



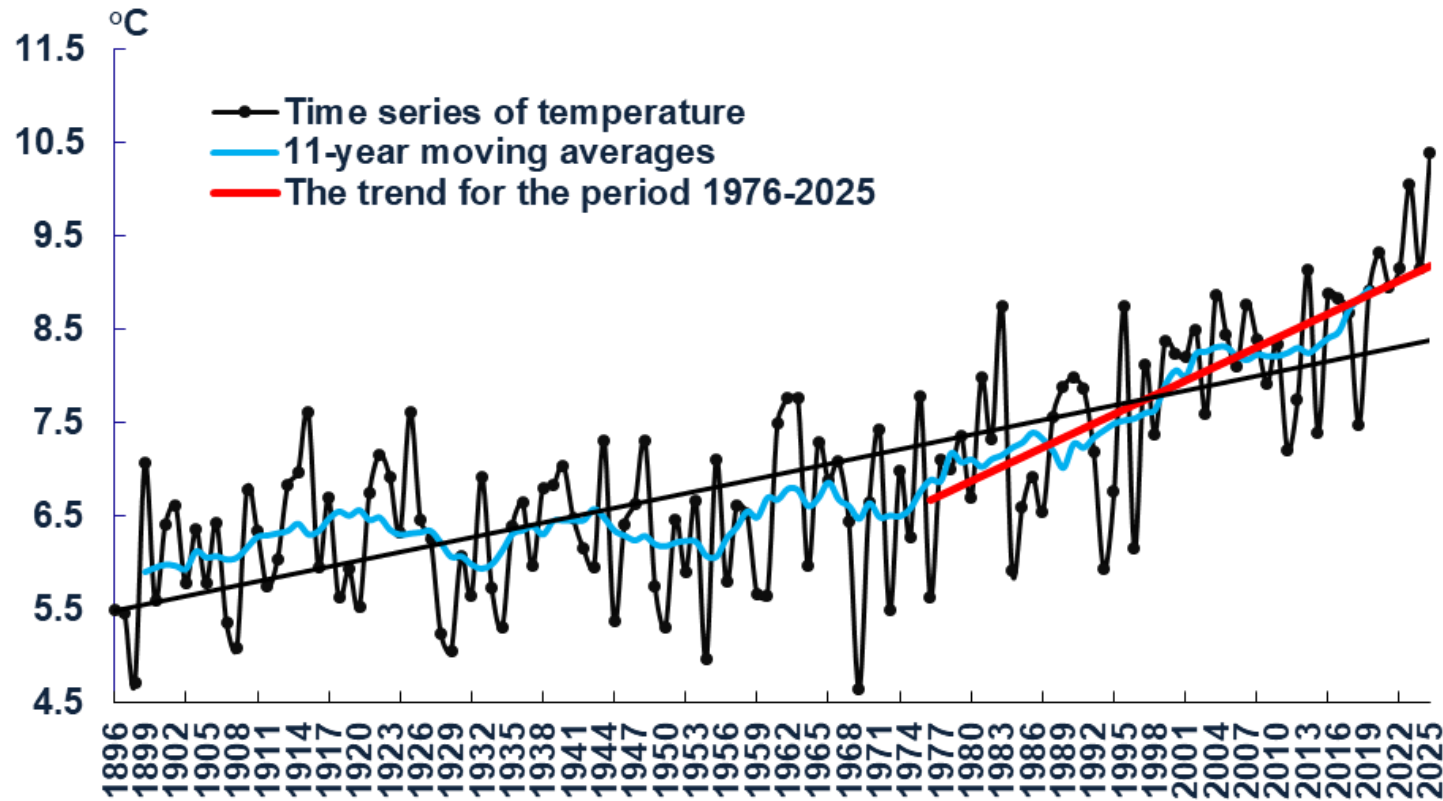
**National Hydrometeorological Service of the Republic of Kazakhstan
Scientific Research center**

The current climate conditions and a national outlook for JJAS 2026 in Kazakhstan

**The Fifth Session of the Third Pole Climate Forum (TPCF-5)
1–3 June 2026**

Ms. Nuraily Kuzhageldina

Kazakhstan's climate is warming faster than the global climate



Change in mean annual air temperature for the period 1894-2025, averaged over the long-row stations of the Republic of Kazakhstan

Temperature change in 1976-2025:

- Global scale: $0,20^{\circ}\text{C}$ every 10 years
- Kazakhstan: $0,40^{\circ}\text{C}$ every 10 years

10 warmest years

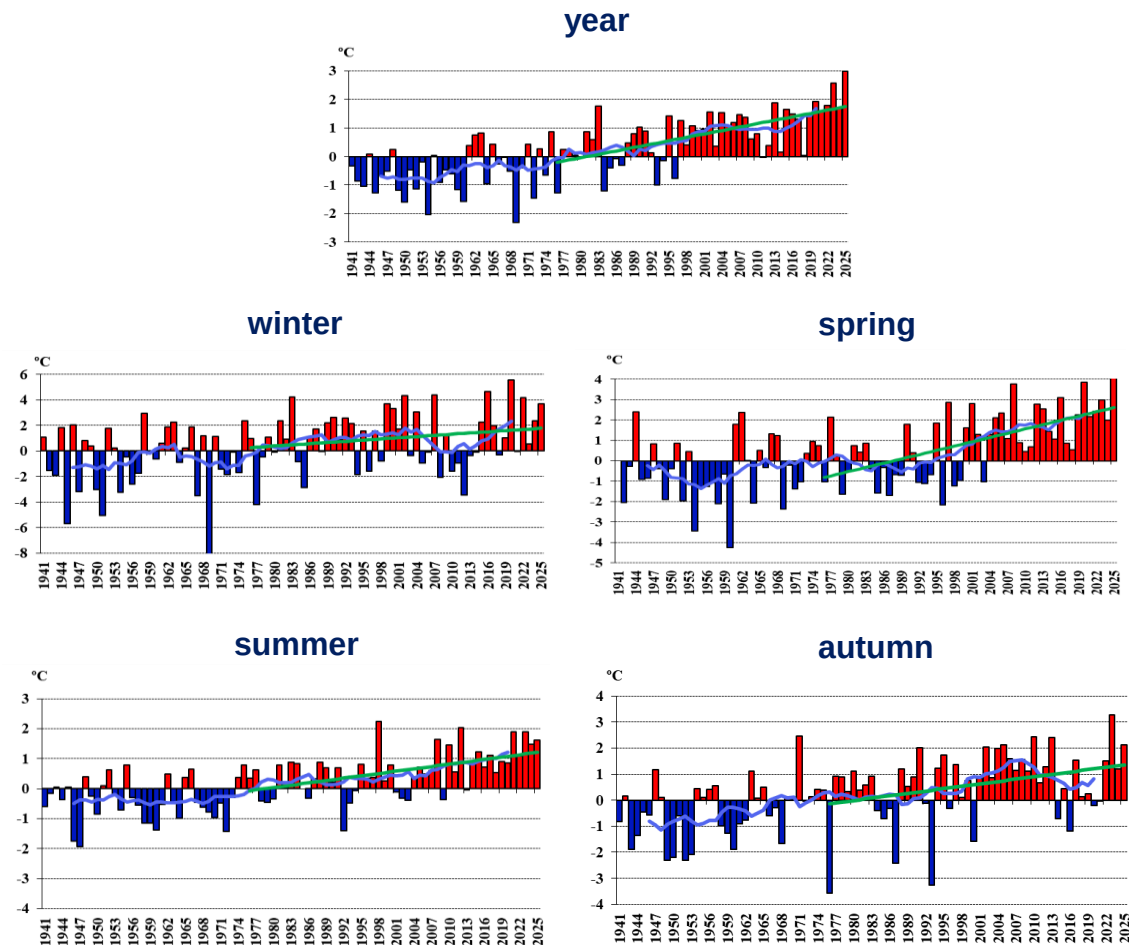
Year	Anomaly, $^{\circ}\text{C}$
2025	2,96
2023	2,58
2020	1,92
2013	1,89
2022	1,78
1983	1,76
2024	1,72
2015	1,64
2021	1,58
2002	1,55



Trends in air temperature growth by season:

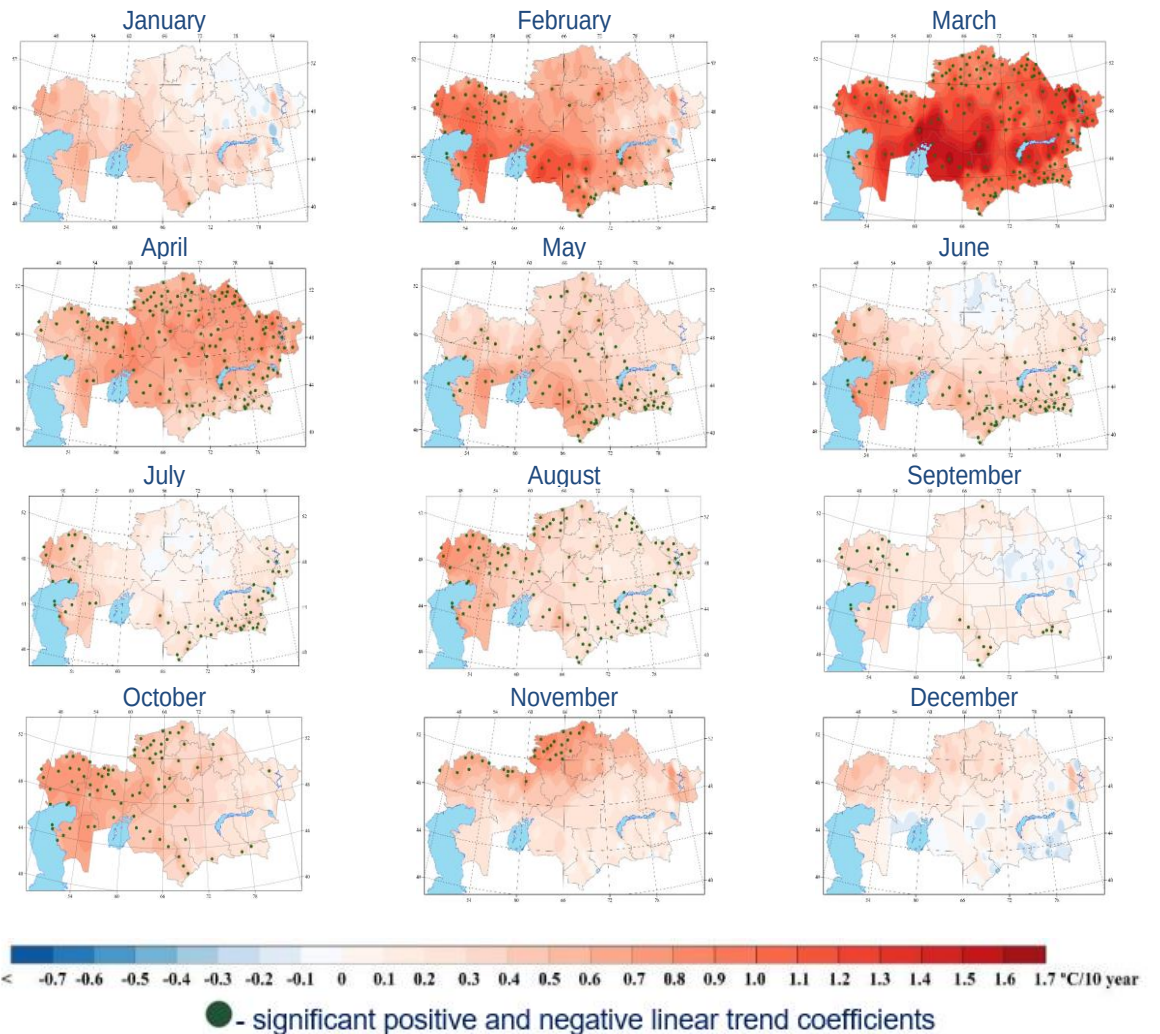
spring by $0,70^{\circ}\text{C}/10$ year summer by $0,26^{\circ}\text{C}/10$ year
autumn by $0,30^{\circ}\text{C}/10$ year winter by $0,31^{\circ}\text{C}/10$ year

Climate change is heterogeneous across seasons, by territory and over time

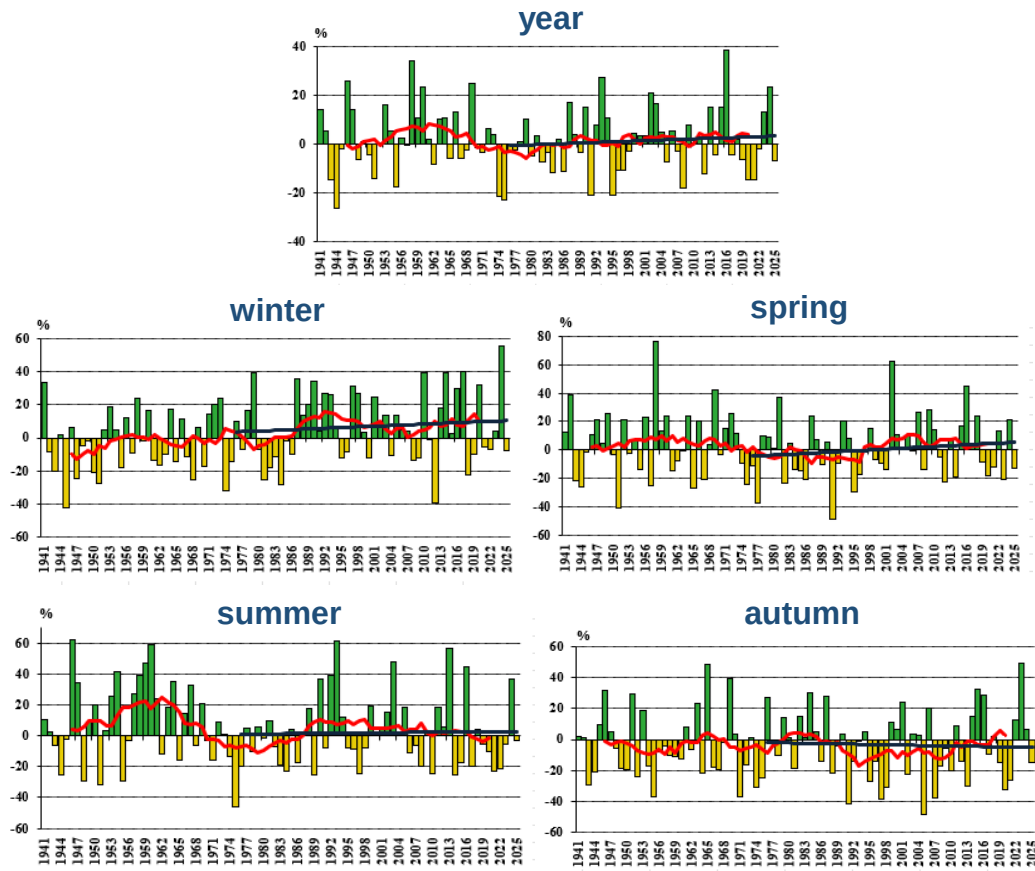


Time series of anomalies of annual and seasonal air temperatures (°C) averaged over the territory of Kazakhstan for the period 1941-2025. The anomalies are calculated relative to the base period of 1961-1990.

Air temperature change, °C/10 year, 1976–2025

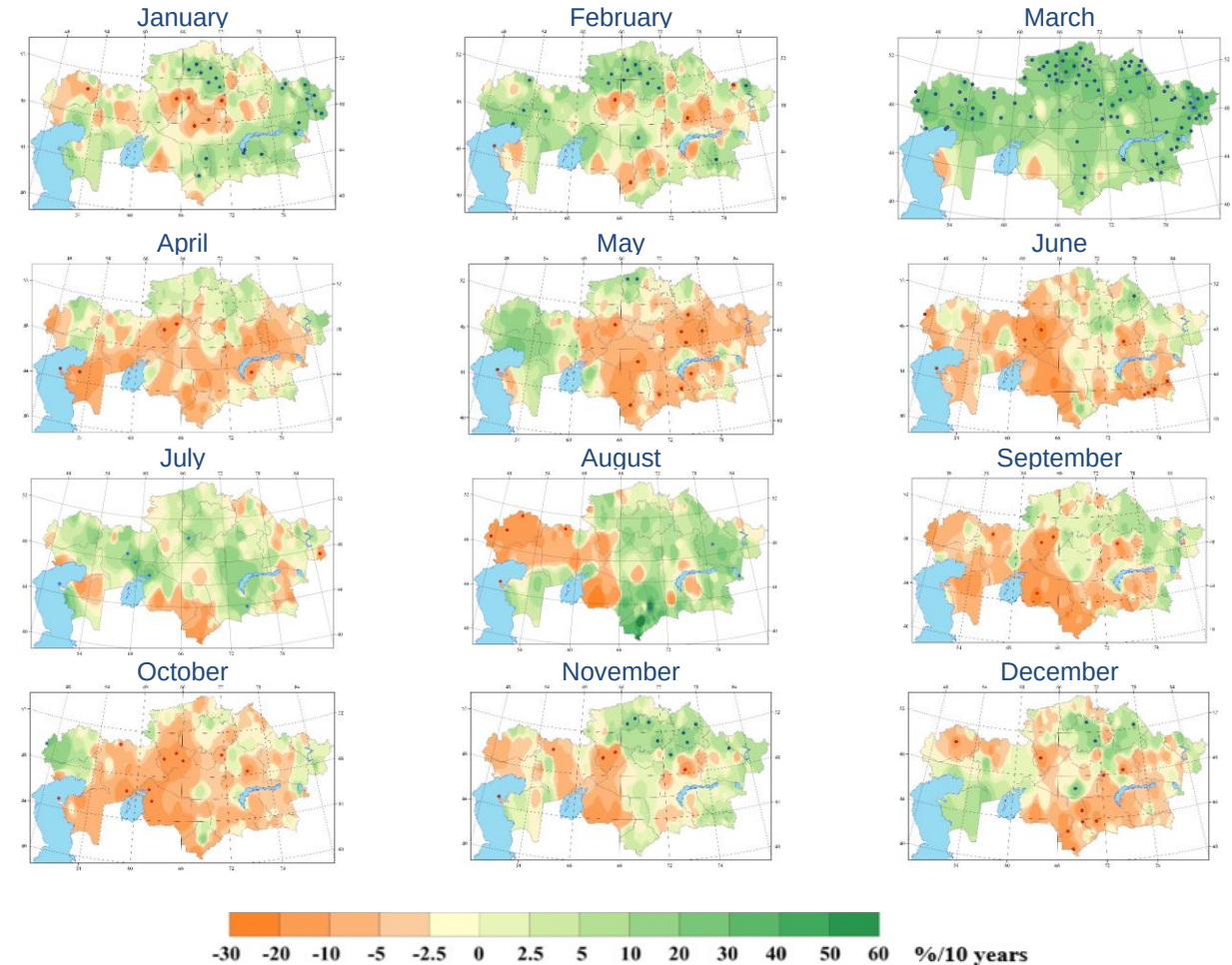


Climate change is heterogeneous across seasons, by territory and over time



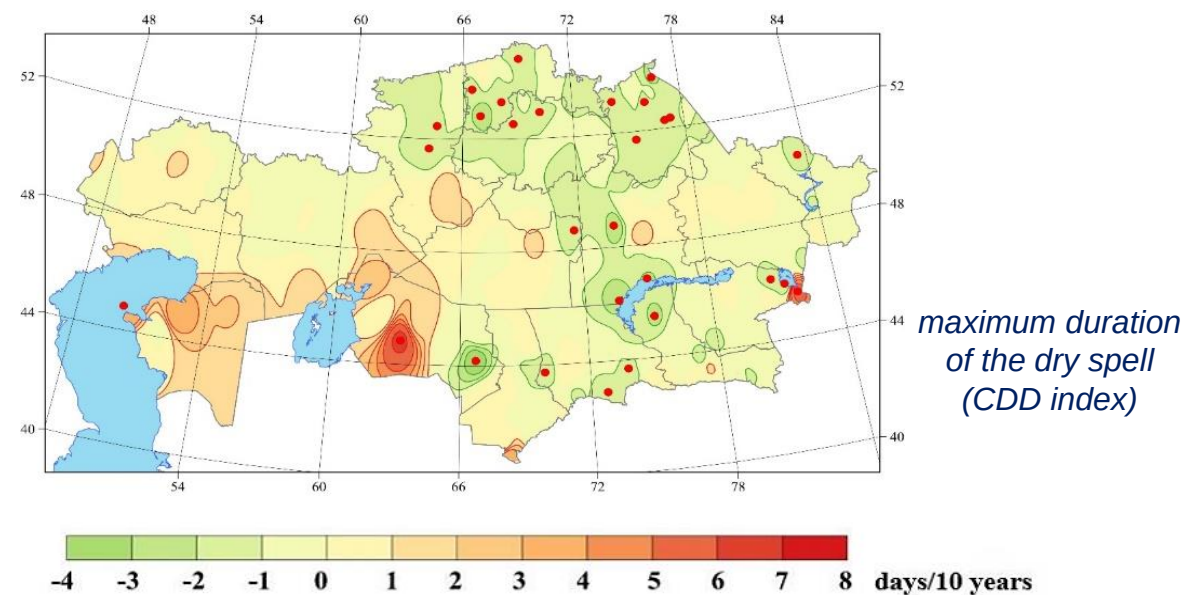
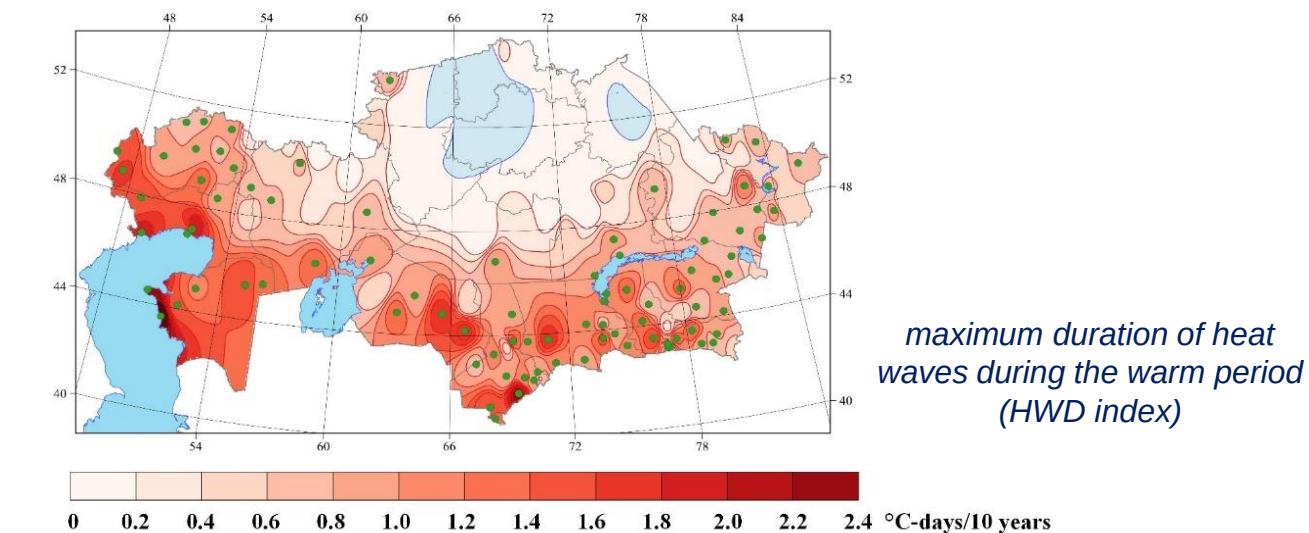
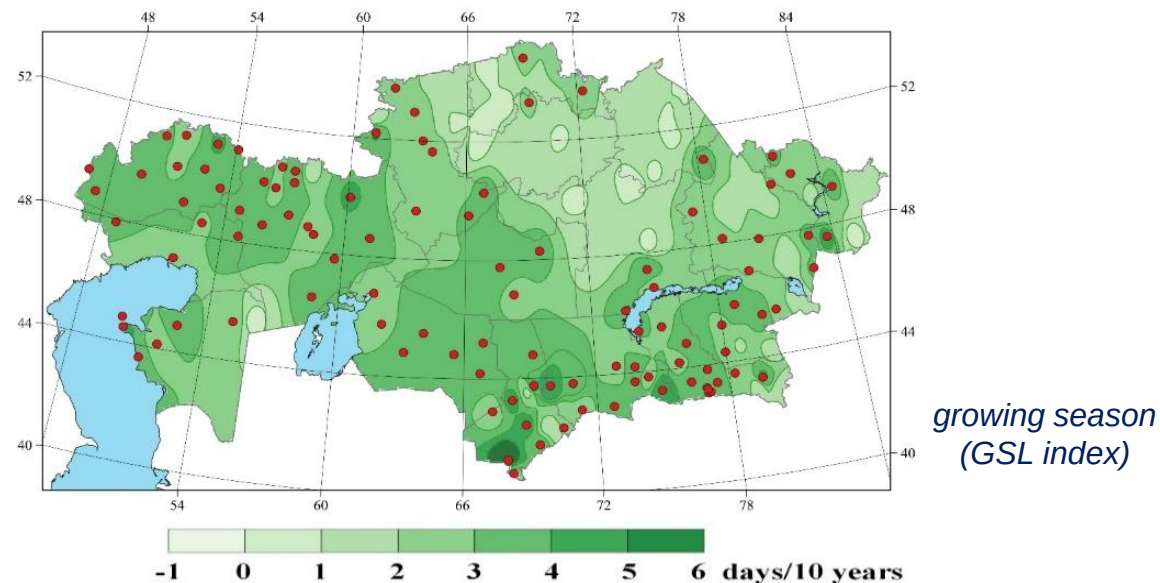
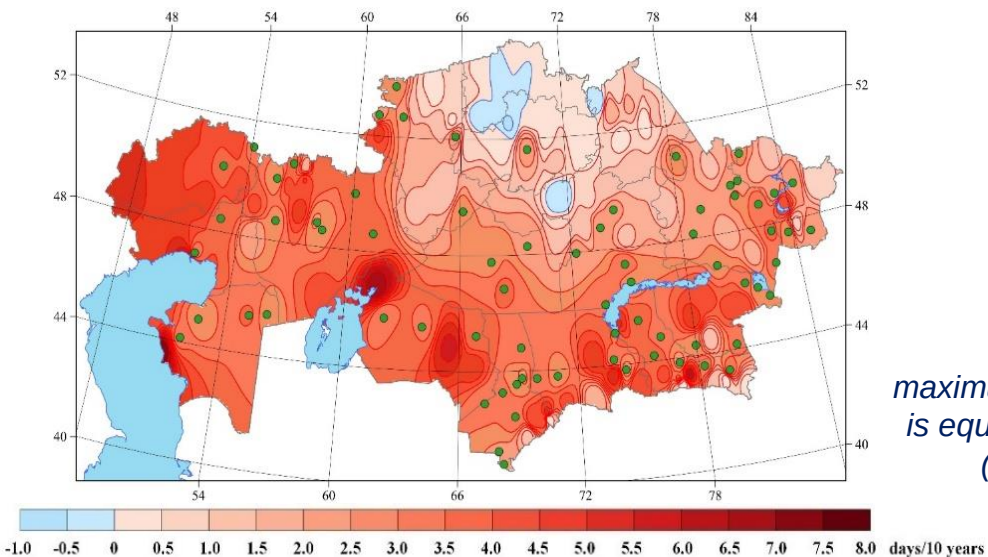
Time series of anomalies of annual and seasonal precipitation sums (%), spatially averaged over the territory of Kazakhstan for the period 1941–2025. Anomalies are calculated relative to the baseline period 1961–1990.

Change in precipitation, %/10 year, 1976–2025



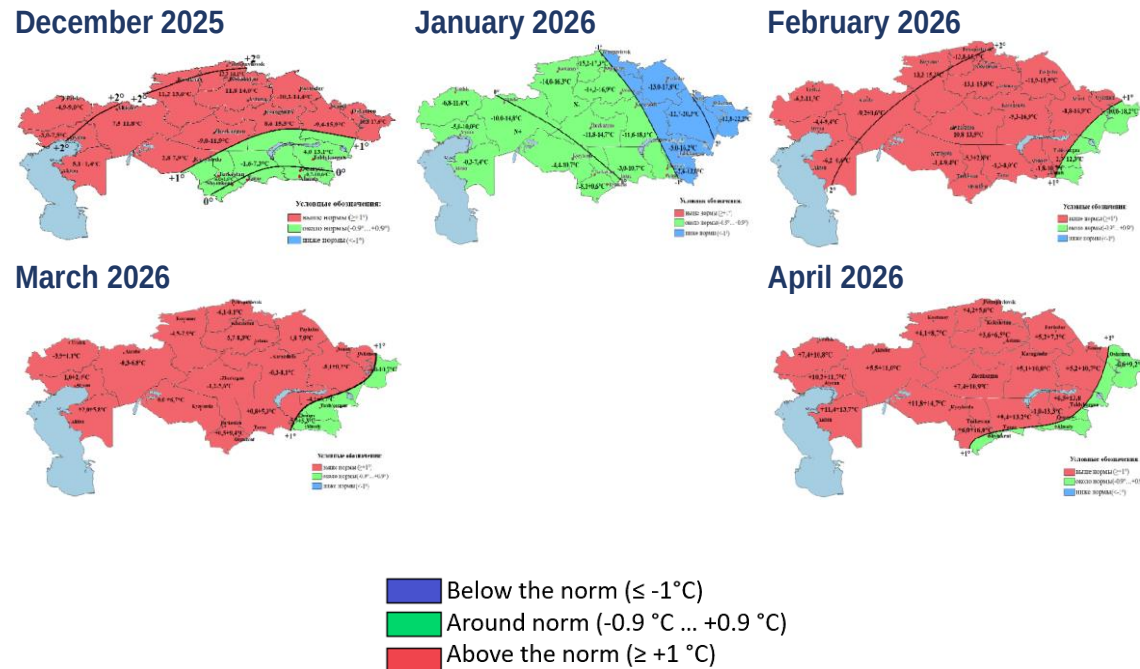
significant positive and negative values of the linear trend coefficient are highlighted in blue and red

Not only the average air temperature and precipitation levels are changing, but also other characteristics of the regimes of these key climate elements

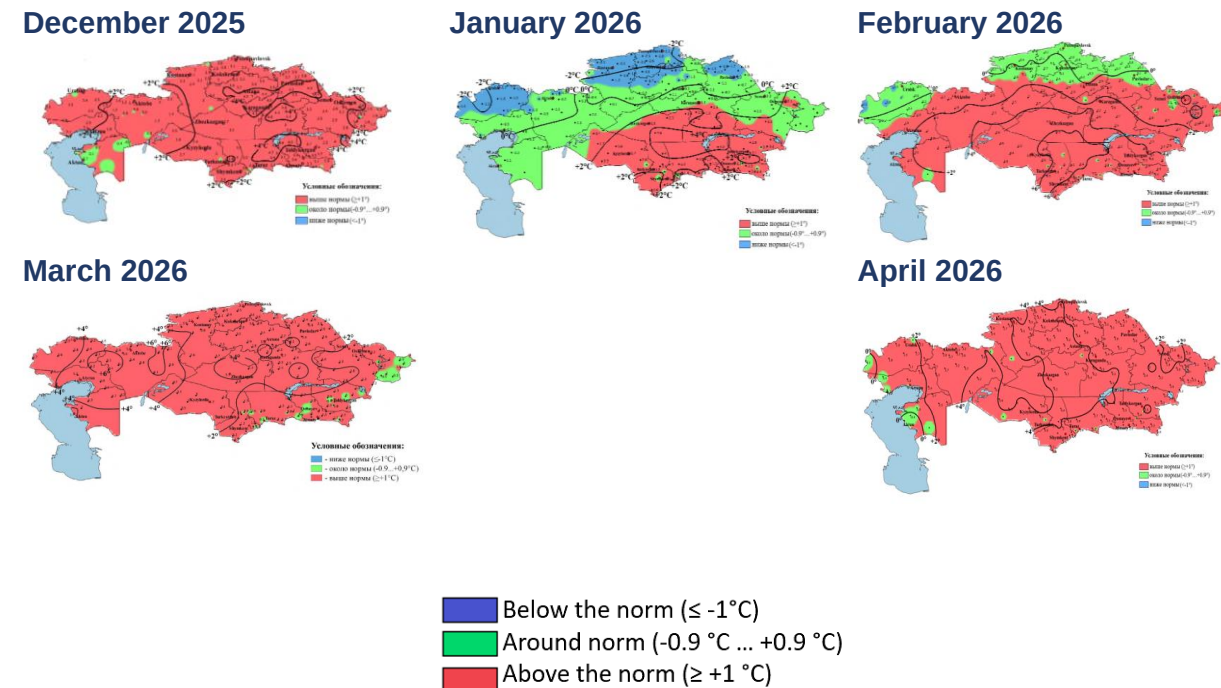


Review of the (DJFMA 2025) season (Temperature)

advisory weather forecast



observed weather



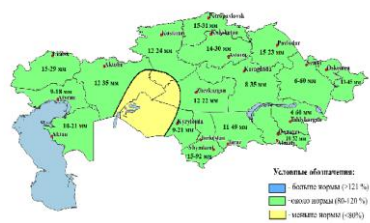
Justifiability of monthly weather forecasts for the Republic of Kazakhstan

Meteorological value	December 2025	January 2026	February 2026	March 2026	April 2026	Average
$\Delta T, \%$	64	70	86	88	78	77
$\Delta T, \%$ - air temperature anomaly						

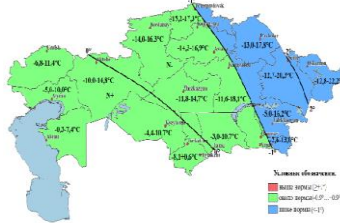
Review of the (DJFMA 2025) season (Precipitation)

advisory weather forecast

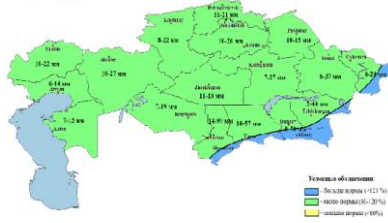
December 2025



January 2026



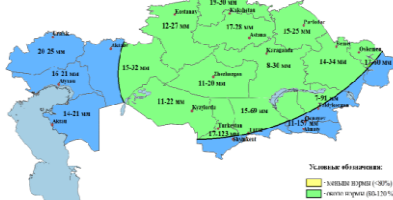
February 2026



March 2026



April 2026



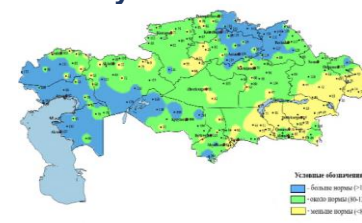
Below the norm ($\leq 80\%$)
Around norm (80 ... 120 %)
Above the norm ($\geq 120\%$)

observed weather

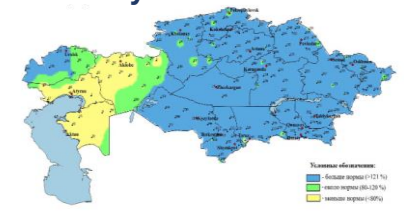
December 2025



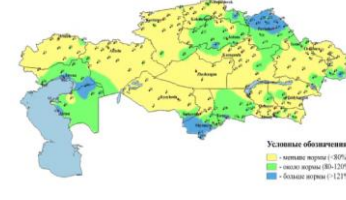
January 2026



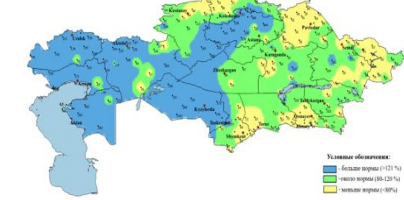
February 2026



March 2026



April 2026



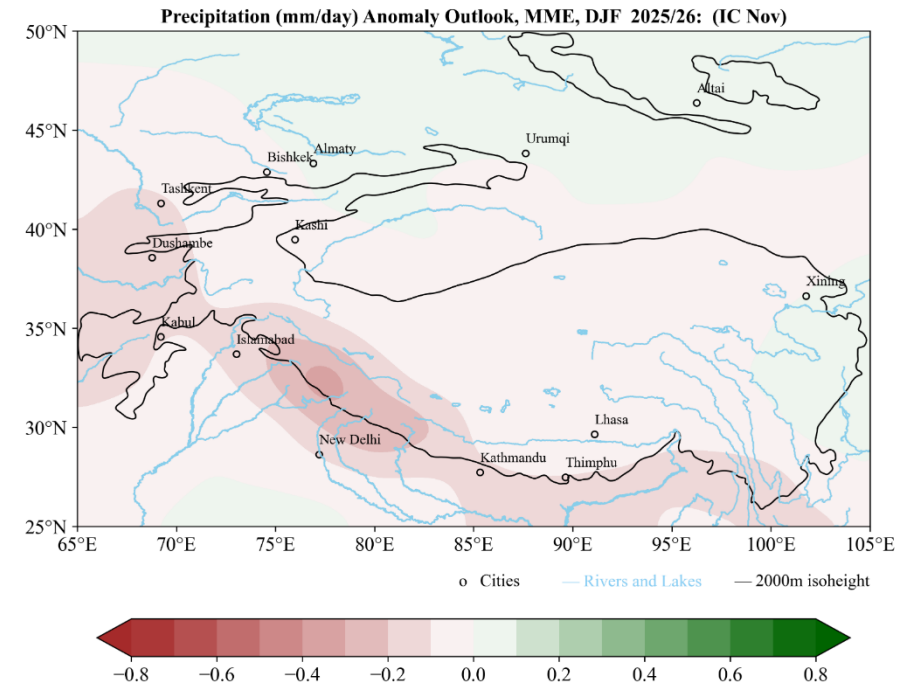
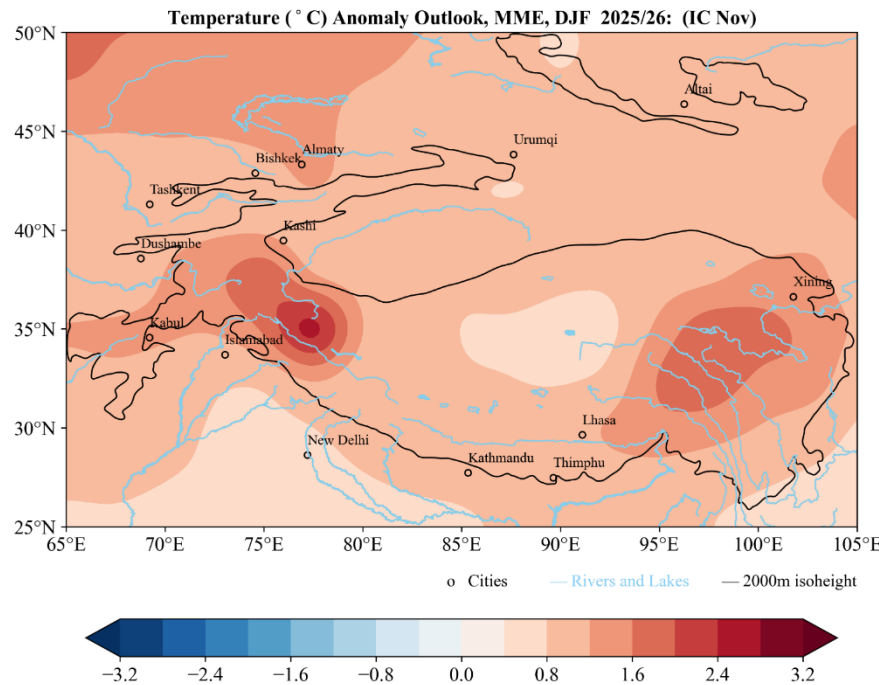
Below the norm ($\leq 80\%$)
Around norm (80 ... 120 %)
Above the norm ($\geq 120\%$)

Justifiability of monthly weather forecasts for the Republic of Kazakhstan

Meteorological value	December 2025	January 2026	February 2026	March 2026	April 2026	Average
$\Delta R, \%$	74	70	75	50	65	67
$\Delta R, \%$ - anomaly of atmospheric precipitation						

Review of the (DJF 2025/2026) season

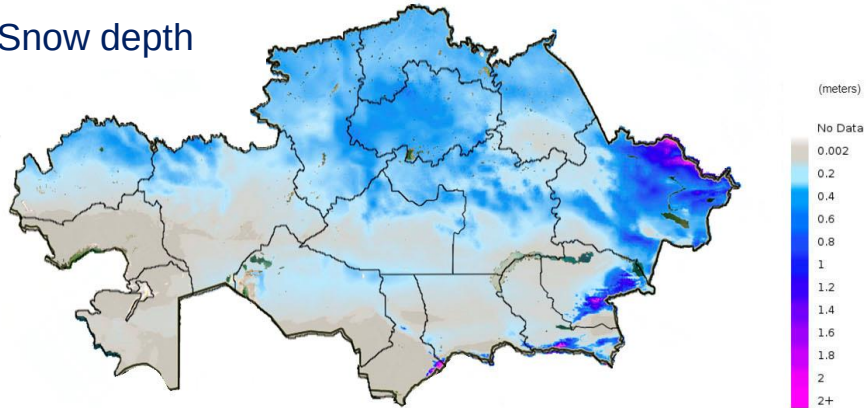
- The seasonal forecasts provided by meteorological models for the period demonstrated varying degrees of alignment with observed climate data across Kazakhstan.
- Preliminary analysis indicates that temperature forecasts were generally accurate, while precipitation forecasts showed lower agreement with observations.



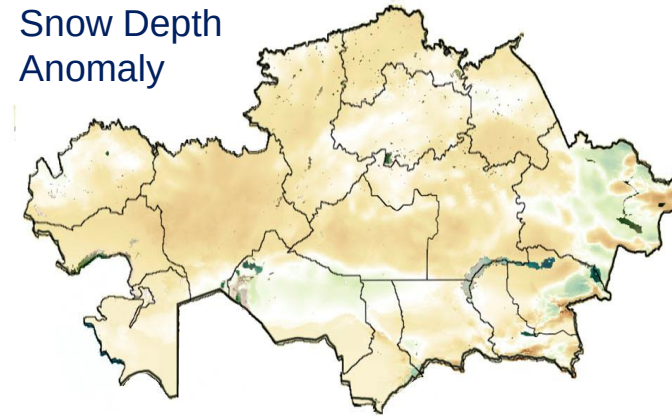
Surface Air Temperature and Precipitation anomaly, MME, DJF 2025-26 for TP region

Snow Cover Conditions during Winter 2025/2026

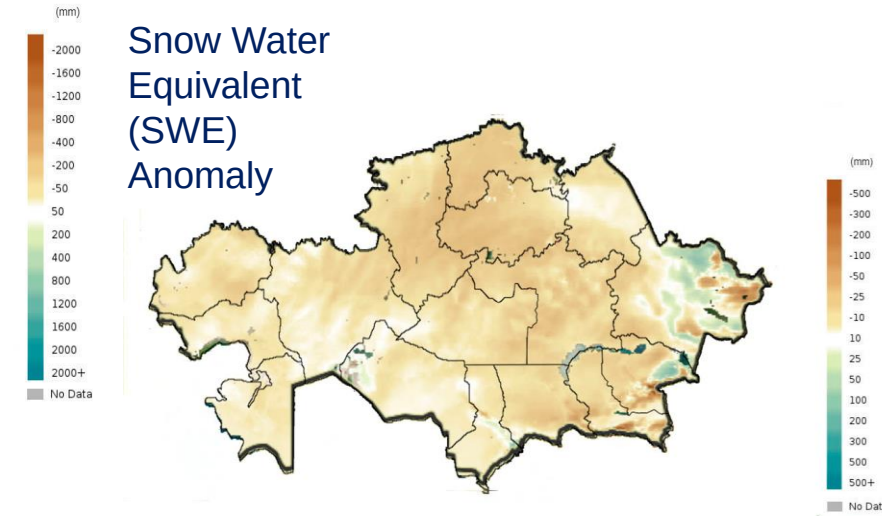
Snow depth



Snow Depth Anomaly



Snow Water Equivalent (SWE) Anomaly



Snow depth increased significantly in late February. However, snow water equivalent (**SWE**) remained **below normal** across most of Kazakhstan, indicating persistent snow water deficits.

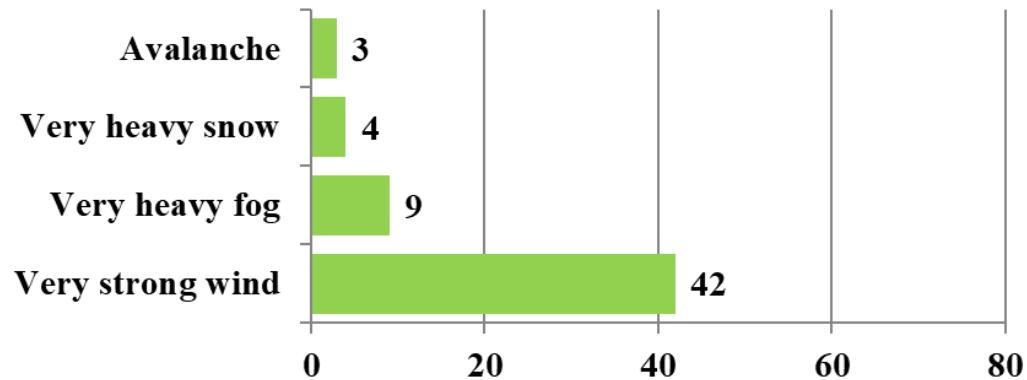
Key findings

- Snow cover remained below normal during the first half of winter.
- Significant snowfall occurred in late February.
- Positive SWE anomalies were mainly observed in eastern and southeastern Kazakhstan.

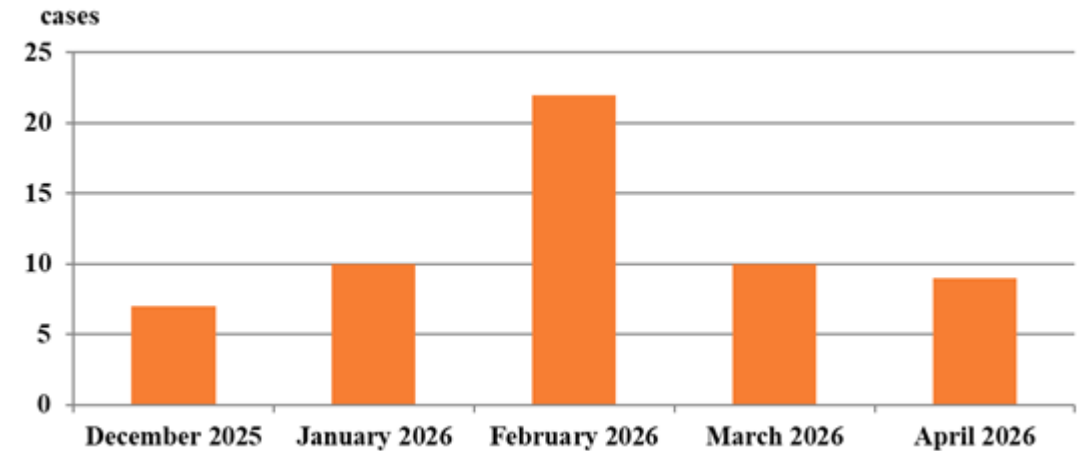
High-impact Climate Events from December 2025 to April 2026

In Kazakhstan from December 2025 to April 2026, the following dangerous hydrometeorological phenomena occurred, but did not have serious consequences for vital activities and other sectors of the economy.

distribution by type of natural hydrometeorological phenomena



distribution of hydrometeorological events by month



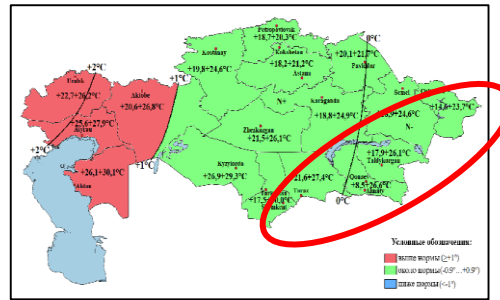
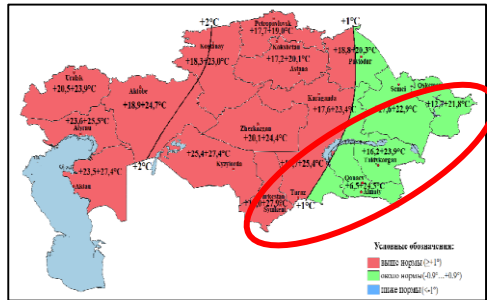
Review of the advisory weather forecast for the summer season

Expected deviations of the average monthly air **temperature** from the norm in:

Expected deviations of the average monthly **precipitation** from the norm in:

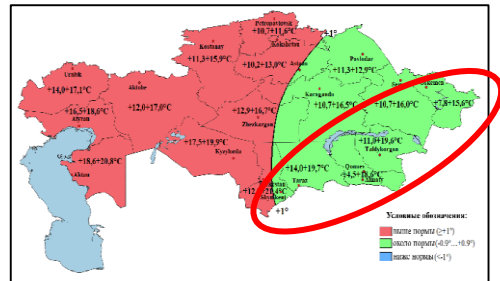
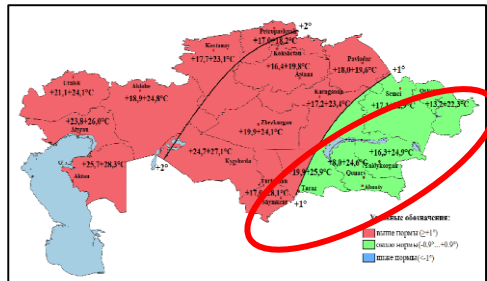
June 2026

July 2026



August 2026

September 2026

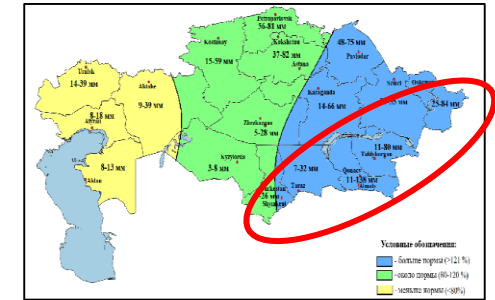
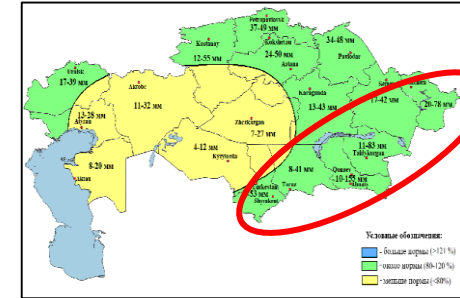


- Below the norm ($\leq -1^\circ\text{C}$)
- Around norm ($-0.9^\circ\text{C} \dots +0.9^\circ\text{C}$)
- Above the norm ($\geq +1^\circ\text{C}$)

A warm summer is expected, with air temperatures **around or above the climatic norm**.

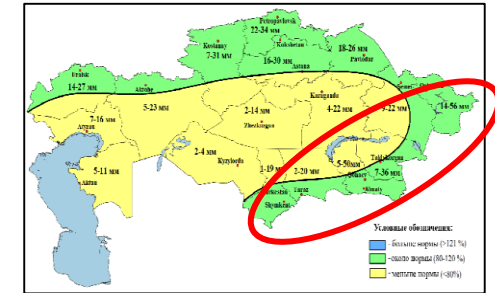
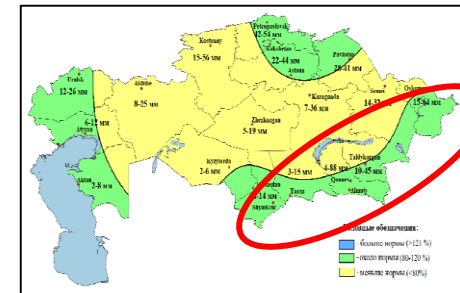
June 2026

July 2026



August 2026

September 2026



- Below the norm ($\leq 80\%$)
- Around norm ($80 \dots 120\%$)
- Above the norm ($\geq 120\%$)

In the summer season precipitation **below and around the norm** is expected.

Thank you for your attention!