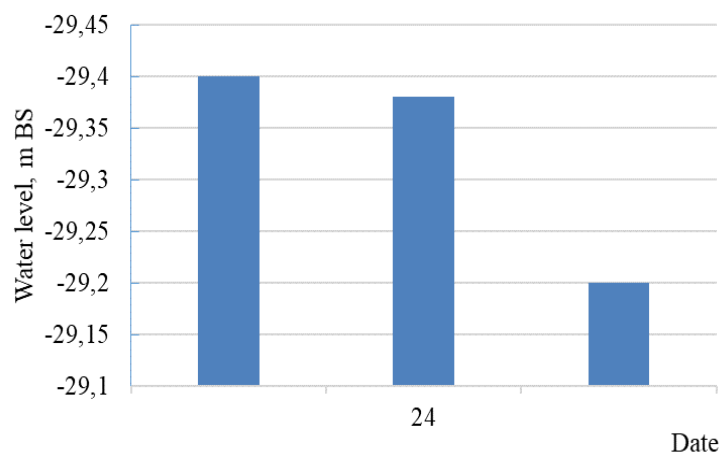
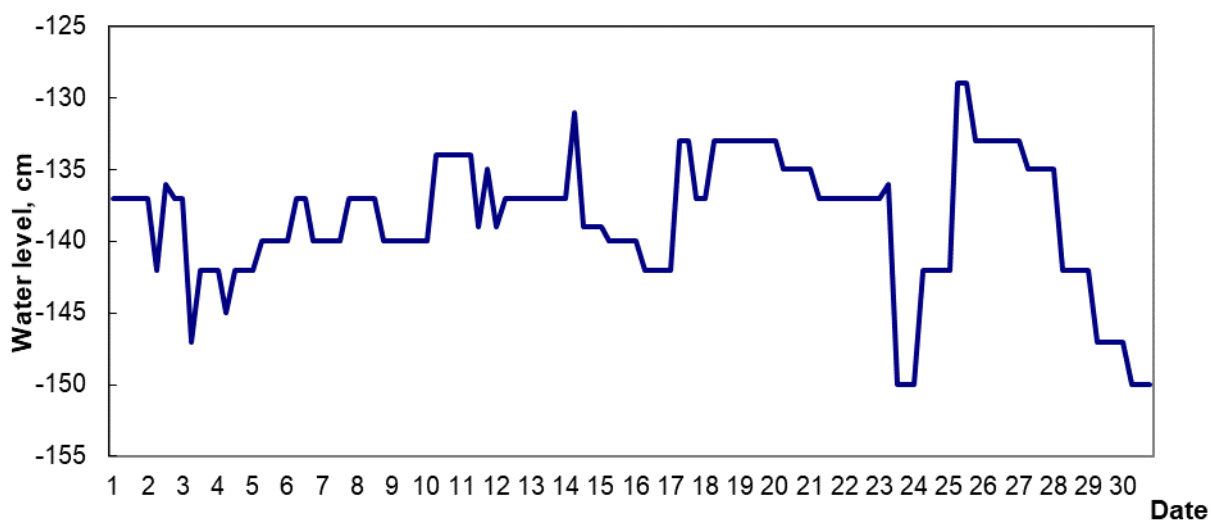


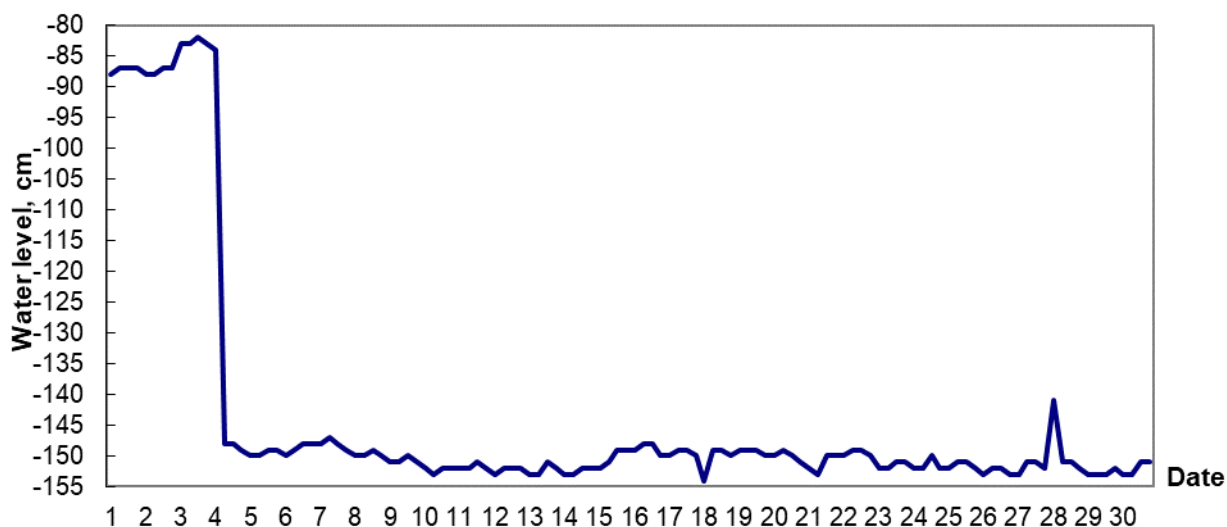
Figure. Graph of sea level changes in Fort-Shevchenko on June 23-24, 2025.

Saura



The runup and surge phenomena were not recorded. The sea level change during the month fluctuated from minus 29.50 m BS to minus 29.29 m BS.

Peschany

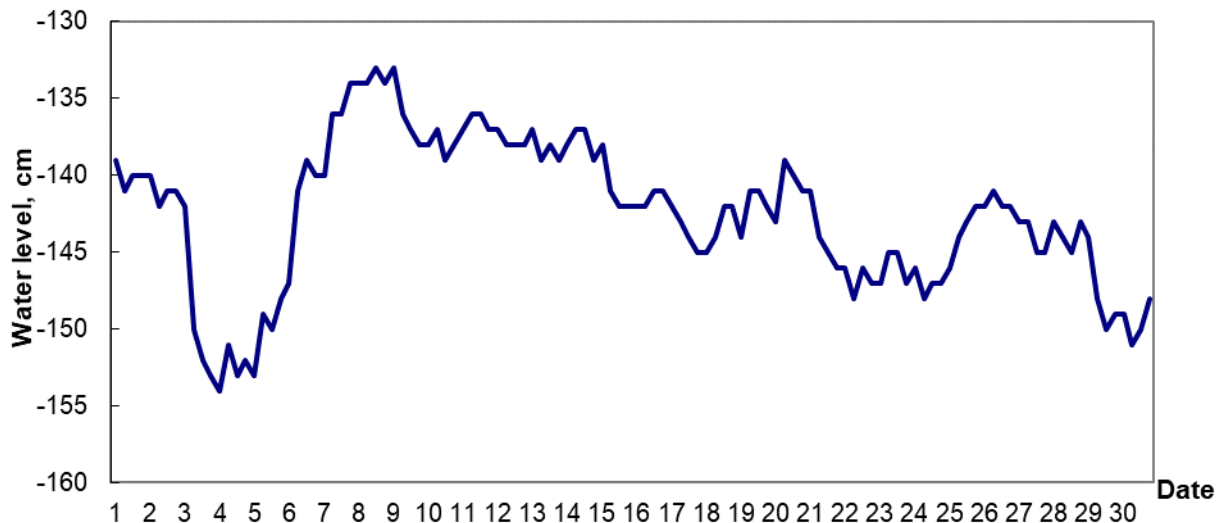


The runup and surge phenomena were not recorded. The sea level change during the month fluctuated from minus 29.54 m BS to minus 29.41 m BS.

Note:

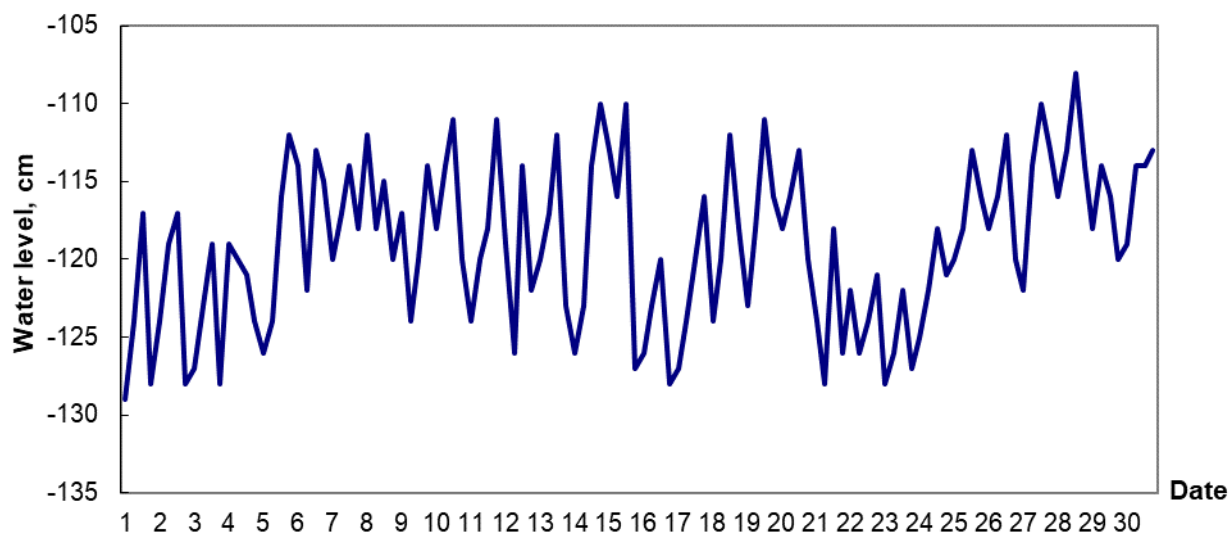
June 3, 2025 the leveling of the post was carried out and changes were made in the register of the post. According to the results of leveling the mark of the control reference (ground.) = -26,484 m BS, "O" of the water post rail = -29,930 m BS, "O" of the water post chart = -28,00m BS, the register was = -193 cm.

Aktau



The runup and surge phenomena were not recorded. The sea level change during the month fluctuated from minus 29.54 m BS to minus 29.33 m BS.

Fetisovo



Date	Level rise, cm	Level fall, cm	Prevailing wind direction, rhumb	Maximum wind speed, m/s
11-12.06		15	S, W	4
15.06		17	NE, W	11
20-21.06		15	SW	7

- On 11-12 June, a sea level fall by 15 cm was observed from minus 29.11 m BS to minus 29.26 m BS. The wind speed reached 4 m/s, predominantly from the south, west;

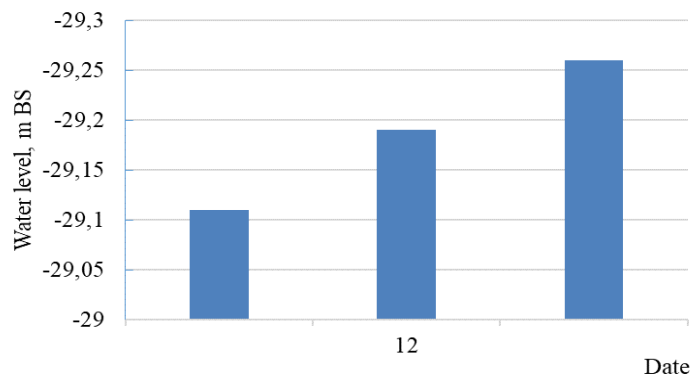


Figure. Graph of sea level changes in Fetisovo on June 11-12, 2025.

- On 15 June, a sea level fall by 17 cm was observed from minus 29.10 m BS to minus 29.27 m BS. The wind speed reached 11 m/s, predominantly from the northeast, west;

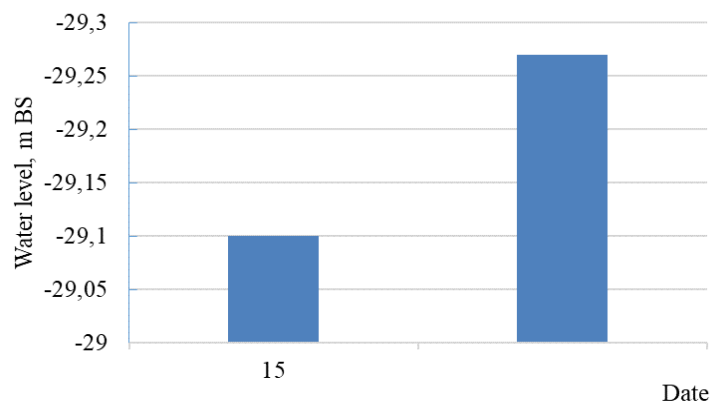


Figure. Graph of sea level changes in Fetisovo on June 15, 2025.

- On 20-21 June, a sea level fall by 15 cm was observed from minus 29.13 m BS to minus 29.28 m BS. The wind speed reached 7 m/s, predominantly from the southwest;

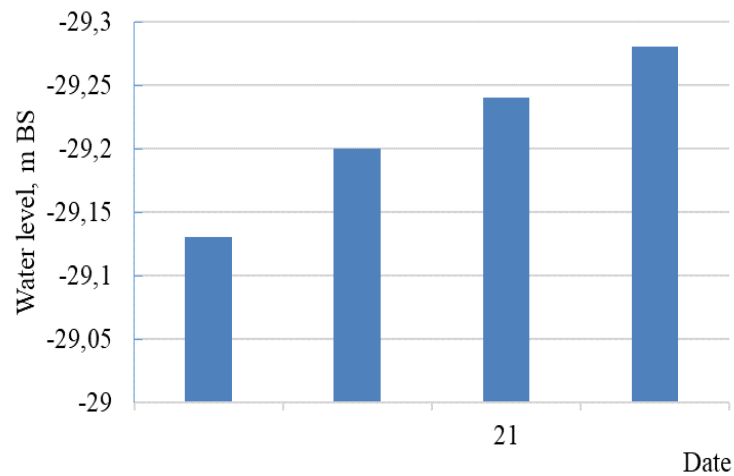


Figure. Graph of sea level changes in Fetisovo on June 20-21, 2025.

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, 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 "Kazhydromet" 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

Address: 010000, Astana, Mangilik El Ave. 11/1, Tel. (717)2 79 83 12

e-mail: ugmikm@meteo.kz

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