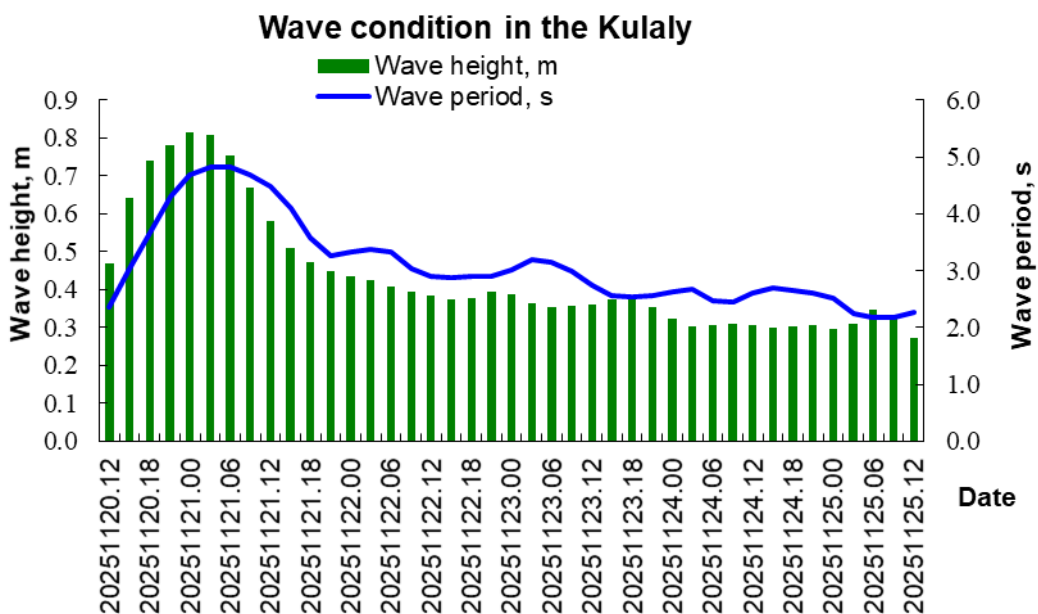
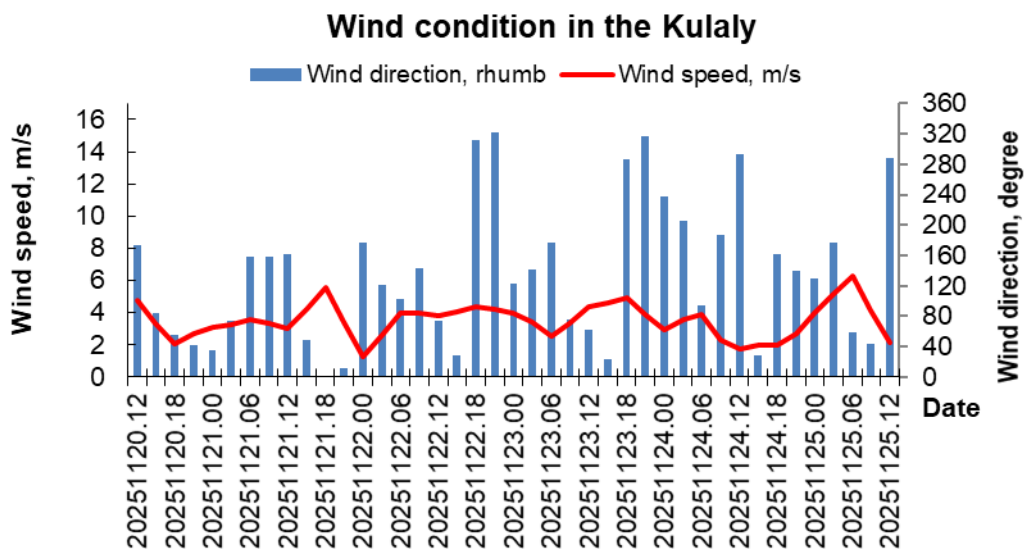




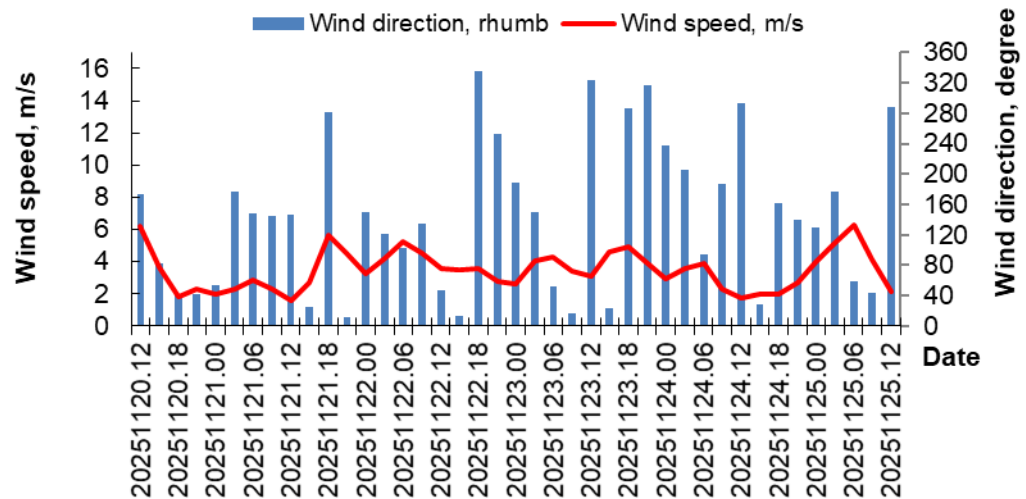
**MINISTRY OF ECOLOGY AND NATURAL RESOURCES
OF THE REPUBLIC OF KAZAKHSTAN
RSE «KAZHYDROMET»**

**Wave and wind forecast for the Kazakhstan part of the Caspian Sea with a 5-day advance
using SWAN spectral model for the period November 20 – 25, 2025.**

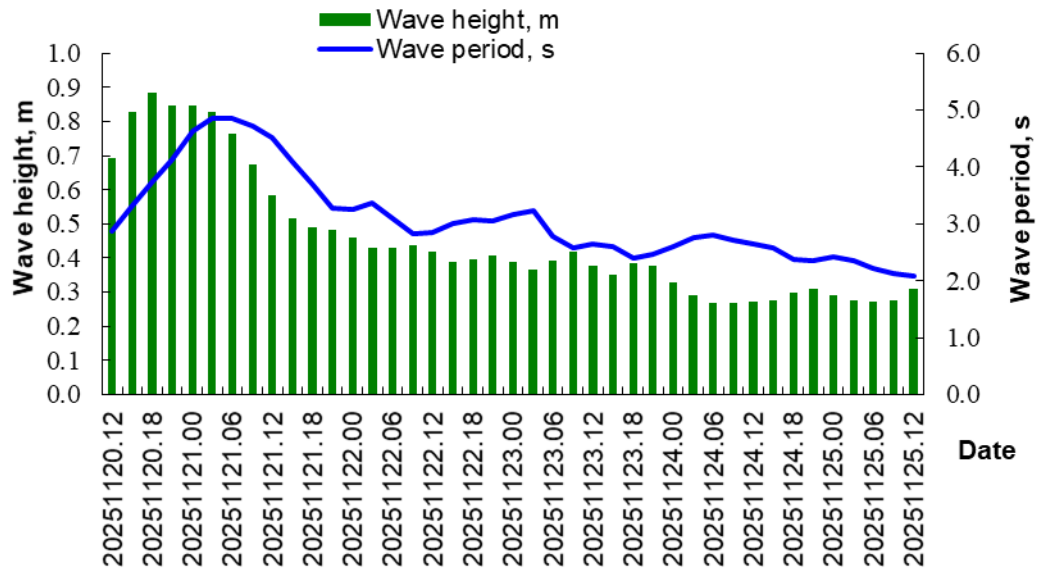


Date time	Kulaly				
	Wave height, m	Wave direction, rhumb	Wave period, s	Wind speed, m/s	Wind direction, rhumb
20251120.12	0.47	N	2.4	5	S
20251120.15	0.64	N	3.0	3	E
20251120.18	0.74	N	3.7	2	NE
20251120.21	0.78	N	4.3	3	NE
20251121.00	0.81	N	4.7	3	NE
20251121.03	0.81	N	4.8	3	E
20251121.06	0.75	N	4.8	4	S
20251121.09	0.67	N	4.7	3	S
20251121.12	0.58	N	4.5	3	S
20251121.15	0.51	N	4.1	4	NE
20251121.18	0.47	N	3.6	6	N
20251121.21	0.45	N	3.3	3	N
20251122.00	0.44	NE	3.3	1	S
20251122.03	0.42	NE	3.4	3	SE
20251122.06	0.41	NE	3.3	4	E
20251122.09	0.40	NE	3.0	4	SE
20251122.12	0.39	NE	2.9	4	E
20251122.15	0.38	NE	2.9	4	NE
20251122.18	0.38	NE	2.9	4	NW
20251122.21	0.40	E	2.9	4	NW
20251123.00	0.39	E	3.0	4	SE
20251123.03	0.36	E	3.2	3	SE
20251123.06	0.35	E	3.1	3	S
20251123.09	0.36	E	3.0	3	E
20251123.12	0.36	NE	2.7	4	NE
20251123.15	0.37	NE	2.6	5	NE
20251123.18	0.38	NE	2.5	5	W
20251123.21	0.35	E	2.6	4	NW
20251124.00	0.32	E	2.6	3	SW
20251124.03	0.30	E	2.7	4	SW
20251124.06	0.31	E	2.5	4	E
20251124.09	0.31	E	2.4	2	S
20251124.12	0.31	N	2.6	2	NW
20251124.15	0.30	NE	2.7	2	NE
20251124.18	0.30	NE	2.6	2	S
20251124.21	0.31	E	2.6	3	SE
20251125.00	0.30	E	2.5	4	SE
20251125.03	0.31	N	2.3	5	S
20251125.06	0.35	N	2.2	6	NE
20251125.09	0.33	N	2.2	4	NE
20251125.12	0.27	NE	2.3	2	W

Wind condition in the Fort-Shevchenko

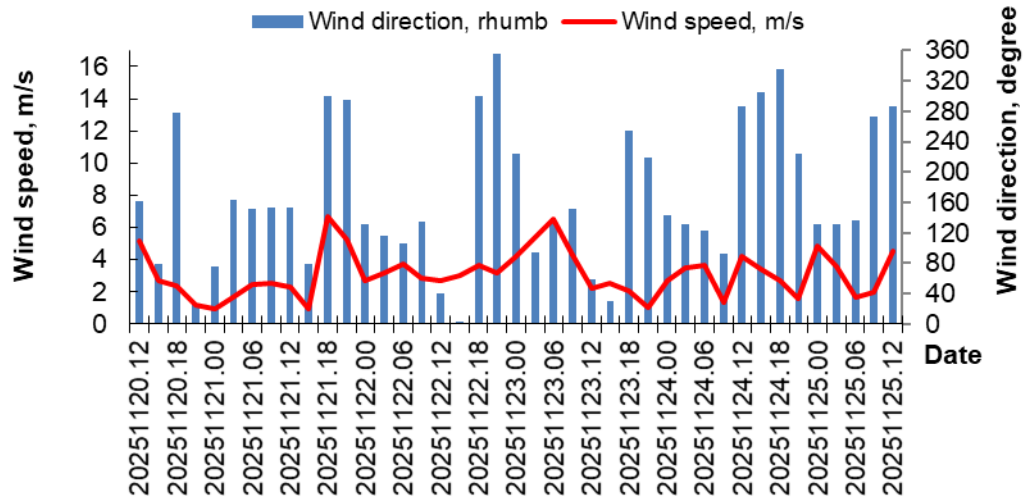


Wave condition in the Fort-Shevchenko

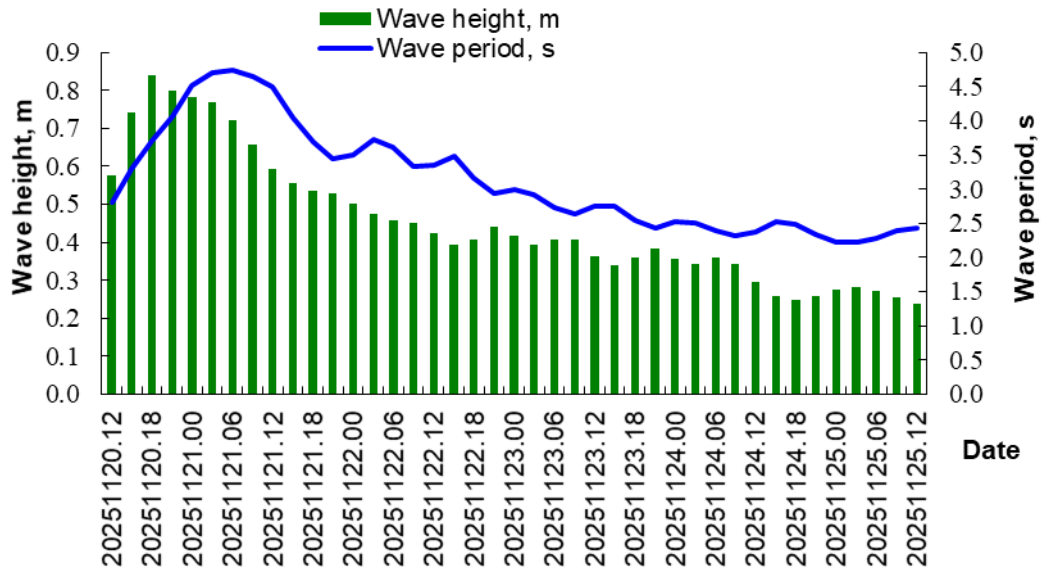


Date time	Fort-Shevchenko				
	Wave height, m	Wave direction, rhumb	Wave period, s	Wind speed, m/s	Wind direction, rhumb
20251120.12	0.69	N	2.9	6	S
20251120.15	0.83	N	3.3	4	E
20251120.18	0.88	N	3.7	2	NE
20251120.21	0.85	N	4.1	2	NE
20251121.00	0.85	N	4.6	2	NE
20251121.03	0.83	N	4.9	2	S
20251121.06	0.76	N	4.9	3	SE
20251121.09	0.67	N	4.7	2	SE
20251121.12	0.58	N	4.5	2	SE
20251121.15	0.52	N	4.1	3	NE
20251121.18	0.49	N	3.7	6	W
20251121.21	0.48	N	3.3	5	N
20251122.00	0.46	NE	3.3	3	SE
20251122.03	0.43	NE	3.4	4	SE
20251122.06	0.43	NE	3.1	5	E
20251122.09	0.44	N	2.8	5	SE
20251122.12	0.42	NE	2.8	4	NE
20251122.15	0.39	NE	3.0	4	N
20251122.18	0.39	NE	3.1	4	NW
20251122.21	0.41	E	3.1	3	W
20251123.00	0.39	E	3.2	3	S
20251123.03	0.37	E	3.2	4	SE
20251123.06	0.39	NE	2.8	4	NE
20251123.09	0.42	NE	2.6	3	N
20251123.12	0.38	E	2.7	3	NW
20251123.15	0.35	E	2.6	5	NE
20251123.18	0.38	E	2.4	5	W
20251123.21	0.38	SE	2.5	4	NW
20251124.00	0.33	E	2.6	3	SW
20251124.03	0.29	E	2.8	4	SW
20251124.06	0.27	E	2.8	4	E
20251124.09	0.27	E	2.7	2	S
20251124.12	0.27	NE	2.6	2	NW
20251124.15	0.28	NE	2.6	2	NE
20251124.18	0.30	E	2.4	2	S
20251124.21	0.31	E	2.3	3	SE
20251125.00	0.29	E	2.4	4	SE
20251125.03	0.28	NE	2.4	5	S
20251125.06	0.27	NE	2.2	6	NE
20251125.09	0.28	NE	2.1	4	NE
20251125.12	0.31	NE	2.1	2	W

Wind condition in the Aktau

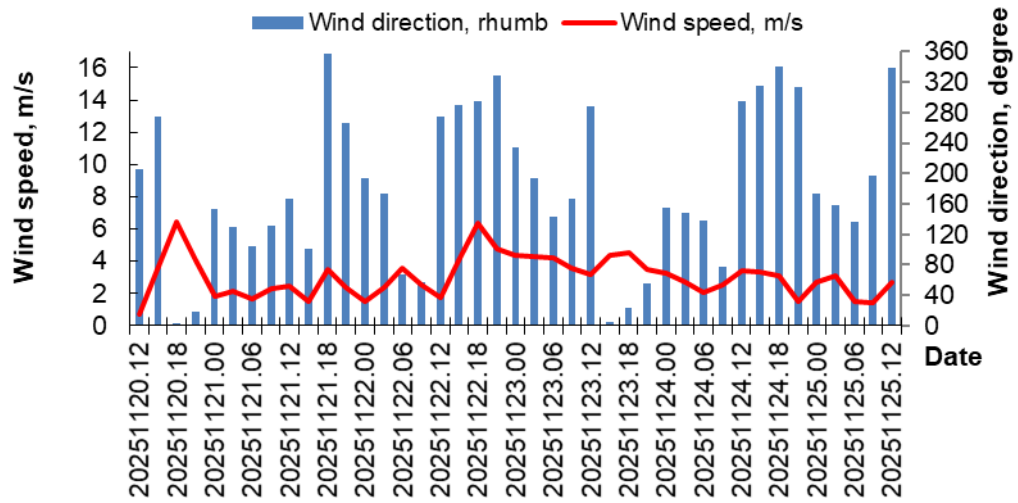


Wave condition in the Aktau

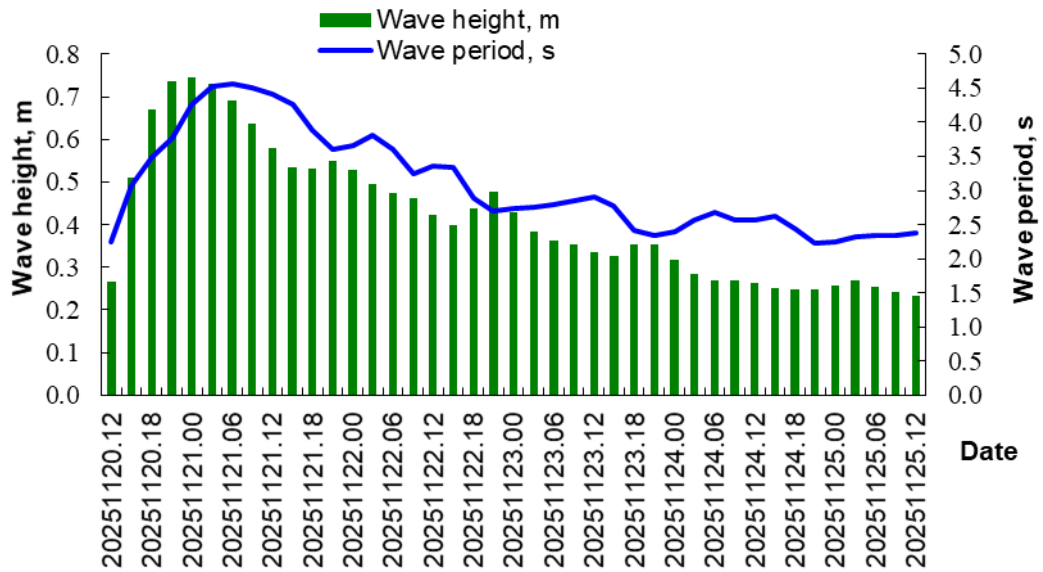


Date time	Aktau				
	Wave height, m	Направление волны, румб	Wave height, m	Скорость ветра, м/с	Wave height, m
20251120.12	0.57	N	2.8	5	S
20251120.15	0.74	N	3.3	3	E
20251120.18	0.84	N	3.7	2	W
20251120.21	0.80	N	4.1	1	NE
20251121.00	0.78	N	4.5	1	E
20251121.03	0.77	N	4.7	2	S
20251121.06	0.72	N	4.7	2	SE
20251121.09	0.66	N	4.7	3	SE
20251121.12	0.59	N	4.5	2	SE
20251121.15	0.55	N	4.0	1	E
20251121.18	0.54	N	3.7	7	NW
20251121.21	0.53	N	3.4	5	NW
20251122.00	0.50	NE	3.5	3	SE
20251122.03	0.47	NE	3.7	3	SE
20251122.06	0.46	NE	3.6	4	E
20251122.09	0.45	NE	3.3	3	SE
20251122.12	0.42	NE	3.3	3	NE
20251122.15	0.39	NE	3.5	3	N
20251122.18	0.41	NE	3.2	4	NW
20251122.21	0.44	E	2.9	3	N
20251123.00	0.42	E	3.0	4	SW
20251123.03	0.39	E	2.9	5	E
20251123.06	0.41	NE	2.7	6	SE
20251123.09	0.41	N	2.6	4	SE
20251123.12	0.36	N	2.8	2	NE
20251123.15	0.34	NE	2.7	3	NE
20251123.18	0.36	NE	2.5	2	W
20251123.21	0.38	NE	2.4	1	SW
20251124.00	0.36	N	2.5	3	SE
20251124.03	0.34	N	2.5	4	SE
20251124.06	0.36	N	2.4	4	SE
20251124.09	0.34	N	2.3	1	E
20251124.12	0.30	N	2.4	4	W
20251124.15	0.26	N	2.5	3	NW
20251124.18	0.25	NE	2.5	3	NW
20251124.21	0.26	E	2.3	2	SW
20251125.00	0.27	E	2.2	5	SE
20251125.03	0.28	NW	2.2	4	SE
20251125.06	0.27	NW	2.3	2	SE
20251125.09	0.26	NW	2.4	2	W
20251125.12	0.24	N	2.4	5	W

Wind condition in the Peschanyi

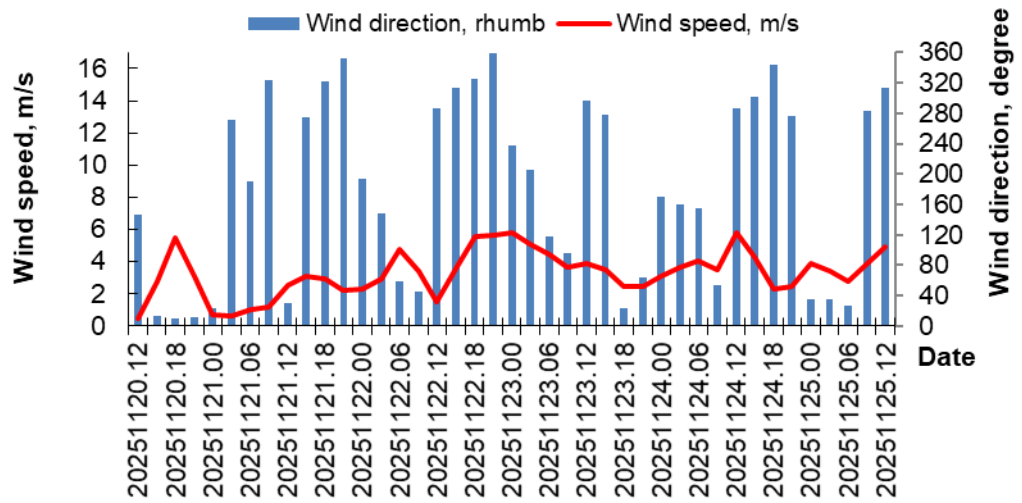


Wave condition in the Peschanyi

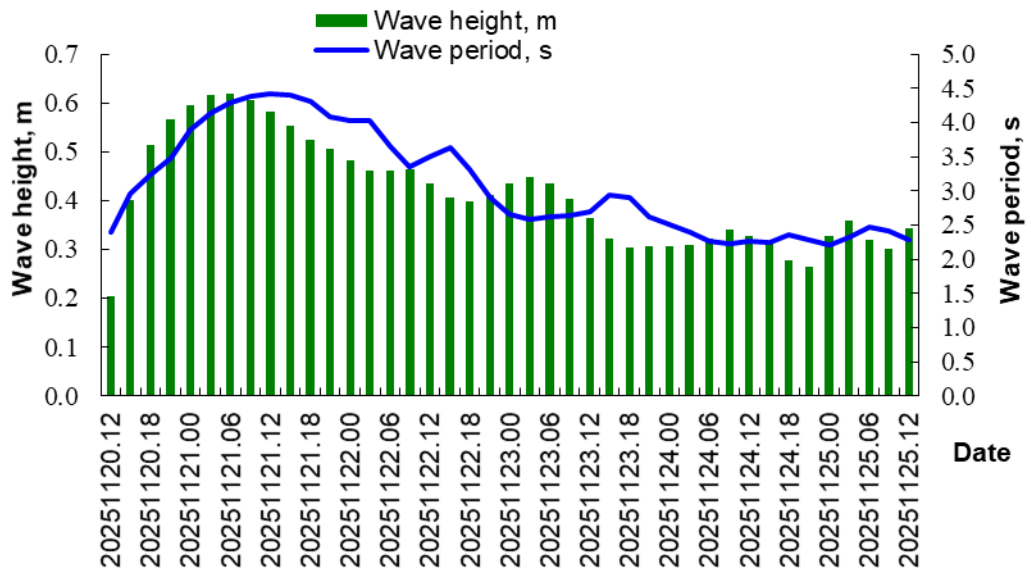


Date time	Peschanyi (Isan)				
	Wave height, m	Wave direction, rhumb	Wave period, s	Wind speed, m/s	Wind direction, rhumb
20251120.12	0.26	NW	2.2	1	SW
20251120.15	0.51	NW	3.1	3	W
20251120.18	0.67	NW	3.5	6	N
20251120.21	0.74	N	3.8	4	N
20251121.00	0.75	N	4.3	2	SE
20251121.03	0.73	N	4.5	2	SE
20251121.06	0.69	N	4.6	2	E
20251121.09	0.64	N	4.5	2	SE
20251121.12	0.58	N	4.4	2	S
20251121.15	0.53	N	4.3	1	E
20251121.18	0.53	N	3.9	4	N
20251121.21	0.55	NE	3.6	2	W
20251122.00	0.53	NE	3.7	1	S
20251122.03	0.49	NE	3.8	2	S
20251122.06	0.47	NE	3.6	4	E
20251122.09	0.46	NE	3.3	3	NE
20251122.12	0.42	NE	3.4	2	W
20251122.15	0.40	NE	3.3	4	W
20251122.18	0.44	E	2.9	6	NW
20251122.21	0.48	E	2.7	5	NW
20251123.00	0.43	E	2.7	4	SW
20251123.03	0.38	E	2.8	4	S
20251123.06	0.36	E	2.8	4	SE
20251123.09	0.35	NE	2.8	4	S
20251123.12	0.34	NE	2.9	3	W
20251123.15	0.33	NE	2.8	4	N
20251123.18	0.35	E	2.4	5	NE
20251123.21	0.35	NE	2.3	4	NE
20251124.00	0.32	NE	2.4	3	SE
20251124.03	0.28	NE	2.6	3	SE
20251124.06	0.27	NE	2.7	2	SE
20251124.09	0.27	N	2.6	3	E
20251124.12	0.26	N	2.6	3	NW
20251124.15	0.25	N	2.6	3	NW
20251124.18	0.25	NE	2.4	3	N
20251124.21	0.25	E	2.2	2	NW
20251125.00	0.26	NE	2.3	3	S
20251125.03	0.27	NW	2.3	3	S
20251125.06	0.26	NW	2.4	1	SE
20251125.09	0.24	NW	2.4	1	S
20251125.12	0.23	N	2.4	3	N

Wind condition in the Fetisovo

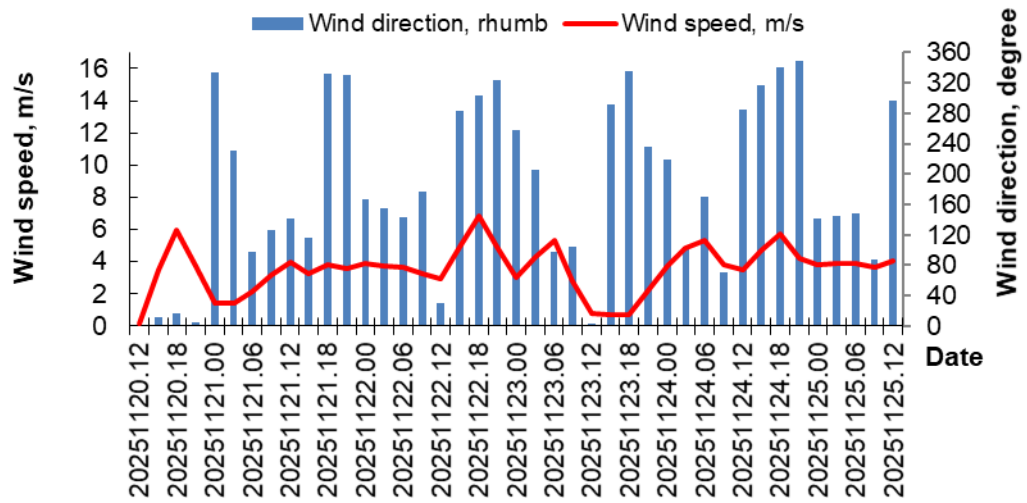


Wave condition in the Fetisovo

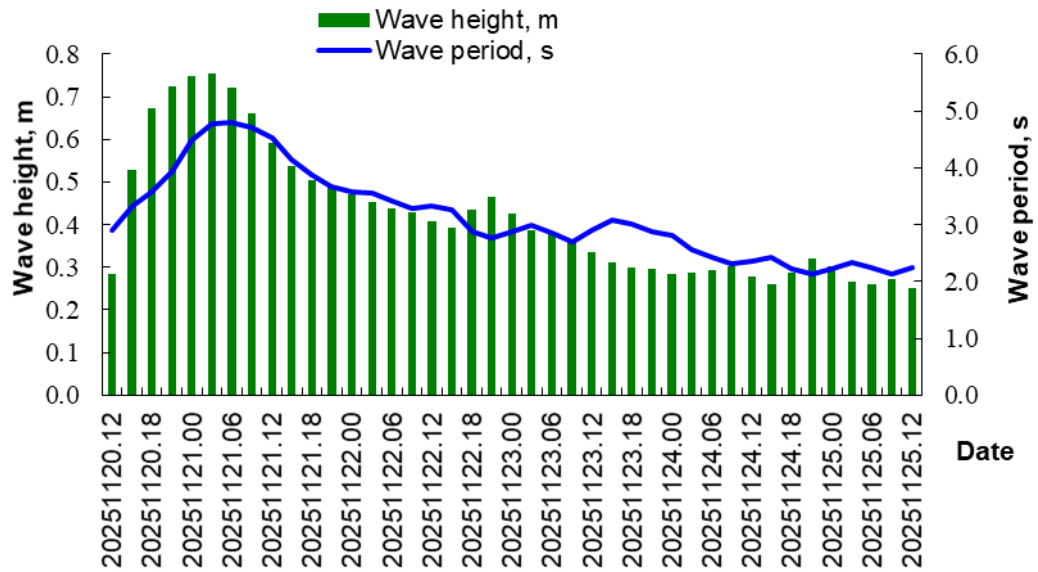


Date time	Fetisovo				
	Wave height, m	Wave direction, rhumb	Wave period, s	Wind speed, m/s	Wind direction, rhumb
20251120.12	0.20	NW	2.4	0	SE
20251120.15	0.40	NW	3.0	3	N
20251120.18	0.51	NW	3.2	5	N
20251120.21	0.57	NW	3.5	3	N
20251121.00	0.60	NW	3.9	1	NE
20251121.03	0.62	N	4.1	1	W
20251121.06	0.62	N	4.3	1	S
20251121.09	0.61	N	4.4	1	NW
20251121.12	0.58	N	4.4	3	NE
20251121.15	0.55	N	4.4	3	W
20251121.18	0.53	N	4.3	3	NW
20251121.21	0.51	N	4.1	2	N
20251122.00	0.48	N	4.0	2	S
20251122.03	0.46	N	4.0	3	SE
20251122.06	0.46	N	3.7	5	NE
20251122.09	0.46	NE	3.3	3	NE
20251122.12	0.43	NE	3.5	1	W
20251122.15	0.41	NE	3.6	4	NW
20251122.18	0.40	NE	3.3	6	NW
20251122.21	0.41	NE	2.9	6	N
20251123.00	0.43	E	2.7	6	SW
20251123.03	0.45	SE	2.6	5	SW
20251123.06	0.43	NW	2.6	4	SE
20251123.09	0.40	NW	2.6	4	E
20251123.12	0.36	NW	2.7	4	NW
20251123.15	0.32	N	2.9	4	W
20251123.18	0.30	N	2.9	2	NE
20251123.21	0.31	NE	2.6	2	NE
20251124.00	0.31	NE	2.5	3	S
20251124.03	0.31	N	2.4	4	S
20251124.06	0.32	N	2.3	4	SE
20251124.09	0.34	N	2.2	3	NE
20251124.12	0.33	N	2.3	6	W
20251124.15	0.31	NE	2.3	4	NW
20251124.18	0.28	NE	2.4	2	N
20251124.21	0.26	NE	2.3	2	W
20251125.00	0.33	N	2.2	4	NE
20251125.03	0.36	N	2.3	3	NE
20251125.06	0.32	NW	2.5	3	NE
20251125.09	0.30	N	2.4	4	W
20251125.12	0.34	E	2.3	5	NW

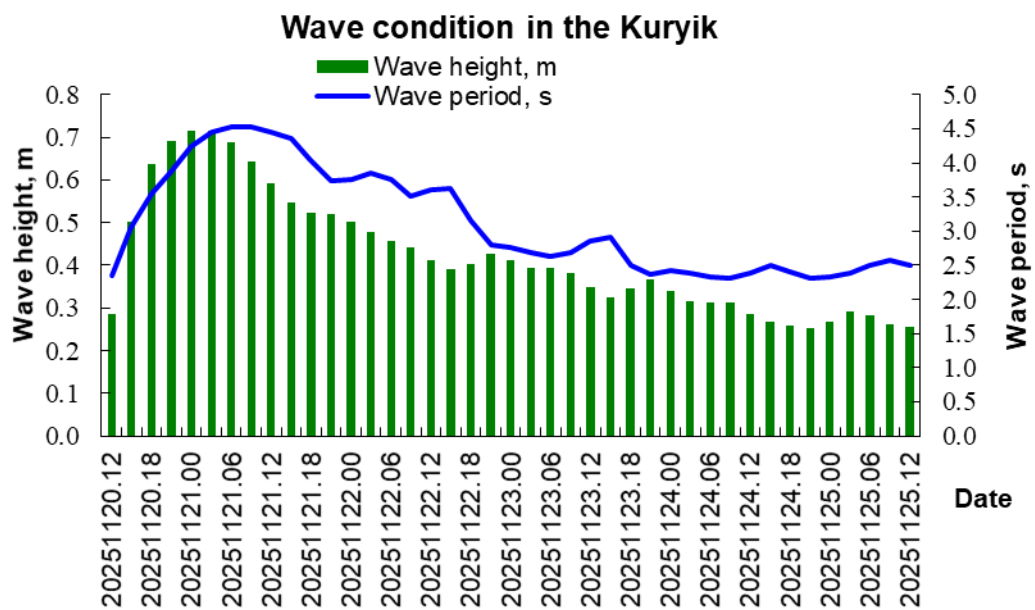
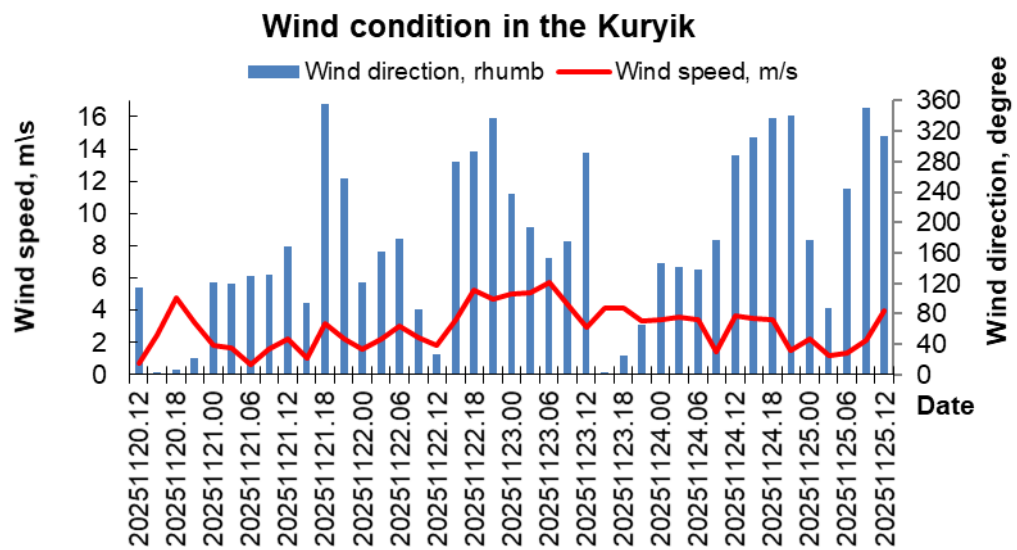
Wind condition in the Saura



Wave condition in the Saura



Date time	Saura				
	Wave height, m	Wave direction, rhumb	Wave period, s	Wind speed, m/s	Wind direction, rhumb
20251120.12	0.29	N	2.9	0	N
20251120.15	0.53	N	3.3	3	N
20251120.18	0.67	N	3.6	6	N
20251120.21	0.72	N	3.9	4	N
20251121.00	0.75	N	4.5	1	NW
20251121.03	0.75	N	4.8	1	SW
20251121.06	0.72	N	4.8	2	E
20251121.09	0.66	N	4.7	3	SE
20251121.12	0.59	N	4.5	4	SE
20251121.15	0.54	N	4.1	3	SE
20251121.18	0.51	N	3.9	4	NW
20251121.21	0.49	N	3.7	4	NW
20251122.00	0.47	N	3.6	4	S
20251122.03	0.45	NE	3.6	4	SE
20251122.06	0.44	NE	3.4	4	SE
20251122.09	0.43	NE	3.3	3	S
20251122.12	0.41	NE	3.3	3	NE
20251122.15	0.39	NE	3.3	5	W
20251122.18	0.43	E	2.9	7	NW
20251122.21	0.47	E	2.8	5	NW
20251123.00	0.43	E	2.9	3	W
20251123.03	0.39	E	3.0	4	SW
20251123.06	0.38	E	2.8	5	E
20251123.09	0.37	E	2.7	3	E
20251123.12	0.33	E	2.9	1	N
20251123.15	0.31	NE	3.1	1	W
20251123.18	0.30	E	3.0	1	NW
20251123.21	0.30	E	2.9	2	SW
20251124.00	0.29	E	2.8	4	SW
20251124.03	0.29	E	2.6	5	E
20251124.06	0.29	NE	2.4	5	S
20251124.09	0.30	NE	2.3	4	E
20251124.12	0.28	NE	2.4	4	W
20251124.15	0.26	NE	2.4	5	NW
20251124.18	0.29	E	2.2	6	N
20251124.21	0.32	SE	2.1	4	N
20251125.00	0.30	SE	2.2	4	SE
20251125.03	0.27	SE	2.3	4	SE
20251125.06	0.26	N	2.2	4	SE
20251125.09	0.27	N	2.1	4	E
20251125.12	0.25	N	2.2	4	NW



Date time	Kuryk				
	Wave height, m	Wave direction, rhumb	Wave period, s	Wind speed, m/s	Wind direction, rhumb
20251120.12	0.28	NW	2.3	1	SE
20251120.15	0.50	NW	3.1	2	N
20251120.18	0.64	NW	3.5	5	N
20251120.21	0.69	NW	3.9	3	N
20251121.00	0.72	N	4.3	2	SE
20251121.03	0.72	N	4.4	2	SE
20251121.06	0.69	N	4.5	1	SE
20251121.09	0.64	N	4.5	2	SE
20251121.12	0.59	N	4.5	2	S
20251121.15	0.55	N	4.4	1	E
20251121.18	0.52	N	4.0	3	N
20251121.21	0.52	N	3.7	2	W
20251122.00	0.50	NE	3.8	2	SE
20251122.03	0.48	NE	3.9	2	S
20251122.06	0.46	NE	3.8	3	S
20251122.09	0.44	NE	3.5	2	E
20251122.12	0.41	NE	3.6	2	NE
20251122.15	0.39	NE	3.6	3	W
20251122.18	0.40	NE	3.2	5	W
20251122.21	0.43	E	2.8	5	NW
20251123.00	0.41	E	2.8	5	SW
20251123.03	0.39	E	2.7	5	S
20251123.06	0.39	NE	2.6	6	SE
20251123.09	0.38	N	2.7	4	S
20251123.12	0.35	N	2.9	3	W
20251123.15	0.33	NE	2.9	4	N
20251123.18	0.34	NE	2.5	4	NE
20251123.21	0.37	NE	2.4	3	NE
20251124.00	0.34	NE	2.4	3	SE
20251124.03	0.32	N	2.4	4	SE
20251124.06	0.31	N	2.3	3	SE
20251124.09	0.31	N	2.3	1	S
20251124.12	0.29	N	2.4	4	W
20251124.15	0.27	NE	2.5	4	NW
20251124.18	0.26	NE	2.4	3	NW
20251124.21	0.25	E	2.3	1	N
20251125.00	0.27	N	2.3	2	S
20251125.03	0.29	NW	2.4	1	E
20251125.06	0.28	NW	2.5	1	SW
20251125.09	0.26	NW	2.6	2	N
20251125.12	0.26	NW	2.5	4	NW

**Calculation characteristics were obtained using the SWAN wave model, adapted in RSE «Kazhydromet» to the conditions of the Caspian Sea.*

Compiled by: Zhagparova N.N.

Checked by: Shishkina G.M.

RSE «Kazhydromet» – Caspian Sea Hydrometeorological Research Department

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