



Ministry of ecology and natural  
resources of The Republic Of  
Kazakhstan Republican State  
Enterprise «Kazhydromet»

**MONTHLY BULLETIN**  
**ANOMALIES OF MEAN MONTHLY AIR**  
**TEMPERATURE AND MONTHLY PRECIPITATION**  
**ON THE TERRITORY OF KAZAKHSTAN**  
**IN JULY 2025**

Astana, 2025

**INTRODUCTION**

The study of regional climate and continuous monitoring of its change is one of the priority tasks of the national hydrometeorological service of Kazakhstan RSE «Kazhydromet».

For the preparation of the bulletin used observation data on the network of meteorological monitoring RSE «Kazhydromet»: series of average monthly air temperatures and monthly precipitation totals in the period since 1941.

Anomalies of mean monthly surface air temperatures and monthly precipitation totals are determined relative to the norms - mean multiyear values calculated for the period 1991–2020, recommended by the World Meteorological Organization as a baseline for monitoring the degree of anomaly of the current climate. Air temperature anomalies are calculated as deviations of the observed value from the norm. Precipitation anomalies are presented in percent of the norm, that is as a percentage ratio of the amount of precipitation to the corresponding value of the norm.

To characterize climatic extremes, maps are given, where for each station the range of empirical probability of non-exceedance of the current value in the time series of the variable under consideration for the period from 1941 to the current year is given (empirical probability of non-exceedance is the fraction of time series values less than or equal to the current value). If the probability of non-exceedance of the current value of the variable falls into the extreme ranges (0–5 % or 95–100 %), it means that this value occurred in no more than 5 % of cases in the period from 1941. If we look at the amount of precipitation, the former indicates extremely low precipitation, the latter extremely high precipitation.

*Responsible for the release:*

*B. Kukenova – leading Engineer of DCR RC*

*Y. Amanulla – leading Researcher of DCR RC*

## ANOMALIES OF MEAN MONTHLY AIR TEMPERATURE

In July, positive air temperature anomalies were observed across most of Kazakhstan (Fig. 1). Their magnitude increased towards the southeast. The most significant positive anomalies were observed in the foothill areas of the southern and southeastern regions of Kazakhstan and rose to +3.5 °C (MS Shymkent in the Turkestan region).

From east to west along the central regions, temperature values entered the “warm” gradation with a probability of not exceeding 75–95 %. Air temperature values at a quarter of the observed stations, recorded in the foothill and mountainous areas of the southern regions, fell into the “extremely warm” category with a probability of not exceeding 95–100 % (Fig. 2). At 9 weather stations, maximum record values were updated (Table 1).

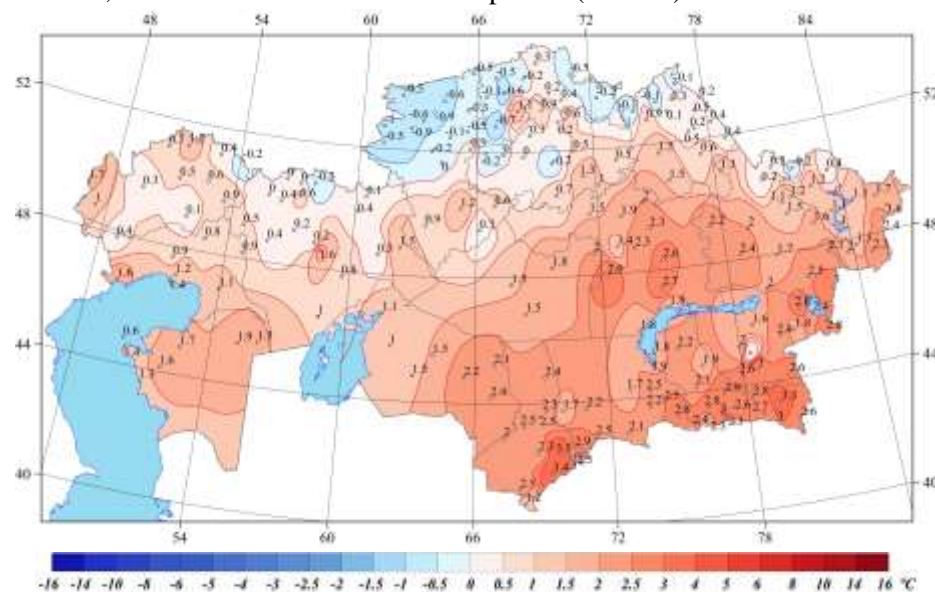


Figure 1 – Spatial distribution of anomalies of mean monthly air temperature (°C) in July 2025, calculated relative to the norms for the period 1991–2020

Negative temperature anomalies were observed in northern regions. The most significant of these (-1 °C) was recorded at the Arshalinsky z/svkh in the Kostanay region.

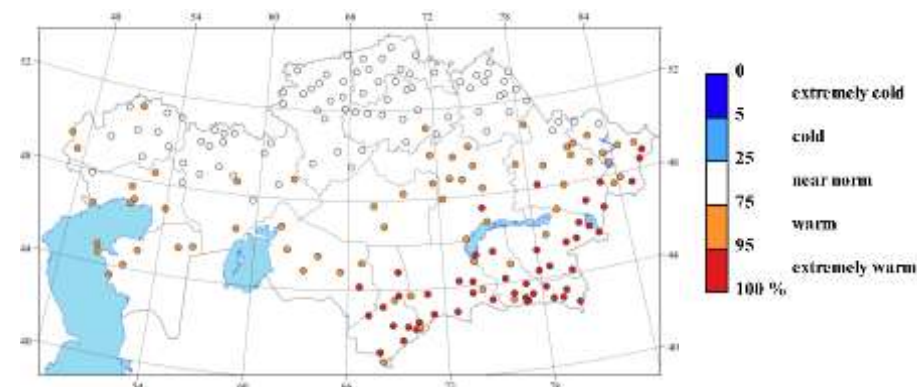


Figure 2 – Spatial distribution of probabilities of non-exceedance of air temperature in July 2025 calculated from data of the period 1941–2025

Table 1. Record values of the average monthly air temperature in July 2025

№	Meteorological station	Region	New maximum air temperature, °C	The previous record of the average monthly air temperature, °C
1	Almaty Kam.Plato	Almaty	24.6	24.2 (2019)
2	Almaty UHS	Almaty	27.5	27.3 (2015)
3	Kegen	Almaty	18.9	18.6 (2015)
4	Kazygurt	Turkestan	30.3	29.8 (2019)
5	Shardara	Turkestan	31.7	31.6 (1944)
6	Shymkent	Turkestan	30.3	30.0 (2023)
7	Alakol	Zhetysu	27.1	26.8 (1965)
8	Zhalanashkol	Zhetysu	28.7	28.4 (1974)
9	Bakty	Abay	26.1	26.0 (1974)

## MONTHLY PRECIPITATION

In July, precipitation across the country was unevenly distributed (Fig. 3). A precipitation deficit (less than 80 % of normal) was mainly observed in the east of the Aktobe region and in the south-west of the Kostanay region, along the entire Kazakh lowland, as well as throughout the eastern and south-eastern regions of the country. There was no precipitation in most of the Kyzylorda and Turkestan regions, as well as in the western and southeastern parts of the Zhambyl region. Fifty percent extremes were recorded at 32 weather stations, which were classified as “extremely dry” (Fig. 4). In the western regions of the country, precipitation ranged from 0 % of the norm (MS Aktau) to 262.7 % (MS Ushtagan).

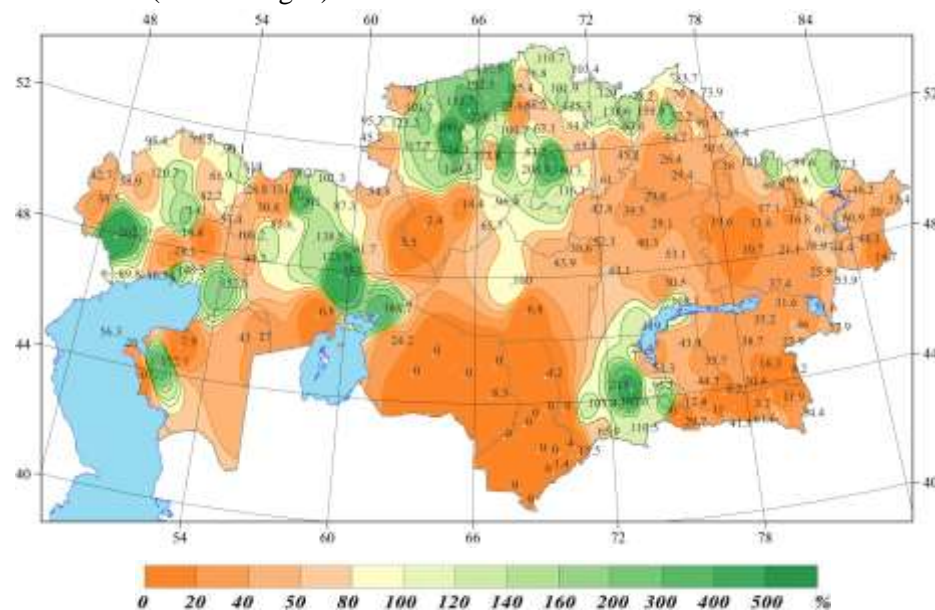


Figure 3 – Spatial distribution of precipitation in July 2025 (in % of the norm calculated relative to the base period 1991–2020)

Excessive precipitation (more than 120 % of the norm) was mainly observed in the northern regions, with isolated pockets also noted in the west and in the Zhambyl region. The largest positive anomaly was recorded at the

Kushmurun weather station (Kostanay region), where 119.2 mm of precipitation fell, which was 294.3 % of the norm. Extremes of the 5 % level were also recorded at the Sarykol weather station (Kostanay region – 219.1 % of the norm) and Zhaltyr weather station (Akmola region – 208.1 % of the norm).

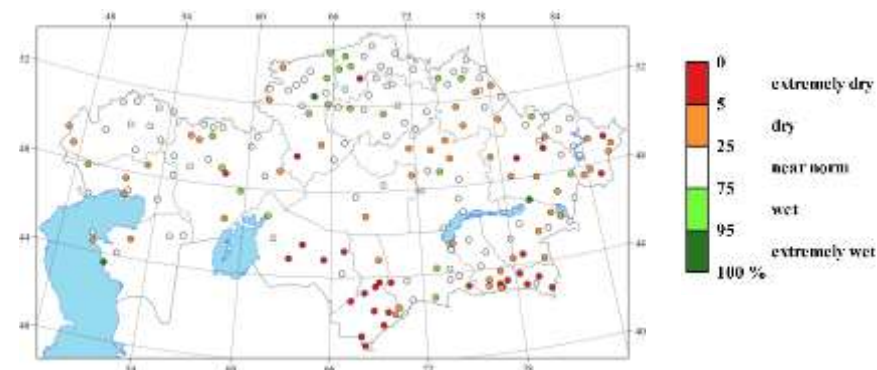


Figure 4 – Spatial distribution of probability of non-exceedance of precipitation in July 2025. Probabilities are calculated from data of the period 1941–2025