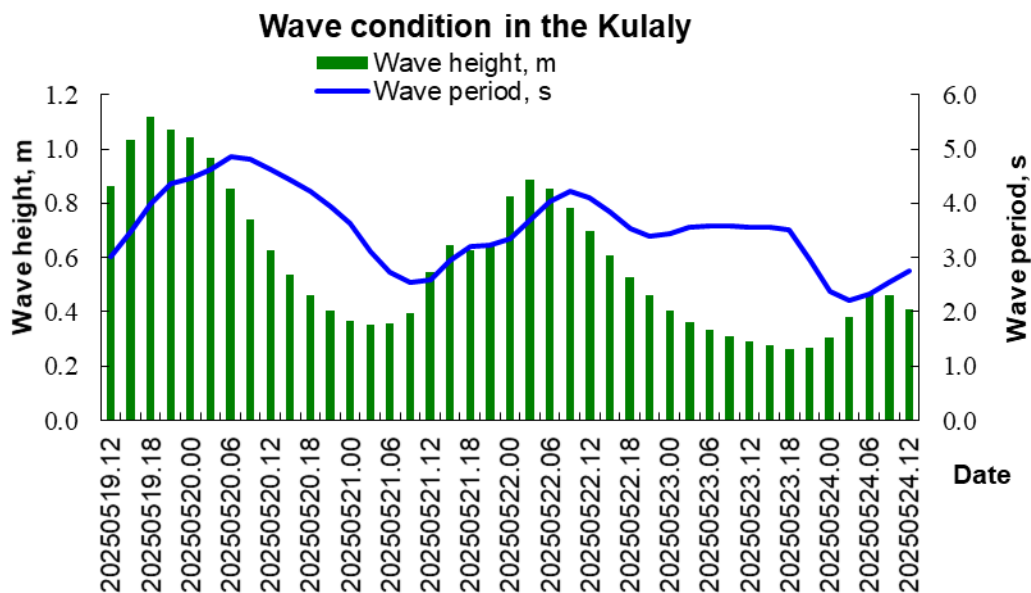
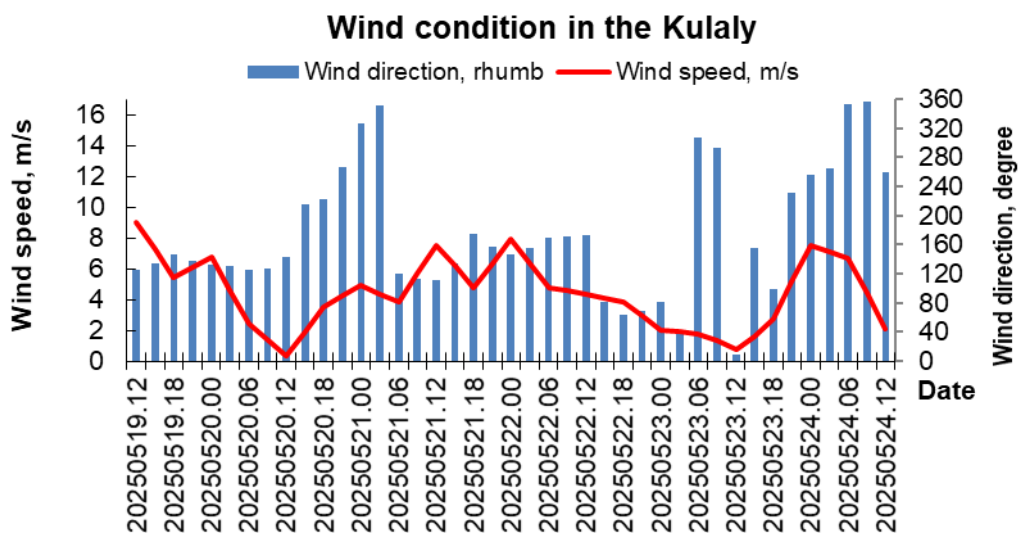




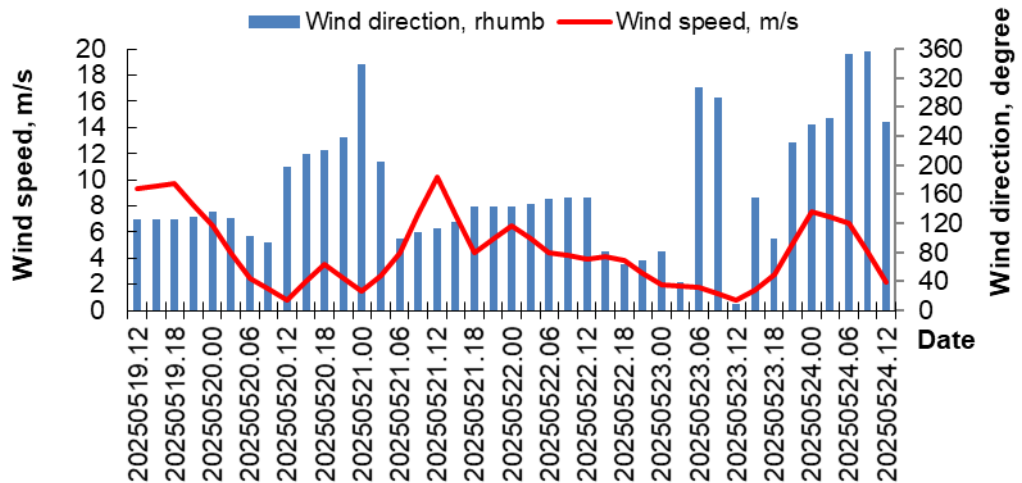
**MINISTRY OF ECOLOGY AND NATURAL RESOURCES
OF THE REPUBLIC OF KAZAKHSTAN
RSE «KAZHYDROMET»**

**Wave and wind forecast for the Kazakhstan part of the Caspian Sea with a 5-day advance
using SWAN spectral model for the period May 19 - 24, 2025.**

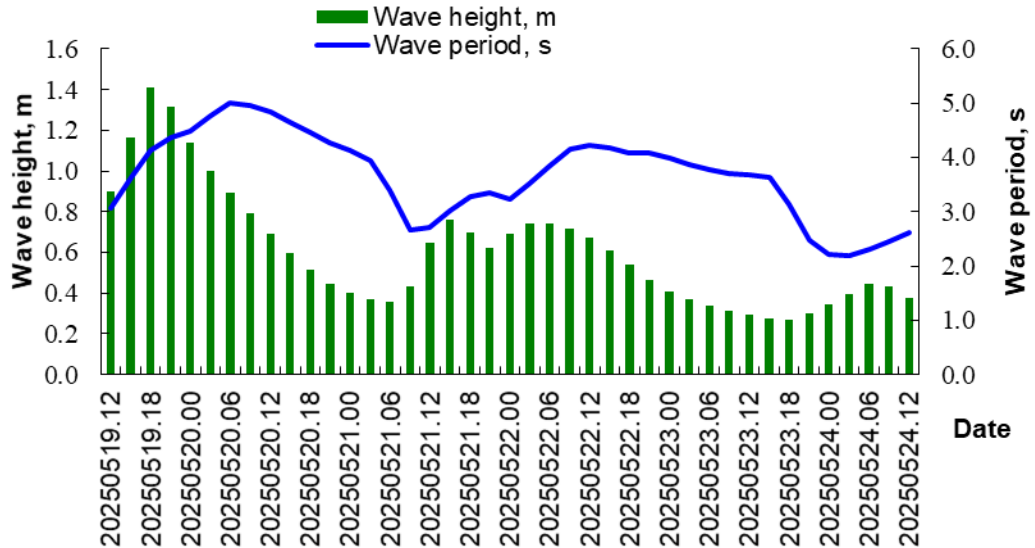


Date time	Kulaly				
	Wave height, m	Wave direction, rhumb	Wave period, s	Wind speed, m/s	Wind direction, rhumb
20250519.12	0.86	NW	3.0	9	SE
20250519.15	1.03	NW	3.5	7	SE
20250519.18	1.12	NW	4.0	5	SE
20250519.21	1.07	NW	4.4	6	SE
20250520.00	1.04	NW	4.5	7	SE
20250520.03	0.97	NW	4.6	5	SE
20250520.06	0.86	NW	4.9	2	SE
20250520.09	0.74	NW	4.8	1	SE
20250520.12	0.63	NW	4.6	0	SE
20250520.15	0.54	NW	4.4	2	SW
20250520.18	0.46	NW	4.2	3	SW
20250520.21	0.40	NW	3.9	4	W
20250521.00	0.37	NW	3.6	5	NW
20250521.03	0.35	NW	3.1	4	N
20250521.06	0.36	NW	2.7	4	SE
20250521.09	0.40	NW	2.5	6	SE
20250521.12	0.55	NW	2.6	7	E
20250521.15	0.65	NW	2.9	6	SE
20250521.18	0.63	NW	3.2	5	S
20250521.21	0.65	NW	3.2	6	S
20250522.00	0.83	NW	3.3	8	SE
20250522.03	0.89	NW	3.7	6	SE
20250522.06	0.85	NW	4.0	5	S
20250522.09	0.78	NW	4.2	5	S
20250522.12	0.70	NW	4.1	4	S
20250522.15	0.61	NW	3.9	4	E
20250522.18	0.53	NW	3.5	4	NE
20250522.21	0.46	NW	3.4	3	E
20250523.00	0.40	NW	3.4	2	E
20250523.03	0.36	N	3.6	2	NE
20250523.06	0.34	N	3.6	2	NW
20250523.09	0.31	N	3.6	1	NW
20250523.12	0.29	NE	3.6	1	N
20250523.15	0.28	NE	3.6	2	SE
20250523.18	0.26	NE	3.5	3	E
20250523.21	0.27	NE	3.0	5	SW
20250524.00	0.31	NE	2.4	8	W
20250524.03	0.38	SW	2.2	7	W
20250524.06	0.46	S	2.3	7	N
20250524.09	0.46	S	2.5	4	N
20250524.12	0.41	S	2.8	2	W

Wind condition in the Fort-Shevchenko

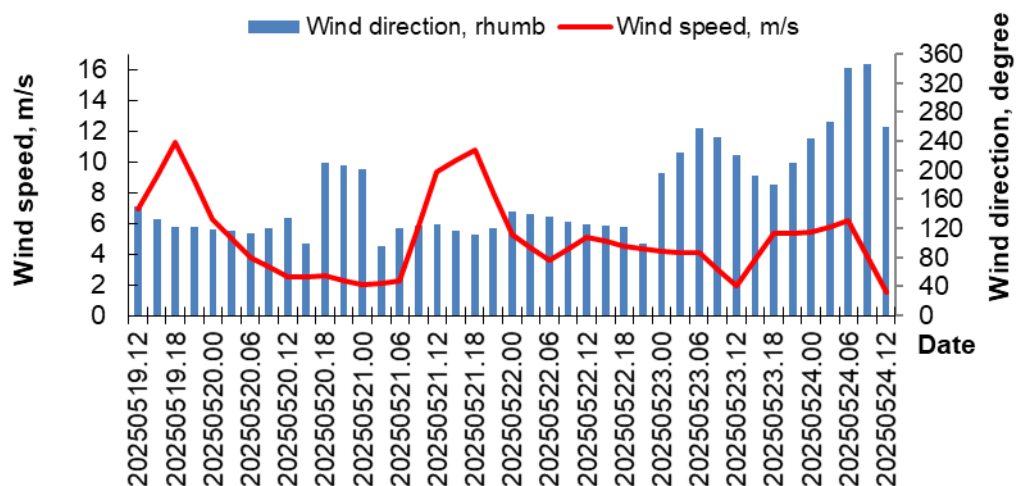


Wave condition in the Fort-Shevchenko

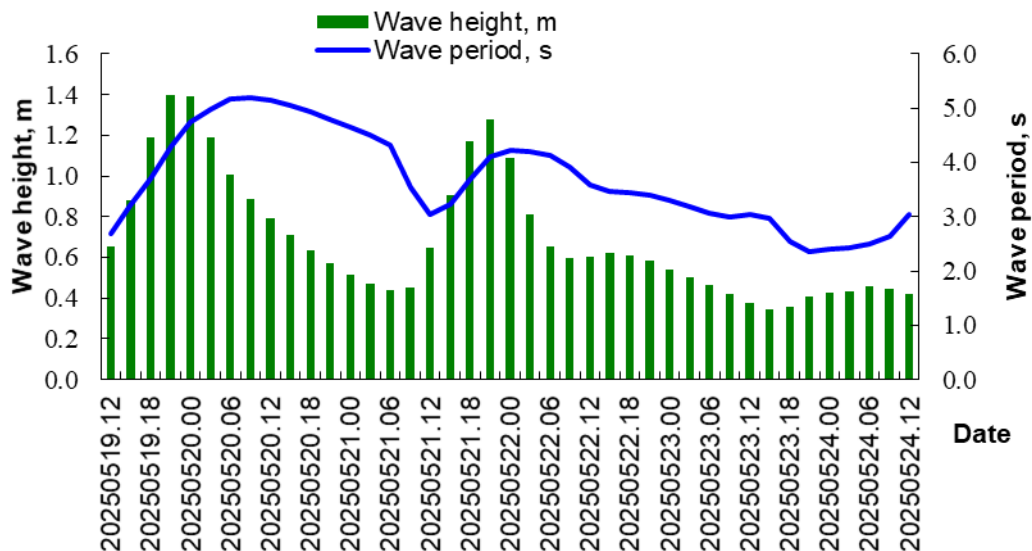


Date time	Fort-Shevchenko				
	Wave height, m	Wave direction, rhumb	Wave period, s	Wind speed, m/s	Wind direction, rhumb
20250519.12	0.90	NW	3.1	9	SE
20250519.15	1.16	NW	3.6	9	SE
20250519.18	1.41	NW	4.1	10	SE
20250519.21	1.32	NW	4.4	8	SE
20250520.00	1.14	NW	4.5	6	SE
20250520.03	1.00	NW	4.8	4	SE
20250520.06	0.90	NW	5.0	2	E
20250520.09	0.79	NW	5.0	2	E
20250520.12	0.69	NW	4.8	1	S
20250520.15	0.59	NW	4.7	2	SW
20250520.18	0.51	NW	4.5	4	SW
20250520.21	0.45	NW	4.3	3	SW
20250521.00	0.40	NW	4.1	1	N
20250521.03	0.37	NW	3.9	3	SW
20250521.06	0.36	NW	3.4	4	E
20250521.09	0.43	NW	2.7	7	E
20250521.12	0.64	NW	2.7	10	E
20250521.15	0.76	NW	3.0	7	SE
20250521.18	0.70	NW	3.3	4	SE
20250521.21	0.62	NW	3.4	5	SE
20250522.00	0.69	NW	3.2	7	SE
20250522.03	0.74	NW	3.5	5	SE
20250522.06	0.74	NW	3.8	4	SE
20250522.09	0.72	NW	4.1	4	SE
20250522.12	0.67	NW	4.2	4	SE
20250522.15	0.61	NW	4.2	4	E
20250522.18	0.54	NW	4.1	4	NE
20250522.21	0.47	NW	4.1	3	E
20250523.00	0.41	NW	4.0	2	E
20250523.03	0.37	NW	3.9	2	NE
20250523.06	0.34	N	3.8	2	NW
20250523.09	0.31	N	3.7	1	NW
20250523.12	0.29	N	3.7	1	N
20250523.15	0.28	N	3.6	2	SE
20250523.18	0.27	N	3.1	3	E
20250523.21	0.30	N	2.5	5	SW
20250524.00	0.34	W	2.2	8	W
20250524.03	0.40	SW	2.2	7	W
20250524.06	0.44	S	2.3	7	N
20250524.09	0.43	S	2.5	4	N
20250524.12	0.38	S	2.6	2	W

Wind condition in the Aktau

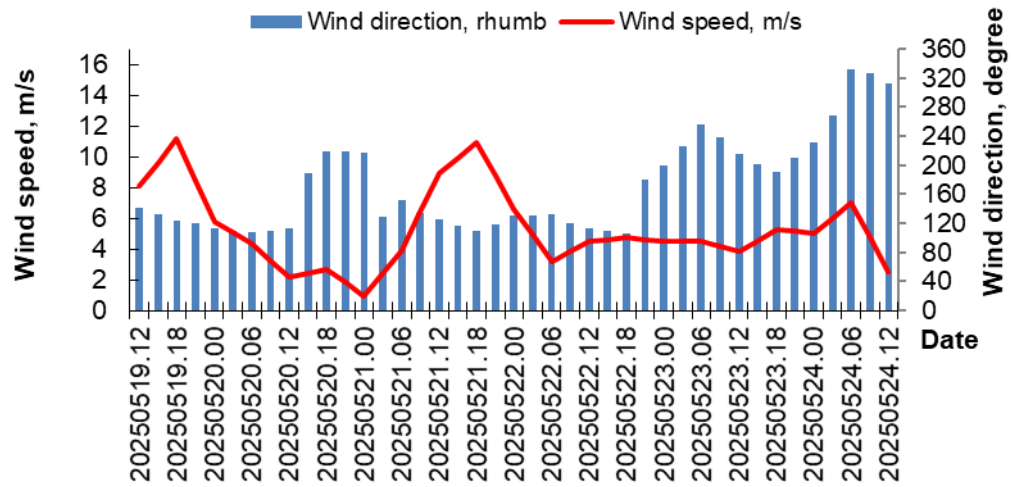


Wave condition in the Aktau

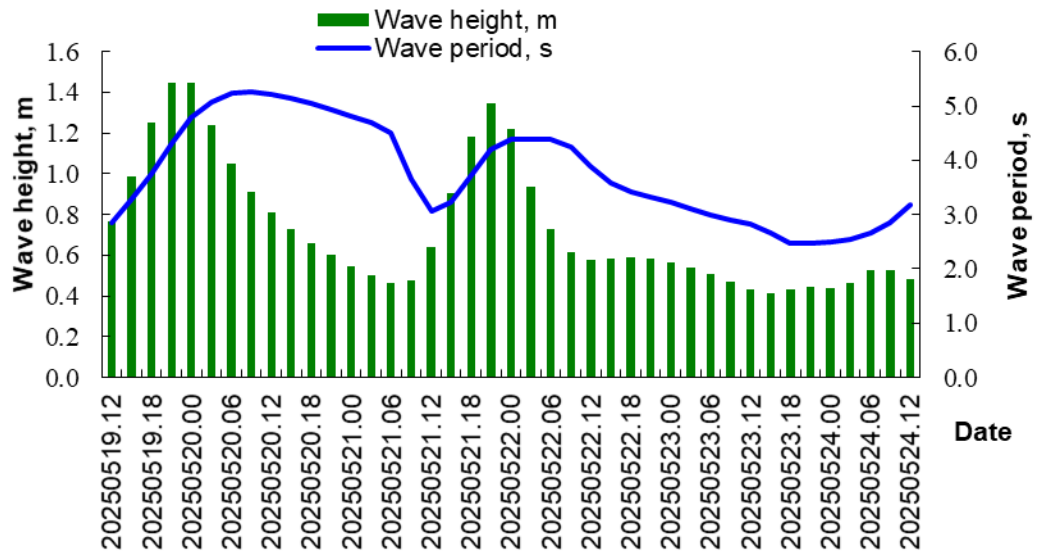


Date time	Aktau				
	Wave height, m	Направление волны, румб	Wave height, m	Скорость ветра, м/с	Wave height, m
20250519.12	0.65	NW	2.7	7	SE
20250519.15	0.88	NW	3.2	9	SE
20250519.18	1.19	NW	3.7	11	SE
20250519.21	1.40	NW	4.3	9	SE
20250520.00	1.39	NW	4.7	6	SE
20250520.03	1.19	NW	5.0	5	SE
20250520.06	1.01	NW	5.2	4	SE
20250520.09	0.88	NW	5.2	3	SE
20250520.12	0.79	NW	5.1	3	SE
20250520.15	0.71	NW	5.1	3	E
20250520.18	0.64	NW	4.9	3	SW
20250520.21	0.57	NW	4.8	2	SW
20250521.00	0.52	NW	4.7	2	S
20250521.03	0.47	NW	4.5	2	E
20250521.06	0.44	NW	4.3	2	SE
20250521.09	0.46	NW	3.5	6	SE
20250521.12	0.65	NW	3.0	9	SE
20250521.15	0.91	NW	3.2	10	SE
20250521.18	1.17	NW	3.7	11	E
20250521.21	1.28	NW	4.1	8	SE
20250522.00	1.09	NW	4.2	5	SE
20250522.03	0.81	NW	4.2	4	SE
20250522.06	0.65	NW	4.1	4	SE
20250522.09	0.59	NW	3.9	4	SE
20250522.12	0.61	NW	3.6	5	SE
20250522.15	0.62	NW	3.5	5	SE
20250522.18	0.61	NW	3.4	5	SE
20250522.21	0.58	NW	3.4	4	E
20250523.00	0.54	NW	3.3	4	S
20250523.03	0.50	NW	3.2	4	SW
20250523.06	0.46	NW	3.1	4	W
20250523.09	0.42	NW	3.0	3	SW
20250523.12	0.38	NW	3.0	2	SW
20250523.15	0.35	NW	3.0	4	S
20250523.18	0.36	NW	2.5	5	S
20250523.21	0.41	W	2.4	5	SW
20250524.00	0.43	W	2.4	5	SW
20250524.03	0.43	SW	2.4	6	W
20250524.06	0.46	S	2.5	6	N
20250524.09	0.44	S	2.6	4	N
20250524.12	0.42	S	3.0	2	W

Wind condition in the Peschanyi

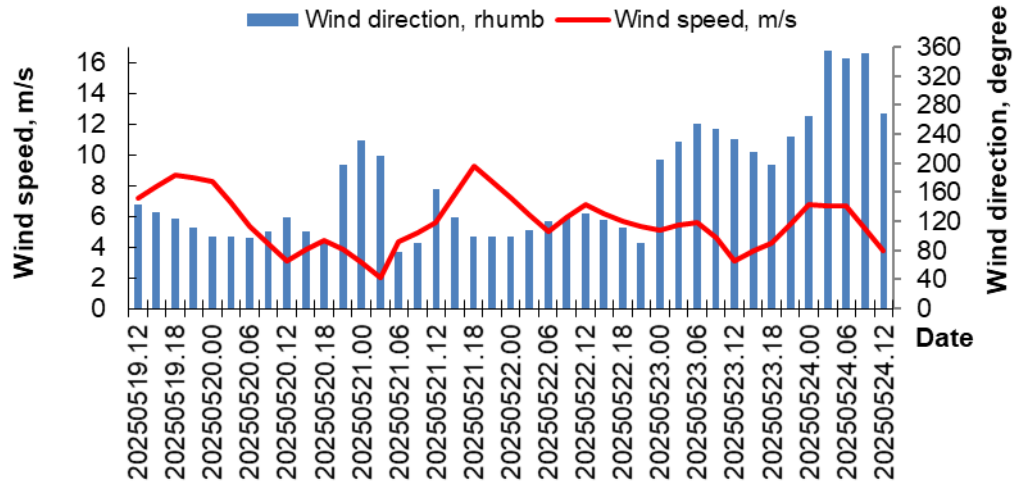


Wave condition in the Peschanyi

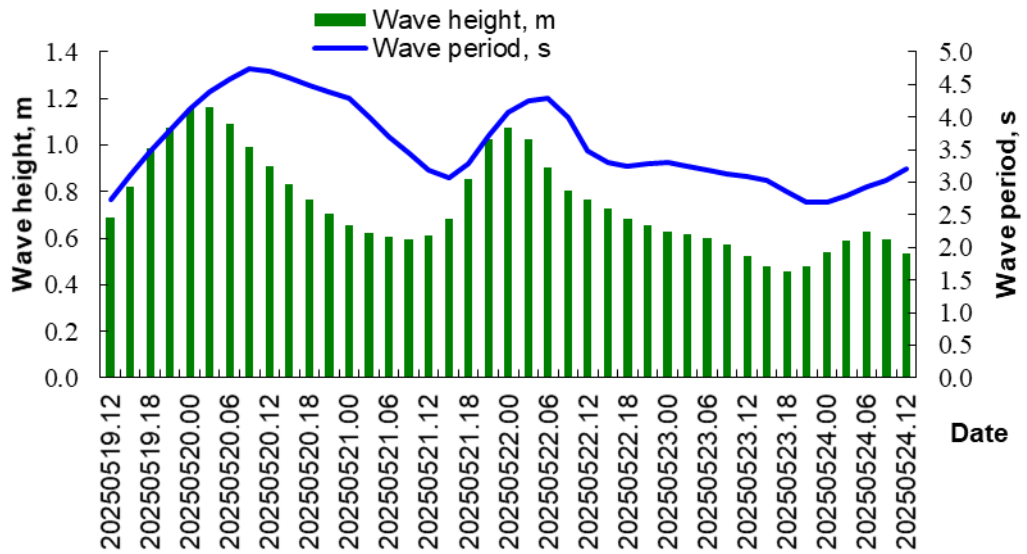


Date time	Peschanyi (Isan)				
	Wave height, m	Wave direction, rhumb	Wave period, s	Wind speed, m/s	Wind direction, rhumb
20250519.12	0.76	NW	2.9	8	SE
20250519.15	0.99	NW	3.3	10	SE
20250519.18	1.25	NW	3.8	11	SE
20250519.21	1.45	NW	4.3	8	SE
20250520.00	1.45	NW	4.8	6	SE
20250520.03	1.24	NW	5.1	5	E
20250520.06	1.05	NW	5.2	4	E
20250520.09	0.91	NW	5.3	3	E
20250520.12	0.81	NW	5.2	2	SE
20250520.15	0.73	NW	5.1	2	S
20250520.18	0.66	NW	5.0	3	SW
20250520.21	0.60	NW	4.9	2	SW
20250521.00	0.55	NW	4.8	1	SW
20250521.03	0.50	NW	4.7	2	SE
20250521.06	0.47	NW	4.5	4	SE
20250521.09	0.48	NW	3.7	6	SE
20250521.12	0.64	NW	3.1	9	SE
20250521.15	0.90	NW	3.2	10	SE
20250521.18	1.18	NW	3.7	11	E
20250521.21	1.35	NW	4.2	9	SE
20250522.00	1.22	NW	4.4	7	SE
20250522.03	0.93	NW	4.4	5	SE
20250522.06	0.73	NW	4.4	3	SE
20250522.09	0.62	NW	4.2	4	SE
20250522.12	0.58	NW	3.9	4	SE
20250522.15	0.58	NW	3.6	5	E
20250522.18	0.59	NW	3.4	5	E
20250522.21	0.58	NW	3.3	5	S
20250523.00	0.57	NW	3.2	4	S
20250523.03	0.54	NW	3.1	5	SW
20250523.06	0.51	W	3.0	5	W
20250523.09	0.47	W	2.9	4	SW
20250523.12	0.43	W	2.8	4	SW
20250523.15	0.41	W	2.7	5	S
20250523.18	0.43	W	2.5	5	S
20250523.21	0.44	W	2.5	5	SW
20250524.00	0.44	W	2.5	5	SW
20250524.03	0.46	SW	2.5	6	W
20250524.06	0.52	S	2.7	7	NW
20250524.09	0.53	S	2.9	5	NW
20250524.12	0.49	S	3.2	3	NW

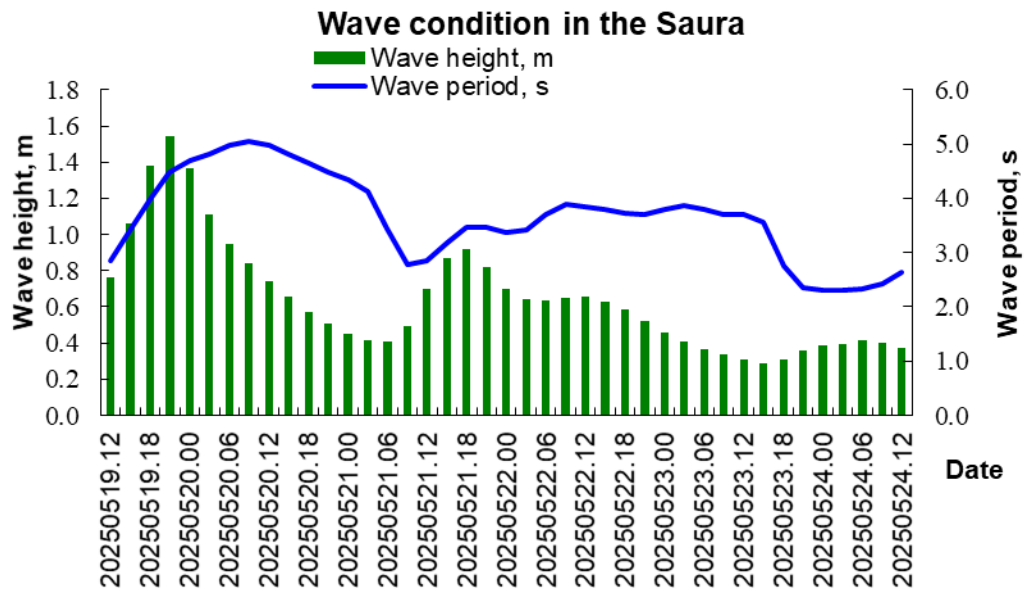
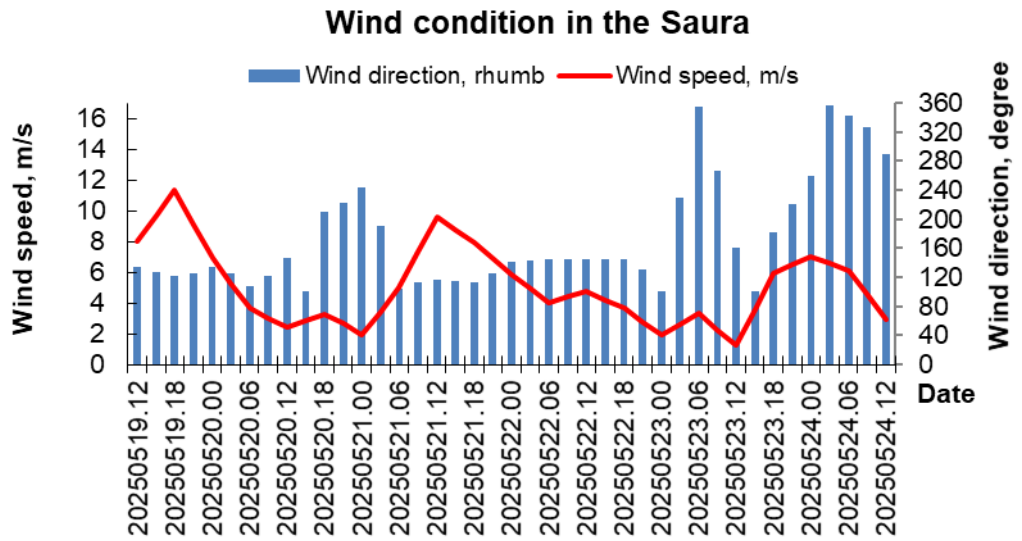
Wind condition in the Fetisovo



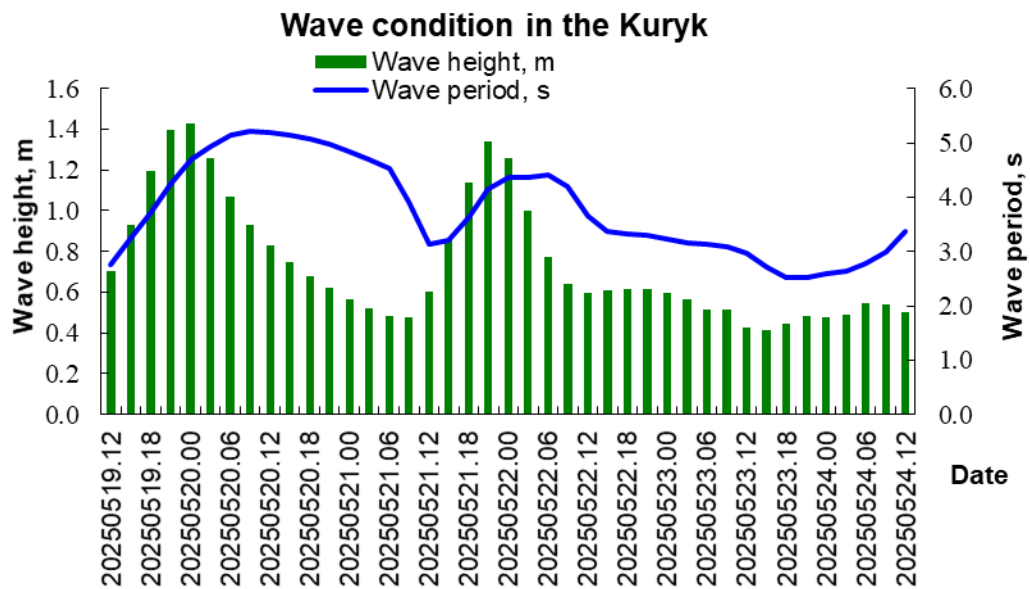
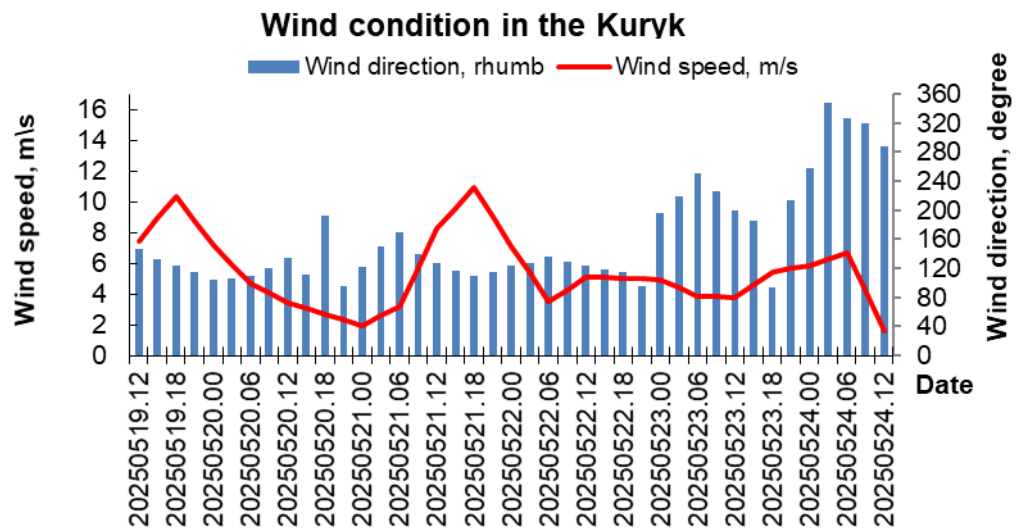
Wave condition in the Fetisovo



Date time	Fetisovo				
	Wave height, m	Wave direction, rhumb	Wave period, s	Wind speed, m/s	Wind direction, rhumb
20250519.12	0.69	NW	2.7	7	SE
20250519.15	0.82	NW	3.1	8	SE
20250519.18	0.98	NW	3.5	9	SE
20250519.21	1.07	NW	3.8	8	E
20250520.00	1.15	NW	4.1	8	E
20250520.03	1.16	NW	4.4	7	E
20250520.06	1.09	NW	4.6	5	E
20250520.09	0.99	NW	4.7	4	E
20250520.12	0.91	NW	4.7	3	SE
20250520.15	0.83	NW	4.6	4	E
20250520.18	0.76	NW	4.5	4	E
20250520.21	0.70	NW	4.4	4	S
20250521.00	0.65	NW	4.3	3	SW
20250521.03	0.62	NW	4.0	2	SW
20250521.06	0.60	NW	3.7	4	E
20250521.09	0.59	NW	3.4	5	E
20250521.12	0.61	NW	3.2	6	S
20250521.15	0.68	NW	3.1	7	SE
20250521.18	0.85	NW	3.3	9	E
20250521.21	1.03	NW	3.7	8	E
20250522.00	1.08	NW	4.1	7	E
20250522.03	1.02	NW	4.2	6	E
20250522.06	0.91	NW	4.3	5	SE
20250522.09	0.80	NW	4.0	6	SE
20250522.12	0.77	NW	3.5	7	SE
20250522.15	0.73	NW	3.3	6	SE
20250522.18	0.68	NW	3.3	6	E
20250522.21	0.65	NW	3.3	5	E
20250523.00	0.63	NW	3.3	5	SW
20250523.03	0.62	W	3.3	5	SW
20250523.06	0.60	W	3.2	6	W
20250523.09	0.57	W	3.1	5	SW
20250523.12	0.52	W	3.1	3	SW
20250523.15	0.48	W	3.0	4	SW
20250523.18	0.46	W	2.9	4	S
20250523.21	0.48	W	2.7	5	SW
20250524.00	0.54	SW	2.7	7	W
20250524.03	0.59	S	2.8	7	N
20250524.06	0.63	S	2.9	7	N
20250524.09	0.59	S	3.0	5	N
20250524.12	0.53	S	3.2	4	W



Date time	Saura				
	Wave height, m	Wave direction, rhumb	Wave period, s	Wind speed, m/s	Wind direction, rhumb
20250519.12	0.76	NW	2.8	8	SE
20250519.15	1.06	NW	3.4	10	SE
20250519.18	1.38	NW	4.0	11	SE
20250519.21	1.54	NW	4.5	9	SE
20250520.00	1.37	NW	4.7	7	SE
20250520.03	1.11	NW	4.8	5	SE
20250520.06	0.95	NW	5.0	4	E
20250520.09	0.84	NW	5.1	3	SE
20250520.12	0.74	NW	5.0	2	SE
20250520.15	0.66	NW	4.8	3	E
20250520.18	0.57	NW	4.6	3	SW
20250520.21	0.51	NW	4.5	3	SW
20250521.00	0.45	NW	4.3	2	SW
20250521.03	0.41	NW	4.1	3	S
20250521.06	0.41	NW	3.4	5	E
20250521.09	0.49	NW	2.8	7	E
20250521.12	0.70	NW	2.8	10	SE
20250521.15	0.87	NW	3.2	9	SE
20250521.18	0.92	NW	3.5	8	SE
20250521.21	0.82	NW	3.5	7	SE
20250522.00	0.70	NW	3.4	6	SE
20250522.03	0.64	NW	3.4	5	SE
20250522.06	0.64	NW	3.7	4	SE
20250522.09	0.65	NW	3.9	4	SE
20250522.12	0.65	NW	3.9	5	SE
20250522.15	0.63	NW	3.8	4	SE
20250522.18	0.58	NW	3.7	4	SE
20250522.21	0.52	NW	3.7	3	SE
20250523.00	0.46	NW	3.8	2	E
20250523.03	0.41	NW	3.9	3	SW
20250523.06	0.37	NW	3.8	3	N
20250523.09	0.34	NW	3.7	2	W
20250523.12	0.31	N	3.7	1	S
20250523.15	0.29	N	3.6	4	E
20250523.18	0.31	N	2.8	6	S
20250523.21	0.36	NW	2.4	6	SW
20250524.00	0.39	W	2.3	7	W
20250524.03	0.40	SW	2.3	7	N
20250524.06	0.42	S	2.3	6	N
20250524.09	0.40	S	2.4	5	NW
20250524.12	0.37	S	2.6	3	W



Date time	Kuryk				
	Wave height, m	Wave direction, rhumb	Wave period, s	Wind speed, m/s	Wind direction, rhumb
20250519.12	0.70	NW	2.8	7	SE
20250519.15	0.93	NW	3.3	9	SE
20250519.18	1.19	NW	3.7	10	SE
20250519.21	1.40	NW	4.3	9	SE
20250520.00	1.43	NW	4.7	7	E
20250520.03	1.26	NW	4.9	6	E
20250520.06	1.07	NW	5.2	5	E
20250520.09	0.93	NW	5.2	4	SE
20250520.12	0.83	NW	5.2	3	SE
20250520.15	0.75	NW	5.1	3	E
20250520.18	0.68	NW	5.1	3	S
20250520.21	0.62	NW	5.0	2	E
20250521.00	0.57	NW	4.8	2	SE
20250521.03	0.52	NW	4.7	3	SE
20250521.06	0.48	NW	4.5	3	S
20250521.09	0.48	NW	3.9	6	SE
20250521.12	0.60	NW	3.1	8	SE
20250521.15	0.86	NW	3.2	10	SE
20250521.18	1.14	NW	3.6	11	E
20250521.21	1.34	NW	4.2	9	SE
20250522.00	1.26	NW	4.4	7	SE
20250522.03	1.00	NW	4.4	5	SE
20250522.06	0.77	NW	4.4	3	SE
20250522.09	0.64	NW	4.2	4	SE
20250522.12	0.60	NW	3.6	5	SE
20250522.15	0.61	NW	3.4	5	SE
20250522.18	0.62	NW	3.3	5	SE
20250522.21	0.61	NW	3.3	5	E
20250523.00	0.60	NW	3.2	5	S
20250523.03	0.56	NW	3.2	4	SW
20250523.06	0.52	NW	3.1	4	W
20250523.09	0.52	NW	3.1	4	SW
20250523.12	0.43	NW	3.0	4	S
20250523.15	0.42	W	2.7	5	S
20250523.18	0.45	W	2.5	5	E
20250523.21	0.48	W	2.5	6	SW
20250524.00	0.48	W	2.6	6	W
20250524.03	0.49	SW	2.6	6	N
20250524.06	0.55	S	2.8	7	NW
20250524.09	0.54	S	3.0	4	NW
20250524.12	0.50	S	3.4	2	W

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

Compiled by: Bazarbay L.B.

Checked by: Shishkina G.M.

RSE «Kazhydromet» – Caspian Sea Hydrometeorological Research Department

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