

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

### SCIENTIFIC RESEARCH CENTER

### **CASPIAN SEA WEEKLY BULLETIN №35**



Fig.1 Space image of the Caspian Sea, August 27, 2025 (NASA/GSFC)

### FORECAST OF LEVEL AND SURGE PHENOMENA IN THE MIDDLE PART OF THE CASPIAN SEA ON AUGUST 28 – SEPTEMBER 02, 2025

### SEA LEVEL.

In the period on August 28 – September 02, the sea level is expected to fluctuate around the mark of minus 29.46 m BS. The range of fluctuations in sea level is from minus 29.03 m to minus 29.77 m.

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

### SURGERY 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.

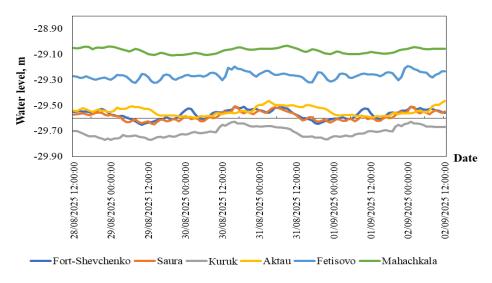


Fig .2 Forecast of sea level in the points of the Middle Caspian

## FORECAST OF LEVEL AND SURGE PHENOMENA IN THE NORTHERN PART OF THE CASPIAN SEA ON AUGUST 28 – SEPTEMBER 02, 2025

### SEA LEVEL.

In the period the sea level is expected to fluctuate around the mark of minus 29.21 m BS. The range of fluctuations in sea level is from minus 28.89 m to minus 29.63 m.

Figure 3 shows a graph of the predicted sea level values at various points in the Northern part of the Caspian Sea.

### SURGERY PHENOMENA.

In the area of Kulaly, Peshnoy, Tyuleniy and Zhanbay surge events are **not expected**, sea level fluctuations will **not exceed 14 cm**.

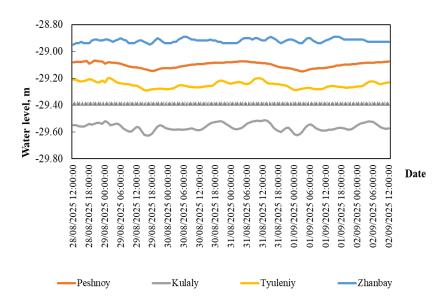


Fig. 3 Forecast of sea level in the points of the North Caspian

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

Point name	Maximum		Minimum		Average		
	Level,	date, time,	Level,	date, time,	Level,		
	sm	$GMT^*$	sm	$GMT^*$	sm		
	(m BS)		(m BS)		(m BS)		
Middle Part							
Fort-	-151	31/08/2025	-165	29/08/2025	-157		
Shevchenko	(-29,51)	07:00:00	(-29,65)	10:00:00	(-29,57)		
Saura	-151	30/08/2025	-165	29/08/2025	-158		
	(-29,51)	16:00:00	(-29,65)	14:00:00	(-29,58)		
Kuryk	-163	30/08/2025	-177	28/08/2025	-171		
-	(-29,63)	16:00:00	<b>(-29,77)</b>	22:00:00	<b>(-29,71)</b>		
Aktau	-146	02/09/2025	-160	30/08/2025	-154		
	(-29,46)	12:00:00	<b>(-29,60)</b>	03:00:00	(-29,54)		
Fetisovo	-119	02/09/2025	-132	29/08/2025	-126		
	(-29,19)	00:00:00	(-29,32)	08:00:00	(-29,26)		
Makhachkala	-103	31/08/2025	-111	29/08/2025	-107		
	(-29,03)	09:00:00	(-29,11)	20:00:00	(-29,07)		
Northern Part							
Peshnoy	-107	28/08/2025	-115	01/09/2025	-110		
	(-29,07)	20:00:00	(-29,15)	03:00:00	(-29,10)		
Kulaly	-151	31/08/2025	-163	29/08/2025	-156		
	(-29,51)	13:00:00	(-29,63)	16:00:00	(-29,56)		
Tyuleniy	-120	29/08/2025	-129	29/08/2025	-125		
	(-29,20)	01:00:00	(-29,29)	16:00:00	(-29,25)		
Zhanbay	-89	30/08/2025	-95	28/08/2025	-92		
-	(-28,89)	06:00:00	<b>(-28,95)</b>	12:00:00	<b>(-28,92)</b>		

GMT\* - Greenwich Mean Time

# REVIEW CASPIAN SEA WATER STAGE FROM AUGUST 21 – 27, 2025

In the northern part of the Caspian Sea, according to operational data from marine stations of Kazhydromet: Peshnoy, Kulaly island and Roshydromet (isl. Tyuleniy), the average sea level corresponded to minus 29.23 m, the maximum minus 28.88 m, the minimum minus 29.55 m.

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 29.35 m, the maximum minus 29.01 m, the minimum minus 29.68 m.

#### CRITERIA OF DANGER OF THE STORM SURGES IN THE NORTHEAST COAST

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

<sup>\*</sup> 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.

\*\*\* 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

<sup>\*\*</sup> At definition of characteristic marks local conditions were considered.