



**MINISTRY OF ECOLOGY  
AND NATURAL RESOURCES OF  
THE REPUBLIC OF KAZAKHSTAN**

**Republican State Enterprise  
«KAZHYDROMET»**

**EXPRESS MONITORING  
according to the climate of the territory of  
Kazakhstan in MART 2026**

*Anomalies of average monthly air temperature and monthly precipitation in Kazakhstan*

Astana 2026

## RELEVANT

- In Mart 2026, the average monthly air temperature exceeded the **climatic norm by 2.66 °C**.
- The amount of atmospheric precipitation exceeded the climatic norm by **3.86 mm**.

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## ANOMALIES OF MEAN MONTHLY AIR TEMPERATURE

In the annual cycle of mean monthly air temperature, March 2026 was characterized by pronounced anomalies, exceeding the climatological norm by **2.66 °C**. Similar deviations from the norm have been repeatedly observed throughout the entire period of record.

Analysis of the time series of temperature anomalies reveals a pronounced positive trend. In the earlier period (prior to the 1980s), negative temperature anomalies predominated, whereas in recent decades positive anomalies have become dominant, indicating a significant warming of the climate in Kazakhstan (Fig. 1).

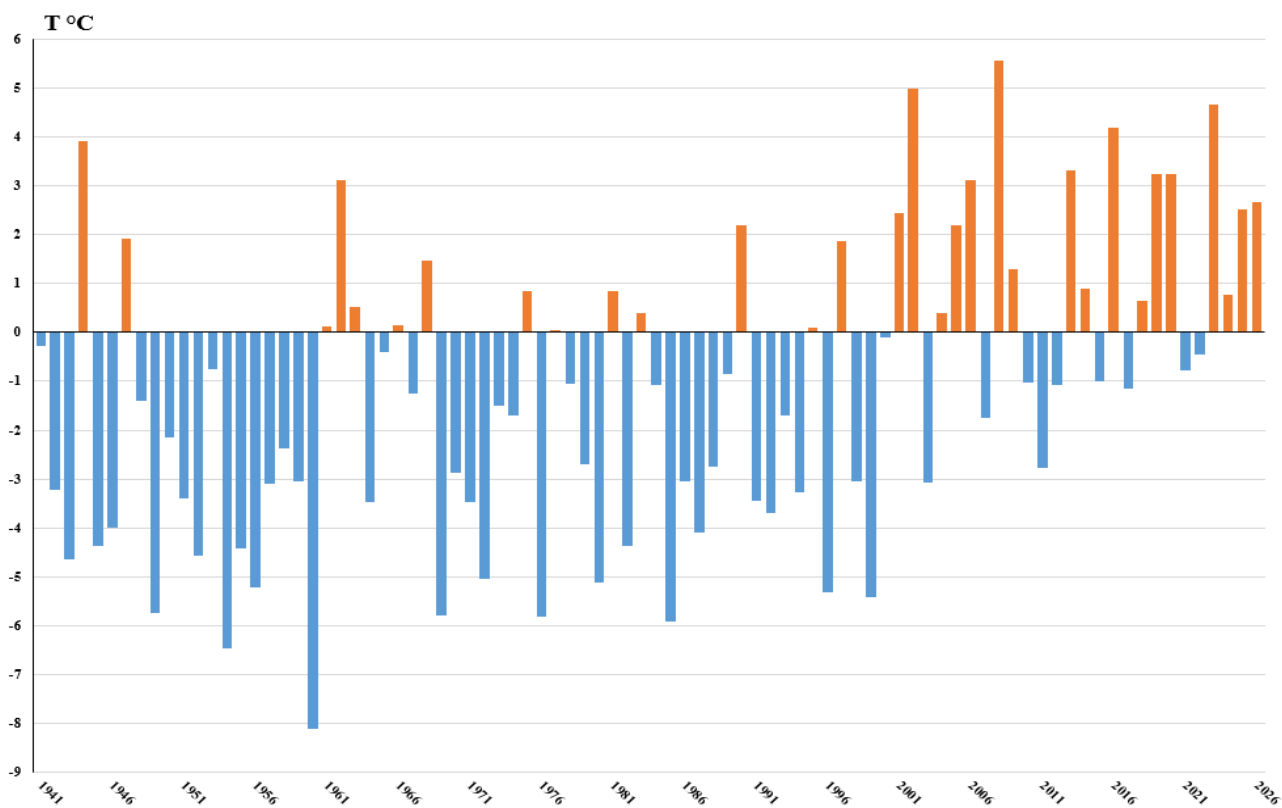


Figure 1 – Time series of March air temperature anomalies (°C), averaged across the territory of Kazakhstan for the period 1941–2026 years.

Anomalies are calculated relative to the baseline period 1991–2020 years.

In March, positive air temperature anomalies were observed across a significant part of Kazakhstan (Fig. 2). The largest deviations (6.1–6.4 °C) were recorded in the western part of the country, in the zone where the West Kazakhstan, Atyrau, and Aktobe regions converge.

At seventeen meteorological stations located in the Atyrau, Mangystau, Aktobe, and Akmola regions, extremely high temperature anomalies were recorded, corresponding to a non-exceedance probability of 95–100%.

In the eastern, southeastern, and southern regions of the country, temperature anomalies were close to the climatological norm. Negative anomalies ( $-0.3...-0.5\text{ }^{\circ}\text{C}$ ) were recorded in the East Kazakhstan region (Akzhar and Zaysan stations) and in the Almaty region (Aydarly station).

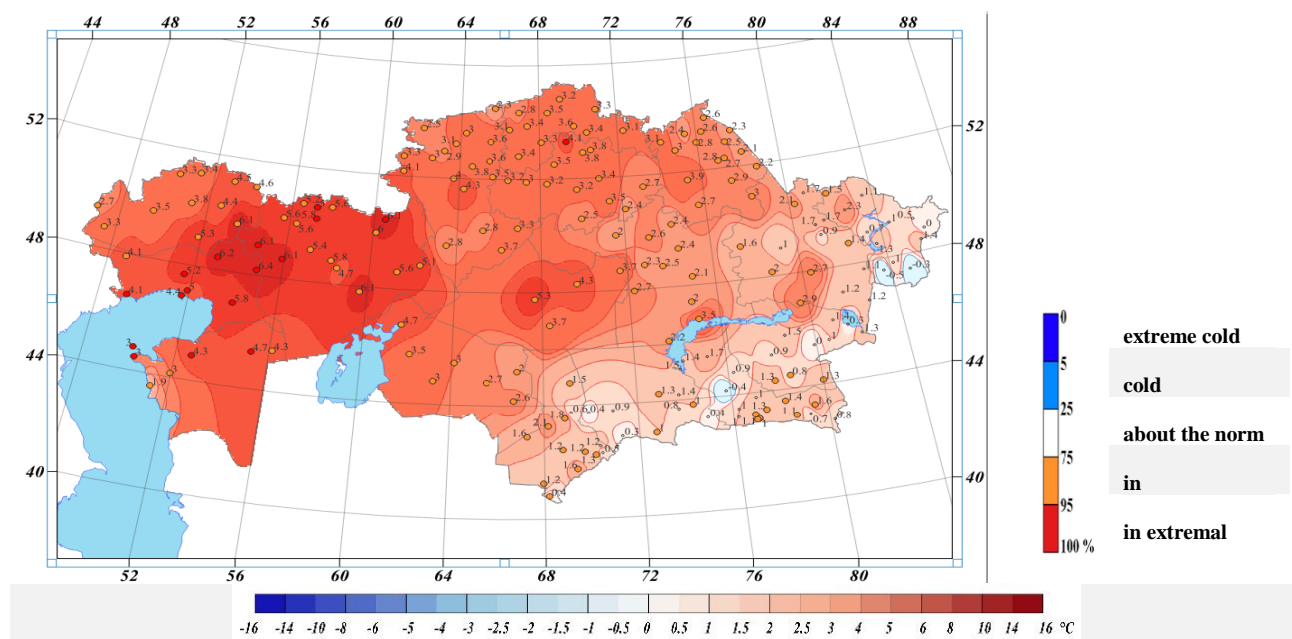
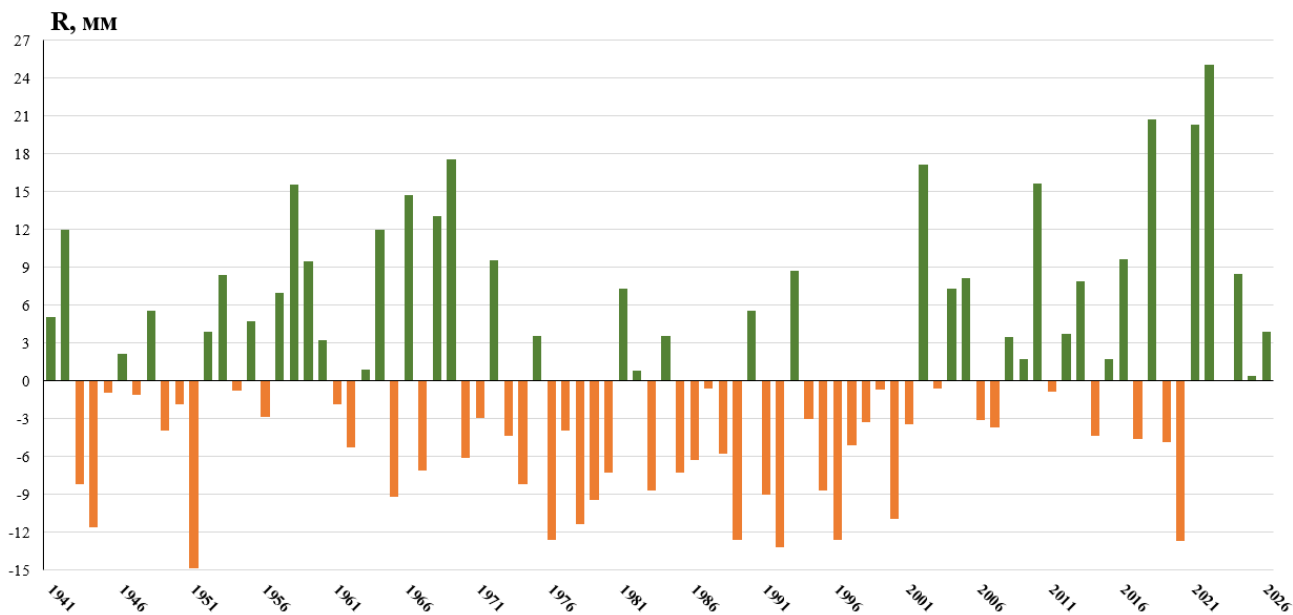


Figure 2 – Spatial distribution of anomalies of mean monthly air temperature ( $^{\circ}\text{C}$ ), (relatively to the norms for the period 1991–2020 years) and distribution of probabilities of non-exceedance of air temperature in Marty 2026 year, the period 1941–2026 years.

## MONTHLY PRECIPITATION

In March 2026, the amount of atmospheric precipitation exceeded the climatological norm (Fig. 3). The monthly mean value amounted to **3.86 mm**.

The analysis of the precipitation anomaly time series does not reveal a clearly defined trend; however, it shows interdecadal variability characterized by alternating dry and wet periods. In recent decades, there has been a slight increase in the frequency of years with above-normal moisture conditions.



*Figures 3 – Time series of Marty annual anomalies (%) spatially averaged across the territory of Kazakhstan for the period 1941–2026 years.*

*Anomalies are calculated relative to the baseline period 1991–2020 years.*

In March 2026, across most of the territory of Kazakhstan, the amount of atmospheric precipitation was less than 80% of the climatic norm (Fig. 4).

The precipitation deficit affected the western regions of the country, including West Kazakhstan and Aktobe regions, the northeastern districts of Atyrau region, as well as the central part of Mangystau region.

In the northern regions, reduced precipitation was observed over the majority of the Kostanay region and extended across approximately half of the North Kazakhstan region. In the eastern part of the country, below-normal precipitation was also recorded over a large portion of the East Kazakhstan region (excluding the southern areas), the Abai region (excluding its northern and southern parts), and the Zhetysu region (except for its western areas).

In the central part of the country, predominantly within the Karaganda region, as well as in the southern regions-particularly in the central and northern parts of the

Turkestan and Zhambyl regions-precipitation also remained below the climatological norm.

Values classified as “extremely dry” (with a non-exceedance probability of 0–5%) were recorded in the central parts of the Ulytau and Kyzylorda regions, as well as at отдельных meteorological stations in the Turkestan, Zhambyl, Almaty, Karaganda, and Zhetysu regions.

Elevated precipitation totals exceeding 120% of the climatological norm were recorded in various parts of the country. In the southern parts of the Turkestan and Zhambyl regions, values reached up to 140% of the norm. In the Mangystau region (mainly within its west–east sector), as well as in the southern part of the East Kazakhstan region, maximum values reached up to 160%. In the southern part of the Akmola region, precipitation totals reached 173% of the norm. The highest values were observed in the Atyrau region along the Caspian Sea coast, where precipitation reached up to 183% of the norm. Nearly the entire territory of the Pavlodar region was characterized by excessive moisture conditions (127–202% of the norm), with the most pronounced maximum located near the Aktogay meteorological station.

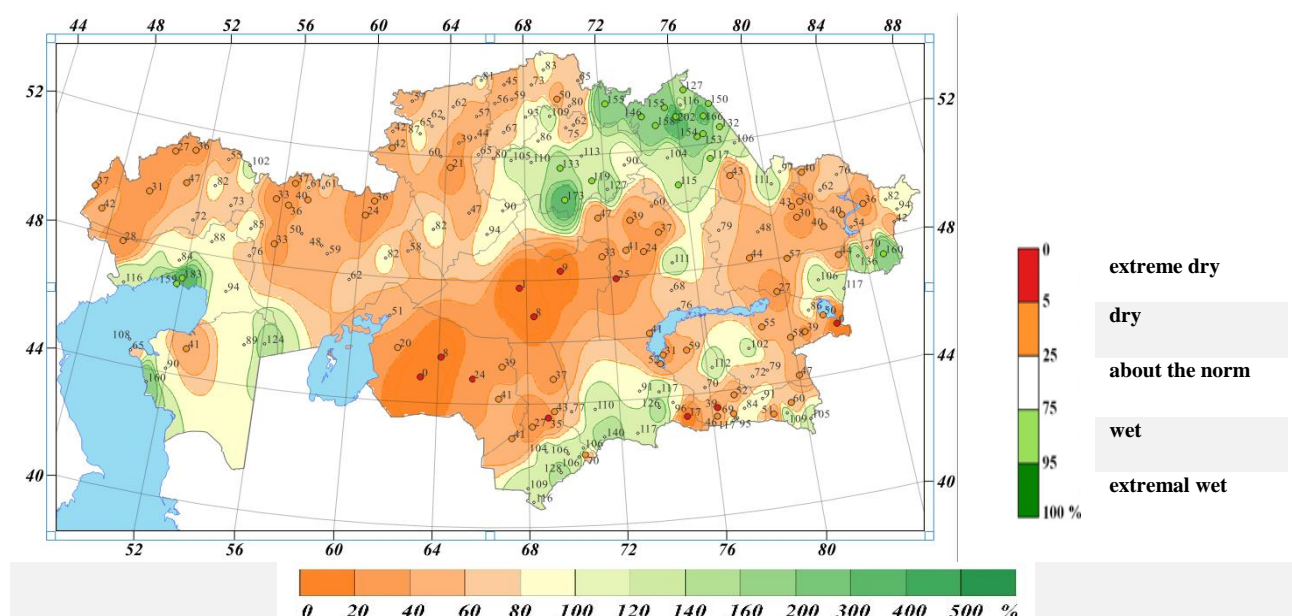


Figure 4 – Spatial distribution of atmospheric precipitation (as % of the norm, for the period 1991–2020) and the probability of non-exceedance of precipitation in Marty 2026 (period 1941–2026 years).