

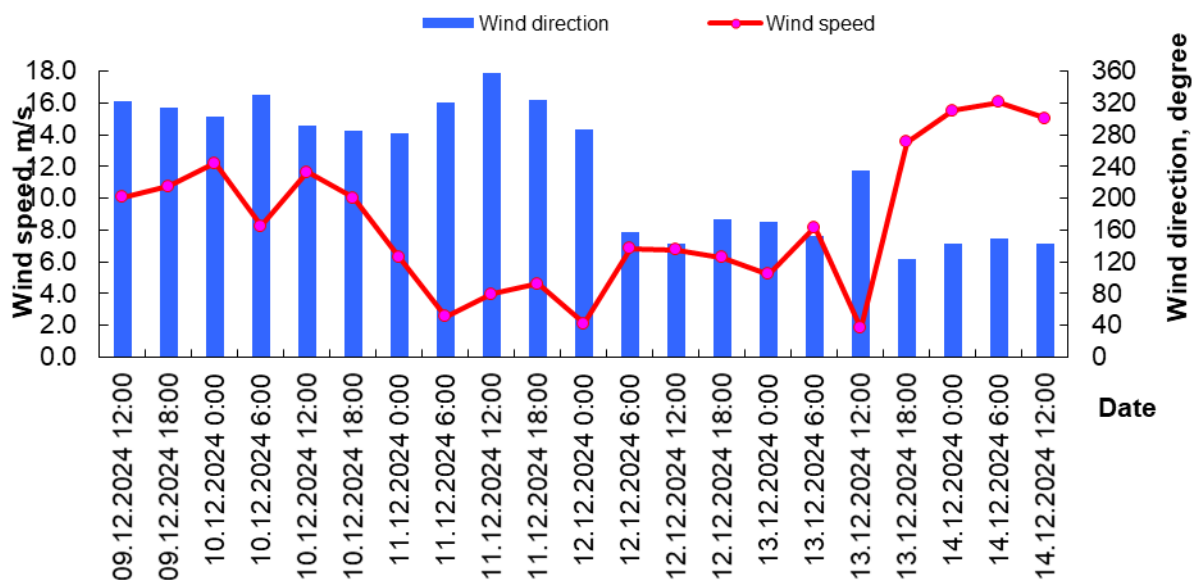


**MINISTRY OF ECOLOGY AND NATURAL RESOURCES  
OF THE REPUBLIC OF KAZAKHSTAN**

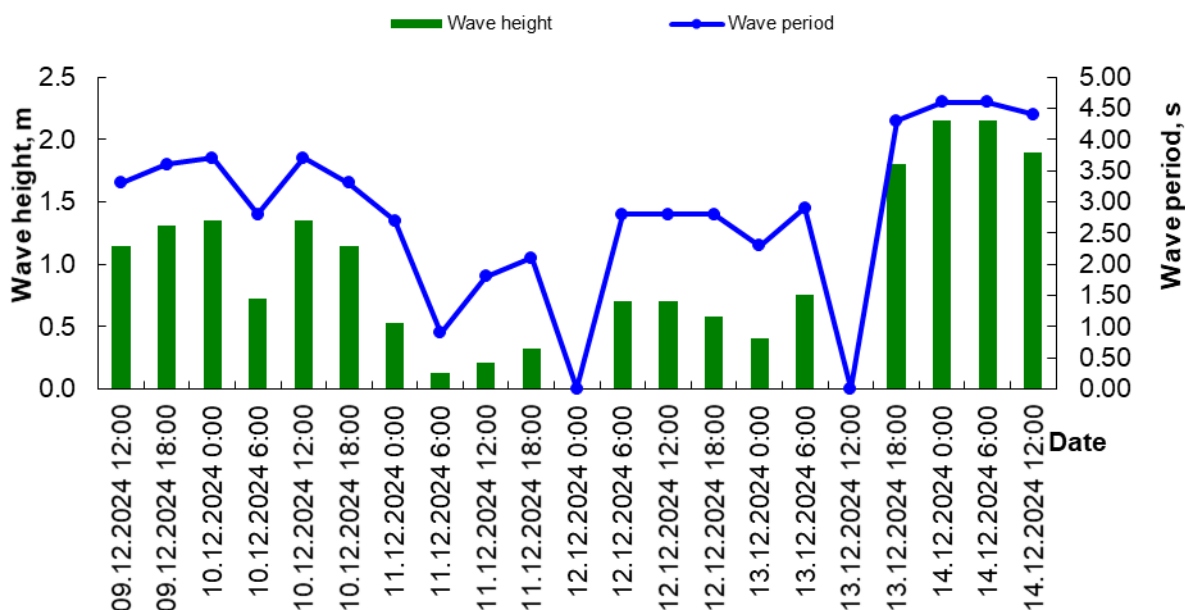
**RSE «KAZHYDROMET»**

**Wave and wind forecast for the Middle part of the Caspian Sea with a 5-day  
advance for the period December 09 – 14, 2024**

**Wind condition in the 21050 unit**

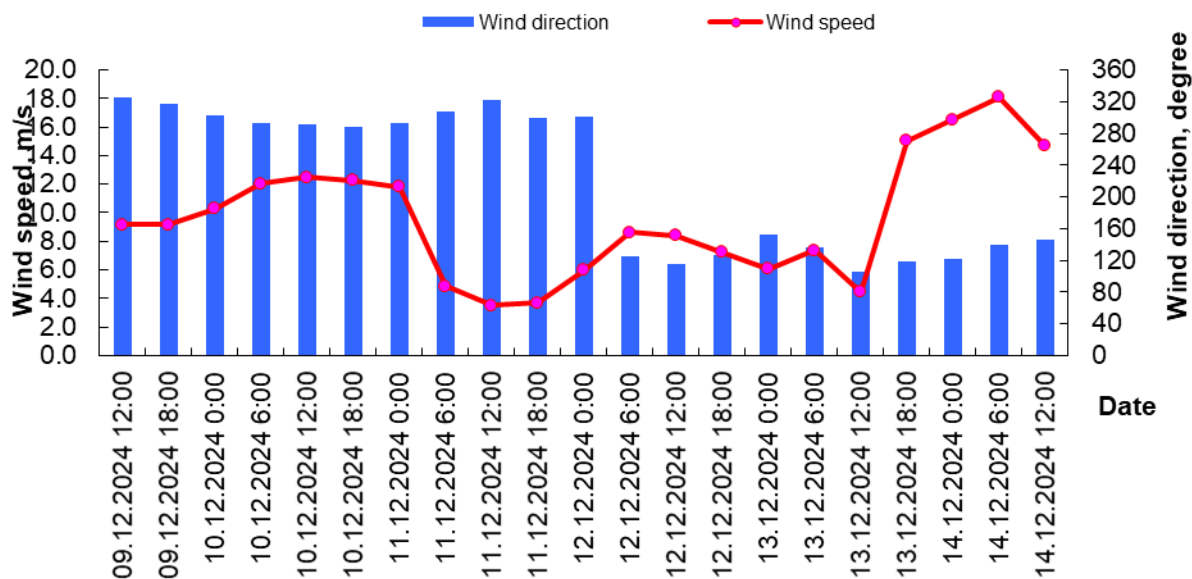


**Wave condition in the 21050 unit**

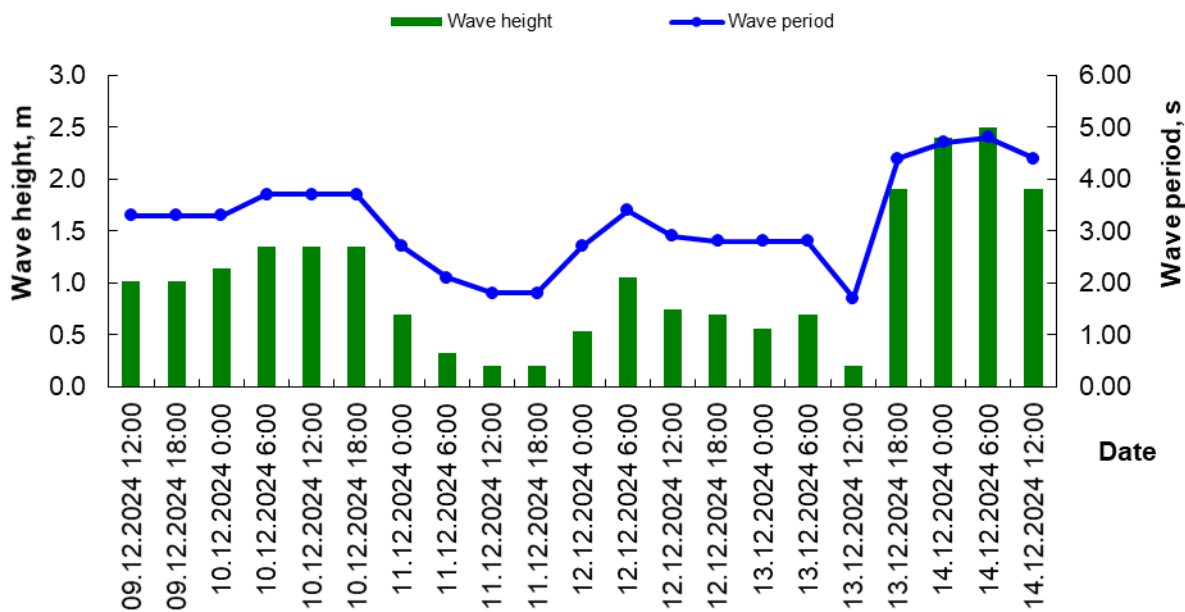


Date Time	Wind speed (WS) and wind direction (WD)		Wave height (H) and wave period ( $\tau$ )	
	WS, m/s	WD, rumb	H, m	t, s
09.12.2024 12:00	10	NW	1.14	3.30
09.12.2024 18:00	11	NW	1.31	3.60
10.12.2024 0:00	12	NW	1.35	3.70
10.12.2024 6:00	8	NW	0.72	2.80
10.12.2024 12:00	12	W	1.35	3.70
10.12.2024 18:00	10	W	1.14	3.30
11.12.2024 0:00	6	NW	0.53	2.70
11.12.2024 6:00	3	NW	0.13	0.90
11.12.2024 12:00	4	NW	0.21	1.80
11.12.2024 18:00	5	NW	0.32	2.10
12.12.2024 0:00	2	NW	0.00	0.00
12.12.2024 6:00	7	SE	0.70	2.80
12.12.2024 12:00	7	SE	0.70	2.80
12.12.2024 18:00	6	SE	0.58	2.80
13.12.2024 0:00	5	SE	0.40	2.30
13.12.2024 6:00	8	SE	0.75	2.90
13.12.2024 12:00	2	E	0.00	0.00
13.12.2024 18:00	14	SE	1.80	4.30
14.12.2024 0:00	16	SE	2.15	4.60
14.12.2024 6:00	16	SE	2.15	4.60
14.12.2024 12:00	15	SE	1.90	4.40

### Wind condition in the 21141 unit

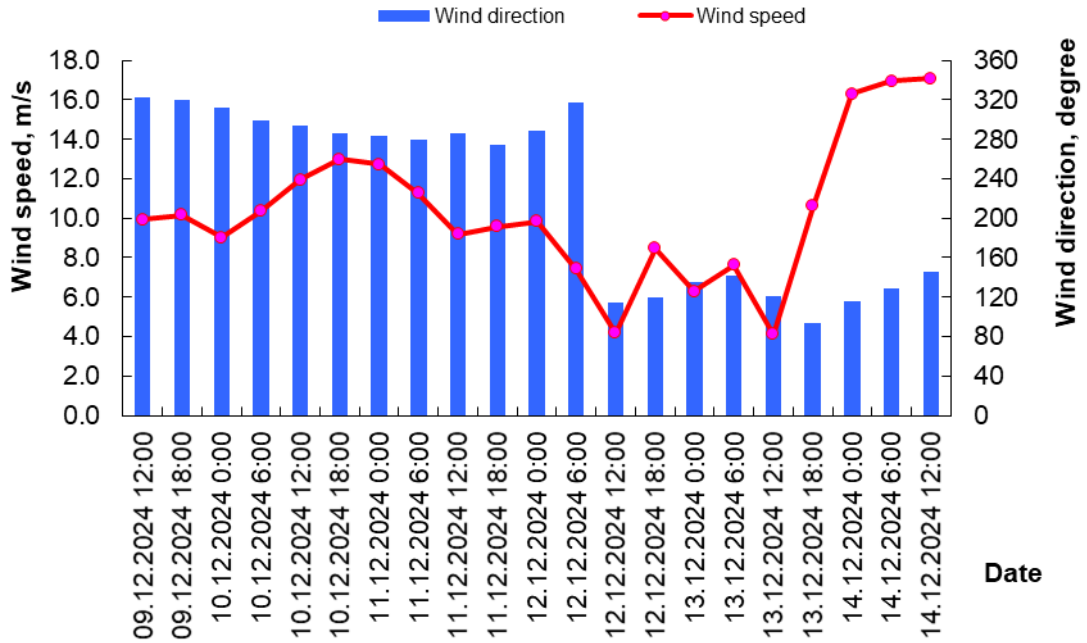


### Wave condition in the 21141 unit

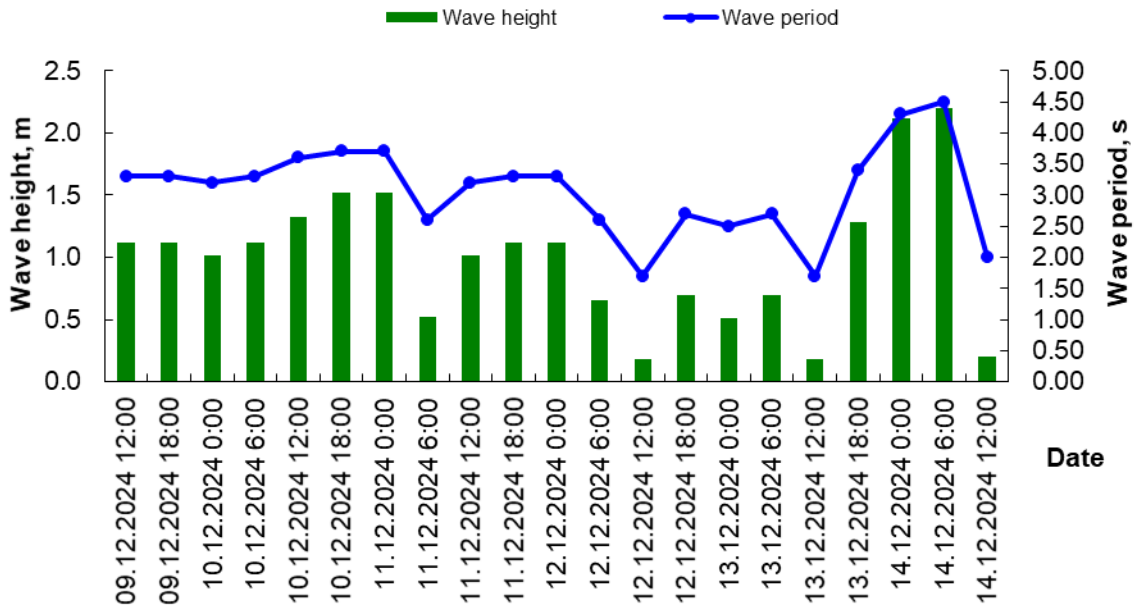


Date Time	Wind speed (WS) and wind direction (WD)		Wave height (H) and wave period ( $\tau$ )	
	WS, m/s	WD, rumb	H, m	t, s
09.12.2024 12:00	9	NW	1.02	3.30
09.12.2024 18:00	9	NW	1.02	3.30
10.12.2024 0:00	10	NW	1.14	3.30
10.12.2024 6:00	12	NW	1.35	3.70
10.12.2024 12:00	12	W	1.35	3.70
10.12.2024 18:00	12	W	1.35	3.70
11.12.2024 0:00	7	NW	0.69	2.70
11.12.2024 6:00	5	NW	0.32	2.10
11.12.2024 12:00	4	NW	0.20	1.80
11.12.2024 18:00	4	NW	0.20	1.80
12.12.2024 0:00	6	NW	0.53	2.70
12.12.2024 6:00	9	SE	1.05	3.40
12.12.2024 12:00	8	SE	0.75	2.90
12.12.2024 18:00	7	SE	0.70	2.80
13.12.2024 0:00	6	SE	0.56	2.80
13.12.2024 6:00	7	SE	0.70	2.80
13.12.2024 12:00	4	E	0.20	1.70
13.12.2024 18:00	15	SE	1.90	4.40
14.12.2024 0:00	17	SE	2.40	4.70
14.12.2024 6:00	18	SE	2.50	4.80
14.12.2024 12:00	15	SE	1.90	4.40

### Wind condition in the 21142 unit

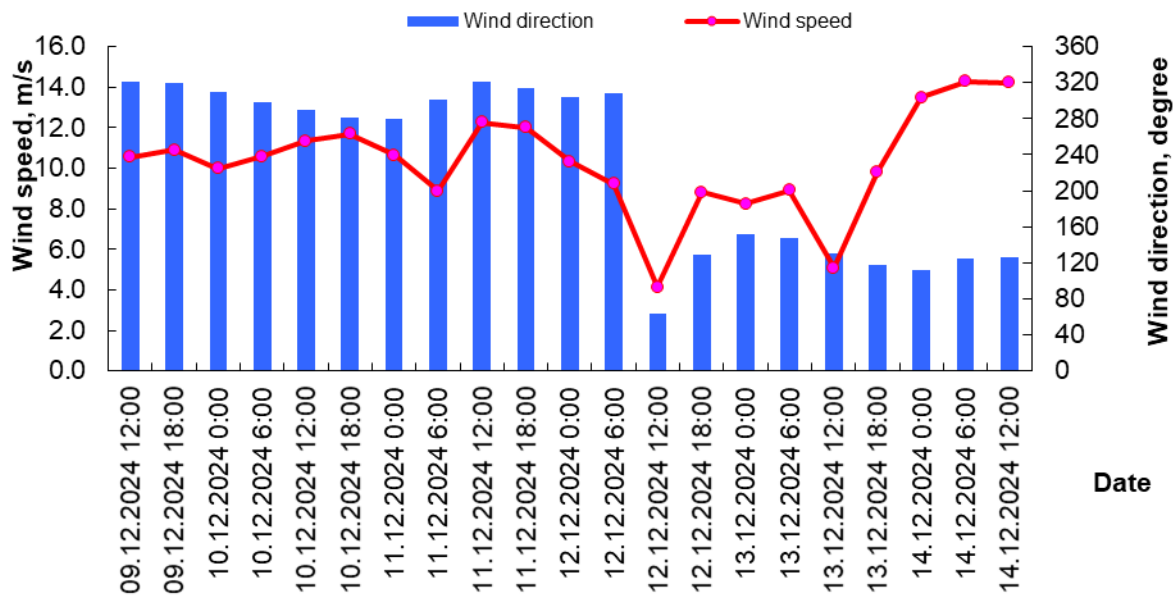


### Wave condition in the 21142 unit

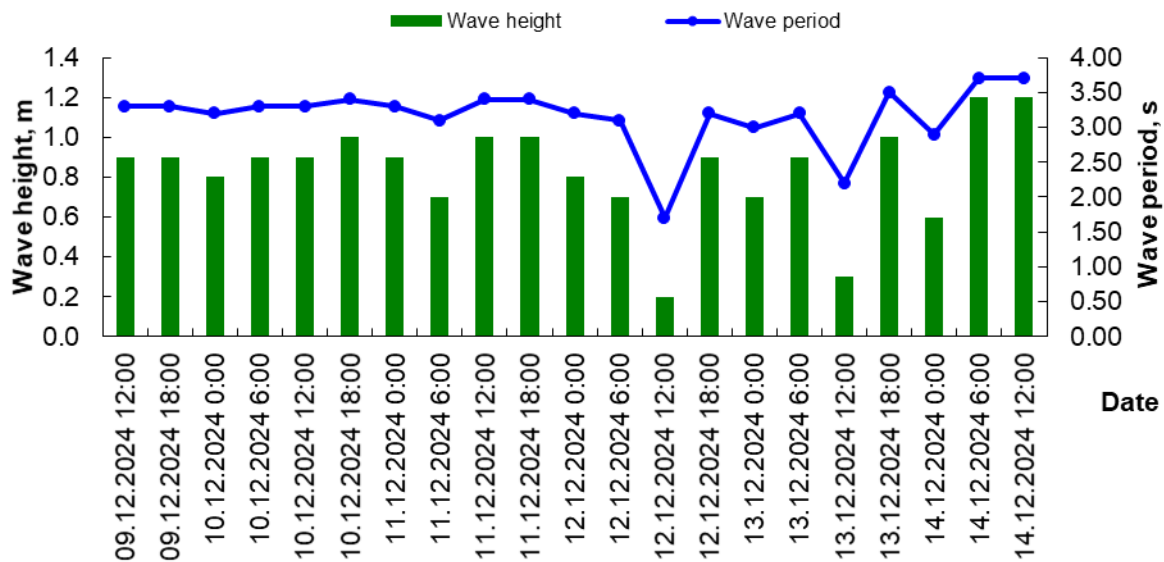


Date Time	Wind speed (WS) and wind direction (WD)		Wave height (H) and wave period ( $\tau$ )	
	WS, m/s	WD, rumb	H, m	t, s
09.12.2024 12:00	10	NW	1.12	3.30
09.12.2024 18:00	10	NW	1.12	3.30
10.12.2024 0:00	9	NW	1.02	3.20
10.12.2024 6:00	10	NW	1.12	3.30
10.12.2024 12:00	12	NW	1.32	3.60
10.12.2024 18:00	13	W	1.52	3.70
11.12.2024 0:00	13	W	1.52	3.70
11.12.2024 6:00	6	W	0.52	2.60
11.12.2024 12:00	9	W	1.02	3.20
11.12.2024 18:00	10	W	1.12	3.30
12.12.2024 0:00	10	W	1.12	3.30
12.12.2024 6:00	7	NW	0.65	2.60
12.12.2024 12:00	4	SE	0.18	1.70
12.12.2024 18:00	8	SE	0.70	2.70
13.12.2024 0:00	6	SE	0.51	2.50
13.12.2024 6:00	8	SE	0.70	2.70
13.12.2024 12:00	4	SE	0.18	1.70
13.12.2024 18:00	11	E	1.28	3.40
14.12.2024 0:00	16	SE	2.12	4.30
14.12.2024 6:00	17	SE	2.20	4.50
14.12.2024 12:00	5	SE	0.20	2.00

### Wind condition in the Bautino Bay



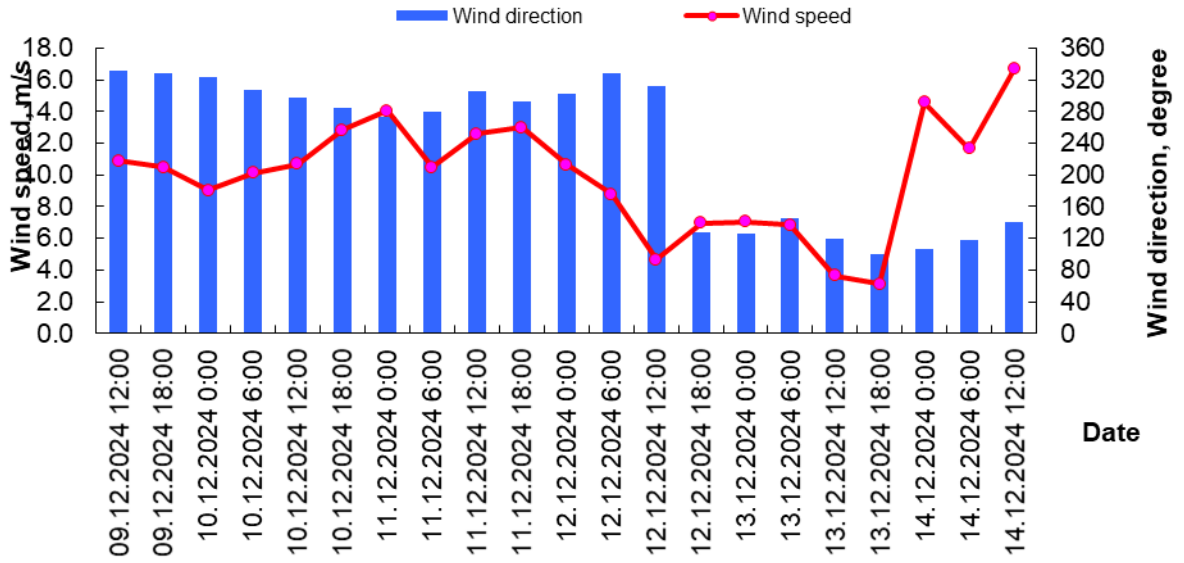
### Wave condition in the Bautino Bay



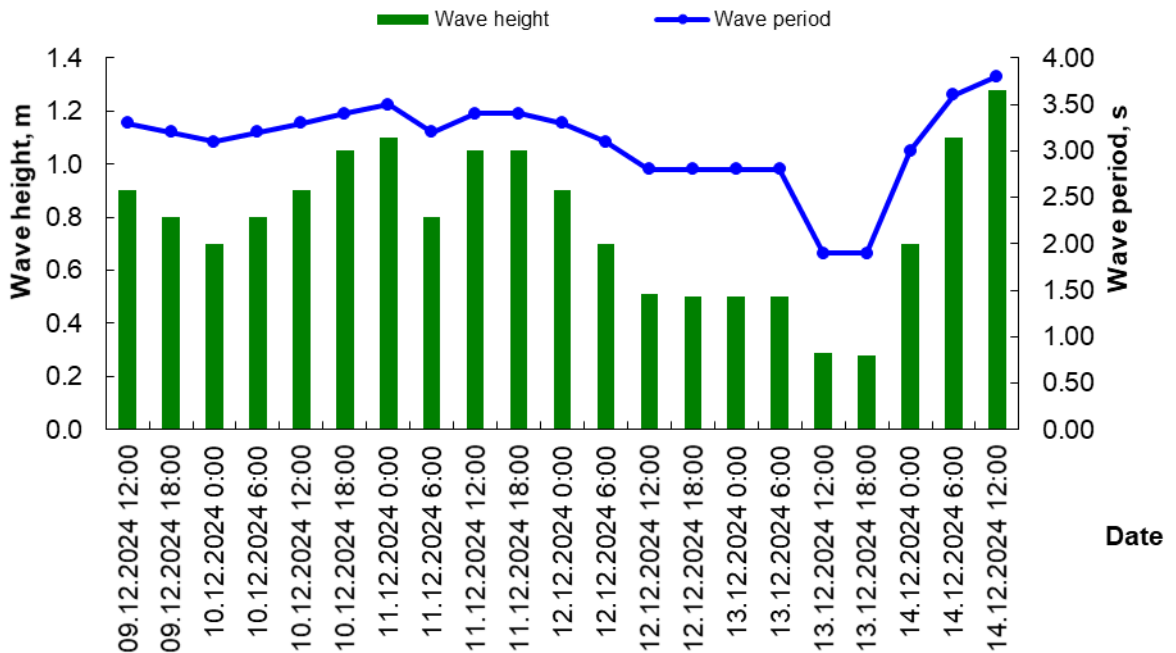
Date Time	Wind speed (WS) and wind direction (WD)		Wave height (H) and wave period ( $\tau$ )	
	WS, m/s	WD, rumb	H, m	t, s
09.12.2024 12:00	11	NW	0.90	3.30
09.12.2024 18:00	11	NW	0.90	3.30
10.12.2024 0:00	10	NW	0.80	3.20
10.12.2024 6:00	11	NW	0.90	3.30
10.12.2024 12:00	11	W	0.90	3.30
10.12.2024 18:00	12	W	1.00	3.40
11.12.2024 0:00	11	W	0.90	3.30
11.12.2024 6:00	9	NW	0.70	3.10
11.12.2024 12:00	12	NW	1.00	3.40
11.12.2024 18:00	12	NW	1.00	3.40
12.12.2024 0:00	10	NW	0.80	3.20
12.12.2024 6:00	9	NW	0.70	3.10
12.12.2024 12:00	4	NE	0.20	1.70
12.12.2024 18:00	9	SE	0.90	3.20
13.12.2024 0:00	8	SE	0.70	3.00
13.12.2024 6:00	9	SE	0.90	3.20
13.12.2024 12:00	5	SE	0.30	2.20
13.12.2024 18:00	10	SE	1.00	3.50
14.12.2024 0:00	14	E	0.60	2.90
14.12.2024 6:00	14	SE	1.20	3.70
14.12.2024 12:00	14	SE	1.20	3.70



### Wind condition in the Kuryik Bay



### Wave condition in the Kuryik Bay



Date Time	Wind speed (WS) and wind direction (WD)		Wave height (H) and wave period ( $\tau$ )	
	WS, m/s	WD, rumb	H, m	t, s
09.12.2024 12:00	11	NW	0.90	3.30
09.12.2024 18:00	10	NW	0.80	3.20
10.12.2024 0:00	9	NW	0.70	3.10
10.12.2024 6:00	10	NW	0.80	3.20
10.12.2024 12:00	11	NW	0.90	3.30
10.12.2024 18:00	13	W	1.05	3.40
11.12.2024 0:00	14	W	1.10	3.50
11.12.2024 6:00	10	W	0.80	3.20
11.12.2024 12:00	13	NW	1.05	3.40
11.12.2024 18:00	13	NW	1.05	3.40
12.12.2024 0:00	11	NW	0.90	3.30
12.12.2024 6:00	9	NW	0.70	3.10
12.12.2024 12:00	5	NW	0.51	2.80
12.12.2024 18:00	7	SE	0.50	2.80
13.12.2024 0:00	7	SE	0.50	2.80
13.12.2024 6:00	7	SE	0.50	2.80
13.12.2024 12:00	4	SE	0.29	1.90
13.12.2024 18:00	3	E	0.28	1.90
14.12.2024 0:00	15	E	0.70	3.00
14.12.2024 6:00	12	SE	1.10	3.60
14.12.2024 12:00	17	SE	1.28	3.80

Made by: Zhagparova N.N.

Checked by: Shishkina G.