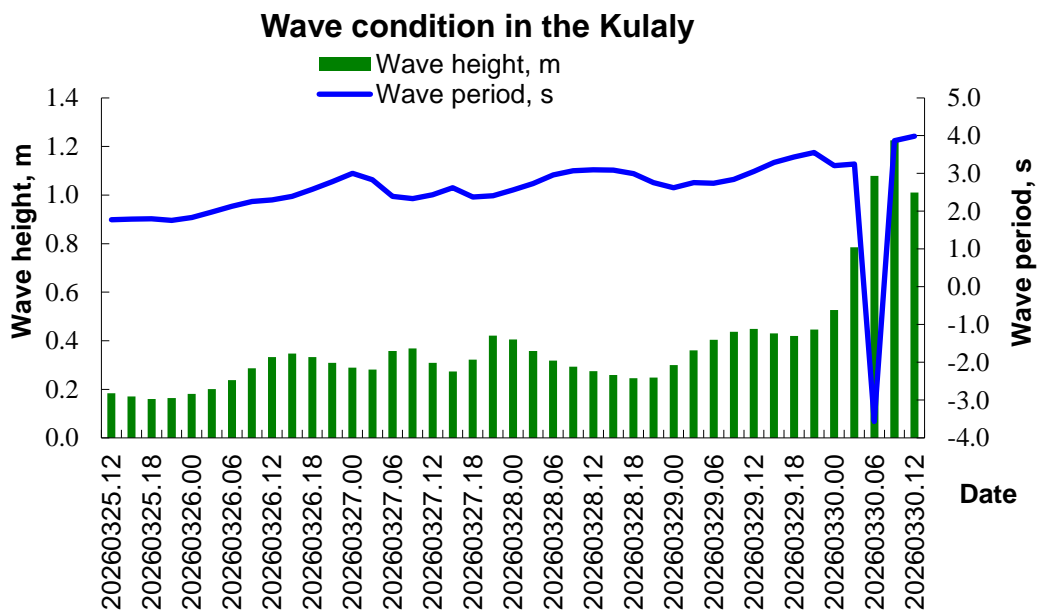
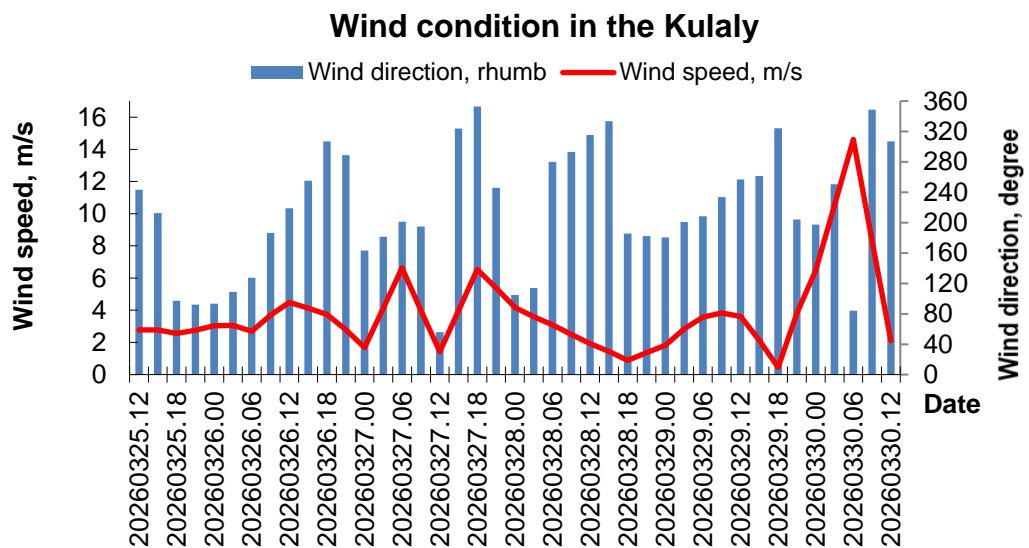




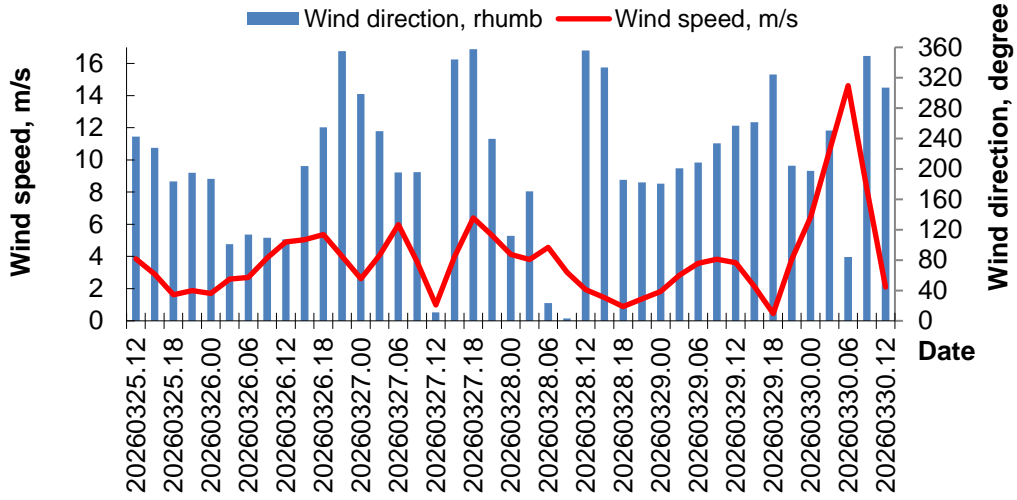
**MINISTRY OF ECOLOGY AND NATURAL RESOURCES
OF THE REPUBLIC OF KAZAKHSTAN
RSE «KAZHYDROMET»**

**Wave and wind forecast for the Kazakhstan part of the Caspian Sea with a 5-day advance
using SWAN spectral model for the period March 25-30, 2026 .**

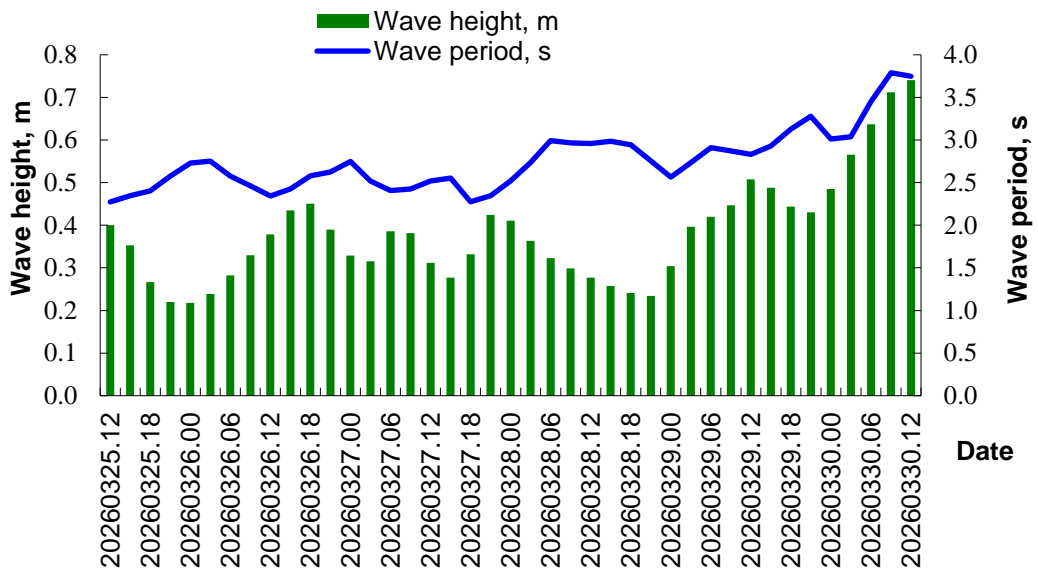


| Date time | Kulaly | | | | |
|-------------|----------------|-------------------------|----------------|---------------------|----------------|
| | Wave height, m | Направление волны, румб | Wave height, m | Скорость ветра, м/с | Wave height, m |
| 20260325.12 | 0.18 | SW | 1.8 | 3 | SW |
| 20260325.15 | 0.17 | S | 1.8 | 3 | SW |
| 20260325.18 | 0.16 | S | 1.8 | 3 | E |
| 20260325.21 | 0.16 | SW | 1.8 | 3 | E |
| 20260326.00 | 0.18 | SW | 1.8 | 3 | E |
| 20260326.03 | 0.20 | S | 2.0 | 3 | E |
| 20260326.06 | 0.24 | SW | 2.1 | 3 | SE |
| 20260326.09 | 0.29 | SW | 2.3 | 4 | S |
| 20260326.12 | 0.33 | SW | 2.3 | 4 | SW |
| 20260326.15 | 0.35 | SW | 2.4 | 4 | W |
| 20260326.18 | 0.33 | SW | 2.6 | 4 | NW |
| 20260326.21 | 0.31 | SW | 2.8 | 3 | W |
| 20260327.00 | 0.29 | SW | 3.0 | 2 | S |
| 20260327.03 | 0.28 | SW | 2.8 | 4 | S |
| 20260327.06 | 0.36 | SW | 2.4 | 7 | S |
| 20260327.09 | 0.37 | SW | 2.3 | 4 | S |
| 20260327.12 | 0.31 | SW | 2.4 | 1 | NE |
| 20260327.15 | 0.27 | SW | 2.6 | 4 | NW |
| 20260327.18 | 0.32 | S | 2.4 | 7 | N |
| 20260327.21 | 0.42 | S | 2.4 | 5 | SW |
| 20260328.00 | 0.41 | S | 2.6 | 4 | E |
| 20260328.03 | 0.36 | S | 2.7 | 4 | SE |
| 20260328.06 | 0.32 | S | 3.0 | 3 | W |
| 20260328.09 | 0.29 | S | 3.1 | 2 | NW |
| 20260328.12 | 0.28 | S | 3.1 | 2 | NW |
| 20260328.15 | 0.26 | S | 3.1 | 1 | NW |
| 20260328.18 | 0.25 | S | 3.0 | 1 | S |
| 20260328.21 | 0.25 | S | 2.8 | 1 | S |
| 20260329.00 | 0.30 | SW | 2.6 | 2 | S |
| 20260329.03 | 0.36 | SW | 2.8 | 3 | S |
| 20260329.06 | 0.40 | SW | 2.7 | 4 | SW |
| 20260329.09 | 0.44 | SW | 2.8 | 4 | SW |
| 20260329.12 | 0.45 | SW | 3.1 | 4 | W |
| 20260329.15 | 0.43 | SW | 3.3 | 2 | W |
| 20260329.18 | 0.42 | SW | 3.4 | 0 | NW |
| 20260329.21 | 0.45 | SW | 3.6 | 4 | SW |
| 20260330.00 | 0.53 | SW | 3.2 | 6 | S |
| 20260330.03 | 0.79 | SW | 3.3 | 11 | W |
| 20260330.06 | 1.08 | SW | -3.6 | 15 | E |
| 20260330.09 | 1.23 | S | 3.9 | 8 | N |
| 20260330.12 | 1.01 | S | 4.0 | 2 | NW |

Wind condition in the Fort-Shevchenko

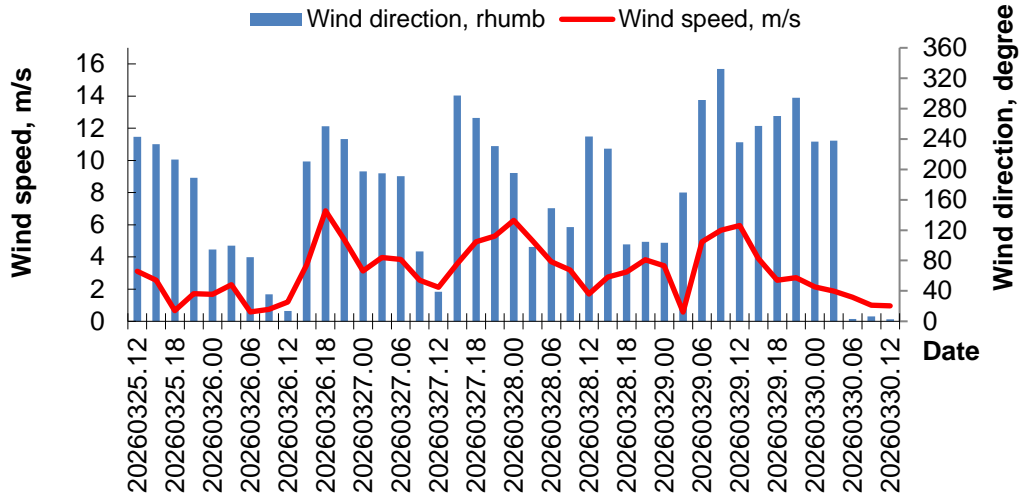


Wave condition in the Fort-Shevchenko

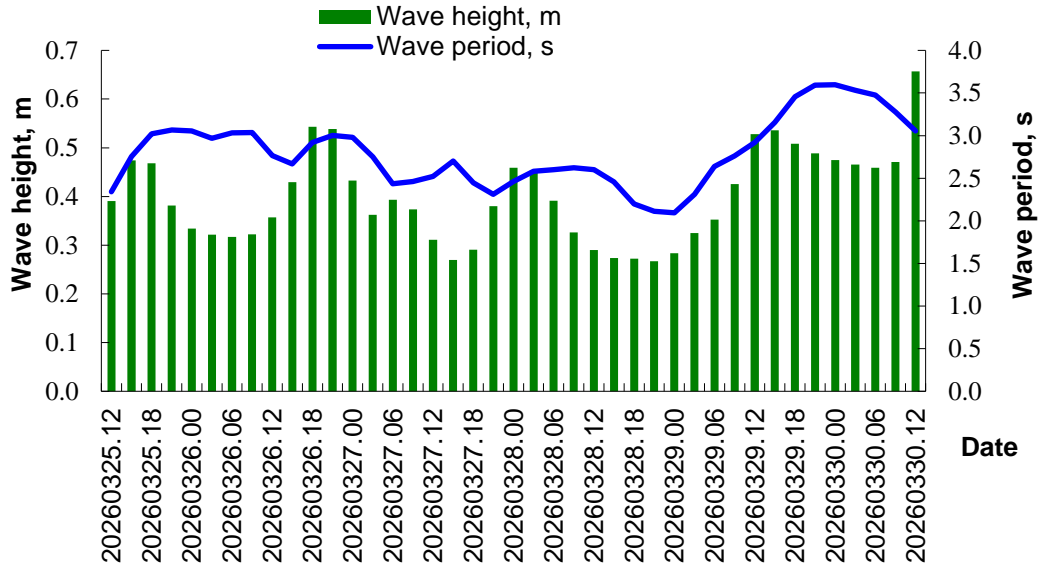


| Date time | Fort-Shevchenko | | | | |
|-------------|-----------------|-------------------------|----------------|---------------------|----------------|
| | Wave height, m | Направление волны, румб | Wave height, m | Скорость ветра, м/с | Wave height, m |
| 20260325.12 | 0.40 | SW | 2.3 | 4 | SW |
| 20260325.15 | 0.35 | SW | 2.3 | 3 | SW |
| 20260325.18 | 0.27 | SW | 2.4 | 2 | S |
| 20260325.21 | 0.22 | S | 2.6 | 2 | S |
| 20260326.00 | 0.22 | S | 2.7 | 2 | S |
| 20260326.03 | 0.24 | S | 2.8 | 3 | E |
| 20260326.06 | 0.28 | S | 2.6 | 3 | SE |
| 20260326.09 | 0.33 | SW | 2.5 | 4 | E |
| 20260326.12 | 0.38 | SW | 2.3 | 5 | E |
| 20260326.15 | 0.43 | SW | 2.4 | 5 | SW |
| 20260326.18 | 0.45 | SW | 2.6 | 5 | W |
| 20260326.21 | 0.39 | SW | 2.6 | 4 | N |
| 20260327.00 | 0.33 | SW | 2.7 | 3 | NW |
| 20260327.03 | 0.32 | SW | 2.5 | 4 | W |
| 20260327.06 | 0.39 | SW | 2.4 | 6 | S |
| 20260327.09 | 0.38 | SW | 2.4 | 4 | S |
| 20260327.12 | 0.31 | SW | 2.5 | 1 | N |
| 20260327.15 | 0.28 | SW | 2.6 | 4 | N |
| 20260327.18 | 0.33 | SW | 2.3 | 6 | N |
| 20260327.21 | 0.42 | S | 2.3 | 5 | SW |
| 20260328.00 | 0.41 | SW | 2.5 | 4 | E |
| 20260328.03 | 0.36 | SW | 2.7 | 4 | S |
| 20260328.06 | 0.32 | SW | 3.0 | 5 | NE |
| 20260328.09 | 0.30 | S | 3.0 | 3 | N |
| 20260328.12 | 0.28 | S | 3.0 | 2 | N |
| 20260328.15 | 0.26 | S | 3.0 | 1 | NW |
| 20260328.18 | 0.24 | SW | 2.9 | 1 | S |
| 20260328.21 | 0.23 | SW | 2.8 | 1 | S |
| 20260329.00 | 0.30 | SW | 2.6 | 2 | S |
| 20260329.03 | 0.40 | SW | 2.7 | 3 | S |
| 20260329.06 | 0.42 | SW | 2.9 | 4 | SW |
| 20260329.09 | 0.45 | SW | 2.9 | 4 | SW |
| 20260329.12 | 0.51 | SW | 2.8 | 4 | W |
| 20260329.15 | 0.49 | SW | 2.9 | 2 | W |
| 20260329.18 | 0.44 | SW | 3.1 | 0 | NW |
| 20260329.21 | 0.43 | SW | 3.3 | 4 | SW |
| 20260330.00 | 0.48 | SW | 3.0 | 6 | S |
| 20260330.03 | 0.57 | SW | 3.0 | 11 | W |
| 20260330.06 | 0.64 | SW | 3.5 | 15 | E |
| 20260330.09 | 0.71 | SW | 3.8 | 8 | N |
| 20260330.12 | 0.74 | SW | 3.7 | 2 | NW |

Wind condition in the Aktau

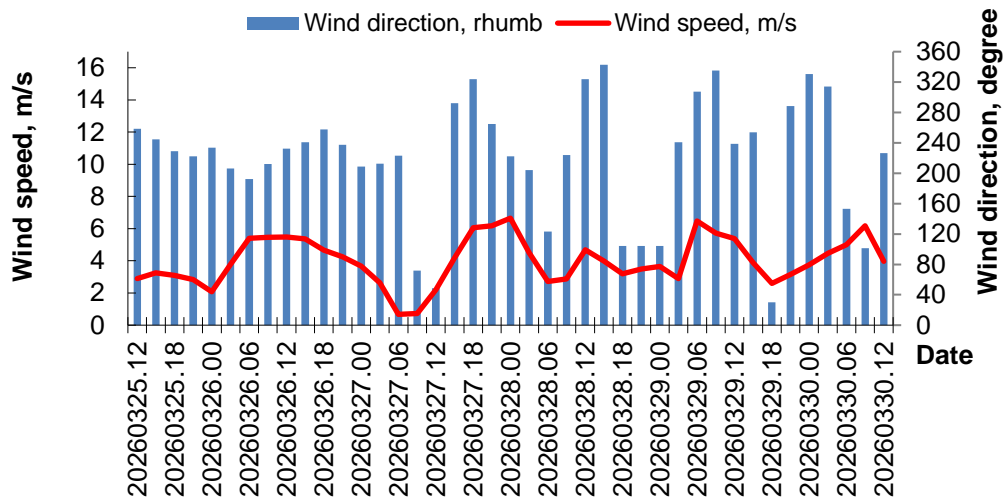


Wave condition in the Aktau

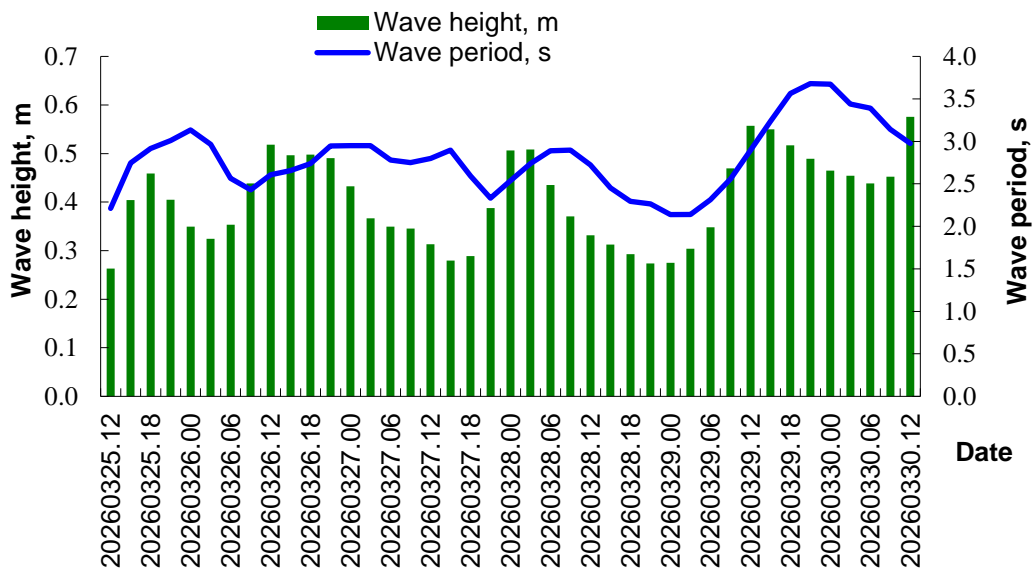


| Date time | Aktau | | | | |
|-------------|----------------|-------------------------|----------------|---------------------|----------------|
| | Wave height, m | Направление волны, румб | Wave height, m | Скорость ветра, м/с | Wave height, m |
| 20260325.12 | 0.39 | S | 2.3 | 3 | SW |
| 20260325.15 | 0.47 | S | 2.8 | 3 | SW |
| 20260325.18 | 0.47 | S | 3.0 | 1 | SW |
| 20260325.21 | 0.38 | S | 3.1 | 2 | S |
| 20260326.00 | 0.33 | S | 3.1 | 2 | E |
| 20260326.03 | 0.32 | S | 3.0 | 2 | E |
| 20260326.06 | 0.32 | S | 3.0 | 1 | E |
| 20260326.09 | 0.32 | S | 3.0 | 1 | NE |
| 20260326.12 | 0.36 | SW | 2.8 | 1 | N |
| 20260326.15 | 0.43 | SW | 2.7 | 4 | SW |
| 20260326.18 | 0.54 | SW | 2.9 | 7 | W |
| 20260326.21 | 0.54 | SW | 3.0 | 5 | SW |
| 20260327.00 | 0.43 | SW | 3.0 | 3 | S |
| 20260327.03 | 0.36 | SW | 2.8 | 4 | S |
| 20260327.06 | 0.39 | SW | 2.4 | 4 | S |
| 20260327.09 | 0.37 | SW | 2.5 | 3 | E |
| 20260327.12 | 0.31 | SW | 2.5 | 2 | NE |
| 20260327.15 | 0.27 | SW | 2.7 | 4 | NW |
| 20260327.18 | 0.29 | SW | 2.4 | 5 | W |
| 20260327.21 | 0.38 | SW | 2.3 | 5 | SW |
| 20260328.00 | 0.46 | SW | 2.5 | 6 | S |
| 20260328.03 | 0.45 | SW | 2.6 | 5 | E |
| 20260328.06 | 0.39 | SW | 2.6 | 4 | SE |
| 20260328.09 | 0.33 | SW | 2.6 | 3 | SE |
| 20260328.12 | 0.29 | SW | 2.6 | 2 | SW |
| 20260328.15 | 0.27 | SW | 2.5 | 3 | SW |
| 20260328.18 | 0.27 | SW | 2.2 | 3 | E |
| 20260328.21 | 0.27 | SW | 2.1 | 4 | E |
| 20260329.00 | 0.28 | W | 2.1 | 3 | E |
| 20260329.03 | 0.32 | SW | 2.3 | 1 | S |
| 20260329.06 | 0.35 | SW | 2.6 | 5 | W |
| 20260329.09 | 0.43 | SW | 2.8 | 6 | NW |
| 20260329.12 | 0.53 | SW | 2.9 | 6 | SW |
| 20260329.15 | 0.54 | SW | 3.2 | 4 | W |
| 20260329.18 | 0.51 | S | 3.5 | 3 | W |
| 20260329.21 | 0.49 | S | 3.6 | 3 | NW |
| 20260330.00 | 0.47 | S | 3.6 | 2 | SW |
| 20260330.03 | 0.47 | S | 3.5 | 2 | SW |
| 20260330.06 | 0.46 | S | 3.5 | 1 | N |
| 20260330.09 | 0.47 | SW | 3.3 | 1 | N |
| 20260330.12 | 0.66 | SW | 3.1 | 1 | N |

Wind condition in the Peschanyi

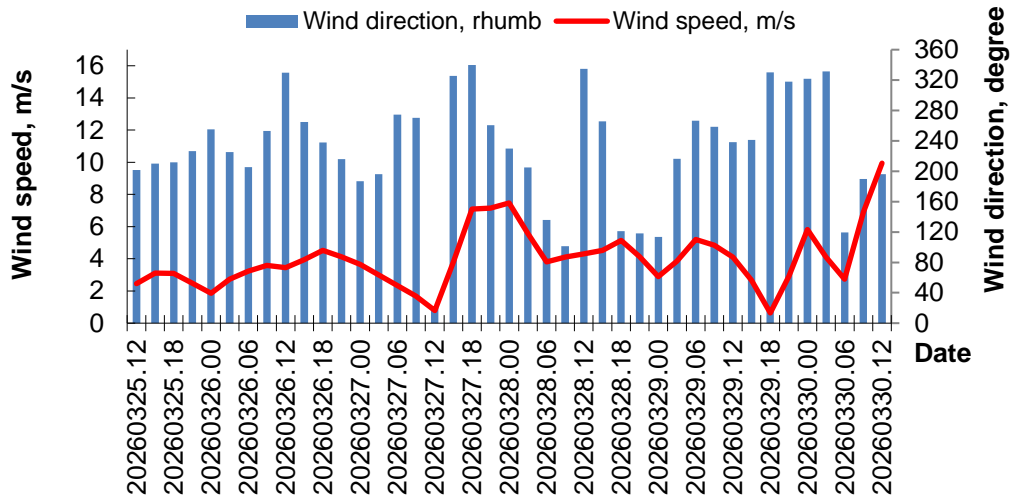


Wave condition in the Peschanyi

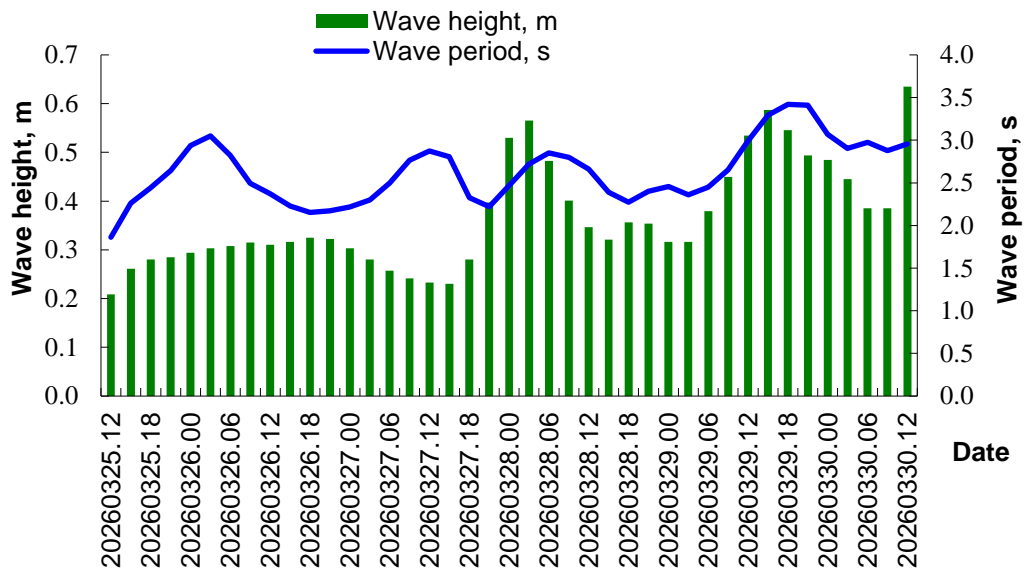


| Date time | Peschanyi (Isan) | | | | |
|-------------|------------------|-------------------------|----------------|---------------------|----------------|
| | Wave height, m | Направление волны, румб | Wave height, m | Скорость ветра, м/с | Wave height, m |
| 20260325.12 | 0.26 | S | 2.2 | 3 | W |
| 20260325.15 | 0.40 | S | 2.7 | 3 | SW |
| 20260325.18 | 0.46 | S | 2.9 | 3 | SW |
| 20260325.21 | 0.40 | S | 3.0 | 3 | SW |
| 20260326.00 | 0.35 | S | 3.1 | 2 | SW |
| 20260326.03 | 0.32 | S | 3.0 | 4 | SW |
| 20260326.06 | 0.35 | S | 2.6 | 5 | S |
| 20260326.09 | 0.44 | SW | 2.4 | 5 | SW |
| 20260326.12 | 0.52 | SW | 2.6 | 5 | SW |
| 20260326.15 | 0.50 | SW | 2.7 | 5 | SW |
| 20260326.18 | 0.50 | SW | 2.7 | 5 | W |
| 20260326.21 | 0.49 | SW | 2.9 | 4 | SW |
| 20260327.00 | 0.43 | SW | 2.9 | 4 | SW |
| 20260327.03 | 0.37 | SW | 3.0 | 3 | SW |
| 20260327.06 | 0.35 | SW | 2.8 | 1 | SW |
| 20260327.09 | 0.35 | SW | 2.7 | 1 | E |
| 20260327.12 | 0.31 | SW | 2.8 | 2 | NE |
| 20260327.15 | 0.28 | SW | 2.9 | 4 | W |
| 20260327.18 | 0.29 | SW | 2.6 | 6 | NW |
| 20260327.21 | 0.39 | S | 2.3 | 6 | W |
| 20260328.00 | 0.51 | SW | 2.5 | 7 | SW |
| 20260328.03 | 0.51 | SW | 2.7 | 4 | SW |
| 20260328.06 | 0.44 | SW | 2.9 | 3 | SE |
| 20260328.09 | 0.37 | SW | 2.9 | 3 | SW |
| 20260328.12 | 0.33 | SW | 2.7 | 5 | NW |
| 20260328.15 | 0.31 | SW | 2.5 | 4 | N |
| 20260328.18 | 0.29 | SW | 2.3 | 3 | E |
| 20260328.21 | 0.27 | SW | 2.3 | 3 | E |
| 20260329.00 | 0.28 | SW | 2.1 | 4 | E |
| 20260329.03 | 0.30 | SW | 2.1 | 3 | SW |
| 20260329.06 | 0.35 | SW | 2.3 | 6 | NW |
| 20260329.09 | 0.47 | SE | 2.6 | 6 | NW |
| 20260329.12 | 0.56 | SE | 2.9 | 5 | SW |
| 20260329.15 | 0.55 | S | 3.2 | 4 | W |
| 20260329.18 | 0.52 | S | 3.6 | 3 | NE |
| 20260329.21 | 0.49 | S | 3.7 | 3 | W |
| 20260330.00 | 0.46 | S | 3.7 | 4 | NW |
| 20260330.03 | 0.45 | S | 3.4 | 4 | NW |
| 20260330.06 | 0.44 | S | 3.4 | 5 | SE |
| 20260330.09 | 0.45 | SW | 3.1 | 6 | E |
| 20260330.12 | 0.58 | SW | 3.0 | 4 | SW |

Wind condition in the Fetisovo

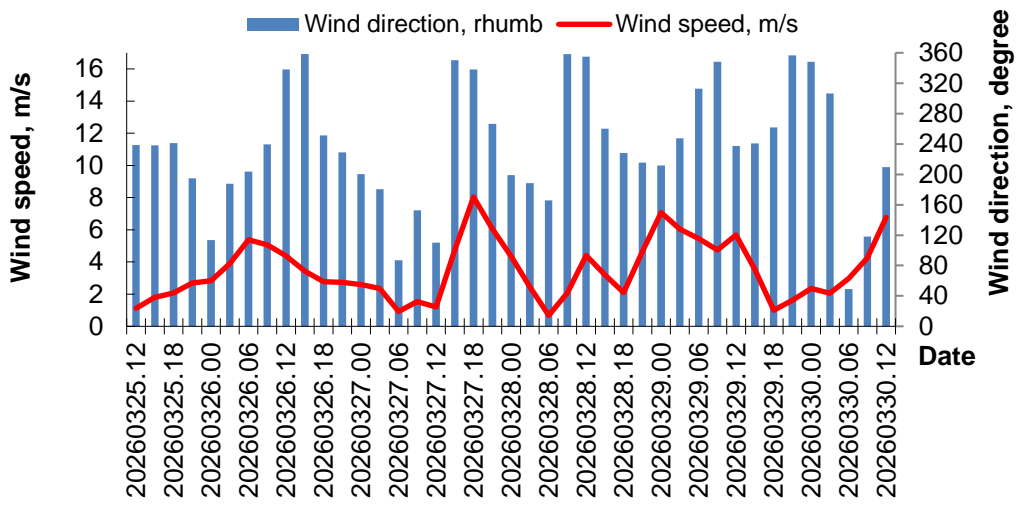


Wave condition in the Fetisovo

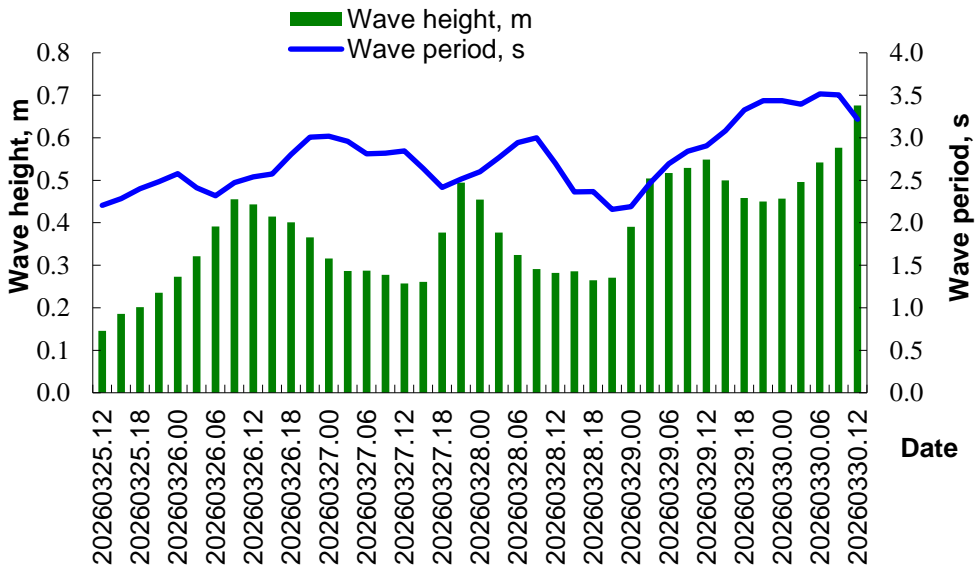


| Date time | Fetisovo | | | | |
|-------------|----------------|-------------------------|----------------|---------------------|----------------|
| | Wave height, m | Направление волны, румб | Wave height, m | Скорость ветра, м/с | Wave height, m |
| 20260325.12 | 0.21 | SW | 1.9 | 2 | S |
| 20260325.15 | 0.26 | S | 2.3 | 3 | SW |
| 20260325.18 | 0.28 | S | 2.4 | 3 | SW |
| 20260325.21 | 0.28 | S | 2.6 | 2 | SW |
| 20260326.00 | 0.29 | S | 2.9 | 2 | W |
| 20260326.03 | 0.30 | S | 3.1 | 3 | SW |
| 20260326.06 | 0.31 | SW | 2.8 | 3 | SW |
| 20260326.09 | 0.31 | SW | 2.5 | 4 | W |
| 20260326.12 | 0.31 | SW | 2.4 | 3 | NW |
| 20260326.15 | 0.32 | S | 2.2 | 4 | W |
| 20260326.18 | 0.32 | SW | 2.2 | 5 | SW |
| 20260326.21 | 0.32 | SW | 2.2 | 4 | SW |
| 20260327.00 | 0.30 | SW | 2.2 | 4 | S |
| 20260327.03 | 0.28 | SW | 2.3 | 3 | S |
| 20260327.06 | 0.26 | SW | 2.5 | 2 | W |
| 20260327.09 | 0.24 | SW | 2.8 | 2 | W |
| 20260327.12 | 0.23 | SW | 2.9 | 1 | N |
| 20260327.15 | 0.23 | SW | 2.8 | 4 | NW |
| 20260327.18 | 0.28 | SW | 2.3 | 7 | N |
| 20260327.21 | 0.40 | S | 2.2 | 7 | W |
| 20260328.00 | 0.53 | SW | 2.5 | 7 | SW |
| 20260328.03 | 0.57 | SW | 2.7 | 6 | SW |
| 20260328.06 | 0.48 | SW | 2.9 | 4 | SE |
| 20260328.09 | 0.40 | W | 2.8 | 4 | E |
| 20260328.12 | 0.35 | W | 2.7 | 4 | NW |
| 20260328.15 | 0.32 | SW | 2.4 | 5 | W |
| 20260328.18 | 0.36 | W | 2.3 | 5 | SE |
| 20260328.21 | 0.35 | W | 2.4 | 4 | SE |
| 20260329.00 | 0.32 | W | 2.5 | 3 | SE |
| 20260329.03 | 0.32 | W | 2.4 | 4 | SW |
| 20260329.06 | 0.38 | SW | 2.4 | 5 | W |
| 20260329.09 | 0.45 | S | 2.7 | 5 | W |
| 20260329.12 | 0.53 | S | 3.0 | 4 | SW |
| 20260329.15 | 0.59 | SW | 3.3 | 3 | SW |
| 20260329.18 | 0.55 | SW | 3.4 | 1 | NW |
| 20260329.21 | 0.49 | SW | 3.4 | 3 | NW |
| 20260330.00 | 0.48 | S | 3.1 | 6 | NW |
| 20260330.03 | 0.45 | S | 2.9 | 4 | NW |
| 20260330.06 | 0.39 | S | 3.0 | 3 | SE |
| 20260330.09 | 0.39 | SW | 2.9 | 7 | S |
| 20260330.12 | 0.63 | SW | 3.0 | 10 | S |

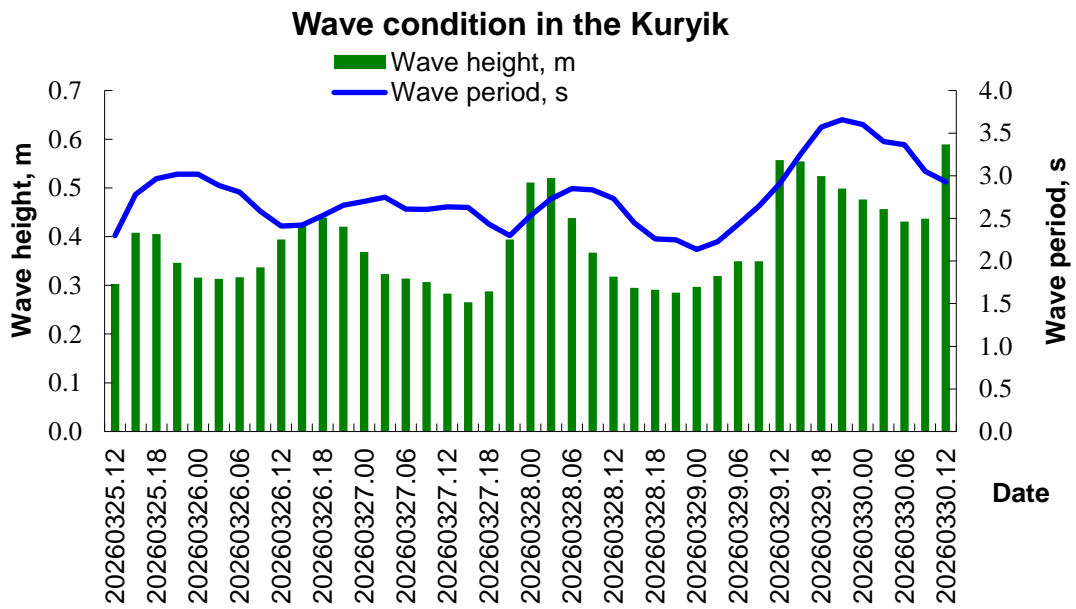
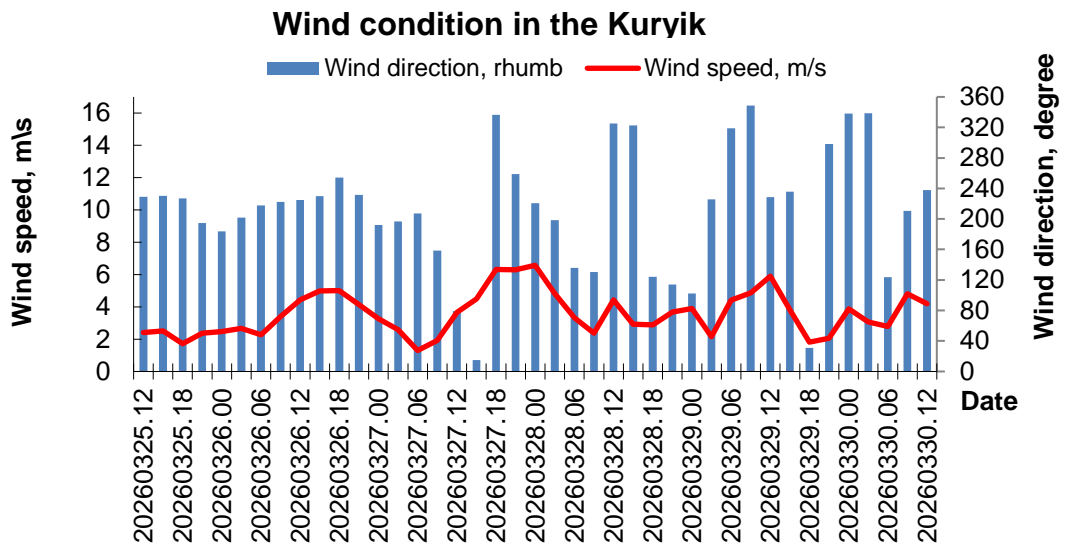
Wind condition in the Saura



Wave condition in the Saura



| Date time | Saura | | | | |
|-------------|----------------|-------------------------|----------------|---------------------|----------------|
| | Wave height, m | Направление волны, румб | Wave height, m | Скорость ветра, м/с | Wave height, m |
| 20260325.12 | 0.15 | SW | 2.2 | 1 | SW |
| 20260325.15 | 0.19 | S | 2.3 | 2 | SW |
| 20260325.18 | 0.20 | S | 2.4 | 2 | SW |
| 20260325.21 | 0.24 | S | 2.5 | 3 | S |
| 20260326.00 | 0.27 | S | 2.6 | 3 | SE |
| 20260326.03 | 0.32 | S | 2.4 | 4 | S |
| 20260326.06 | 0.39 | SW | 2.3 | 5 | SW |
| 20260326.09 | 0.46 | SW | 2.5 | 5 | SW |
| 20260326.12 | 0.44 | SW | 2.5 | 4 | N |
| 20260326.15 | 0.41 | SW | 2.6 | 3 | N |
| 20260326.18 | 0.40 | SW | 2.8 | 3 | W |
| 20260326.21 | 0.37 | SW | 3.0 | 3 | SW |
| 20260327.00 | 0.32 | SW | 3.0 | 3 | S |
| 20260327.03 | 0.29 | SW | 3.0 | 2 | S |
| 20260327.06 | 0.29 | SW | 2.8 | 1 | E |
| 20260327.09 | 0.28 | SW | 2.8 | 2 | SE |
| 20260327.12 | 0.26 | SW | 2.8 | 1 | E |
| 20260327.15 | 0.26 | SW | 2.6 | 5 | N |
| 20260327.18 | 0.38 | S | 2.4 | 8 | N |
| 20260327.21 | 0.49 | S | 2.5 | 6 | W |
| 20260328.00 | 0.45 | S | 2.6 | 4 | S |
| 20260328.03 | 0.38 | SW | 2.8 | 2 | S |
| 20260328.06 | 0.32 | SW | 2.9 | 1 | S |
| 20260328.09 | 0.29 | SW | 3.0 | 2 | N |
| 20260328.12 | 0.28 | SW | 2.7 | 4 | N |
| 20260328.15 | 0.29 | SW | 2.4 | 3 | W |
| 20260328.18 | 0.26 | SW | 2.4 | 2 | SW |
| 20260328.21 | 0.27 | SW | 2.2 | 5 | SW |
| 20260329.00 | 0.39 | SW | 2.2 | 7 | SW |
| 20260329.03 | 0.50 | SW | 2.5 | 6 | W |
| 20260329.06 | 0.52 | SW | 2.7 | 5 | NW |
| 20260329.09 | 0.53 | SW | 2.8 | 5 | N |
| 20260329.12 | 0.55 | SW | 2.9 | 6 | SW |
| 20260329.15 | 0.50 | SW | 3.1 | 4 | SW |
| 20260329.18 | 0.46 | SW | 3.3 | 1 | W |
| 20260329.21 | 0.45 | S | 3.4 | 2 | N |
| 20260330.00 | 0.46 | S | 3.4 | 2 | N |
| 20260330.03 | 0.50 | SW | 3.4 | 2 | NW |
| 20260330.06 | 0.54 | SW | 3.5 | 3 | NE |
| 20260330.09 | 0.58 | SW | 3.5 | 4 | SE |
| 20260330.12 | 0.68 | SW | 3.2 | 7 | SW |



| Date time | Kuryk | | | | |
|-------------|----------------|-------------------------|----------------|---------------------|----------------|
| | Wave height, m | Направление волны, румб | Wave height, m | Скорость ветра, м/с | Wave height, m |
| 20260325.12 | 0.30 | S | 2.3 | 2 | SW |
| 20260325.15 | 0.41 | S | 2.8 | 3 | SW |
| 20260325.18 | 0.41 | S | 3.0 | 2 | SW |
| 20260325.21 | 0.35 | S | 3.0 | 2 | S |
| 20260326.00 | 0.32 | S | 3.0 | 2 | S |
| 20260326.03 | 0.31 | S | 2.9 | 3 | S |
| 20260326.06 | 0.32 | S | 2.8 | 2 | SW |
| 20260326.09 | 0.34 | SW | 2.6 | 3 | SW |
| 20260326.12 | 0.39 | SW | 2.4 | 4 | SW |
| 20260326.15 | 0.43 | SW | 2.4 | 5 | SW |
| 20260326.18 | 0.44 | SW | 2.5 | 5 | W |
| 20260326.21 | 0.42 | SW | 2.7 | 4 | SW |
| 20260327.00 | 0.37 | SW | 2.7 | 3 | S |
| 20260327.03 | 0.32 | SW | 2.7 | 3 | S |
| 20260327.06 | 0.31 | SW | 2.6 | 1 | SW |
| 20260327.09 | 0.31 | SW | 2.6 | 2 | S |
| 20260327.12 | 0.28 | W | 2.6 | 4 | E |
| 20260327.15 | 0.27 | W | 2.6 | 4 | N |
| 20260327.18 | 0.29 | SW | 2.4 | 6 | NW |
| 20260327.21 | 0.39 | S | 2.3 | 6 | W |
| 20260328.00 | 0.51 | SW | 2.5 | 7 | SW |
| 20260328.03 | 0.52 | SW | 2.7 | 5 | S |
| 20260328.06 | 0.44 | SW | 2.8 | 3 | SE |
| 20260328.09 | 0.37 | SW | 2.8 | 2 | SE |
| 20260328.12 | 0.32 | SW | 2.7 | 4 | NW |
| 20260328.15 | 0.29 | SW | 2.4 | 3 | NW |
| 20260328.18 | 0.29 | SW | 2.3 | 3 | SE |
| 20260328.21 | 0.28 | SW | 2.2 | 4 | SE |
| 20260329.00 | 0.30 | W | 2.1 | 4 | E |
| 20260329.03 | 0.32 | W | 2.2 | 2 | SW |
| 20260329.06 | 0.35 | SW | 2.4 | 4 | NW |
| 20260329.09 | 0.35 | SW | 2.6 | 5 | N |
| 20260329.12 | 0.56 | S | 2.9 | 6 | SW |
| 20260329.15 | 0.55 | S | 3.3 | 4 | SW |
| 20260329.18 | 0.52 | S | 3.6 | 2 | NE |
| 20260329.21 | 0.50 | S | 3.7 | 2 | NW |
| 20260330.00 | 0.48 | S | 3.6 | 4 | N |
| 20260330.03 | 0.46 | S | 3.4 | 3 | N |
| 20260330.06 | 0.43 | S | 3.4 | 3 | SE |
| 20260330.09 | 0.44 | SW | 3.1 | 5 | SW |
| 20260330.12 | 0.59 | SW | 2.9 | 4 | SW |

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

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