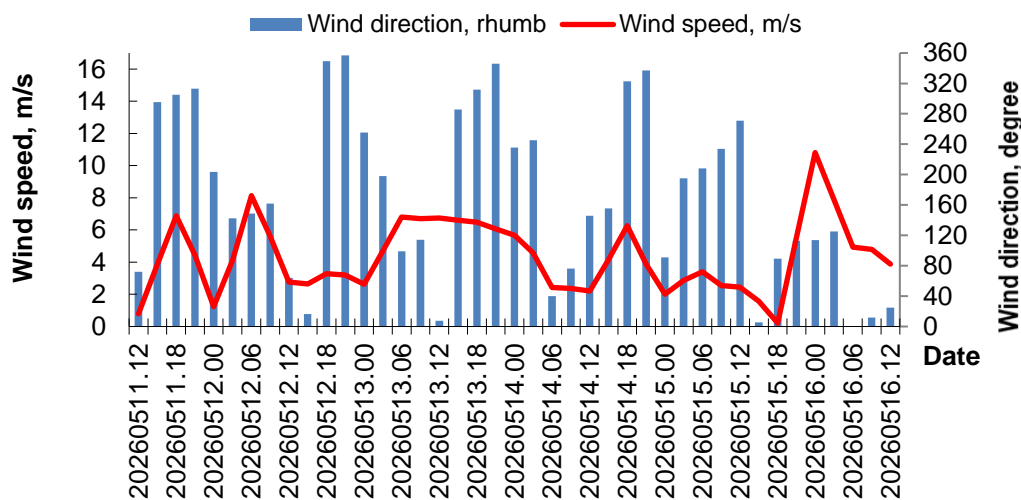




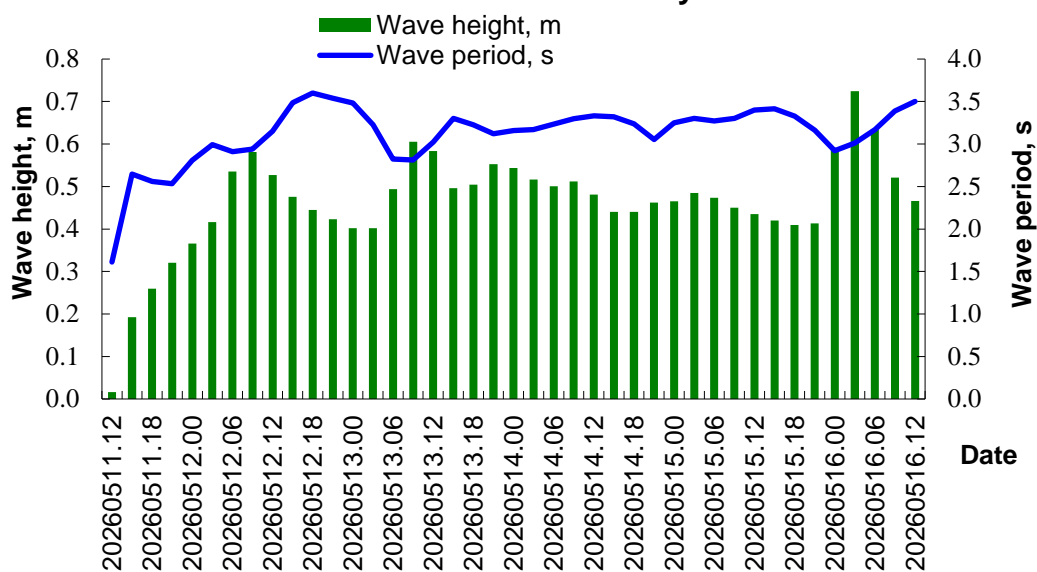
**MINISTRY OF ECOLOGY AND NATURAL RESOURCES
OF THE REPUBLIC OF KAZAKHSTAN
RSE «KAZHYDROMET»**

**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 11 -- 16, 2026 .**

Wind condition in the Kulaly

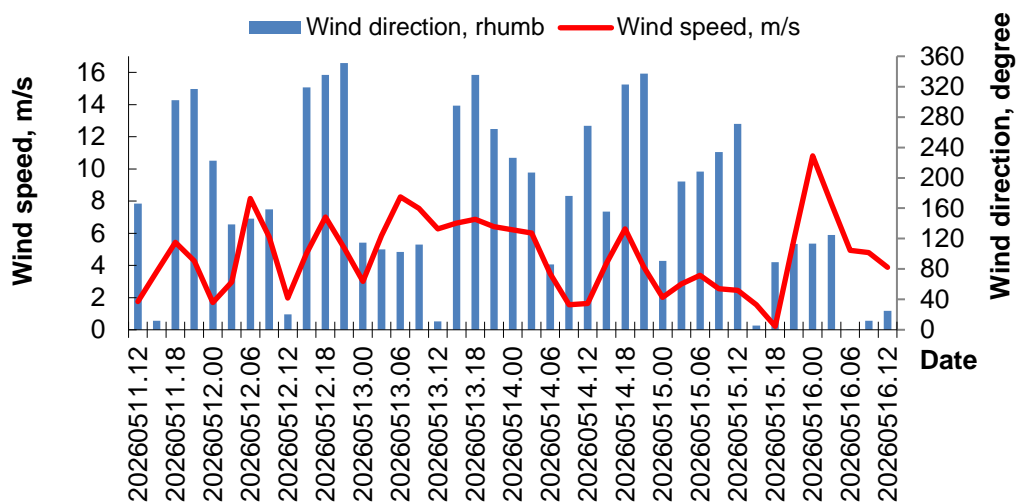


Wave condition in the Kulaly

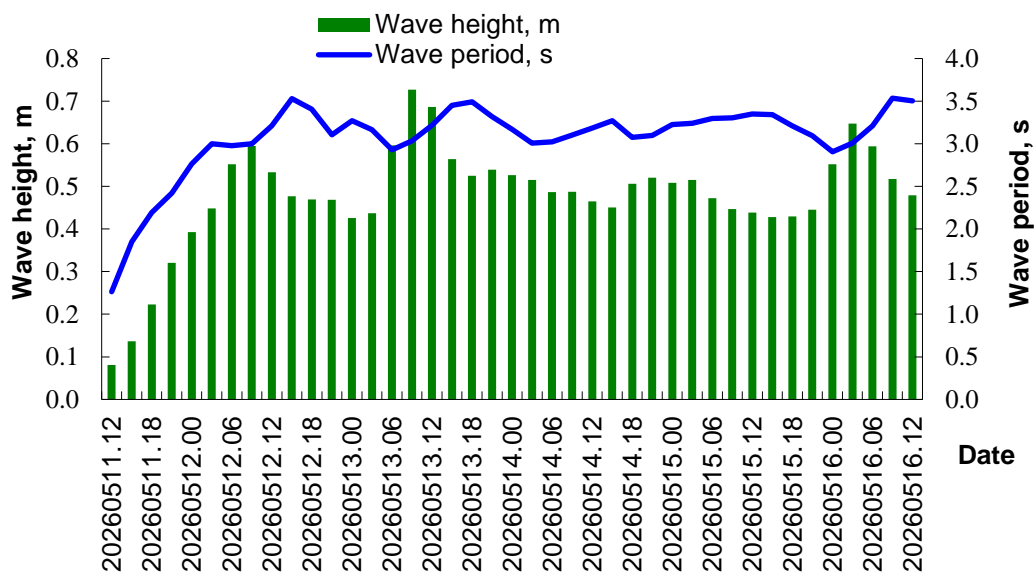


| Date time | Kulaly | | | | |
|-------------|----------------|-------------------------|----------------|---------------------|----------------|
| | Wave height, m | Направление волны, румб | Wave height, m | Скорость ветра, м/с | Wave height, m |
| 20260511.12 | 0.02 | NE | 1.6 | 1 | E |
| 20260511.15 | 0.19 | NW | 2.6 | 4 | NW |
| 20260511.18 | 0.26 | N | 2.6 | 7 | NW |
| 20260511.21 | 0.32 | N | 2.5 | 4 | NW |
| 20260512.00 | 0.37 | N | 2.8 | 1 | SW |
| 20260512.03 | 0.42 | NE | 3.0 | 4 | SE |
| 20260512.06 | 0.54 | N | 2.9 | 8 | SE |
| 20260512.09 | 0.58 | N | 2.9 | 6 | S |
| 20260512.12 | 0.53 | N | 3.2 | 3 | NE |
| 20260512.15 | 0.48 | N | 3.5 | 3 | N |
| 20260512.18 | 0.44 | N | 3.6 | 3 | N |
| 20260512.21 | 0.42 | N | 3.5 | 3 | N |
| 20260513.00 | 0.40 | N | 3.5 | 3 | W |
| 20260513.03 | 0.40 | N | 3.2 | 5 | S |
| 20260513.06 | 0.49 | NW | 2.8 | 7 | E |
| 20260513.09 | 0.61 | NW | 2.8 | 7 | SE |
| 20260513.12 | 0.58 | NW | 3.0 | 7 | N |
| 20260513.15 | 0.50 | NW | 3.3 | 7 | W |
| 20260513.18 | 0.50 | NE | 3.2 | 6 | NW |
| 20260513.21 | 0.55 | E | 3.1 | 6 | N |
| 20260514.00 | 0.54 | E | 3.2 | 6 | SW |
| 20260514.03 | 0.52 | E | 3.2 | 5 | SW |
| 20260514.06 | 0.50 | E | 3.2 | 2 | NE |
| 20260514.09 | 0.51 | S | 3.3 | 2 | E |
| 20260514.12 | 0.48 | SW | 3.3 | 2 | SE |
| 20260514.15 | 0.44 | S | 3.3 | 4 | SE |
| 20260514.18 | 0.44 | SE | 3.2 | 6 | NW |
| 20260514.21 | 0.46 | SE | 3.1 | 4 | NW |
| 20260515.00 | 0.47 | SE | 3.3 | 2 | E |
| 20260515.03 | 0.48 | S | 3.3 | 3 | S |
| 20260515.06 | 0.47 | S | 3.3 | 3 | SW |
| 20260515.09 | 0.45 | S | 3.3 | 3 | SW |
| 20260515.12 | 0.44 | S | 3.4 | 2 | W |
| 20260515.15 | 0.42 | S | 3.4 | 2 | N |
| 20260515.18 | 0.41 | S | 3.3 | 0 | E |
| 20260515.21 | 0.41 | S | 3.2 | 6 | SE |
| 20260516.00 | 0.59 | W | 2.9 | 11 | SE |
| 20260516.03 | 0.72 | W | 3.0 | 8 | SE |
| 20260516.06 | 0.63 | W | 3.2 | 5 | N |
| 20260516.09 | 0.52 | W | 3.4 | 5 | N |
| 20260516.12 | 0.47 | W | 3.5 | 4 | NE |

Wind condition in the Fort-Shevchenko

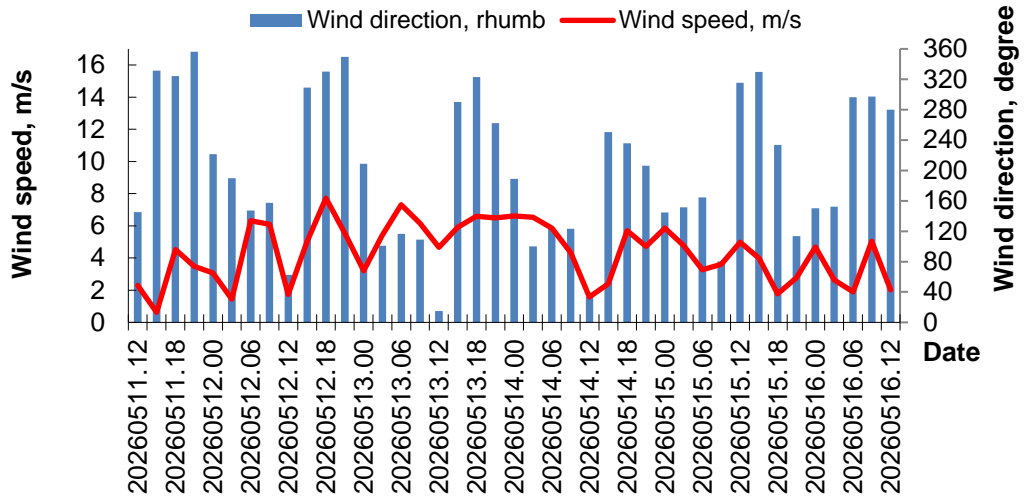


Wave condition in the Fort-Shevchenko

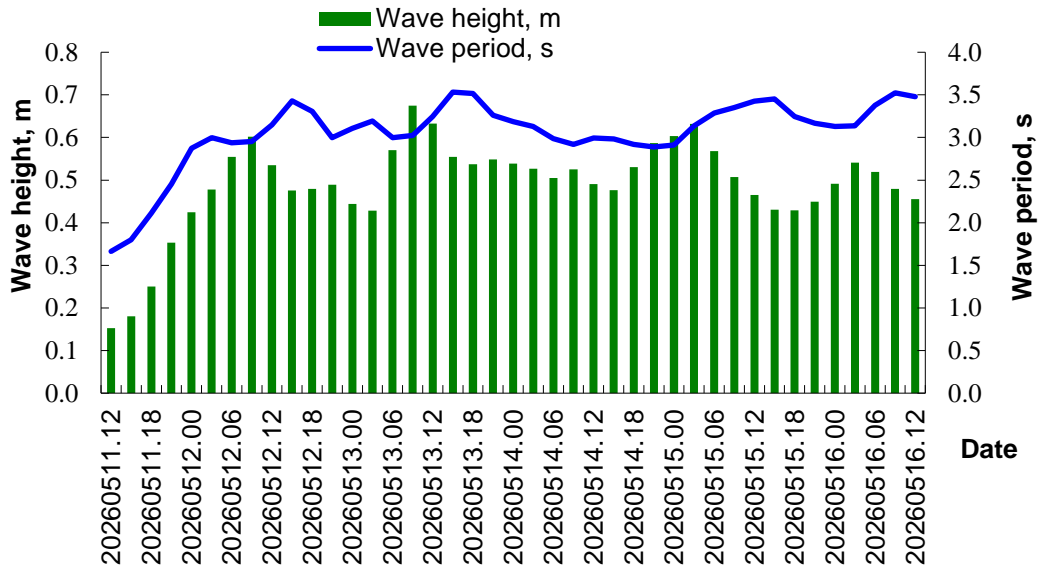


| Date time | Fort-Shevchenko | | | | |
|-------------|-----------------|-------------------------|----------------|---------------------|----------------|
| | Wave height, m | Направление волны, румб | Wave height, m | Скорость ветра, м/с | Wave height, m |
| 20260511.12 | 0.08 | N | 1.3 | 2 | S |
| 20260511.15 | 0.14 | N | 1.9 | 4 | N |
| 20260511.18 | 0.22 | N | 2.2 | 5 | NW |
| 20260511.21 | 0.32 | NE | 2.4 | 4 | NW |
| 20260512.00 | 0.39 | NE | 2.8 | 2 | SW |
| 20260512.03 | 0.45 | NE | 3.0 | 3 | SE |
| 20260512.06 | 0.55 | N | 3.0 | 8 | SE |
| 20260512.09 | 0.59 | N | 3.0 | 6 | S |
| 20260512.12 | 0.53 | N | 3.2 | 2 | N |
| 20260512.15 | 0.48 | N | 3.5 | 5 | NW |
| 20260512.18 | 0.47 | N | 3.4 | 7 | NW |
| 20260512.21 | 0.47 | N | 3.1 | 5 | N |
| 20260513.00 | 0.43 | N | 3.3 | 3 | SE |
| 20260513.03 | 0.44 | NW | 3.2 | 6 | E |
| 20260513.06 | 0.60 | NW | 2.9 | 8 | E |
| 20260513.09 | 0.73 | NW | 3.0 | 8 | E |
| 20260513.12 | 0.69 | NW | 3.2 | 6 | N |
| 20260513.15 | 0.56 | NW | 3.5 | 7 | NW |
| 20260513.18 | 0.53 | N | 3.5 | 7 | NW |
| 20260513.21 | 0.54 | E | 3.3 | 6 | W |
| 20260514.00 | 0.53 | E | 3.2 | 6 | SW |
| 20260514.03 | 0.52 | SE | 3.0 | 6 | SW |
| 20260514.06 | 0.49 | SE | 3.0 | 3 | E |
| 20260514.09 | 0.49 | SW | 3.1 | 2 | S |
| 20260514.12 | 0.47 | SW | 3.2 | 2 | W |
| 20260514.15 | 0.45 | SE | 3.3 | 4 | SE |
| 20260514.18 | 0.51 | SE | 3.1 | 6 | NW |
| 20260514.21 | 0.52 | SE | 3.1 | 4 | NW |
| 20260515.00 | 0.51 | SE | 3.2 | 2 | E |
| 20260515.03 | 0.52 | S | 3.2 | 3 | S |
| 20260515.06 | 0.47 | S | 3.3 | 3 | SW |
| 20260515.09 | 0.45 | S | 3.3 | 3 | SW |
| 20260515.12 | 0.44 | S | 3.3 | 2 | W |
| 20260515.15 | 0.43 | S | 3.3 | 2 | N |
| 20260515.18 | 0.43 | S | 3.2 | 0 | E |
| 20260515.21 | 0.44 | S | 3.1 | 6 | SE |
| 20260516.00 | 0.55 | W | 2.9 | 11 | SE |
| 20260516.03 | 0.65 | W | 3.0 | 8 | SE |
| 20260516.06 | 0.59 | W | 3.2 | 5 | N |
| 20260516.09 | 0.52 | W | 3.5 | 5 | N |
| 20260516.12 | 0.48 | W | 3.5 | 4 | NE |

Wind condition in the Aktau

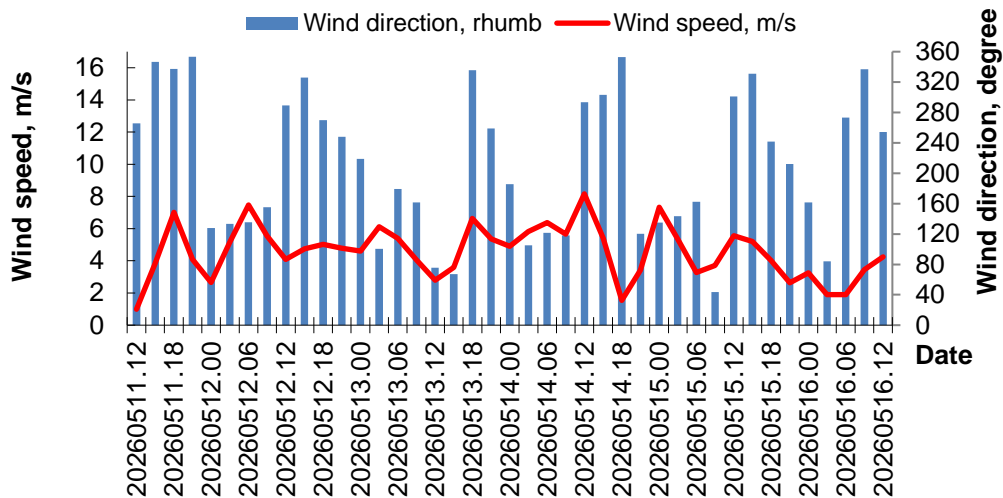


Wave condition in the Aktau

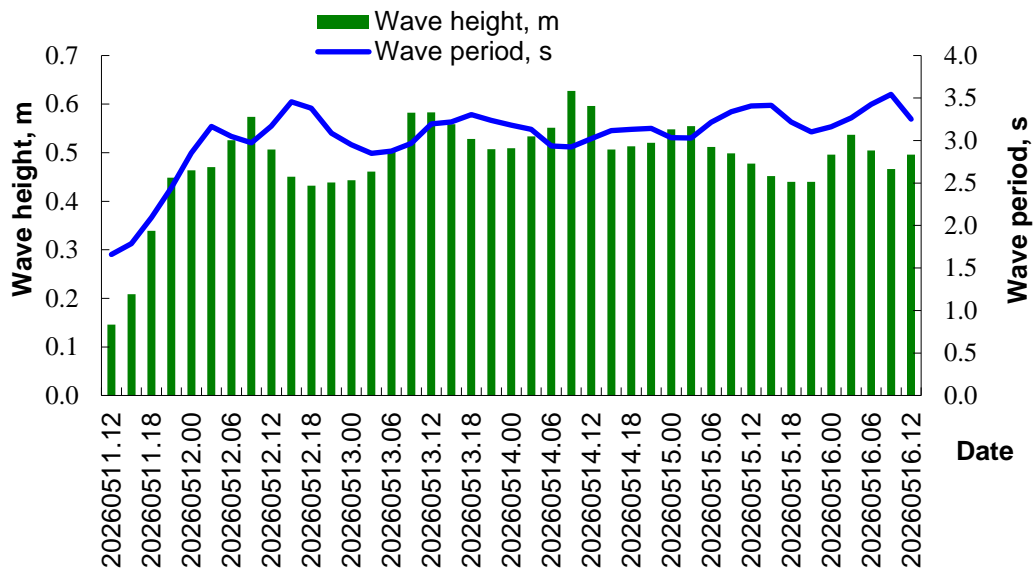


| Date time | Aktau | | | | |
|-------------|----------------|-------------------------|----------------|---------------------|----------------|
| | Wave height, m | Направление волны, румб | Wave height, m | Скорость ветра, м/с | Wave height, m |
| 20260511.12 | 0.15 | NW | 1.7 | 2 | SE |
| 20260511.15 | 0.18 | N | 1.8 | 1 | NW |
| 20260511.18 | 0.25 | NE | 2.1 | 5 | NW |
| 20260511.21 | 0.35 | NE | 2.5 | 3 | N |
| 20260512.00 | 0.42 | NE | 2.9 | 3 | SW |
| 20260512.03 | 0.48 | NE | 3.0 | 1 | S |
| 20260512.06 | 0.55 | N | 2.9 | 6 | SE |
| 20260512.09 | 0.60 | N | 3.0 | 6 | S |
| 20260512.12 | 0.54 | N | 3.1 | 2 | NE |
| 20260512.15 | 0.48 | N | 3.4 | 5 | NW |
| 20260512.18 | 0.48 | N | 3.3 | 8 | NW |
| 20260512.21 | 0.49 | NE | 3.0 | 6 | N |
| 20260513.00 | 0.44 | NE | 3.1 | 3 | SW |
| 20260513.03 | 0.43 | N | 3.2 | 5 | E |
| 20260513.06 | 0.57 | NW | 3.0 | 7 | SE |
| 20260513.09 | 0.67 | NW | 3.0 | 6 | E |
| 20260513.12 | 0.63 | NW | 3.2 | 5 | N |
| 20260513.15 | 0.55 | NW | 3.5 | 6 | W |
| 20260513.18 | 0.54 | N | 3.5 | 7 | NW |
| 20260513.21 | 0.55 | NE | 3.3 | 6 | W |
| 20260514.00 | 0.54 | W | 3.2 | 7 | S |
| 20260514.03 | 0.53 | W | 3.1 | 7 | E |
| 20260514.06 | 0.50 | W | 3.0 | 6 | SE |
| 20260514.09 | 0.53 | W | 2.9 | 4 | SE |
| 20260514.12 | 0.49 | W | 3.0 | 2 | NE |
| 20260514.15 | 0.48 | W | 3.0 | 2 | W |
| 20260514.18 | 0.53 | SW | 2.9 | 6 | SW |
| 20260514.21 | 0.59 | SW | 2.9 | 5 | SW |
| 20260515.00 | 0.60 | SW | 2.9 | 6 | SE |
| 20260515.03 | 0.63 | W | 3.1 | 5 | SE |
| 20260515.06 | 0.57 | W | 3.3 | 3 | S |
| 20260515.09 | 0.51 | W | 3.4 | 4 | E |
| 20260515.12 | 0.47 | W | 3.4 | 5 | NW |
| 20260515.15 | 0.43 | W | 3.5 | 4 | NW |
| 20260515.18 | 0.43 | SW | 3.2 | 2 | SW |
| 20260515.21 | 0.45 | SW | 3.2 | 3 | SE |
| 20260516.00 | 0.49 | SW | 3.1 | 5 | SE |
| 20260516.03 | 0.54 | W | 3.1 | 3 | SE |
| 20260516.06 | 0.52 | W | 3.4 | 2 | NW |
| 20260516.09 | 0.48 | W | 3.5 | 5 | NW |
| 20260516.12 | 0.46 | W | 3.5 | 2 | W |

Wind condition in the Peschanyi

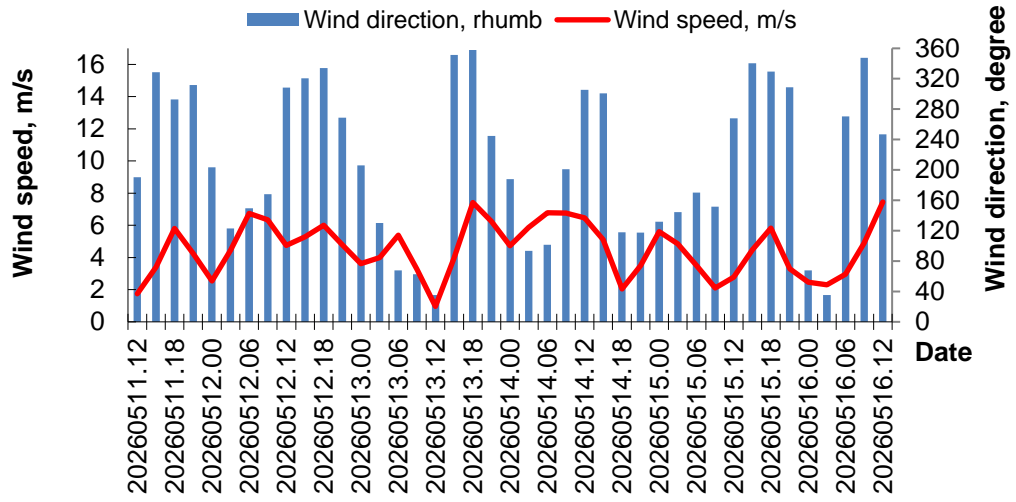


Wave condition in the Peschanyi

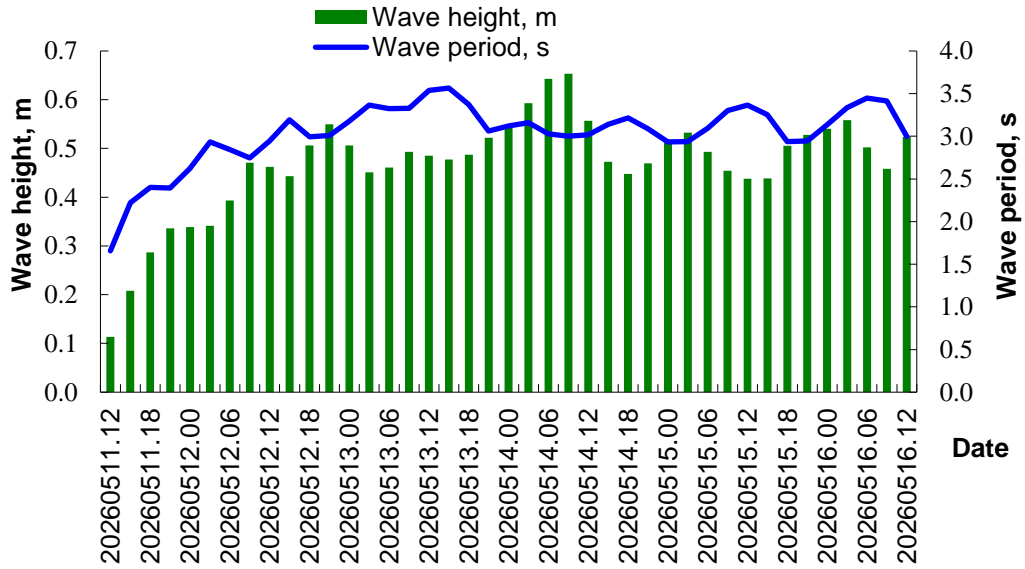


| Date time | Peschanyi (Isan) | | | | |
|-------------|------------------|-------------------------|----------------|---------------------|----------------|
| | Wave height, m | Направление волны, румб | Wave height, m | Скорость ветра, м/с | Wave height, m |
| 20260511.12 | 0.15 | W | 1.7 | 1 | W |
| 20260511.15 | 0.21 | W | 1.8 | 4 | N |
| 20260511.18 | 0.34 | SE | 2.1 | 7 | NW |
| 20260511.21 | 0.45 | SE | 2.4 | 4 | N |
| 20260512.00 | 0.46 | E | 2.9 | 3 | SE |
| 20260512.03 | 0.47 | NE | 3.2 | 5 | SE |
| 20260512.06 | 0.53 | N | 3.0 | 7 | SE |
| 20260512.09 | 0.57 | NW | 3.0 | 6 | SE |
| 20260512.12 | 0.51 | N | 3.2 | 4 | W |
| 20260512.15 | 0.45 | N | 3.5 | 5 | NW |
| 20260512.18 | 0.43 | N | 3.4 | 5 | W |
| 20260512.21 | 0.44 | N | 3.1 | 5 | W |
| 20260513.00 | 0.44 | NE | 3.0 | 5 | SW |
| 20260513.03 | 0.46 | W | 2.8 | 6 | E |
| 20260513.06 | 0.50 | NW | 2.9 | 5 | S |
| 20260513.09 | 0.58 | NW | 3.0 | 4 | S |
| 20260513.12 | 0.58 | NW | 3.2 | 3 | E |
| 20260513.15 | 0.56 | NW | 3.2 | 4 | NE |
| 20260513.18 | 0.53 | NW | 3.3 | 7 | NW |
| 20260513.21 | 0.51 | NW | 3.2 | 5 | W |
| 20260514.00 | 0.51 | W | 3.2 | 5 | S |
| 20260514.03 | 0.53 | W | 3.1 | 6 | E |
| 20260514.06 | 0.55 | W | 2.9 | 6 | SE |
| 20260514.09 | 0.63 | W | 2.9 | 6 | SE |
| 20260514.12 | 0.60 | W | 3.0 | 8 | NW |
| 20260514.15 | 0.51 | W | 3.1 | 5 | NW |
| 20260514.18 | 0.51 | SW | 3.1 | 2 | N |
| 20260514.21 | 0.52 | S | 3.1 | 3 | SE |
| 20260515.00 | 0.55 | SW | 3.0 | 7 | SE |
| 20260515.03 | 0.55 | W | 3.0 | 5 | SE |
| 20260515.06 | 0.51 | W | 3.2 | 3 | S |
| 20260515.09 | 0.50 | W | 3.3 | 4 | NE |
| 20260515.12 | 0.48 | NW | 3.4 | 6 | NW |
| 20260515.15 | 0.45 | W | 3.4 | 5 | NW |
| 20260515.18 | 0.44 | SW | 3.2 | 4 | SW |
| 20260515.21 | 0.44 | SW | 3.1 | 3 | SW |
| 20260516.00 | 0.50 | W | 3.2 | 3 | S |
| 20260516.03 | 0.54 | W | 3.3 | 2 | E |
| 20260516.06 | 0.50 | W | 3.4 | 2 | W |
| 20260516.09 | 0.47 | W | 3.5 | 3 | NW |
| 20260516.12 | 0.50 | SW | 3.3 | 4 | W |

Wind condition in the Fetisovo

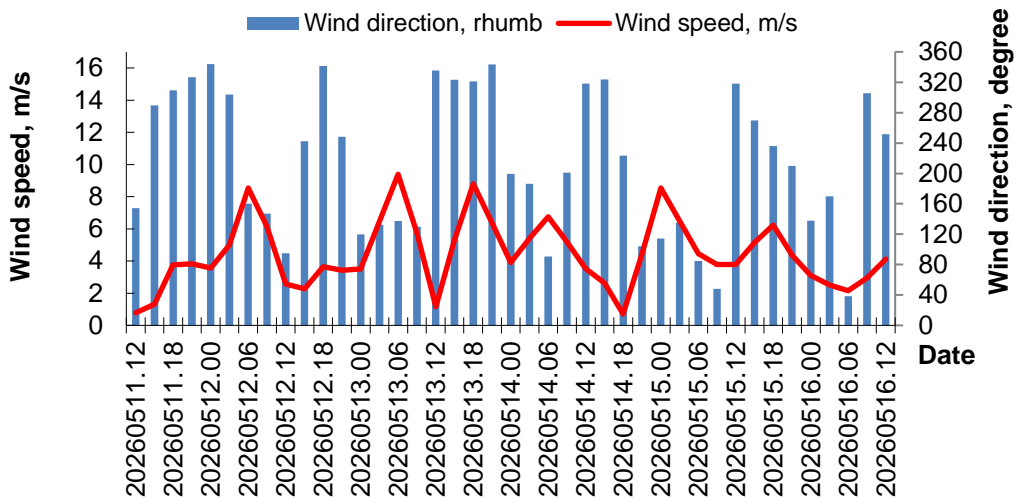


Wave condition in the Fetisovo

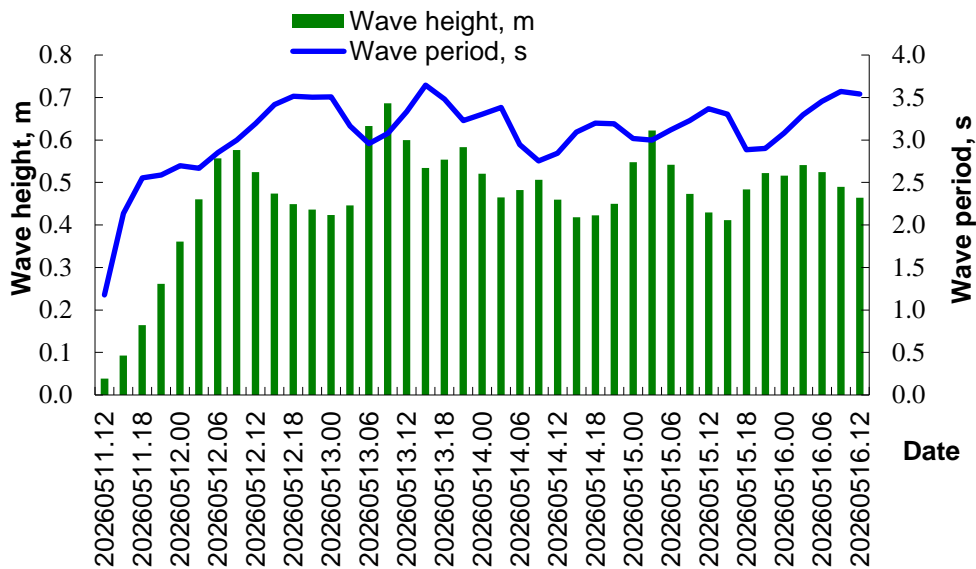


| Date time | Fetisovo | | | | |
|-------------|----------------|-------------------------|----------------|---------------------|----------------|
| | Wave height, m | Направление волны, румб | Wave height, m | Скорость ветра, м/с | Wave height, m |
| 20260511.12 | 0.11 | W | 1.7 | 2 | S |
| 20260511.15 | 0.21 | W | 2.2 | 3 | NW |
| 20260511.18 | 0.29 | E | 2.4 | 6 | NW |
| 20260511.21 | 0.34 | E | 2.4 | 4 | NW |
| 20260512.00 | 0.34 | E | 2.6 | 3 | SW |
| 20260512.03 | 0.34 | E | 2.9 | 4 | SE |
| 20260512.06 | 0.39 | N | 2.8 | 7 | SE |
| 20260512.09 | 0.47 | NW | 2.7 | 6 | S |
| 20260512.12 | 0.46 | N | 2.9 | 5 | NW |
| 20260512.15 | 0.44 | N | 3.2 | 5 | NW |
| 20260512.18 | 0.51 | E | 3.0 | 6 | NW |
| 20260512.21 | 0.55 | SE | 3.0 | 5 | W |
| 20260513.00 | 0.51 | SE | 3.2 | 4 | SW |
| 20260513.03 | 0.45 | E | 3.4 | 4 | SE |
| 20260513.06 | 0.46 | N | 3.3 | 5 | E |
| 20260513.09 | 0.49 | N | 3.3 | 3 | NE |
| 20260513.12 | 0.48 | NW | 3.5 | 1 | NE |
| 20260513.15 | 0.48 | NW | 3.6 | 4 | N |
| 20260513.18 | 0.49 | NW | 3.4 | 7 | N |
| 20260513.21 | 0.52 | W | 3.1 | 6 | SW |
| 20260514.00 | 0.54 | W | 3.1 | 5 | S |
| 20260514.03 | 0.59 | W | 3.2 | 6 | E |
| 20260514.06 | 0.64 | W | 3.0 | 7 | E |
| 20260514.09 | 0.65 | W | 3.0 | 7 | S |
| 20260514.12 | 0.56 | W | 3.0 | 6 | NW |
| 20260514.15 | 0.47 | NW | 3.1 | 5 | NW |
| 20260514.18 | 0.45 | NW | 3.2 | 2 | SE |
| 20260514.21 | 0.47 | S | 3.1 | 3 | SE |
| 20260515.00 | 0.51 | SW | 2.9 | 6 | SE |
| 20260515.03 | 0.53 | NW | 2.9 | 5 | SE |
| 20260515.06 | 0.49 | NW | 3.1 | 4 | S |
| 20260515.09 | 0.45 | NW | 3.3 | 2 | SE |
| 20260515.12 | 0.44 | W | 3.4 | 3 | W |
| 20260515.15 | 0.44 | W | 3.3 | 4 | N |
| 20260515.18 | 0.51 | S | 2.9 | 6 | NW |
| 20260515.21 | 0.53 | S | 2.9 | 3 | NW |
| 20260516.00 | 0.54 | SW | 3.1 | 2 | E |
| 20260516.03 | 0.56 | W | 3.3 | 2 | NE |
| 20260516.06 | 0.50 | W | 3.4 | 3 | W |
| 20260516.09 | 0.46 | W | 3.4 | 5 | N |
| 20260516.12 | 0.52 | SW | 3.0 | 7 | SW |

Wind condition in the Saura

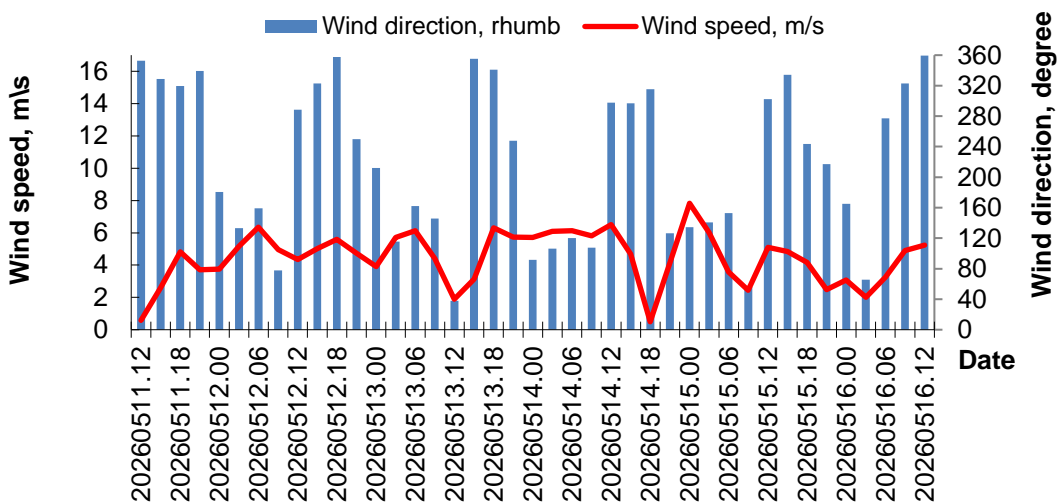


Wave condition in the Saura

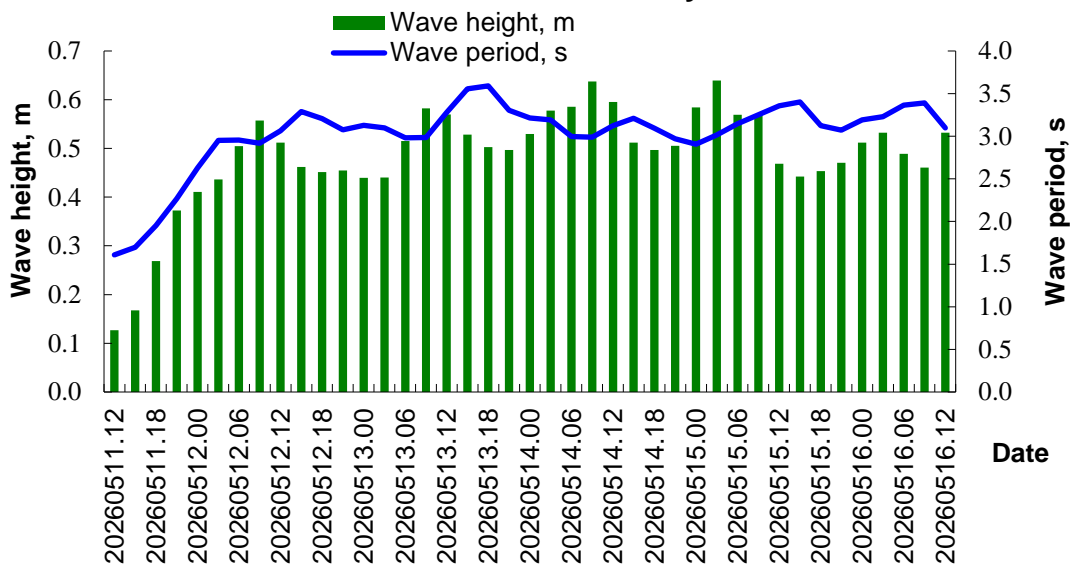


| Date time | Saura | | | | |
|-------------|----------------|-------------------------|----------------|---------------------|----------------|
| | Wave height, m | Направление волны, румб | Wave height, m | Скорость ветра, м/с | Wave height, m |
| 20260511.12 | 0.04 | NW | 1.2 | 1 | SE |
| 20260511.15 | 0.09 | NW | 2.1 | 1 | W |
| 20260511.18 | 0.16 | N | 2.6 | 4 | NW |
| 20260511.21 | 0.26 | N | 2.6 | 4 | NW |
| 20260512.00 | 0.36 | NE | 2.7 | 4 | N |
| 20260512.03 | 0.46 | NE | 2.7 | 5 | NW |
| 20260512.06 | 0.56 | NE | 2.9 | 9 | S |
| 20260512.09 | 0.58 | N | 3.0 | 6 | SE |
| 20260512.12 | 0.52 | N | 3.2 | 3 | E |
| 20260512.15 | 0.47 | N | 3.4 | 2 | SW |
| 20260512.18 | 0.45 | N | 3.5 | 4 | N |
| 20260512.21 | 0.44 | N | 3.5 | 3 | W |
| 20260513.00 | 0.42 | N | 3.5 | 4 | SE |
| 20260513.03 | 0.45 | N | 3.2 | 6 | SE |
| 20260513.06 | 0.63 | NW | 3.0 | 9 | SE |
| 20260513.09 | 0.69 | NW | 3.1 | 6 | SE |
| 20260513.12 | 0.60 | NW | 3.3 | 1 | NW |
| 20260513.15 | 0.53 | NW | 3.6 | 5 | NW |
| 20260513.18 | 0.55 | N | 3.5 | 9 | NW |
| 20260513.21 | 0.58 | E | 3.2 | 6 | N |
| 20260514.00 | 0.52 | E | 3.3 | 4 | S |
| 20260514.03 | 0.47 | E | 3.4 | 5 | S |
| 20260514.06 | 0.48 | W | 2.9 | 7 | E |
| 20260514.09 | 0.51 | W | 2.8 | 5 | S |
| 20260514.12 | 0.46 | W | 2.8 | 4 | NW |
| 20260514.15 | 0.42 | SW | 3.1 | 3 | NW |
| 20260514.18 | 0.42 | SE | 3.2 | 1 | SW |
| 20260514.21 | 0.45 | SE | 3.2 | 4 | E |
| 20260515.00 | 0.55 | SW | 3.0 | 9 | SE |
| 20260515.03 | 0.62 | W | 3.0 | 7 | SE |
| 20260515.06 | 0.54 | W | 3.1 | 4 | E |
| 20260515.09 | 0.47 | SW | 3.2 | 4 | NE |
| 20260515.12 | 0.43 | SW | 3.4 | 4 | NW |
| 20260515.15 | 0.41 | SW | 3.3 | 5 | W |
| 20260515.18 | 0.48 | SW | 2.9 | 6 | SW |
| 20260515.21 | 0.52 | SW | 2.9 | 4 | SW |
| 20260516.00 | 0.52 | SW | 3.1 | 3 | SE |
| 20260516.03 | 0.54 | W | 3.3 | 3 | S |
| 20260516.06 | 0.52 | W | 3.5 | 2 | NE |
| 20260516.09 | 0.49 | W | 3.6 | 3 | NW |
| 20260516.12 | 0.46 | W | 3.5 | 4 | W |

Wind condition in the Kuryik



Wave condition in the Kuryik



| Date time | Kuryk | | | | |
|-------------|----------------|-------------------------|----------------|---------------------|----------------|
| | Wave height, m | Направление волны, румб | Wave height, m | Скорость ветра, м/с | Wave height, m |
| 20260511.12 | 0.13 | W | 1.6 | 1 | N |
| 20260511.15 | 0.17 | SW | 1.7 | 3 | NW |
| 20260511.18 | 0.27 | SE | 2.0 | 5 | NW |
| 20260511.21 | 0.37 | E | 2.3 | 4 | N |
| 20260512.00 | 0.41 | E | 2.6 | 4 | S |
| 20260512.03 | 0.44 | NE | 3.0 | 5 | SE |
| 20260512.06 | 0.50 | N | 3.0 | 6 | S |
| 20260512.09 | 0.56 | N | 2.9 | 5 | E |
| 20260512.12 | 0.51 | N | 3.1 | 4 | W |
| 20260512.15 | 0.46 | N | 3.3 | 5 | NW |
| 20260512.18 | 0.45 | N | 3.2 | 6 | N |
| 20260512.21 | 0.45 | NE | 3.1 | 5 | W |
| 20260513.00 | 0.44 | NE | 3.1 | 4 | SW |
| 20260513.03 | 0.44 | N | 3.1 | 6 | SE |
| 20260513.06 | 0.52 | NW | 3.0 | 6 | S |
| 20260513.09 | 0.58 | NW | 3.0 | 4 | SE |
| 20260513.12 | 0.57 | NW | 3.3 | 2 | NE |
| 20260513.15 | 0.53 | NW | 3.6 | 3 | N |
| 20260513.18 | 0.50 | NW | 3.6 | 6 | N |
| 20260513.21 | 0.50 | NW | 3.3 | 6 | W |
| 20260514.00 | 0.53 | W | 3.2 | 6 | E |
| 20260514.03 | 0.58 | W | 3.2 | 6 | E |
| 20260514.06 | 0.59 | NW | 3.0 | 6 | SE |
| 20260514.09 | 0.64 | NW | 3.0 | 6 | E |
| 20260514.12 | 0.60 | NW | 3.1 | 7 | NW |
| 20260514.15 | 0.51 | NW | 3.2 | 5 | NW |
| 20260514.18 | 0.50 | SW | 3.1 | 0 | NW |
| 20260514.21 | 0.51 | SW | 3.0 | 4 | SE |
| 20260515.00 | 0.58 | W | 2.9 | 8 | SE |
| 20260515.03 | 0.64 | NW | 3.0 | 6 | SE |
| 20260515.06 | 0.57 | NW | 3.1 | 4 | SE |
| 20260515.09 | 0.57 | NW | 3.3 | 2 | NE |
| 20260515.12 | 0.47 | NW | 3.4 | 5 | NW |
| 20260515.15 | 0.44 | W | 3.4 | 5 | NW |
| 20260515.18 | 0.45 | SW | 3.1 | 4 | SW |
| 20260515.21 | 0.47 | SW | 3.1 | 2 | SW |
| 20260516.00 | 0.51 | SW | 3.2 | 3 | S |
| 20260516.03 | 0.53 | W | 3.2 | 2 | NE |
| 20260516.06 | 0.49 | W | 3.4 | 3 | W |
| 20260516.09 | 0.46 | W | 3.4 | 5 | NW |
| 20260516.12 | 0.53 | SW | 3.1 | 5 | N |

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

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