

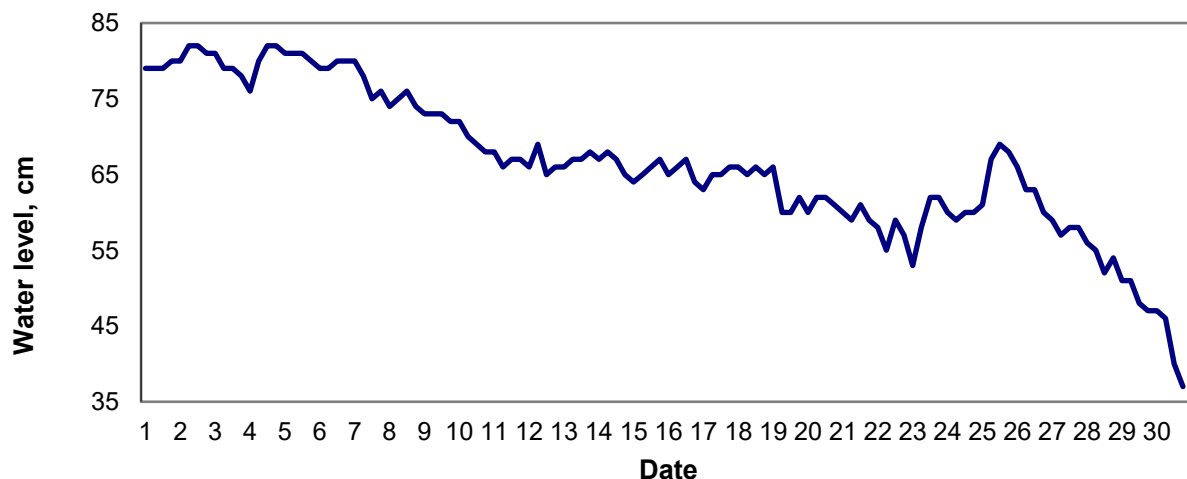


**MINISTRY OF ECOLOGY AND NATURAL RESOURCES
OF THE REPUBLIC OF KAZAKHSTAN
RSE «KAZHYDROMET»**

RESEARCH CENTER

**OVERVIEW OF UP SURGE AND DOWN SURGE EVENTS
in June 2024**

Peshnoy



Date	Level rise, cm	Level fall, cm	Prevailing wind direction, rhumb	Maximum wind speed, m/s
28-30.06.		17	3ЮЗ, 3СЗ	10

During the month, 1 case of sea level fall was recorded:

- On 28-30 June, the sea level decreased by 17 cm from minus 28.54 m BS to minus 28.37 m BS. At the same time, the wind speed reached 10 m/s, mainly from west-southwest and west-northwest directions;

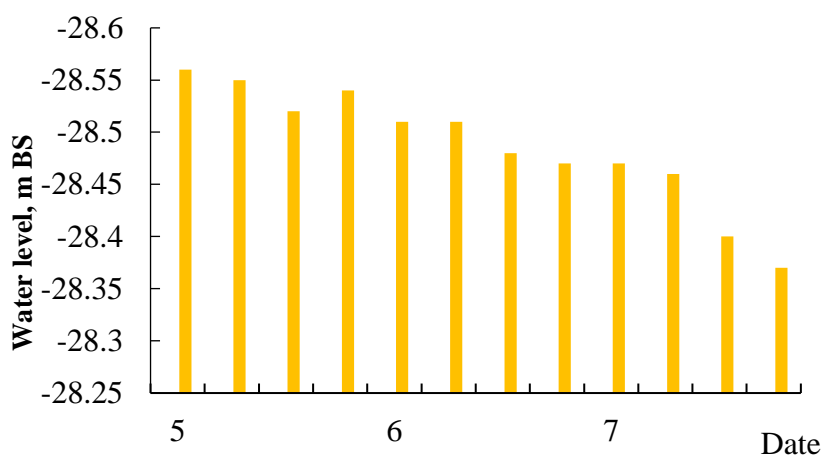
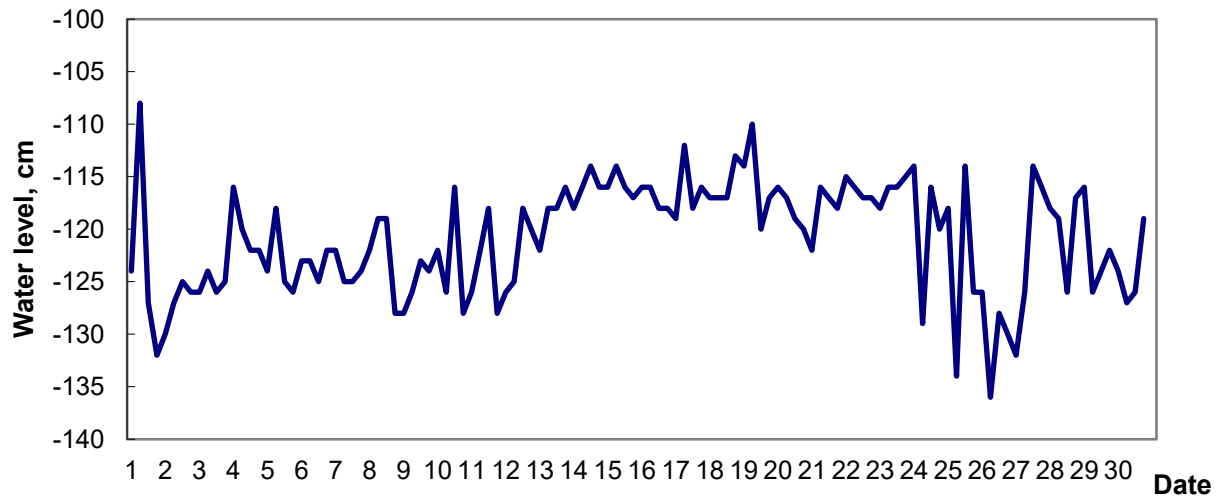


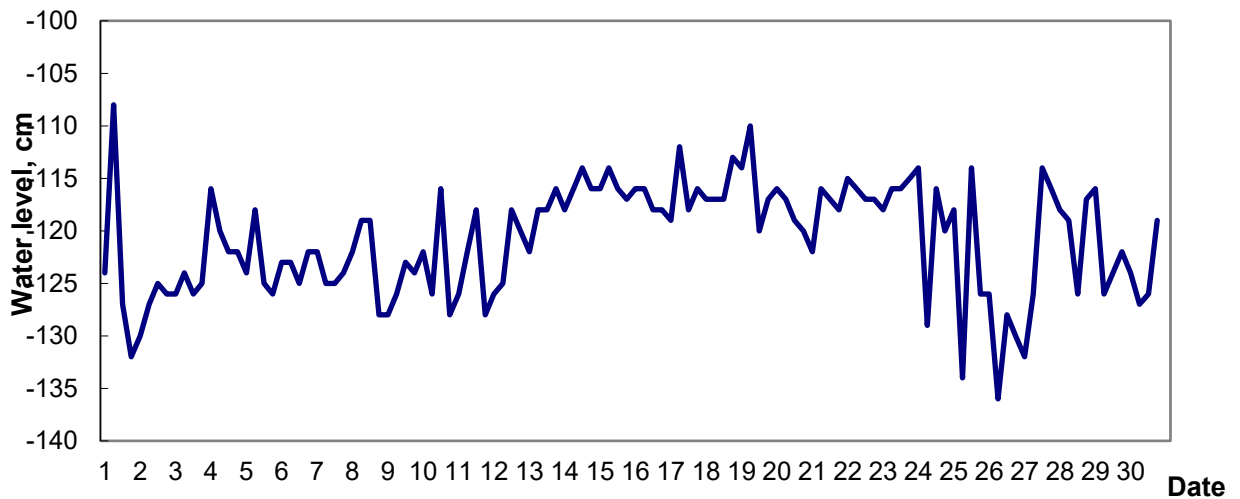
Fig. Graph of sea level change at M Peshnoy 28-30 June 2024

Kulaly, island



The up surge and down surge level fluctuations did not exceed 10 cm.

Fort-Shevchenko



Date	Level rise, cm	Level fall, cm	Prevailing wind direction, rhumb	Maximum wind speed, m/s
01.06		24	sse	7
24.06		15	sse	3
25.06		16	sse	6
27.06	18		nnw	6

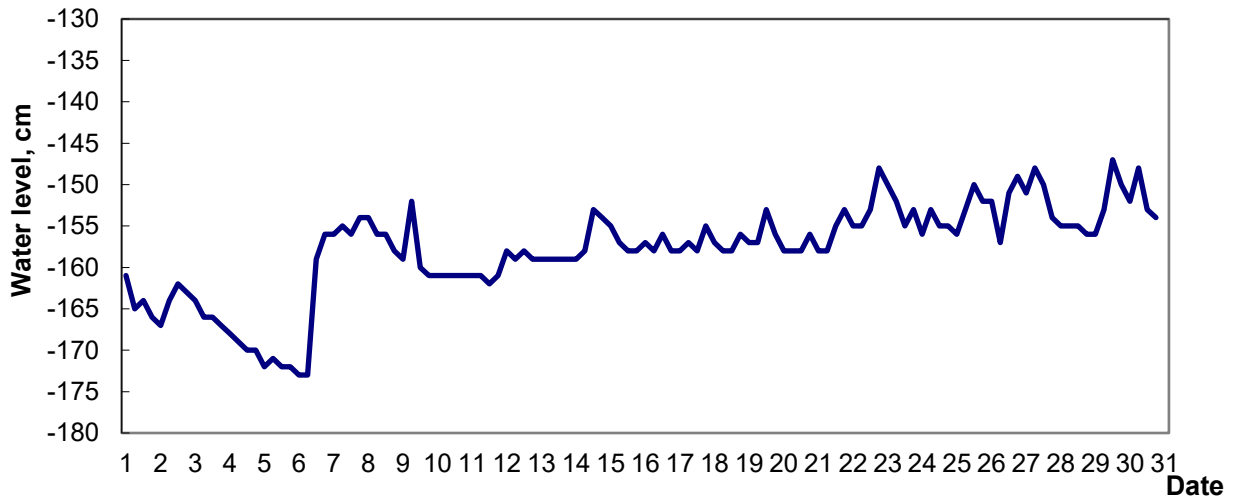
During the month, 1 case of sea level fall was recorded:

- On 1 June, the sea level decreased by 24 cm from minus 29.08 m BS to minus 29.32 m BS. At the same time, the wind speed reached 7 m/s, mainly from south-southeast direction;

During the month, 1 case of sea level rise was recorded:

- On 1 June, the sea level increased by 24 cm from minus 29.08 m BS to minus 29.32 m BS. At the same time, the wind speed reached 7 m/s, mainly from south-southeast direction;

Saura



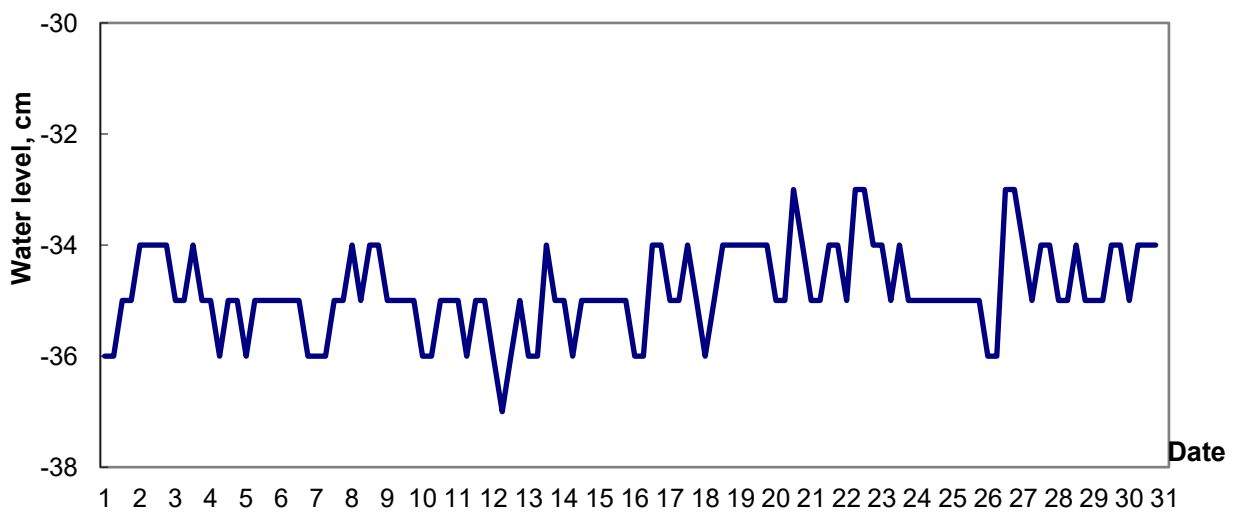
Date	Level rise, cm	Level fall, cm	Prevailing wind direction, rhumb	Maximum wind speed, m/s
06.06.	17		Ю	8

During the month, 1 case of sea level rise was recorded:

- On 1 June, the sea level increased by 24 cm from minus 29.08 m BS to minus 29.32 m BS.

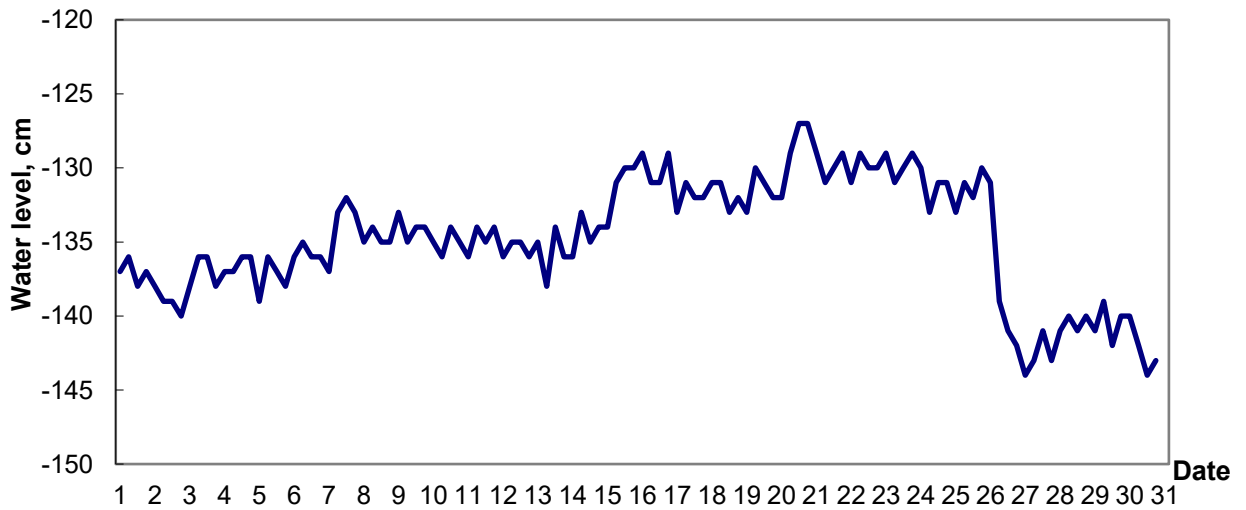
At the same time, the wind speed reached 7 m/s, mainly from south-southeast direction;

Peschany



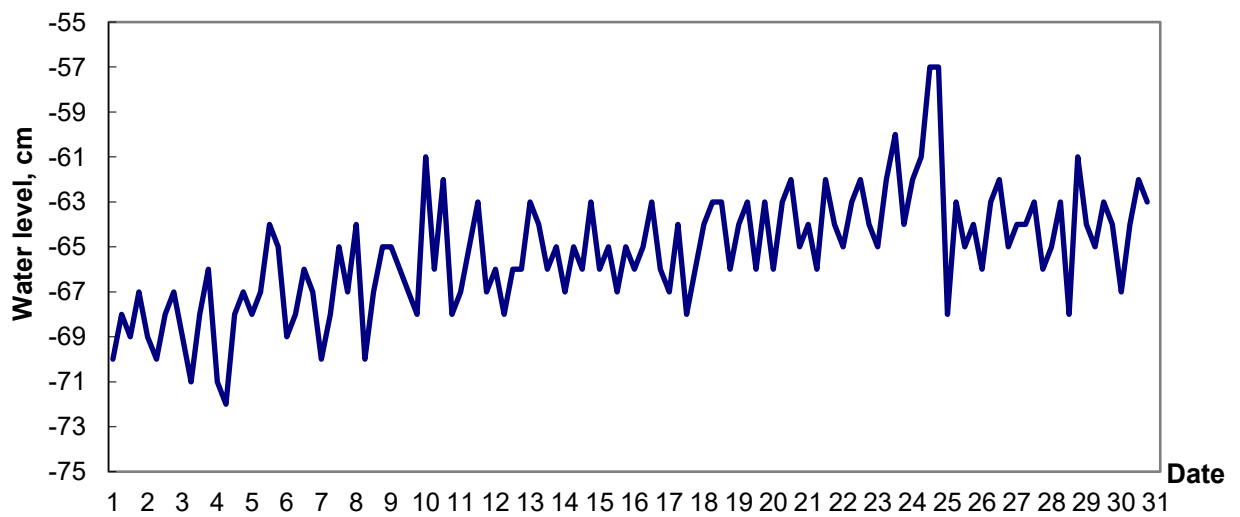
The up surge and down surge level fluctuations did not exceed 10 cm.

Aktau



The up surge and down surge level fluctuations did not exceed 10 cm.

Fetisovo



The up surge and down surge level fluctuations did not exceed 10 cm.

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
