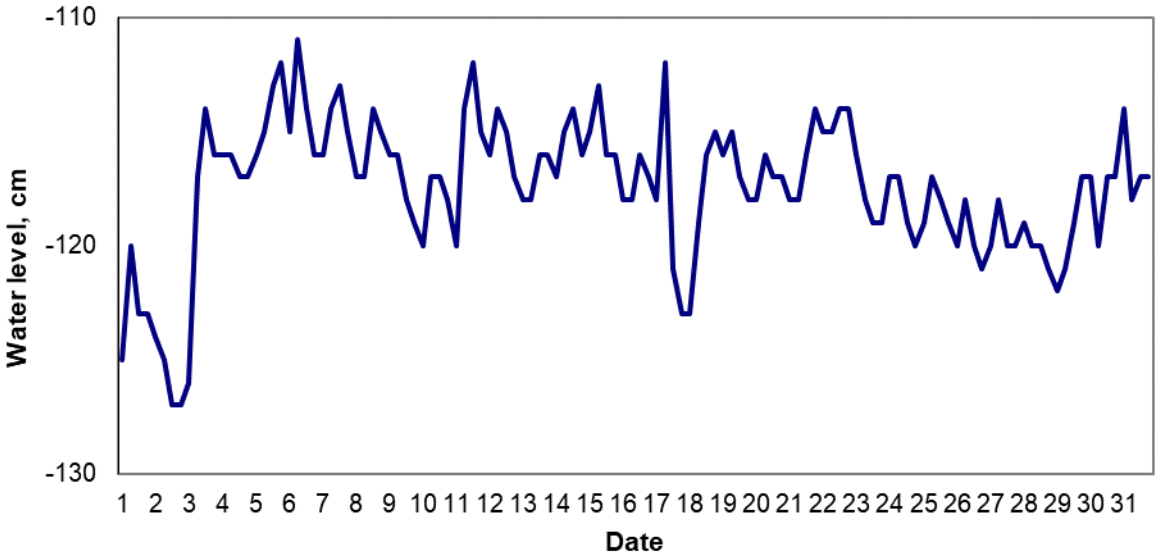
MINISTRY OF ECOLOGY AND NATURAL RESOURCES OF THE REPUBLIC OF KAZAKHSTAN
RSE «KAZHYDROMET»

RESEARCH CENTER

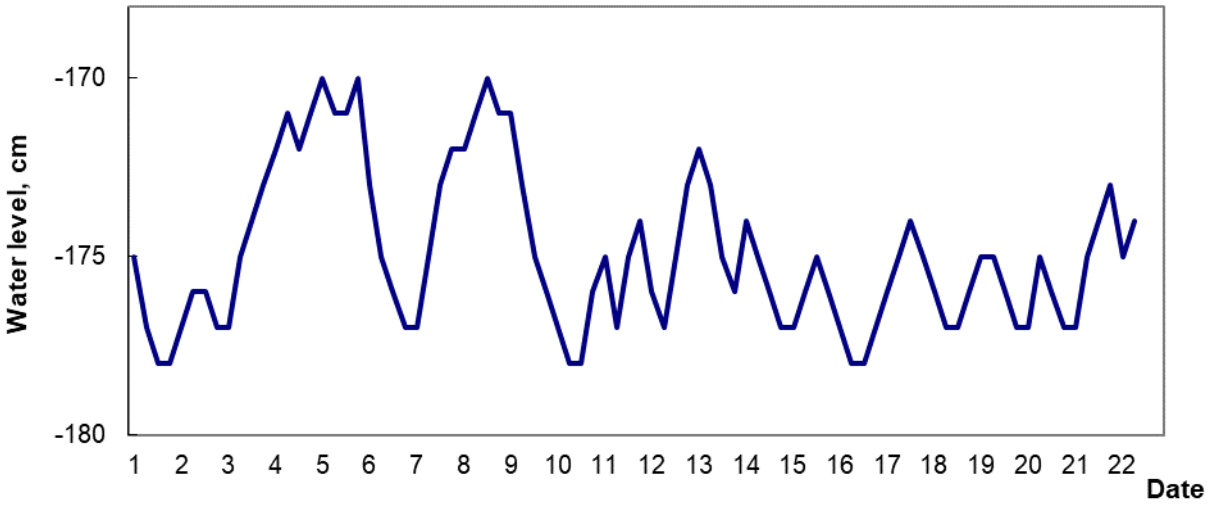
OVERVIEW OF UP SURGE AND DOWN SURGE EVENTS in February 2026

Peshnoy



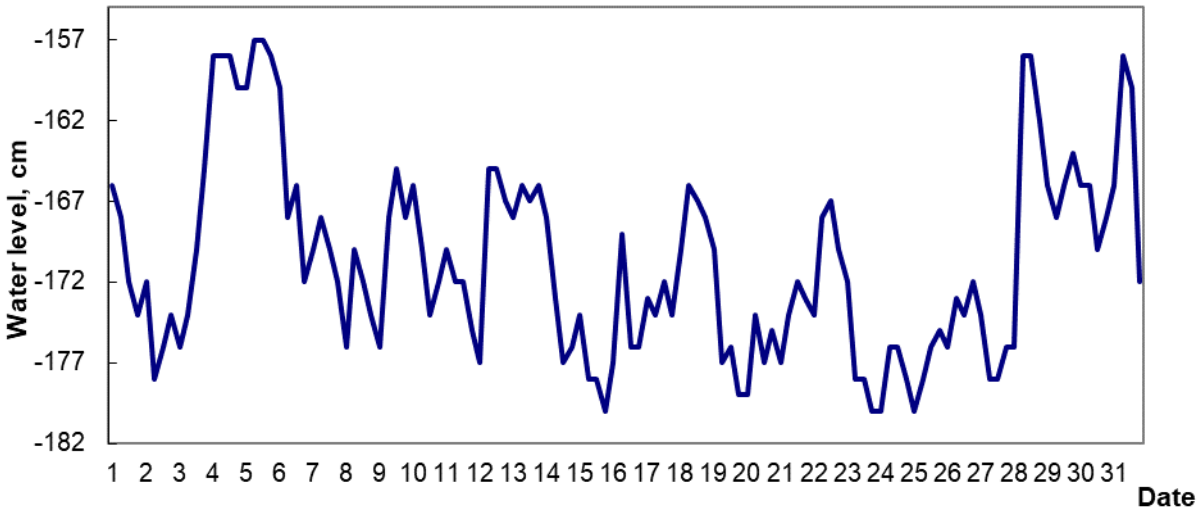
The runup and surge phenomena were not recorded. The sea level change during the month fluctuated from minus 29.27 m BS to minus 29.11 m BS.

Kulaly, island



The runup and surge phenomena were not recorded. The sea level change during the month fluctuated from minus 29.78 m BS to minus 29.70 m BS.

Fort-Shevchenko



Date	Level rise, cm	Level fall, cm	Prevailing wind direction, rhumb	Maximum wind speed, m/s
03-04.01	18		SE	9
28.01	18		SE, ESE	11

- On 03-04 January, a sea level rise by 18 cm was observed from minus 29.76 m BS to minus 29.58 m BS. The wind speed reached 9 m/s, predominantly from the southeast;

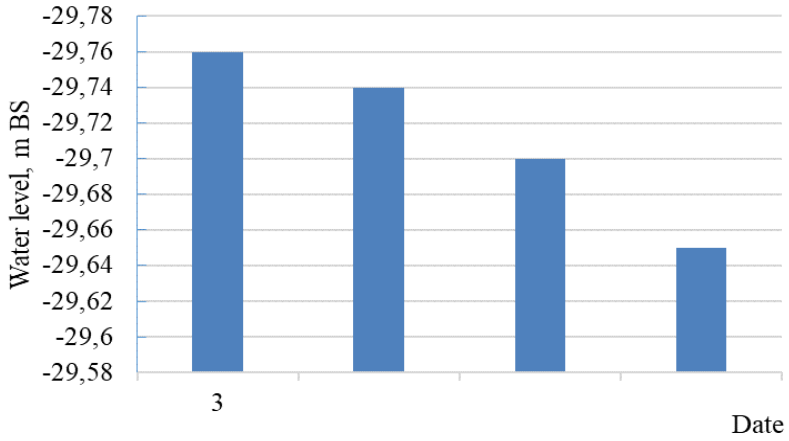
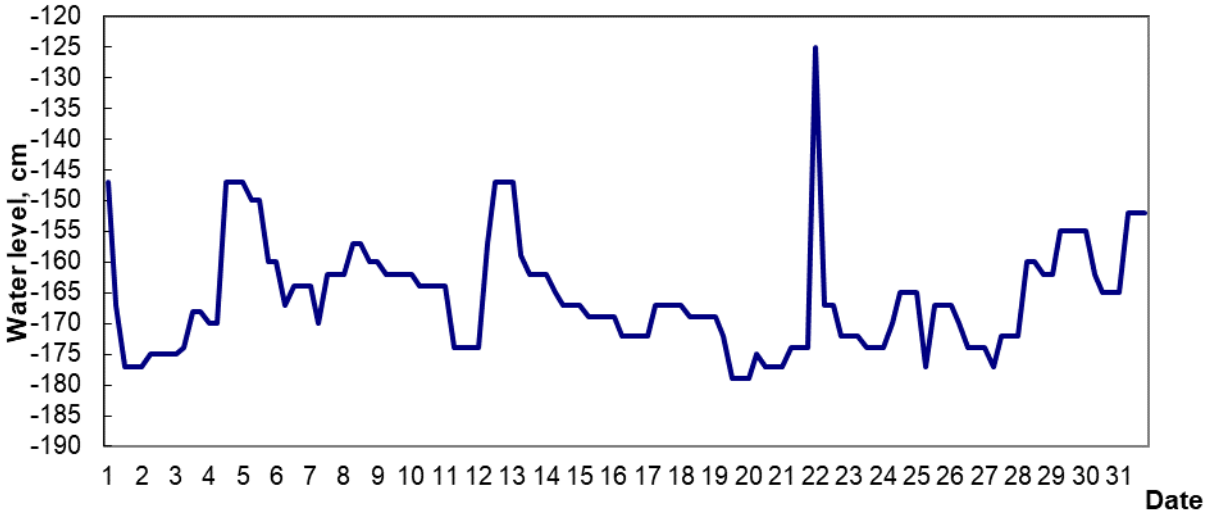


Figure. Graph of sea level changes in Fort-Shevchenko on January 03-04, 2026.

- On 28 January, a sea level rise by 18 cm was observed from minus 29.76 m BS to minus 29.58 m BS. The wind speed reached 11 m/s, predominantly from the southeast;

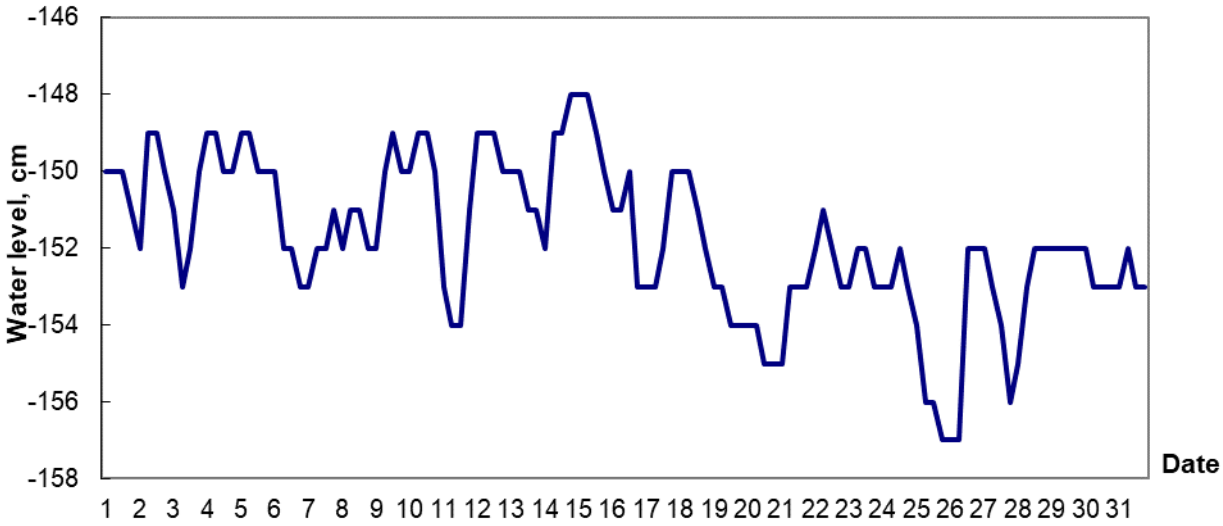
Saura



Date	Level rise, cm	Level fall, cm	Prevailing wind direction, rhumb	Maximum wind speed, m/s
01.01		20	SE, N	4
21-22.01	49		WSW, WNW	4

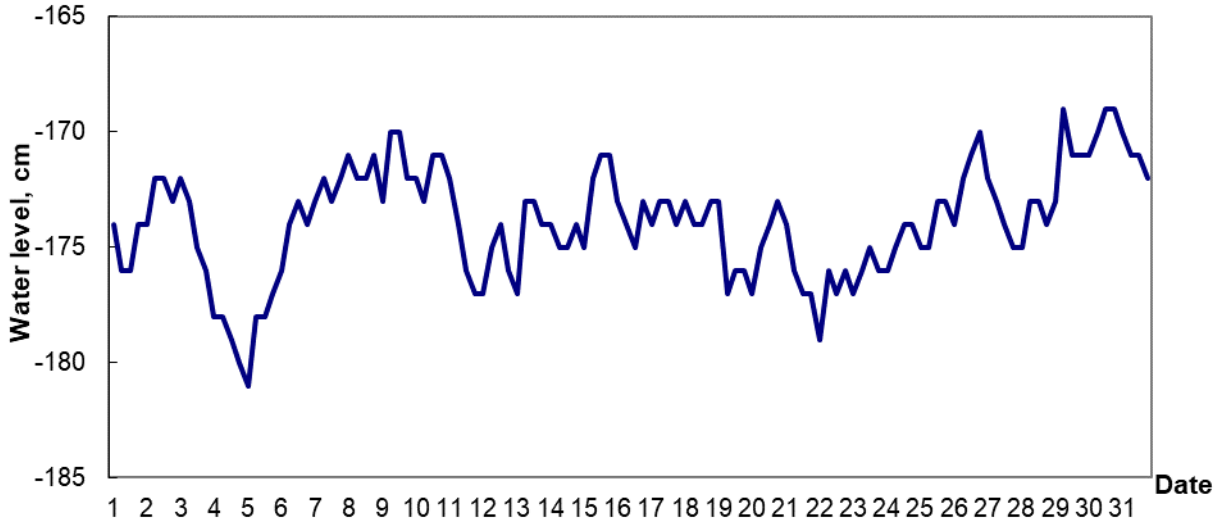
- On 01 January, a sea level fall by 20 cm was observed from minus 29.47 m BS to minus 29.67 m BS. The wind speed reached 4 m/s, predominantly from the north, southeast;
- On 21-22 January, a sea level fall by 49 cm was observed from minus 29.74 m BS to minus 29.25 m BS. The wind speed reached 4 m/s, predominantly from the west southwest, west northwest;

Peschany



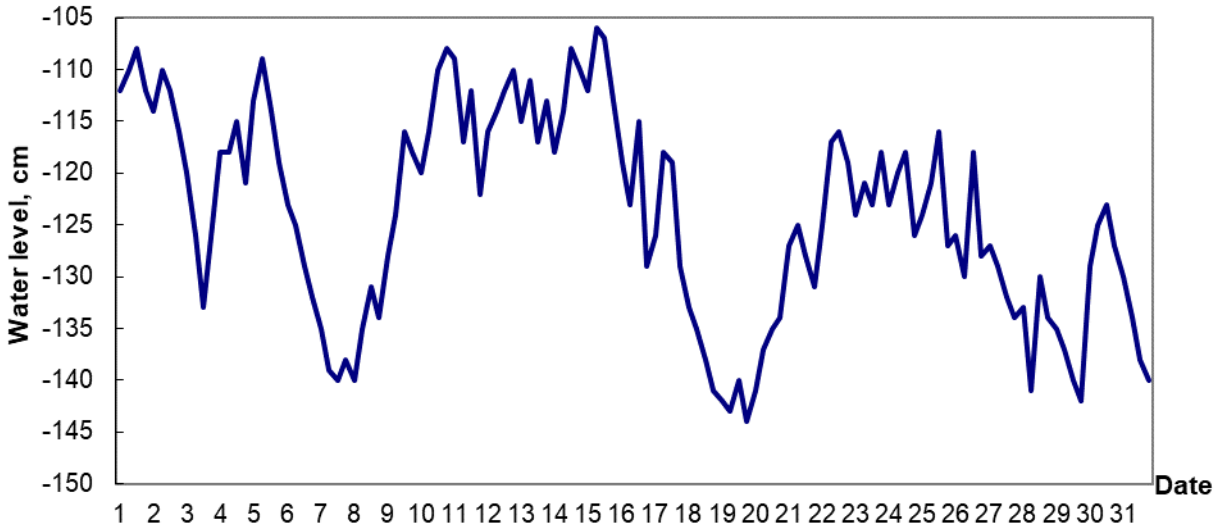
The runup and surge level fluctuations did not exceed 9 cm. The sea level change during the month varied from minus 29.57 m BS to minus 29.48 m BS.

Aktau



The runup and surge level fluctuations did not exceed 12 cm. The sea level change during the month varied from minus 29.81 m BS to minus 29.69 m BS.

Fetisovo



Date	Level rise, cm	Level fall, cm	Prevailing wind direction, rhumb	Maximum wind speed, m/s
02-03.01		23	N	12
05-07.01		31	E	10
08-09.01	15		SE	12
15-16.01		17	NW	11
17-19.01		25	E	9
19-21.01	19		E	8
21-22.01	15		W	9

- On 02-03 January, a sea level fall by 23 cm was observed from minus 29.10 m BS to minus 29.33 m BS. The wind speed reached 12 m/s, predominantly from the north;
- On 05-07 January, a sea level fall by 31 cm was observed from minus 29.09 m BS to minus 29.40 m BS. The wind speed reached 10 m/s, predominantly from the east;

- On 08-09 January, a sea level rise by 15 cm was observed from minus 29.34 m BS to minus 29.16 m BS. The wind speed reached 12 m/s, predominantly from the southeast;

- On 15-16 January, a sea level fall by 17 cm was observed from minus 29.06 m BS to minus 29.23 m BS. The wind speed reached 11 m/s, predominantly from the northwest;

- On 17-19 January, a sea level fall by 25 cm was observed from minus 29.18 m BS to minus 29.43 m BS. The wind speed reached 9 m/s, predominantly from the east;

- On 19-21 January, a sea level rise by 19 cm was observed from minus 29.44 m BS to minus 29.25 m BS. The wind speed reached 8 m/s, predominantly from the east;

- On 21-22 January, a sea level rise by 15 cm was observed from minus 29.31 m BS to minus 29.16 m BS. The wind speed reached 9 m/s, predominantly from the west;

Note:

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

From January 22, 2026, starting at 12:00 GMT (UTC), meteorological and hydrological observations at the Kulaly island have been temporarily suspended (Order No. 01-04/15 dated January 23, 2026).

STORM SURGE HAZARD CRITERIA FOR THE NORTHEASTERN COASTLINE

	Rise/Fall, 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

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

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