



REPUBLIC OF TÜRKİYE  
MINISTRY OF ENVIRONMENT, URBANIZATION  
AND CLIMATE CHANGE  
TURKISH STATE METEOROLOGICAL SERVICE



# 2025 THE STATE OF TÜRKİYE'S CLIMATE

FEBRUARY 2026  
ANKARA

**REPUBLIC OF TÜRKİYE**

**MINISTRY OF ENVIRONMENT, URBANIZATION AND CLIMATE CHANGE**

**TURKISH STATE METEOROLOGICAL SERVICE**

**CLIMATE ASSESSMENT OF TÜRKİYE  
IN 2025**

**Climate and Agricultural Meteorology Department**

**Research Department**

**2026**



## MINISTER'S SUMMARY

We are increasingly facing the effects of meteorological events and the resulting natural disasters. Undoubtedly, in today's world, all states and nations must pay more attention to the consequences of these meteorological events.

Today, the forecast and data provided by meteorological science influence and guide activities in every field, national and international, from sports to economics, from urban planning to defense.

In our heavenly homeland, where all four seasons are experienced simultaneously, we are witnessing an increase in meteorological disasters due to the changing climate conditions.

As the Ministry of Environment, Urbanization and Climate Change, within the scope of combating climate change, we adopted recommendations on many issues such as "Climate-Friendly Cities," "Climate-Friendly Agriculture," "Drought Action Plan," and "Climate Education" at our country's first Climate Summit, which we organized in Konya in 2022, in line with our 2053 Net Zero Emission and Green Development goals. Thanks to the investments made in technology and human resources by our Turkish State Meteorological Service (TSMS), one of our most important institutions in our fight against climate change, in recent years, our rainfall forecast accuracy has exceeded 90%, while our temperature forecast accuracy has risen above 87%.

In addition to observations and forecasts, our TSMS, which prepares state of the climate reports every year, has made significant contributions to both our fight against climate change and many sectors such as environment, urban planning, transportation, agriculture, forestry, water, health, energy, tourism, and sports. It has also made significant contributions to our national defense by providing support to the Turkish Armed Forces in the air, on land, and at sea.

This year, the UNFCCC COP31 Session will also be held in Antalya, Turkey's tourism city. As the Chair of COP31, I hope that this session will be one where important decisions are made regarding our world's climate and the legacy we will leave to our children.

Our TSMS continues its observations, forecasts, and early warnings with its meteorological services and support provided 24/7 throughout the country and eastern Mediterranean; maintaining its position in the region and remaining one of the leading meteorological organizations in the world. In this context; Prepared by our TSMS, which conducts its work to minimize the negative effects of global warming and climate change, to increase our capacity to cope with the problems affecting us all, and to contribute to the sustainable development of our country, we present the "Ministry of Environment, Urbanization and Climate Change Turkish State Meteorological Service The State of the Türkiye's Climate Report" to the benefit of our esteemed nation and all our stakeholders, and wish it to be beneficial.

**Murat KURUM**  
**Minister of Environment, Urbanization and Climate & COP31 President**





## EXECUTIVE SUMMARY

The Turkish State Meteorological Service of the Ministry of Environment, Urbanization and Climate Change is the only public institution authorized to conduct meteorological observations and forecasts and provide meteorological services in Türkiye.

Our primary goal is to minimize loss of life and property that may occur due to severe weather and climate events by observing the atmosphere 24/7 and making timely and accurate forecasts.

While TSMS continues to modernize and establish new observation systems in line with developing technology, it also conducts R&D studies with our universities and the private sector for the production of domestic and national observation systems. By the end of 2025, our observation network will consist of a total of 2058 systems, including 1717 automated meteorological observation stations nationwide, 100 handheld automated meteorological observation stations, 90 marine automated meteorological observation stations (10 of which are buoys), 75 airport automated meteorological observation stations, 10 Upper Air observation systems, 41 lightning detection and tracking systems, 17 C-Band and 1 X-Band meteorological radars, 2 marine radars, 1 low-level wind shear warning system, and 3 dust observation systems. With these systems, we conduct the necessary observations for forecasting, warnings, and scientific research, and continuously improve the quality of our meteorological services.

In addition to observations, generating climatic reports from the data produced is another important activity carried out by our institution. According to this, the mean temperature in Türkiye in 2025 was 15.1°C, 1.2°C above the 1991–2020 mean of 13.9°C, making it the fifth warmest year in the last 55 years. A new Turkish temperature record of 50.5°C was set in Silopi (Şırnak) on July 25th. Precipitation in 2025 was 414.9 mm, 27.6% below the 1991-2020 mean of 573.4 mm. The drought had negative impacts on many sectors, including water resources, agriculture, and energy. 1011 extreme events occurred in 2025. These were storms (27%), heavy rainfall and floods (23%), hail (17%), snow (11%), frost (7%), lightning strikes (5%), landslides (2%), and tornadoes (2%).

The Turkish State Meteorological Service of the Ministry of Environment, Urbanization and Climate Change continues its work in accordance with international standards, with an understanding of effective resource utilization, efficiency, transparency, and accountability. Wishing for even greater success in future endeavors, I present the "Ministry of Environment, Urbanization and Climate Change, Turkish State Meteorological Service The State of the Türkiye's Climate in 2025 Report" to the public for their consideration and information.

***Volkan Mutlu COŞKUN***

***General Director of TSMS & PR of Türkiye with WMO***



# CONTENT

SUMMARY .....	1
1. Global Climate Assessment .....	2
1.1. Global Temperature Assessment.....	2
1.2. Global Precipitation Assessment.....	3
2. Temperature Assesment in Türkiye .....	4
2.1. General Assessment.....	4
2.2. Seasonal Temperature Assessment.....	8
2.3. Regional Temperature Assessment .....	10
1.4. Extreme Temperature .....	12
1.5. Heat/Cold Waves Analysis .....	18
3. Precipitation .....	23
3.1. Monthly Precipitation .....	24
3.2. Seasonal Precipitation.....	25
4. Meteorological Disasters.....	27
3.1. Drought Analysis.....	27
3.2. Agricultural Frost .....	28
References .....	29

## SUMMARY

Climate refers to the total and average of weather events that occur every day in a place a long period. In the study, the average temperatures of 2025 were compared with the data of normal (1991-2020) by taking 220 stations used in climate evaluation, which had 30 years of complete data and were distributed homogeneously in Türkiye.

In 2025, Türkiye's mean temperature was 15.1 °C, this is 1.2 °C above the 1991-2020 mean value (13.9°C). The warmest year was 2024 with 15.6°C. The year 2025 was the **fifth warmest year** with 15.1 °C since 1971.

**July 2025 was the warmest** July which is mean temperature of 26.9 °C, among the july months of the last 55 years.

**The summer season of 2025**, with mean temperature of 25.5 °C, was **the second warmest summer** of the last 55 years.

There are positive temperature anomalies in Türkiye's mean temperatures since 2007 (except in 2011).

365-daily mean temperature differences in 2025, 93 days were negative, 268 days were positive and 4 days equal the normal. Daily temperature differences between -8.7 °C to 10.3 °C. The mean of positive differences was 2.4 °C, the mean of negative differences was -2.0 °C.

In 2025, while the mean temperatures in Türkiye are below the long-term mean in 1 (Kızılcahamam) center; at 219 stations, it was above the long-term mean.

In 2025, monthly mean temperatures were below normal (1991-2020) in February (2.4 °C) and April (12.1 °C), while other months were above normal (1991-2020).

In 2025, the lowest temperature was -32.6 °C in February in Horasan, while the highest temperature, excluding the 220 stations used in climate analyses, was 50.5 °C in July in Silopi (Şırnak), setting a new Türkiye temperature record.

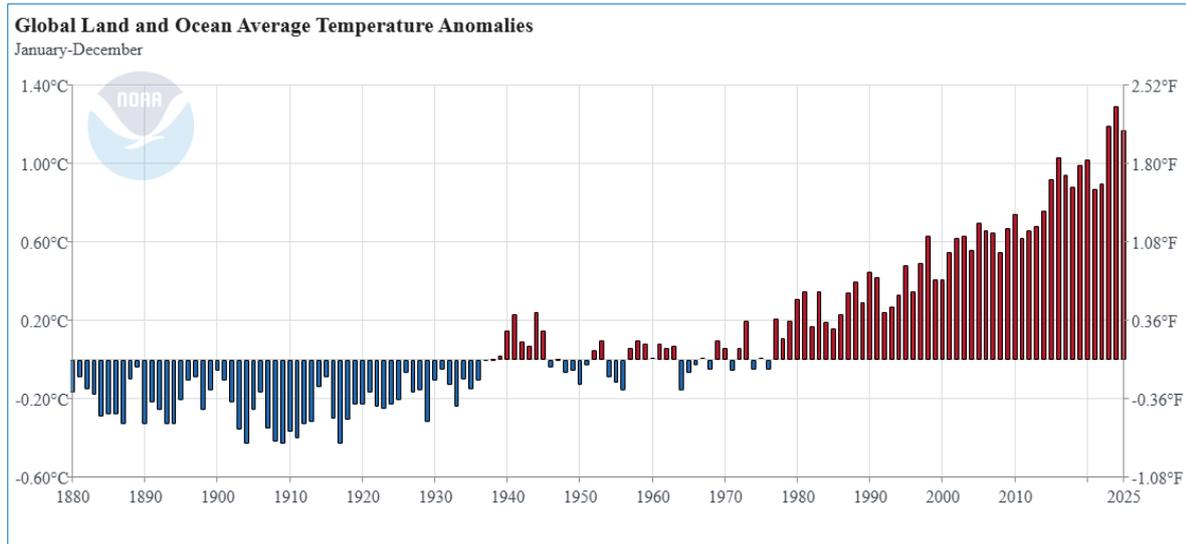
In 2025, the annual areal precipitation in Türkiye was recorded at 414.9 mm. In comparison to the long-term average (1991–2020) of 573.4 mm, this represents a significant deficit of 27.6%.

The number of extreme events reached 1.011 in 2025. Extreme events were storm with 27%, heavy rainfall and floods with 23%, hail with 17%, heavy snow with 11%, frost with 7%, lightning strikes with 5%, landslides with 2% and tornadoes with 2%. Extreme events such as avalanches, wild fires, fog and sandstorms accounted for 1% or less of the total.

# 1. Global Climate Assessment

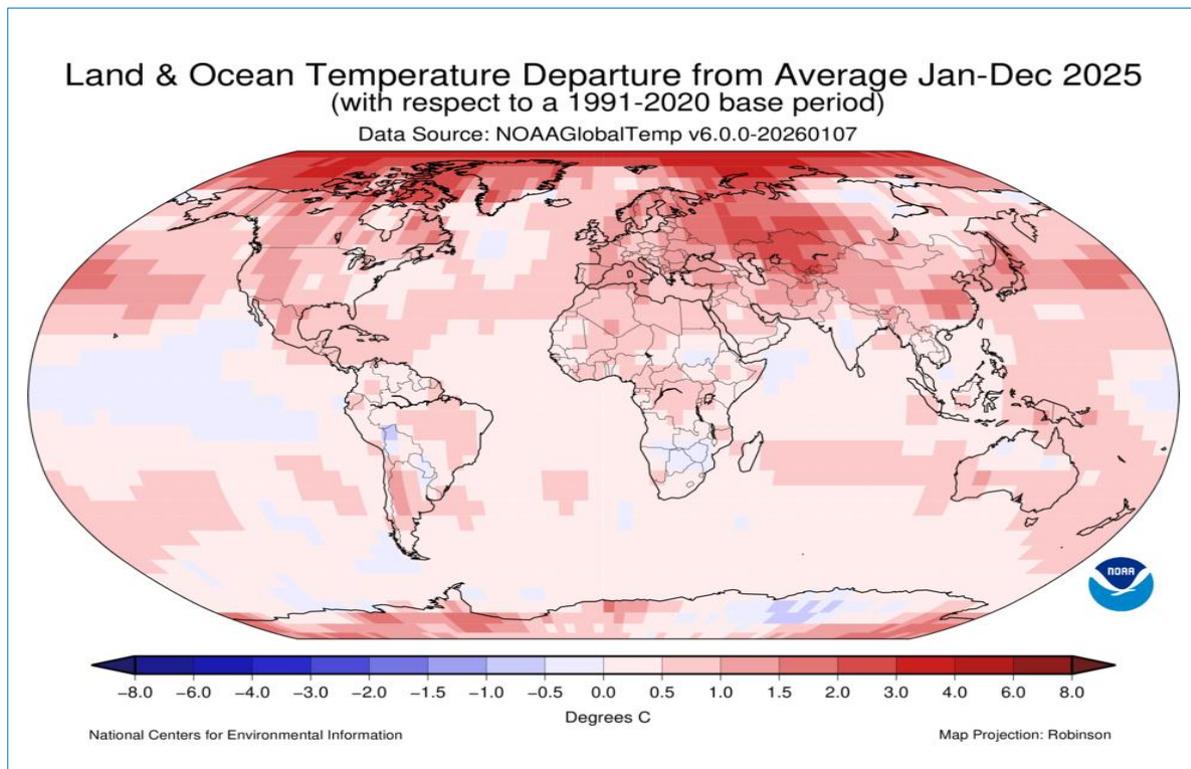
## 1.1. Global Temperature Assessment

According to the National Ocean and Atmospheric Administration (NOAA), 2025 will be the **third warmest year in the last 176 years**, with a temperature anomaly of 1.17 °C (URL 5).



**Figure 1.1.** Global average temperature anomaly (URL 5)

According to NOAA reports, mean temperatures in 2025 were above normal in many regions globally, including Turkey (Figure 1.2).



**Figure 1.2.** Global average temperature differences (URL 11)

According to global meteorological records since the 1850s, the last 10 years have been the warmest 10-year period. 2025 mean temperature in Türkiye was above the global average temperature (Figure 1.3).

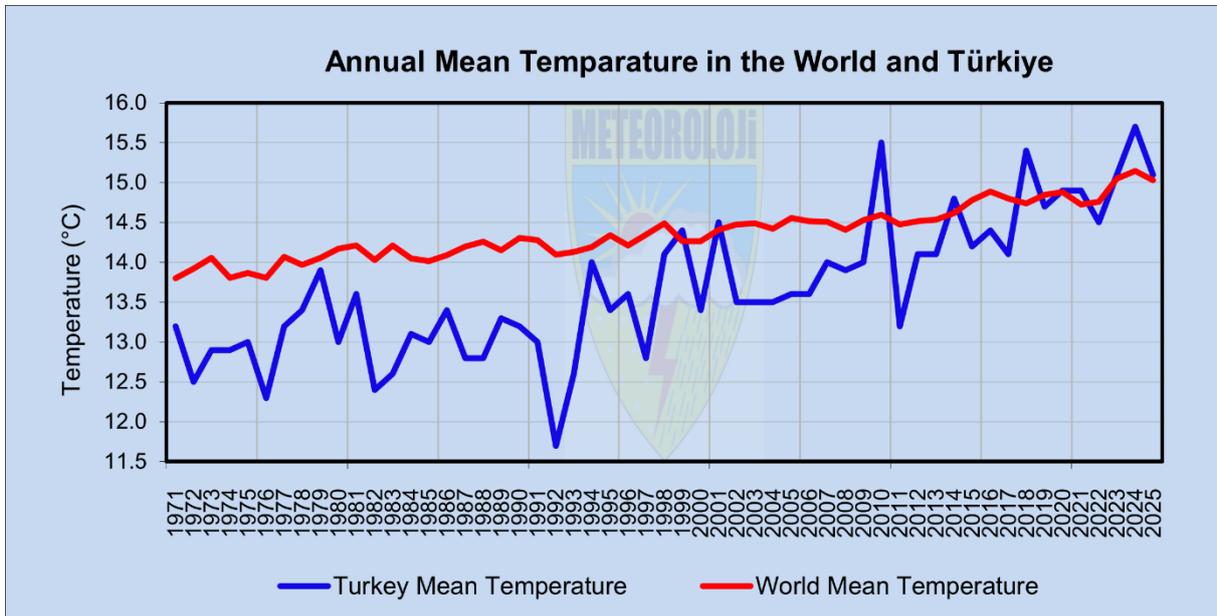


Figure 1.3. Annual average temperatures of the world and Türkiye between 1971-2021.

## 1.2. Global Precipitation Assessment

In 2025, precipitations were above normal in eastern Europe and most of Asia, while it was below normal in South America, Canada, Central Africa, western Australia, and the Mediterranean region (Fig. 1.4).

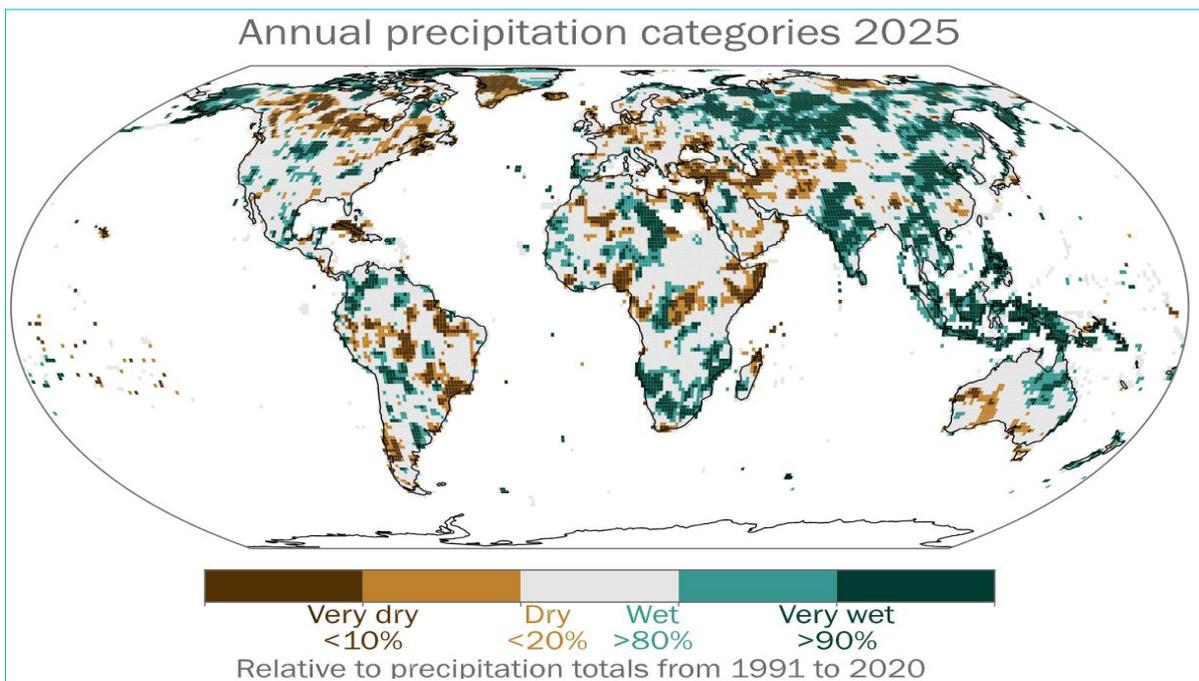


Figure 1.4. Global precipitation anomaly (URL 5).

## 2. Temperature Assessment in Türkiye

### 2.1. General Assessment

Table 2.1 Summary of mean temperatures in Türkiye by climatic perspective

SUMMARY OF MEAN TEMPERATURES IN TÜRKİYE BY CLIMATIC PERSPECTIVE										
	2025	Normal	2024	Warmest		Second Warmest		2025's Difference from Normal	2025's Difference from 2024	Difference between Warmest and Second Warmest
				Temperature	Year	Sıcaklık	Temperature			
January	5.5	2.9	5.7	5.7	2024	5.6	2003	2.6	-0.2	0.1
February	2.4	4.1	7.6	7.9	2016	7.6	2024	-1.7	-5.2	0.3
March	10.7	7.7	9.2	11.7	2001	11.3	2018	3.0	1.5	0.4
April	12.1	12.3	16.6	16.6	2024	15.8	1989	-0.2	-4.5	0.8
May	18.0	17.1	16.9	19.3	2021	19.0	2007	0.9	1.1	0.3
June	23.0	21.8	25.4	25.4	2024	23.4	2019	1.2	-2.4	2.0
July	26.9	25.0	26.7	26.9	2025	26.7	2024	1.9	0.2	0.2
August	26.5	25.1	26.4	27.2	2010	27.1	2023	1.4	0.1	0.1
September	21.7	20.9	22.2	23.9	2020	23.3	2015	0.8	-0.5	0.6
October	15.7	15.6	15.8	18.5	2020	17.7	1974	0.1	-0.1	0.8
November	12.2	9.3	9.2	12.5	2010	12.5	2023	2.9	3.0	0.0
December	6.3	4.8	6.1	8.3	2023	8.0	2022	1.5	0.2	0.3
Winter	4.7	3.9	7.2	7.2	2024	6.7	2010	0.8	-2.5	0.5
Spring	13.6	12.4	14.2	14.9	2018	14.2	2024	1.2	-0.6	0.7
Summer	25.5	24.0	26.1	26.1	2024	25.5	2025	1.5	-0.6	0.6
Autumn	16.5	15.3	15.7	17.4	2020	17.4	2023	1.2	0.8	0.0
Annual	15.1	13.9	15.6	15.6	2024	15.5	2010	1.2	-0.5	0.1

\*Note: Temperature assessment is prepared based on 220 stations. The normal period is used as 1991-2020

First	Second	Positive Difference	Negative Difference	2025	2024	2023
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In 2025, Türkiye's mean temperature was 15.1 °C, this is 1.2 °C above the 1991-2020 mean value (13.9°C). The warmest year was 2024 with 15.6°C (Table 2.1).

The year 2025 was the **fifth warmest** year with 15.1 °C since 1971.

**Mean temperature records of 26.9 °C were broken in July in 2025 (Table 2.1). The summer seasons in 2025 was the second warmest year with 25.5 °C since 1971 (Table 2.1).**

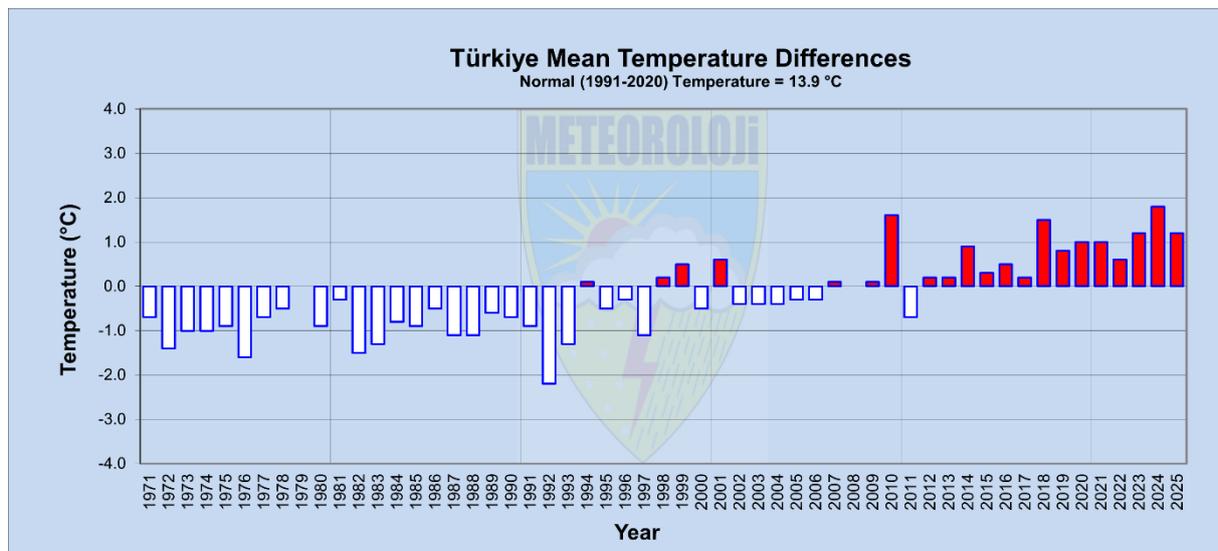


Figure 2.1. Annual mean temperature differences (URL 1).

There are positive temperature anomalies in Türkiye's mean temperatures since 2007 (except in 2011) (Fig. 2.1)

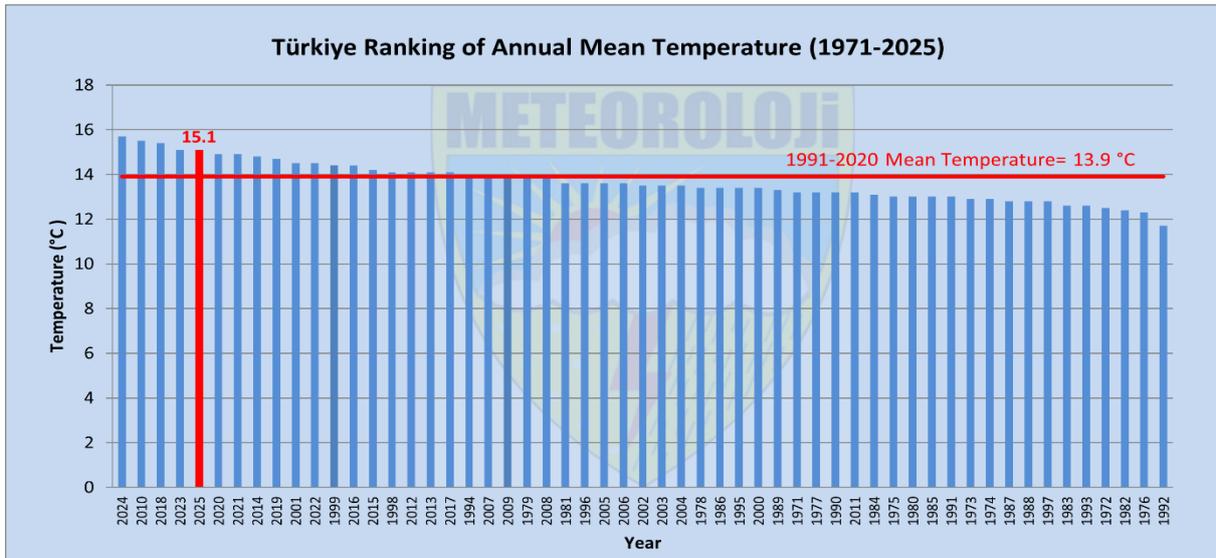


Figure 2.2. Ranking of annual mean temperature (URL 1).

The year 2025 was the **fifth warmest year** with 15.1 °C since 1971 (Fig. 2.2).

**Note:** The ranking graph is from the warmest year to the coldest year. However, years with the same average temperature are ranked starting with the year in which that temperature first occurred.

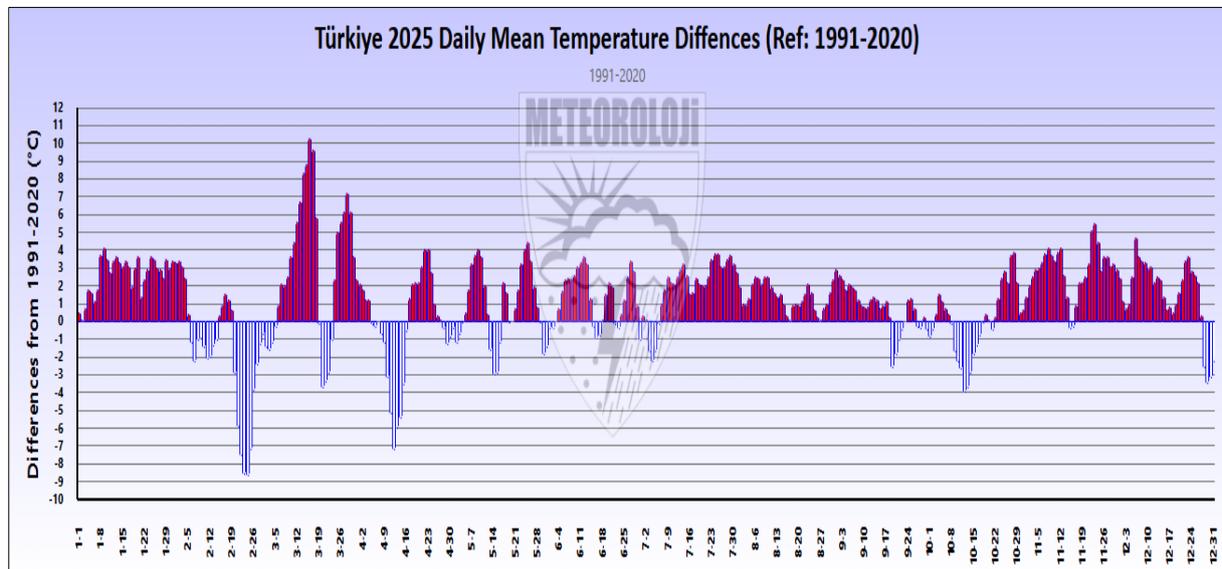
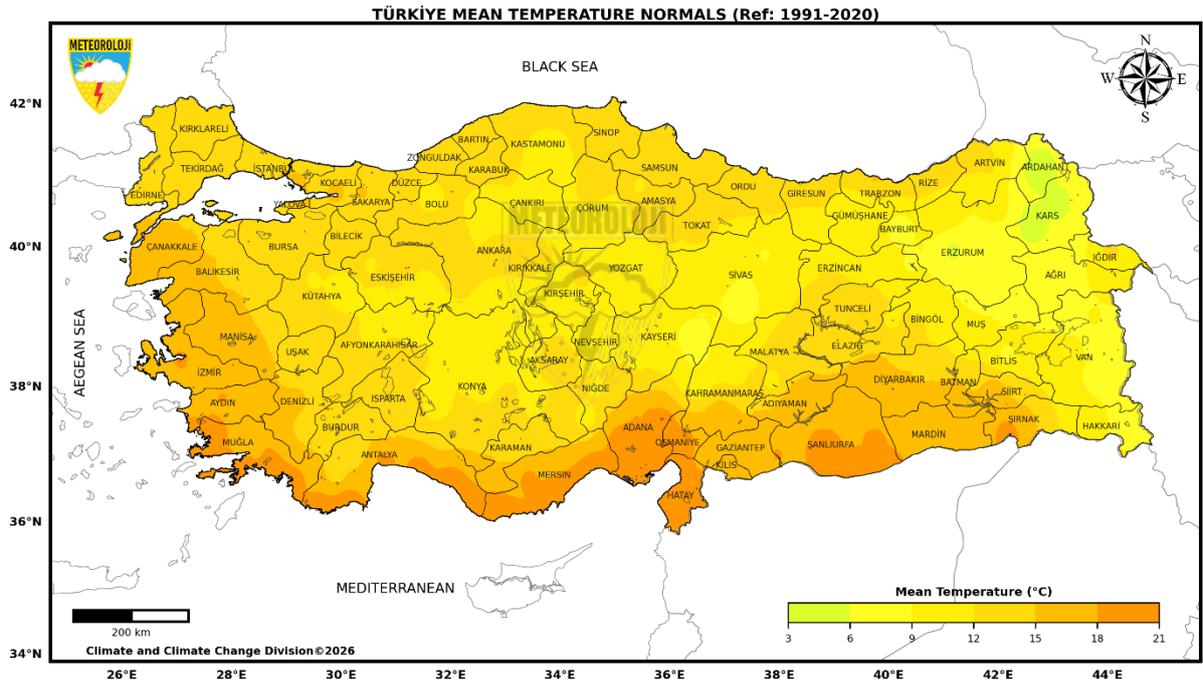
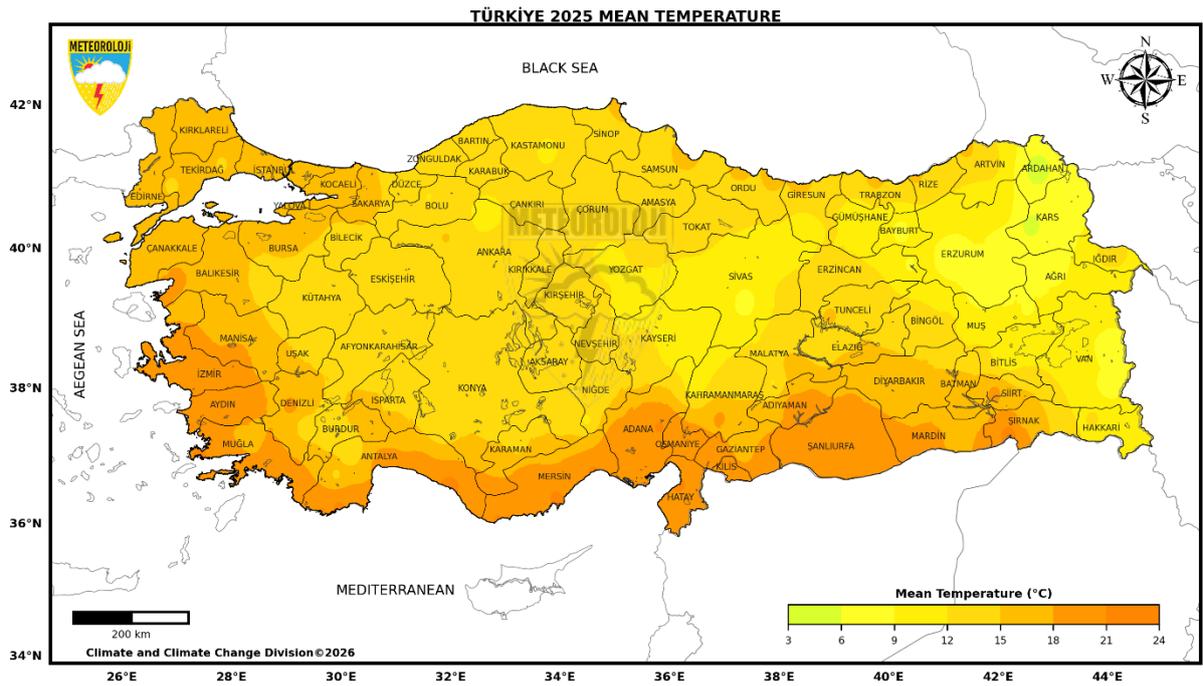


Figure 2.3. Daily mean temperature differences

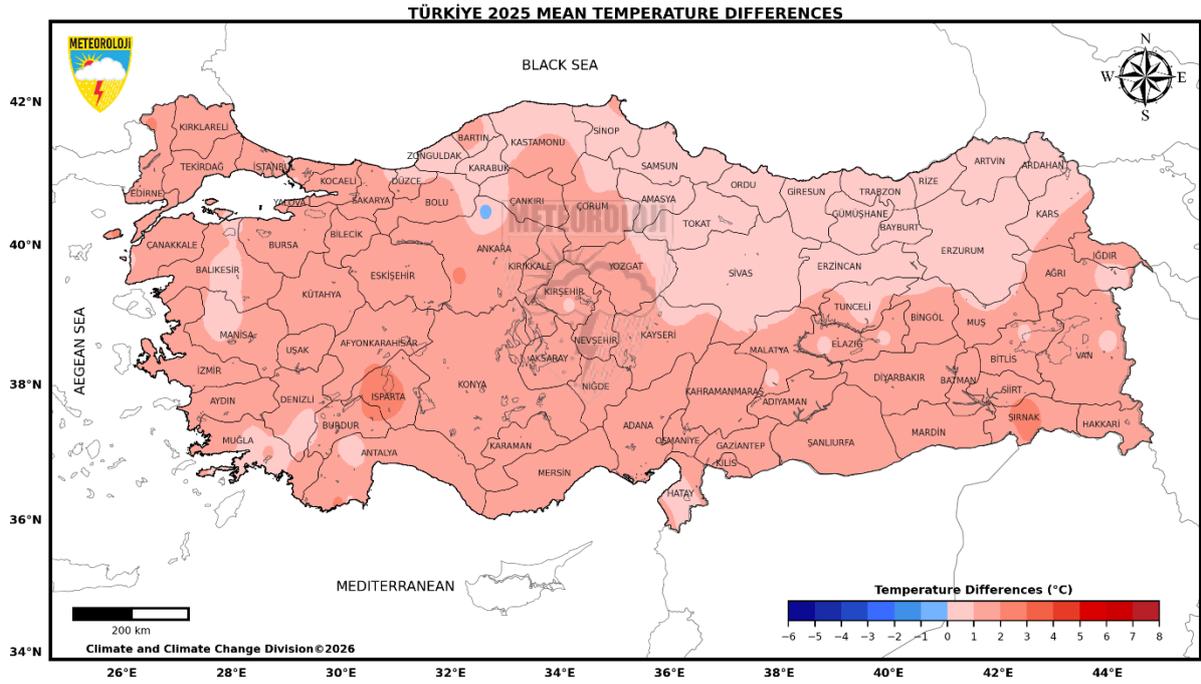
365-daily mean temperature differences in 2025, 93 days were negative, 268 days were positive and 4 days equal the normal. Daily temperature differences are between -8.7 °C and 10.3 °C. The mean of positive differences was 2.4 °C, the mean of negative differences was -2.0 °C (Figure 2.3).



**Figure 2.4.** Türkiye's normal (1991-2020) temperature map

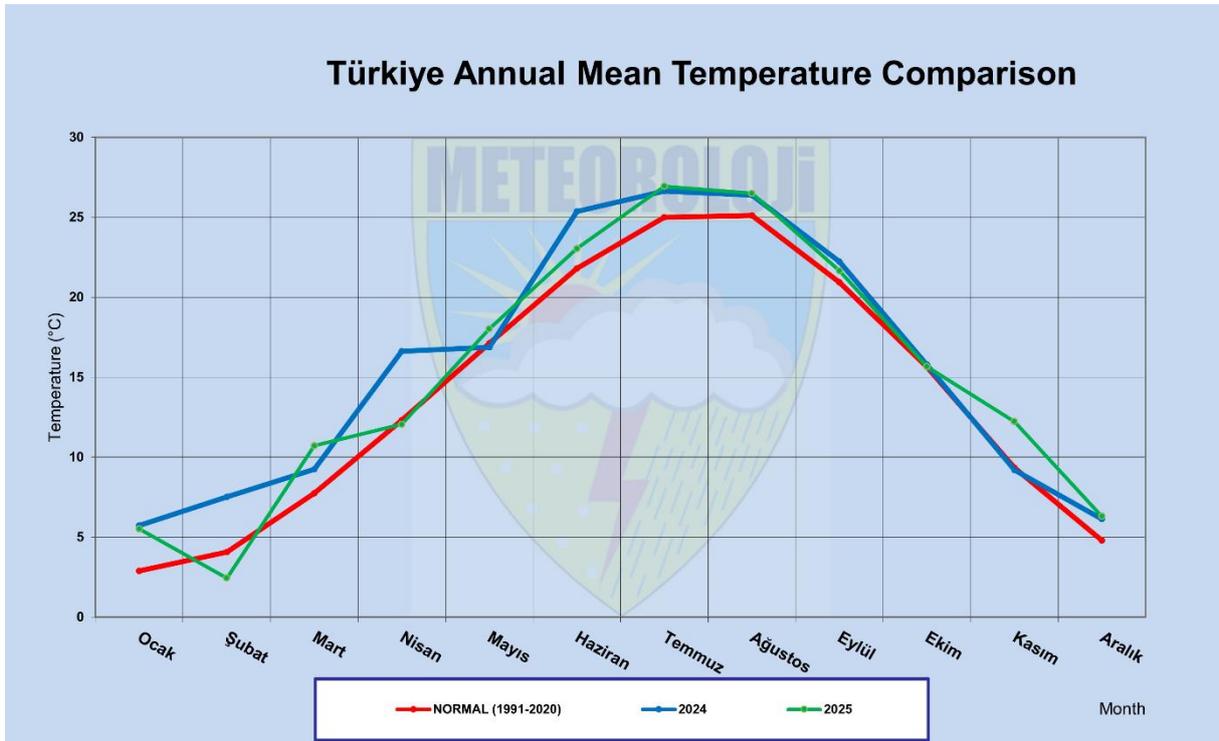


**Figure 2.5.** Türkiye's mean temperature map for 2025



**Figure 2.6.** Türkiye's 2025 mean temperature differences from 1991-2020 normal

In 2025, while the mean temperatures in Türkiye are below the long-term mean in 1 (Kızılcahamam) center; at 219 stations, it was above the long-term mean (Fig 2.6).



**Figure 2.7.** Comparison of monthly mean temperatures between normal and last year (URL 1).

In 2025, monthly mean temperatures were below normal (1991-2020) in February (2.4 °C) and April (12.1 °C), while other months were above normal (1991-2020) (Fig. 2.7).

## 2.2. Seasonal Temperature Assessment

### Winter Temperature

The winter mean temperature of the years 2024-2025 was 4.7 °C, which was 0.8 °C above the seasonal normal (3.9°C) (Fig. 2.8).

January 2025 was the **third warmest** January among the January months of the last 55 years. The winter season of 2025 was the **eighteenth warmest** winter season of the last 55 years.

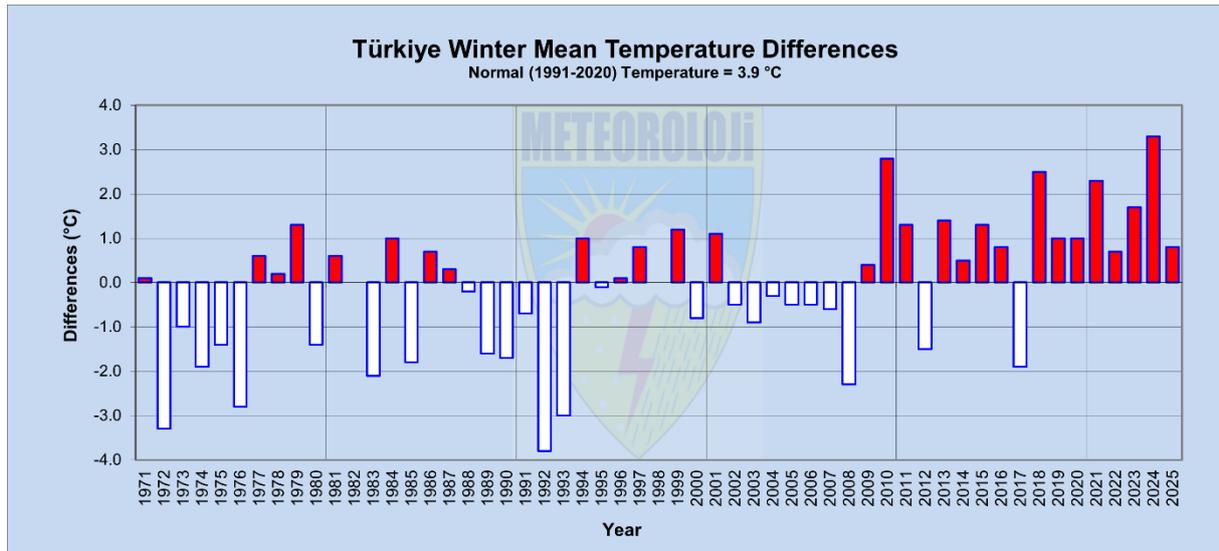


Figure 2.8. Türkiye's winter mean temperature differences

### Spring Temperature

The spring mean temperature in 2025 was 13.6 °C, which was 1.2 °C above the seasonal normal (12.4°C) (Figure 2.9).

March 2025 was the **fourth warmest** March among the march months of the last 55 years. The spring season of 2025 was **the ninth warmest** spring season of the last 55 years.

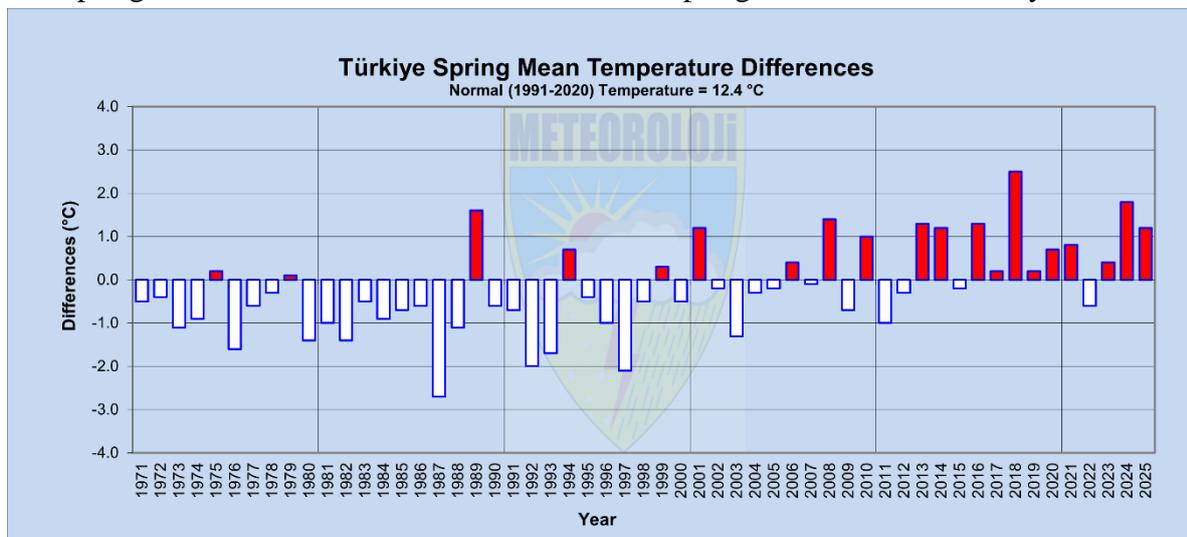


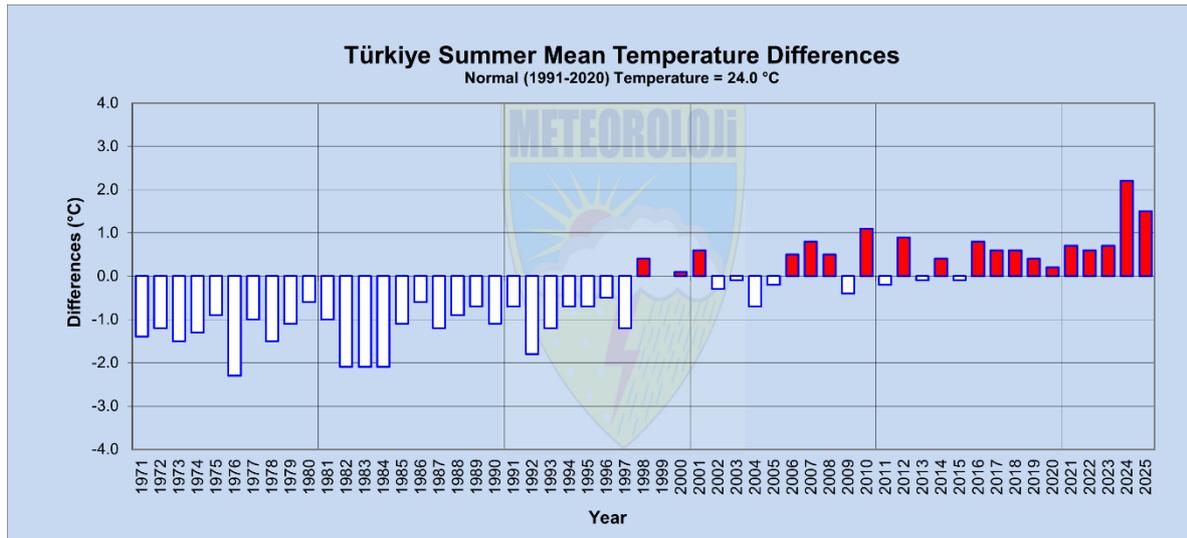
Figure 2.9. Türkiye's spring mean temperature differences

## Summer Temperature

The summer mean temperature of 2025 was 25.5 °C, which was 1.5 °C above the seasonal normal (24.0 °C) (Fig. 2.10).

**July 2025 was the warmest July** which is 26.9 °C, among the July months of the last 55 years. **June and August 2025 was the fourth warmest June and August** among the June and August months of the last 55 years.

The summer season of 2025 was **the second warmest** season of the last 55 years.



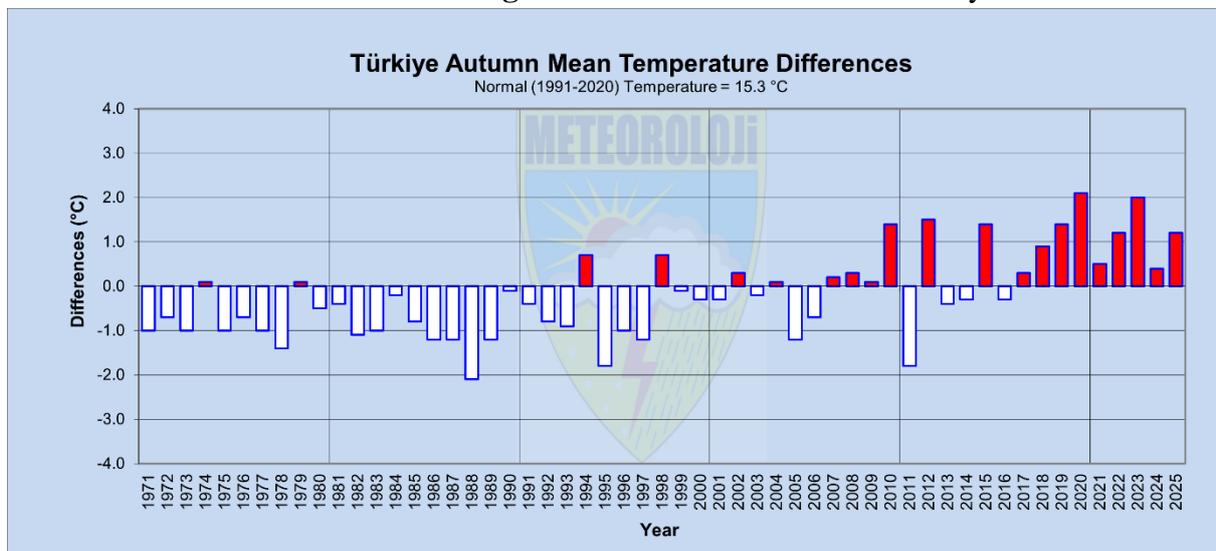
**Figure 2.10.** Türkiye’s summer mean temperature differences

## Autumn temperature

The mean temperature of the autumn season in 2025 was 16.5 °C, which was 1.2 °C above the seasonal normal (15.3°C) (Fig. 2.11).

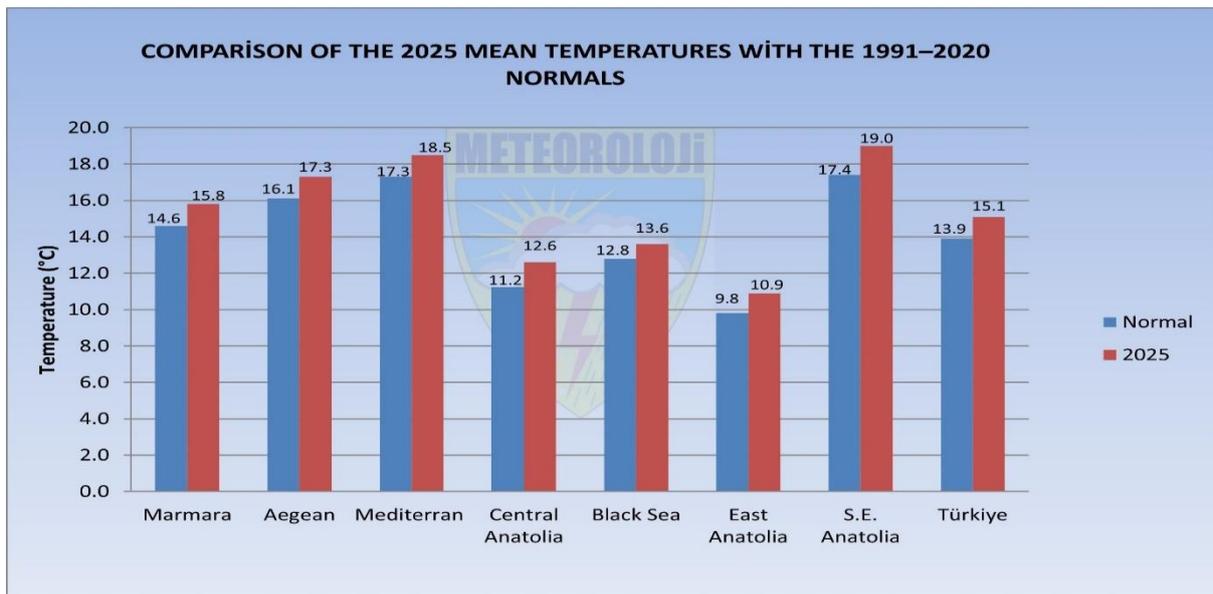
November 2025 was the **third warmest** November among the November months of the last 55 years (12.2 °C).

The autumn season of 2025 was **the eighth warmest** season of the last 55 years.



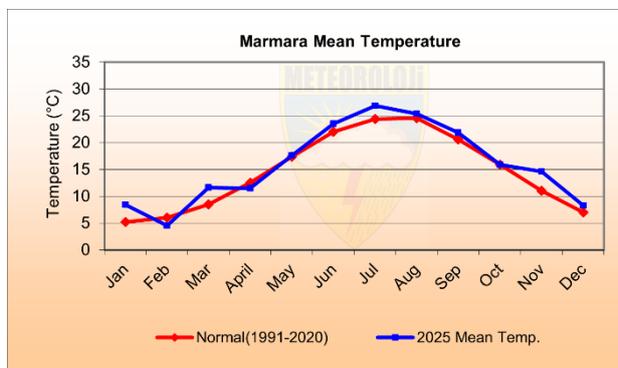
**Figure 2.11.** Türkiye’s autumn mean temperature differences

## 2.3. Regional Temperature Assessment



**Figure 2.12.** Comparisons of the 2025 mean temperatures with the normal temperatures according to the regions (URL 1).

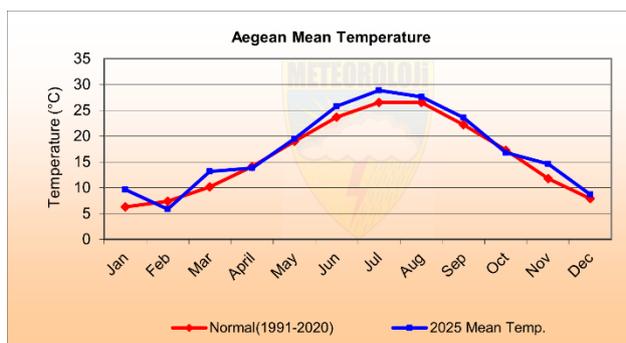
The mean temperatures of 2025 were above their seasonal normal (1991-2020) in all regions (Fig. 2.12).



**Figure 2.13.** Mean Temperature in Marmara

### 2.3.1. Marmara Region

In 2025, the monthly mean temperatures of the region were below normal in February, April; it was equal to the normal temperatures in October and above normal in other months (Fig. 2.13).



**Figure 2.14.** Mean Temperature in Aegean

### 2.3.2. Aegean Region

In 2025, the monthly mean temperatures of the region were below normal in February, April, October and above normal in other months (Fig. 2.14).

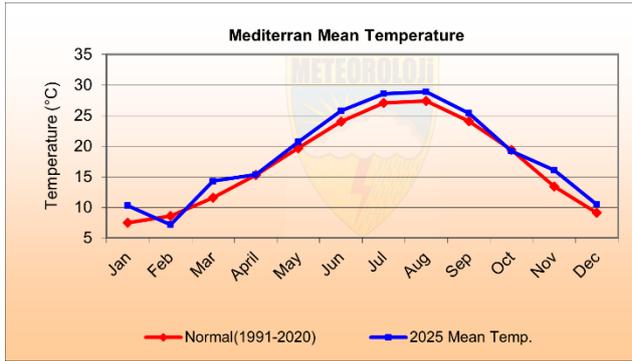


Figure 2.15. Mean Temperature in the Mediterranean

### 2.3.3 Mediterranean Region

In 2025, the monthly mean temperatures of the region were below normal in February, October and above normal in other months (Fig. 2.15).

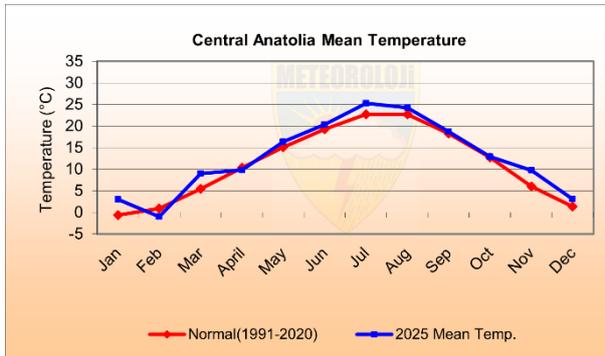


Figure 2.16. Mean Temperature in Central Anatolia

### 2.3.4. Central Anatolia Region

In 2025, the monthly mean temperatures of the region were below normal in February, April and above normal in other months (Fig. 2.16).

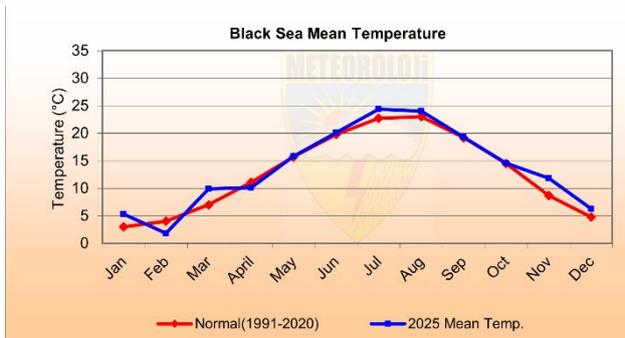


Figure 2.17. Mean Temperature in the Black Sea

### 2.3.5. Black Sea Region

In 2025, the monthly mean temperatures of the region were below normal in February, April and above normal in other months (Fig. 2.17).

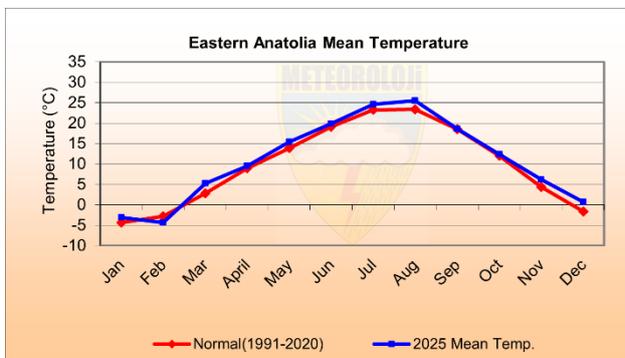
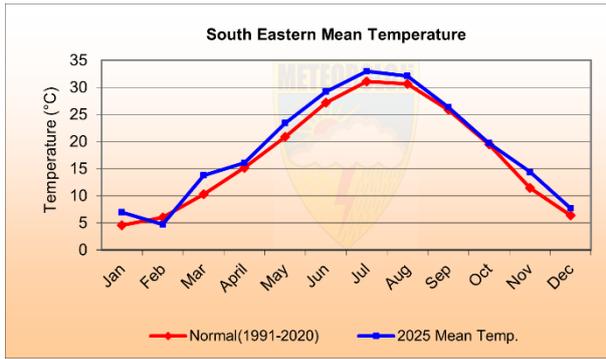


Figure 2.18. Mean Temperature in Eastern Anatolia

### 2.3.6. Eastern Anatolia Region

In 2025, the monthly mean temperatures of the region were below normal in February and above normal in other months (Fig. 2.18).



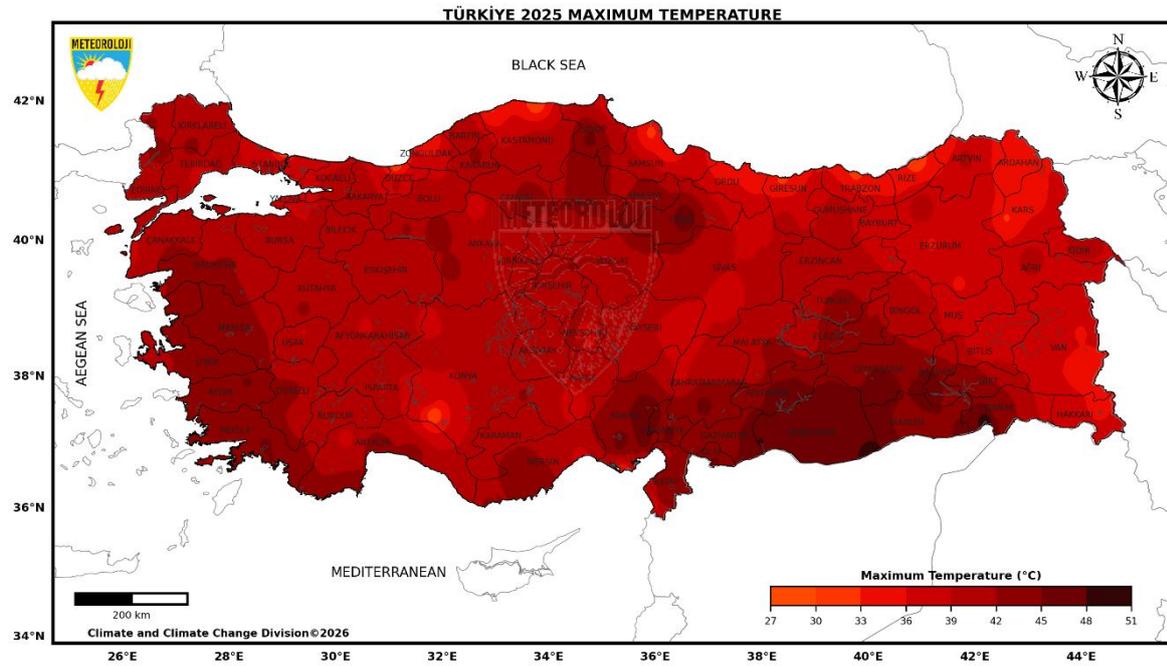
**Figure 2.19.** Mean Temperature in Southeastern Anatolia

### 2.3.7. Southeastern Anatolia Region

In 2025, the monthly mean temperatures of the region were below normal in February and above normal in other months (Fig. 2.19).

## 2.4. Extreme Temperature

In 2025, the lowest temperature was  $-32.6\text{ }^{\circ}\text{C}$  in Horasan in February, while the highest temperature, excluding the 220 stations used in climate analyses, was  $50.5\text{ }^{\circ}\text{C}$  in July in Silopi (Şırnak), setting a new Türkiye temperature record.



**Figure 2.20.** Maximum temperature map of 2025

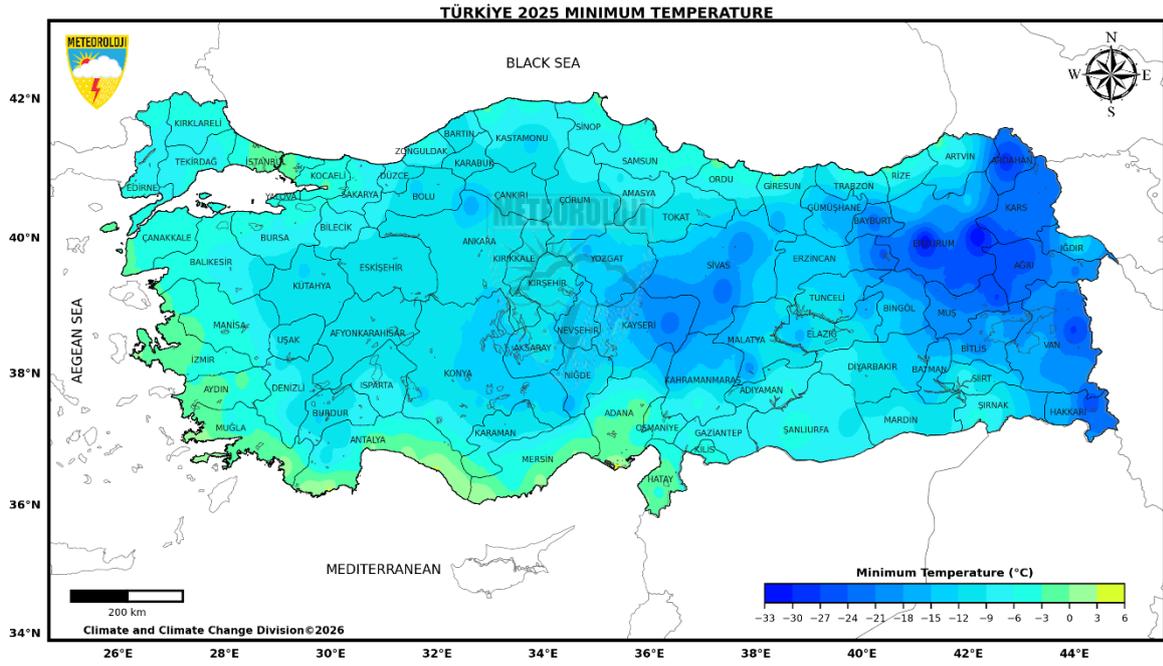


Figure 2.21. Minimum temperature map of 2025

In 2025, the maximum and minimum temperature records of the stations for each month are given in Tables 2.2 and 2.3.

In 2025, 191 centers broke their own records for the highest temperatures for the dates given in the Table 2.2.

Table 2.2. The highest temperatures recorded in 2025

Day	Month	Station	2025 Max. Temp (°C)	Long Term Max. Temp (°C)
20	JANUARY	SAMANDAĞ	21.9	21.6
31	JANUARY	KARAKOÇAN	13.5	12.5
16	MARCH	EDİRNE	28.1	28.0
16	MARCH	TEKİRDAĞ	28.7	28.1
15	MARCH	GÖKÇEADA	26.8	24.6
15	MARCH	BOZCAADA	26.8	25.9
15	MARCH	UZUNKÖPRÜ	26.1	25.9
15	MARCH	ŞİLE	31.1	30.4
15	MARCH	LÜLEBURGAZ	28.6	27.7
28	MARCH	GEYVE	31.2	31.0
15	MARCH	GÖNEN/BALIKESİR	30.8	30.2
27	MARCH	EDREMİT	30.1	29.2
27	MARCH	AYVALIK	27.9	27.6
16	MARCH	AFYONKARAHİSAR	26.7	26.4
15	MARCH	İZMİR	31.1	30.5
27	MARCH	ÇEŞME	28.1	26.1
16	MARCH	KUŞADASI	30.6	30.0

16	MARCH	DENİZLİ	31.8	30.8
16	MARCH	BURHANİYE	28.7	28.6
16	MARCH	EMİRDAĞ	28.3	26.6
15	MARCH	SEFERİHİSAR	29.3	27.8
15	MARCH	SELÇUK	30.7	30.5
15	MARCH	MİLAS	31.6	31.3
15	MARCH	YATAĞAN	30.4	30.2
16	MARCH	BEYŞEHİR	26.0	25.3
15	MARCH	ANTALYA	29.4	28.6
28	MARCH	ALANYA	28.5	28.1
15	MARCH	SİLİFKE	30.4	30.3
28	MARCH	MERSİN	30.8	29.8
15	MARCH	ADANA	33.3	32.0
28	MARCH	OSMANİYE	33.8	32.0
28	MARCH	İSKENDERUN	33.9	31.7
16	MARCH	ANTAKYA	32.6	30.5
28	MARCH	FİNİKE	28.7	28.0
27	MARCH	KAŞ	28.2	27.7
16	MARCH	GÖKSUN	24.2	24.0
28	MARCH	KOZAN	34.7	32.2
15	MARCH	KARAIŞALI	31.8	30.5
15	MARCH	MANAVGAT	31.0	29.7
28	MARCH	ERDEMLİ	29.8	29.1
16	MARCH	CEYHAN	33.6	31.8
16	MARCH	ISLAHIYE	29.7	27.7
28	MARCH	GAZİPAŞA	30.8	30.7
28	MARCH	YUMURTALIK	30.4	29.8
28	MARCH	KARATAŞ	30.9	28.9
16	MARCH	CİHANBEYLİ	28.6	28.2
28	MARCH	AKŞEHİR	28.1	26.6
16	MARCH	EREĞLİ	28.7	28.2
16	MARCH	POLATLI	29.0	27.0
16	MARCH	ÇİÇEKDAĞI	28.2	27.8
16	MARCH	YUNAK	26.0	22.7
16	MARCH	ÇUMRA	29.3	28.2
16	MARCH	SİVRİHİSAR	27.6	25.0
28	MARCH	BARTIN	31.8	31.6
16	MARCH	SİNOP	32.2	29.3
16	MARCH	ORDU	34.8	32.8
16	MARCH	KASTAMONU	28.5	27.8
16	MARCH	CİDE	31.8	30.2
16	MARCH	ÜNYE	34.0	30.4
16	MARCH	OSMANCIK	29.2	29.0
16	MARCH	BİNGÖL	23.7	22.9
16	MARCH	PALU	26.2	25.4

16	MARCH	ELBİSTAN	25.9	25.4
15	MARCH	KİLİS	30.1	28.8
15	MARCH	ÇERMİK	28.1	27.5
16	MARCH	SİVEREK	27.3	26.8
16	MARCH	VİRANŞEHİR	28.2	27.3
28	MARCH	BİRECİK	31.6	31.2
28	MARCH	CEYLANPINAR	33.0	32.2
28	MARCH	AKÇAKALE	31.3	30.4
25	MAY	EMİRDAĞ	34.0	33.5
25	MAY	SİVRİHİSAR	34.6	32.4
17	MAY	SİNOP	34.6	33.6
25	MAY	NALLIHAN	34.6	34.3
26	JUNE	FLORYA	37.2	36.2
27	JUNE	DİKİLİ	41.7	41.0
27	JUNE	İZMİR	41.8	41.4
27	JUNE	SEFERİHİSAR	40.6	40.5
26	JUNE	SİNOP	33.7	33.2
23	JULY	ÇORLU	40.7	40.0
23	JULY	ÇANAKKALE	40.5	39.8
23	JULY	UZUNKÖPRÜ	42.8	42.6
9	JULY	FLORYA	41.1	40.5
27	JULY	KÜTAHYA	39.6	39.5
25	JULY	DİKİLİ	42.2	41.8
23	JULY	ÇEŞME	39.5	38.8
25	JULY	KUŞADASI	42.9	41.5
27	JULY	SİMAV	40.0	38.8
27	JULY	GEDİZ	42.7	42.2
28	JULY	EMİRDAĞ	40.8	40.7
27	JULY	BURDUR	41.8	41.0
28	JULY	BEYŞEHİR	37.7	37.6
26	JULY	KAHRAMANMARAŞ	45.8	45.2
25	JULY	KAŞ	43.1	43.0
27	JULY	SENİRKENT	41.0	40.7
31	JULY	GÖKSUN	38.2	36.8
27	JULY	EĞİRDİR	38.8	38.6
27	JULY	ELMALI	40.4	39.4
24	JULY	ISLAHIYE	44.2	42.8
29	JULY	ÇANKIRI	43.3	42.4
28	JULY	SİVAS	40.3	40.0
29	JULY	KIRIKKALE	42.0	41.8
30	JULY	YOZGAT	39.0	38.8
28	JULY	KIRŞEHİR	40.4	40.2
28	JULY	KAYSERİ	40.8	40.7
28	JULY	AKŞEHİR	39.9	39.3
28	JULY	NİĞDE	39.2	38.5

28	JULY	POLATLI	42.6	42.5
29	JULY	ÇİÇEKDAĞI	42.1	41.0
28	JULY	KULU	40.7	40.2
25	JULY	KÖYCEĞİZ	45.5	45.3
30	JULY	BOĞAZLIYAN	41.2	39.6
30	JULY	PINARBAŞI/KAYSERİ	37.3	37.1
29	JULY	KARAPINAR	42.3	41.2
28	JULY	SİVRİHİSAR	40.3	38.1
24	JULY	SİNOP	36.7	34.5
27	JULY	BOLU	39.7	39.3
29	JULY	TOKAT	47.2	45.0
30	JULY	BAYBURT	37.5	37.0
29	JULY	BOYABAT	45.8	45.4
29	JULY	TOSYA	41.7	41.5
28	JULY	BEYPAZARI	43.7	43.1
30	JULY	ŞEBİNKARAHİSAR	39.7	39.6
30	JULY	MALATYA	42.7	42.5
30	JULY	ELAZIĞ	43.0	42.4
30	JULY	DİVRİĞİ	41.2	41.0
24	JULY	KARAKOÇAN	41.9	41.0
13	JULY	SARIZ	36.9	35.9
30	JULY	ELBİSTAN	40.2	39.6
30	JULY	DOĞANŞEHİR	40.3	40.0
25	JULY	SİİRT	44.6	44.4
26	JULY	KİLİS	45.1	44.2
25	JULY	ADİYAMAN	46.3	45.3
25	JULY	MARDİN	43.9	42.5
25	JULY	ŞIRNAK	42.3	40.4
30	JULY	KAHTA	46.0	44.5
25	JULY	SİVEREK	45.5	45.0
25	JULY	VİRANŞEHİR	47.0	46.7
25	JULY	CİZRE	49.4	49.1
25	JULY	BİRECİK	48.1	47.2
25	JULY	CEYLANPINAR	49.0	48.2
25	JULY	AKÇAKALE	47.0	46.7
27	JULY	ISPARTA	40.3	39.2
27	JULY	KARABÜK	42.6	41.4
29	JULY	ESKİŞEHİR	39.4	39.2
10	AUGUST	MUĞLA	42.1	41.2
9	AUGUST	SİLİFKE	44.4	42.4
9	AUGUST	ADANA	46.7	45.7
9	AUGUST	İSKENDERUN	43.5	43.2
14	AUGUST	TEFENNİ	39.5	39.4
9	AUGUST	CEYHAN	46.9	46.8
11	AUGUST	SİNOP	36.5	34.2

18	AUGUST	TOKAT	42.1	40.8
5	AUGUST	AĞRI	40.2	39.9
6	AUGUST	ARAPGİR	40.1	40.0
5	AUGUST	ERCİŞ	38.4	37.4
6	AUGUST	BİTLİS	36.1	34.3
1	SEPTEMBER	TOKAT	42.6	40.7
1	SEPTEMBER	BAYBURT	34.8	34.4
1	SEPTEMBER	İSPİR	39.3	38.8
1	SEPTEMBER	ERZİNCAN	37.9	37.2
1	SEPTEMBER	ERZURUM	33.6	33.3
1	SEPTEMBER	TUNCELİ	40.4	40.3
1	SEPTEMBER	BİNGÖL	39.4	38.1
1	SEPTEMBER	TORTUM	35.3	34.5
1	SEPTEMBER	TERCAN	36.1	35.3
2	SEPTEMBER	DİVRİĞİ	38.4	37.7
1	SEPTEMBER	HINIS	33.8	33.2
1	SEPTEMBER	ARAPGİR	37.9	37.0
1	SEPTEMBER	KARAKOÇAN	38.6	38.4
1	SEPTEMBER	SOLHAN	37.4	36.6
1	SEPTEMBER	MALAZGİRT	36.5	36.2
2	SEPTEMBER	SARIZ	34.0	33.8
2	SEPTEMBER	BASKİL	36.6	36.2
2	SEPTEMBER	ÇERMİK	42.8	41.9
1	SEPTEMBER	BİRECİK	43.6	43.5
2	SEPTEMBER	BİTLİS	33.2	32.2
6	NOVEMBER	OSMANİYE	33.3	31.7
1	NOVEMBER	ELMALI	26.3	25.4
7	NOVEMBER	GEMEREK	24.2	23.9
7	NOVEMBER	BOĞAZLIYAN	25.0	24.7
8	NOVEMBER	GÜMÜŞHANE	22.6	22.3
8	NOVEMBER	ELAZIĞ	25.1	24.3
8	NOVEMBER	TERCAN	22.3	21.7
8	NOVEMBER	ÇEMİŞGEZEK	24.9	23.7
8	NOVEMBER	BASKİL	22.9	21.8
8	NOVEMBER	SİİRT	26.7	25.8
8	NOVEMBER	ŞIRNAK	25.1	23.6
8	NOVEMBER	ÇERMİK	27.9	27.5
8	NOVEMBER	CİZRE	32.0	31.1
6	DECEMBER	FLORYA	23.2	23.1

In 2025, 16 stations broke their own records for the lowest temperatures, and new values were recorded (Table 2.3).

**Table 2.3.** The lowest temperatures recorded in 2025

Day	Month	Station	2025 Min. Temp (°C)	Long Term Min. Temp (°C)
10	APRİL	BERGAMA	1.2	1.5
12	APRİL	GÖKSUN	-13.2	-11.6
12	APRİL	KOZAN	1.9	2.0
12	APRİL	KARAIŞALI	0.3	1.0
12	APRİL	AKSARAY	-8.3	-7.5
12	APRİL	AKŞEHİR	-7.6	-7.5
12	APRİL	EREĞLİ	-8.6	-7.6
12	APRİL	NİĞDE	-9.5	-6.9
12	APRİL	ZARA	-14.4	-11.3
12	APRİL	ÇİÇEKDAĞI	-6.7	-6.5
12	APRİL	BOĞAZLIYAN	-11.8	-9.5
12	APRİL	PINARBAŞI/KAYSERİ	-14.1	-13.0
12	APRİL	KARAPINAR	-11.3	-8.0
12	APRİL	SARIZ	-16.3	-13.4
12	APRİL	ELBİSTAN	-12.7	-8.2
12	APRİL	DOĞANŞEHİR	-7.9	-7.2

## 2.5. Assessment of Heat and Cold Waves

This section presents analyses based on data from **220 meteorological stations** used in the nationwide climate assessment of Türkiye, including;

- The occurrence frequency and total number of heat-wave days,
- The occurrence frequency and total number of cold-wave days.

A heatwave is a significant warming of the air or the spread of very hot air over a wide area; it usually lasts from a few days to several weeks (WMO, 2020). Heatwave and coldwave analyses are based on the method that daily maximum/minimum temperatures must be **5°C or more above** the long-term maximum/minimum averages (1991-2020) for a heatwave and 5°C or more below the long-term maximum/minimum averages for a coldwave, and must persist for **at least 5 consecutive days**.

For heat wave analysis, the six-month period from May to October was considered, while for cold wave analysis, the six-month period from November to April was examined.

Heat and cold waves can pose risks to human health, drought and water quality issues, agricultural productivity, forest fires, energy demand, economic losses, and natural ecosystems.

## a) Heat Waves

### a.1. Number of Heat Waves and Total Duration (Days)

In 2025, heat waves were observed in Türkiye. The highest number of heat waves, with 5 events, was recorded in Tokat. Compared to normal period (1991–2020), the number of heat waves in Türkiye increased in 2025.

According to the normal period (1991–2020), the average number of heat waves in Türkiye ranges between 1-2 events, while no heat waves were observed at 104 stations.

In 2025, the total duration of heat waves ranged from 5-20 days in western Türkiye and the Mediterranean Region; 5-24 days in the interior regions; 5-30 days in the Black Sea Region; 5-34 days in the Southeastern Anatolia Region; and 5- 24 days in the Eastern Anatolia Region. The longest total duration of heatwave days was recorded in Şırnak with 34 days (Figure 2.22).

For the normal period (1991–2020), the annual average total duration of heat waves in Türkiye ranges between 5-10 days. According to the normal period, the highest average total duration of heat waves was observed in Gümüşhane, with 9.2 days (Figure 2.23).

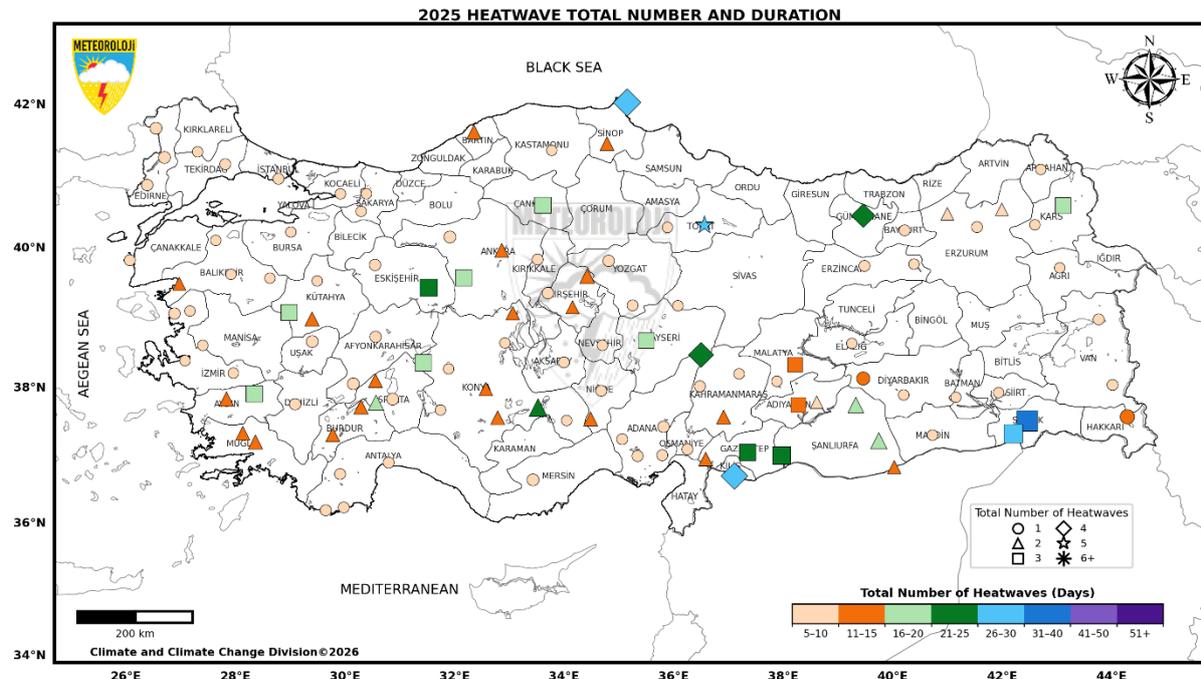


Figure 2.22. Number of heat waves and total duration (days) in 2025

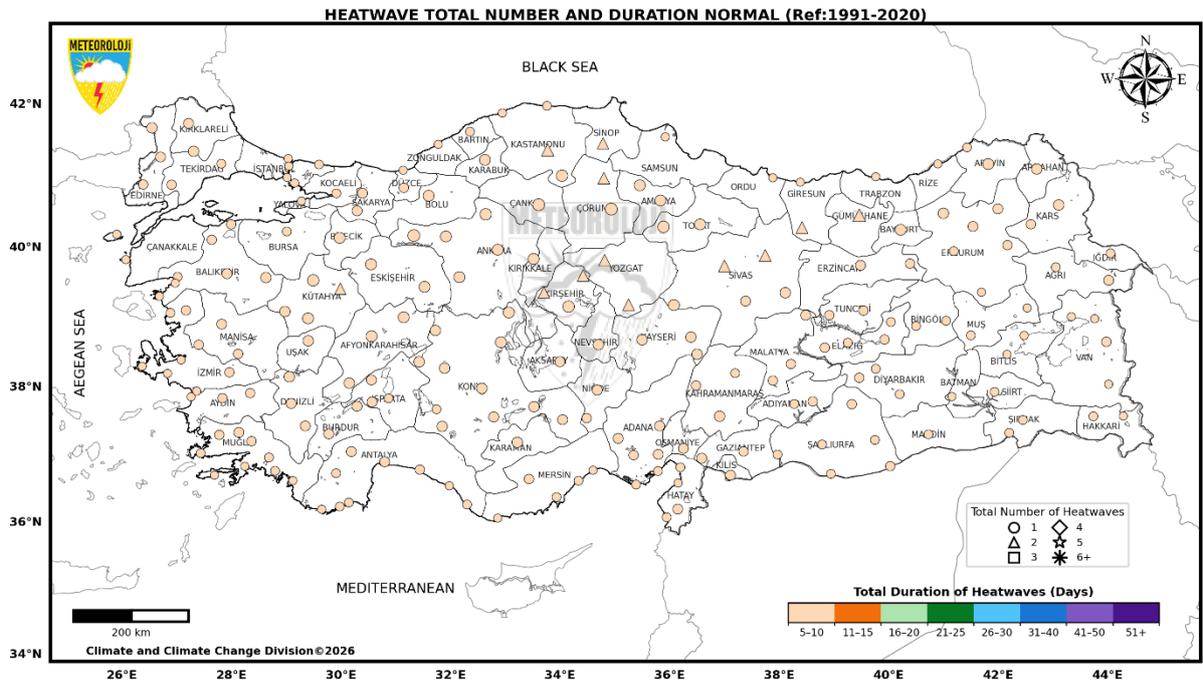


Figure 2.23. Normals (1991–2020) of total number and duration of heat waves

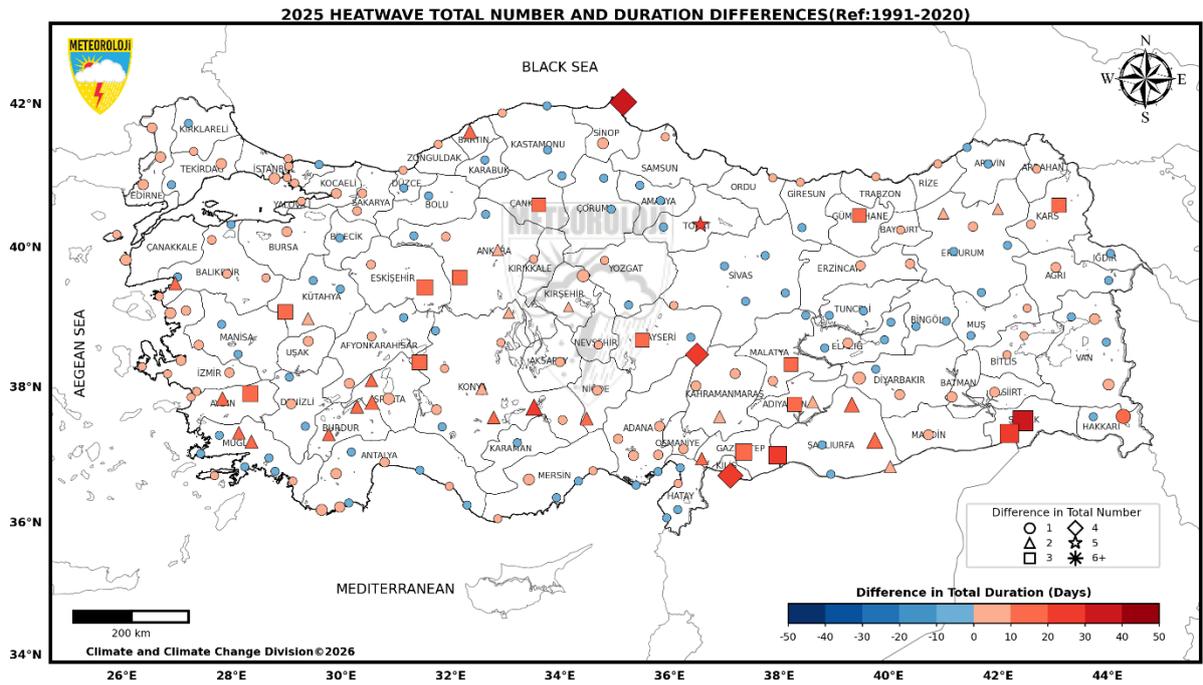


Figure 2.24. Differences between the total number and duration of heatwaves in 2025 and the normals (1991-2020)

## b) Cold Waves

### b.1. Number of Cold Waves and Total Duration (Days)

In 2025, cold waves were observed in Türkiye. The highest number of cold wave events, with 3 events, was recorded in Horasan and Kızılcahamam. Compared to the normal period (1991–2020), no clear increase or decrease in the number of cold waves can be identified across Türkiye in 2025.

According to normal period (1991–2020), the average number of cold waves in Türkiye is 1 event in coastal regions, and between 1-3 events in other regions, while no cold waves are observed at 64 stations.

In 2025, the total duration of cold waves across Türkiye was generally between 5-10 days, while in the areas of Kütahya, Uşak, Afyonkarahisar, Emirdağ, Bilecik, Eskişehir, Aksaray, Konya, Kaman, Yunak, Sivrihisar, Bolu, Beypazarı, Osmancık, Şebinkarahisar, Merzifon, Kızılcahamam, Sarıkamış, Özalp, Hınıs, Horasan, and Mardin, it ranged from 11-18 days. The longest total duration of cold waves, 18 days, was recorded in Horasan (Figure 2.25).

For the normal period (1991–2020), the annual average total duration of cold waves in Türkiye ranges between 5-10 days across all coastal regions; and 5-22 days in the interior and eastern regions. According to the normal period, the longest average total duration of cold waves was observed in Malazgirt (Muş), with 20.9 days (Figure 2.26).

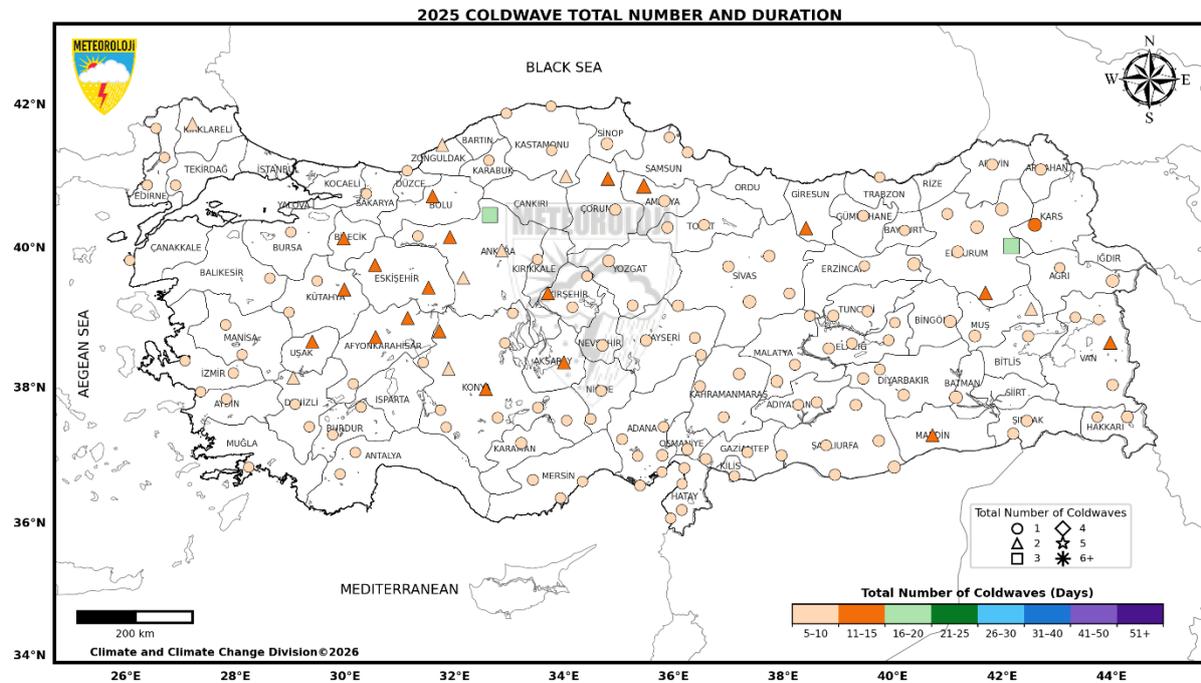


Figure 2.25. Number of cold waves and total duration (days) in 2025

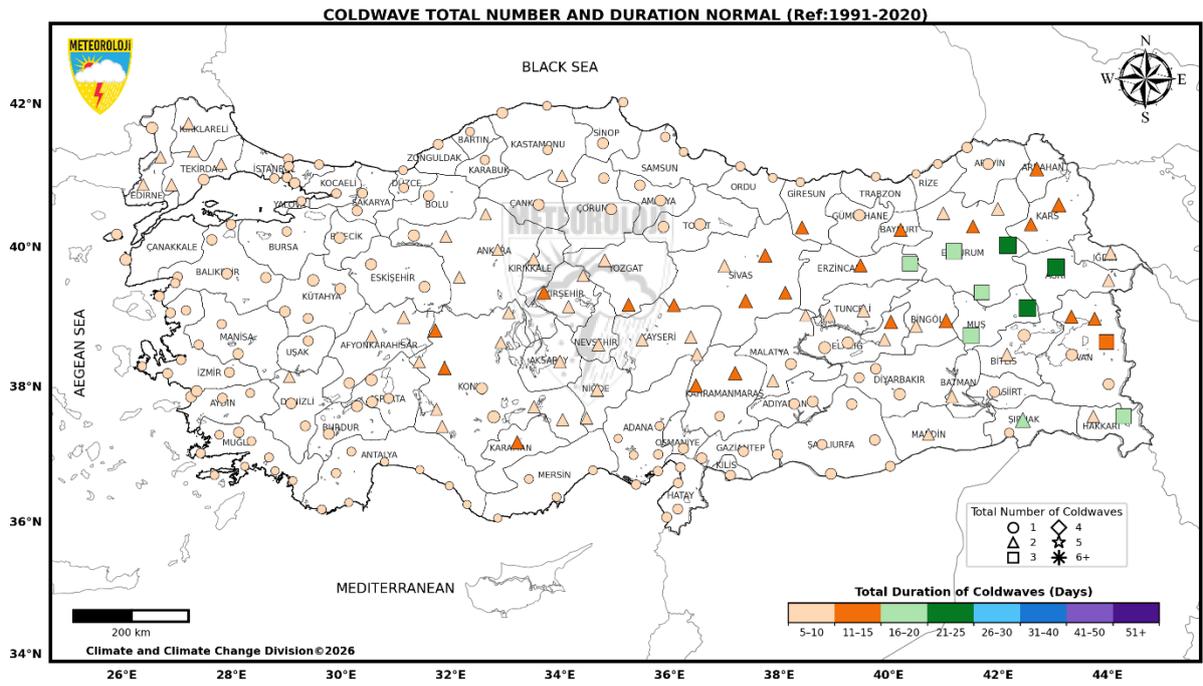


Figure 2.26. Normals (1991–2020) of total number and duration of cold waves

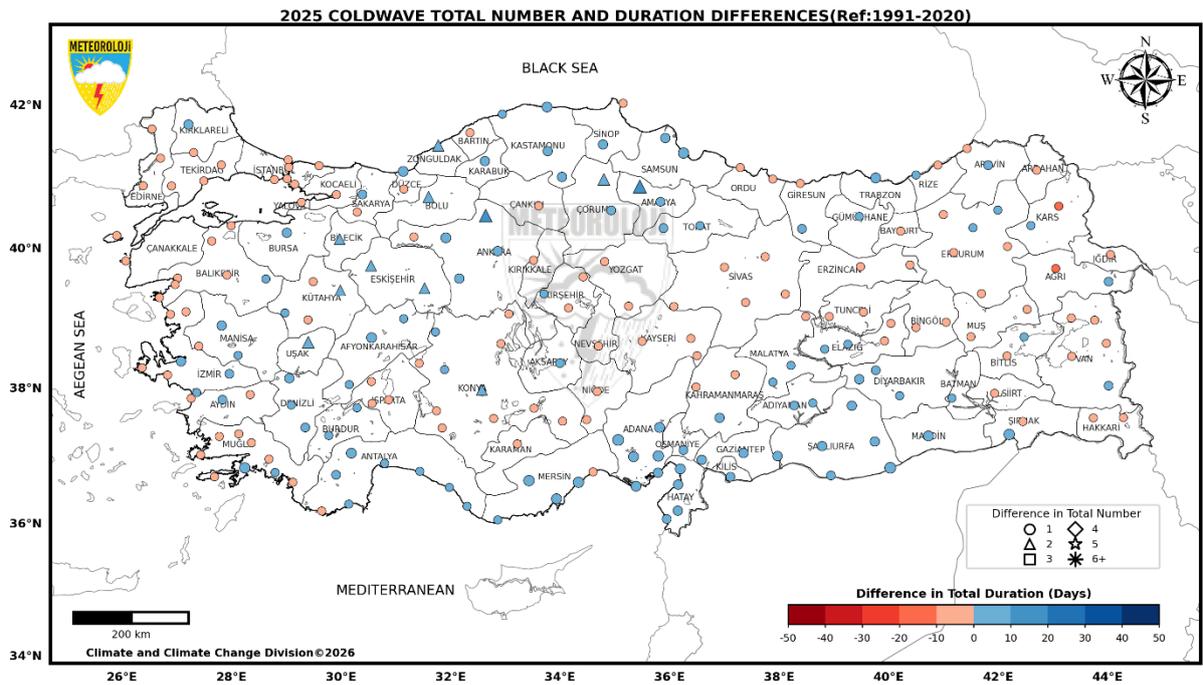


Figure 2.27. Differences between the total number and duration of heatwaves in 2025 and the normals (1991-2020)

### 3. Annual Precipitation

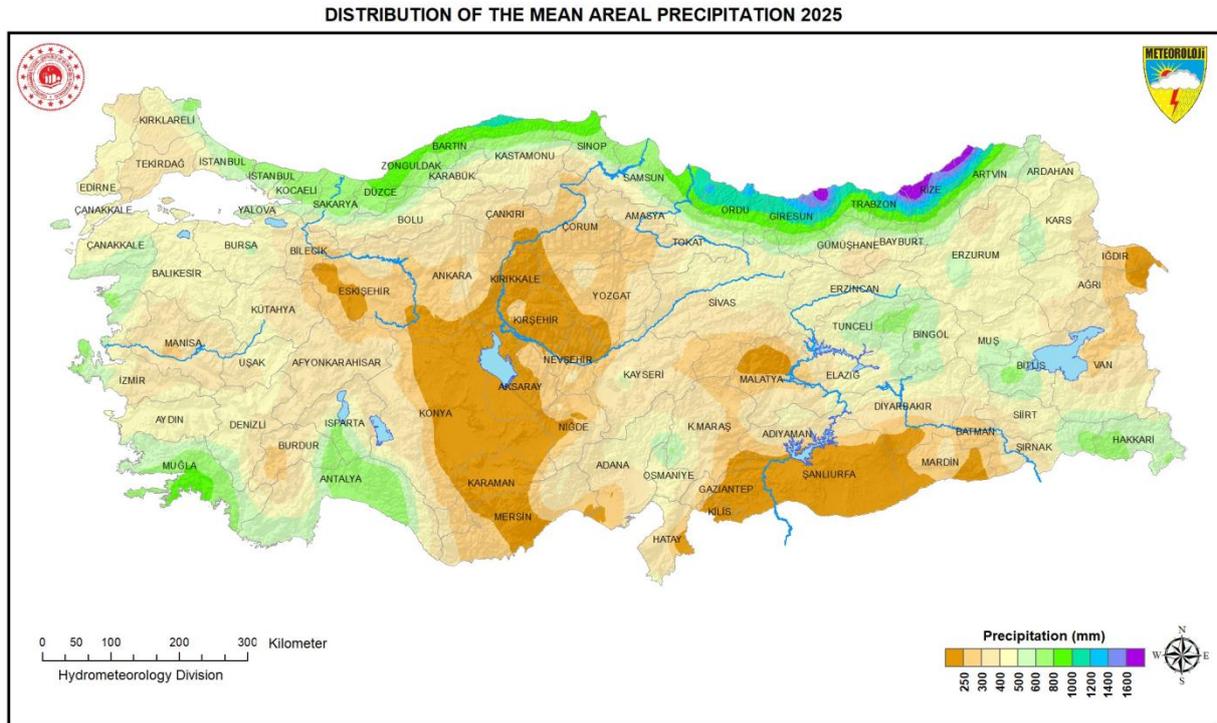
In 2025, the annual areal precipitation in Türkiye was recorded at 414.9 mm. In comparison to the long-term average (1991–2020) of 573.4 mm, this represents a significant deficit of 27.6%. Furthermore, precipitation levels declined by 22.8% relative to the previous year, marking the lowest annual areal precipitation recorded in the last 61 years. While 2025 is identified as the most severe drought year since 1964, 2009 remains the wettest year on record with a total of 728.3 mm (Fig. 3.3).

#### Regional Distribution and Anomalies

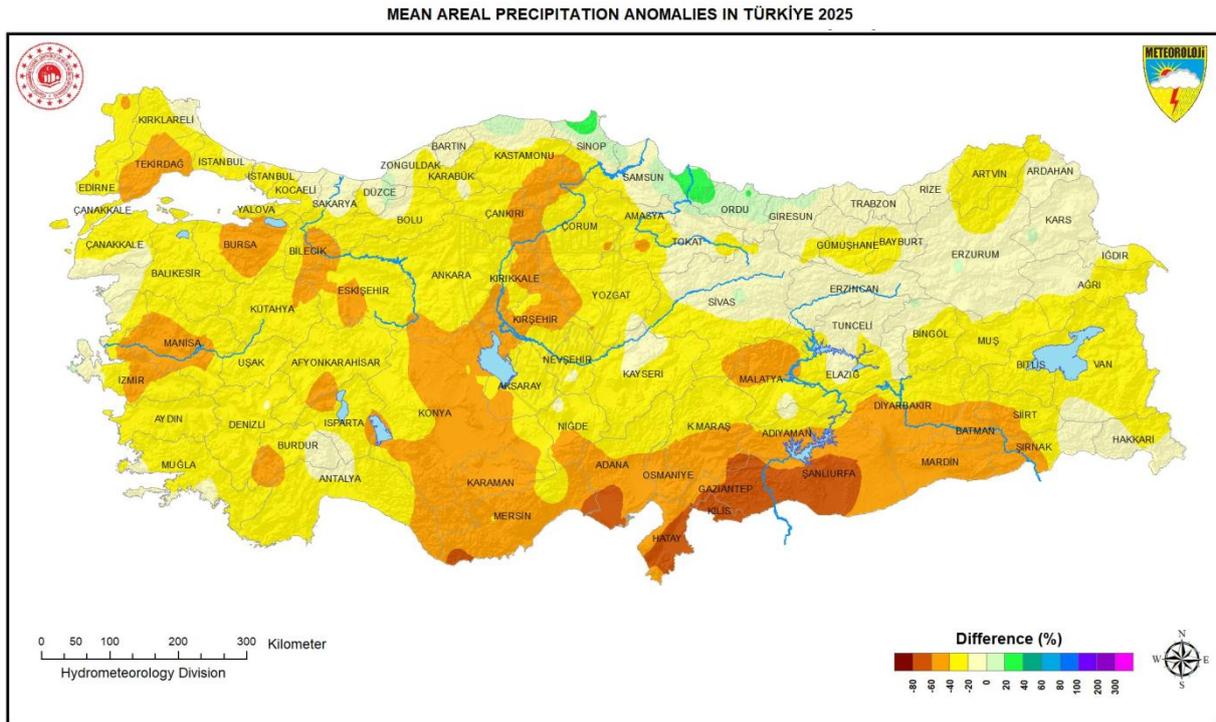
The spatial distribution of precipitation exhibited substantial regional variance:

**High Precipitation Zones:** Rainfall exceeded 1000 mm in the coastal provinces of Ordu, Giresun, Trabzon, Rize, and Artvin, as well as the northern districts of Kastamonu.

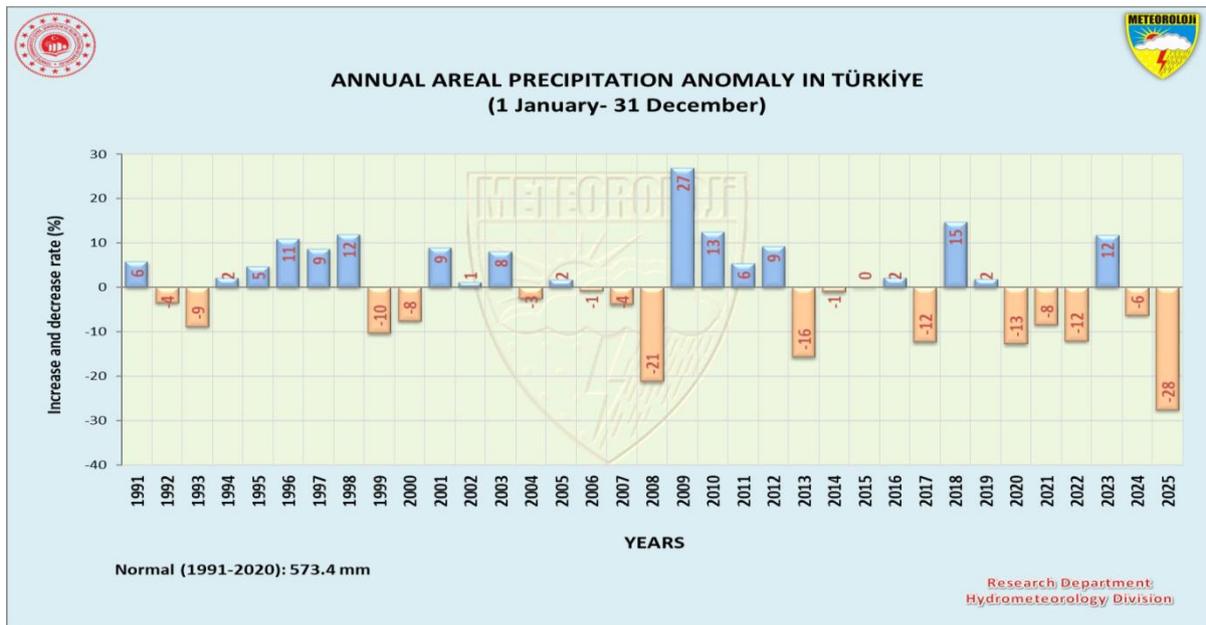
**Arid Zones:** Precipitation fell below 250 mm in the central reaches of Anatolia and within the provinces of Eskişehir, Karaman, Mersin, Hatay, Malatya, Gaziantep, Kilis, Şanlıurfa, Mardin, Iğdır, and Ağrı. Precipitation anomalies in Şanlıurfa, Kilis, Gaziantep, Hatay, and southern Adana, where decreases exceeded 60%. Conversely, the provinces of Sinop, Samsun, and Ordu observed increases ranging between 20% and 40% (Fig 3.1).



**Figure 3.1.** Distribution of the Mean Areal Precipitation in 2025 (URL2)



**Figure 3.2.** Mean Areal Precipitation Anomalies in Türkiye in 2025 (URL2)



**Figure 3.3.** Annual Areal Precipitation Anomaly in Türkiye in 2025 (URL2)

### 3.1. Monthly Precipitation

In 2025, monthly areal precipitation across Türkiye remained below normal levels, with the exceptions of April and October. April was the wettest month with 72.7 mm of rainfall, while August was the driest with only 7.9 mm. Nationally, January saw its lowest precipitation in 24 years, while March recorded its lowest levels in 35 years (Fig 3.4).

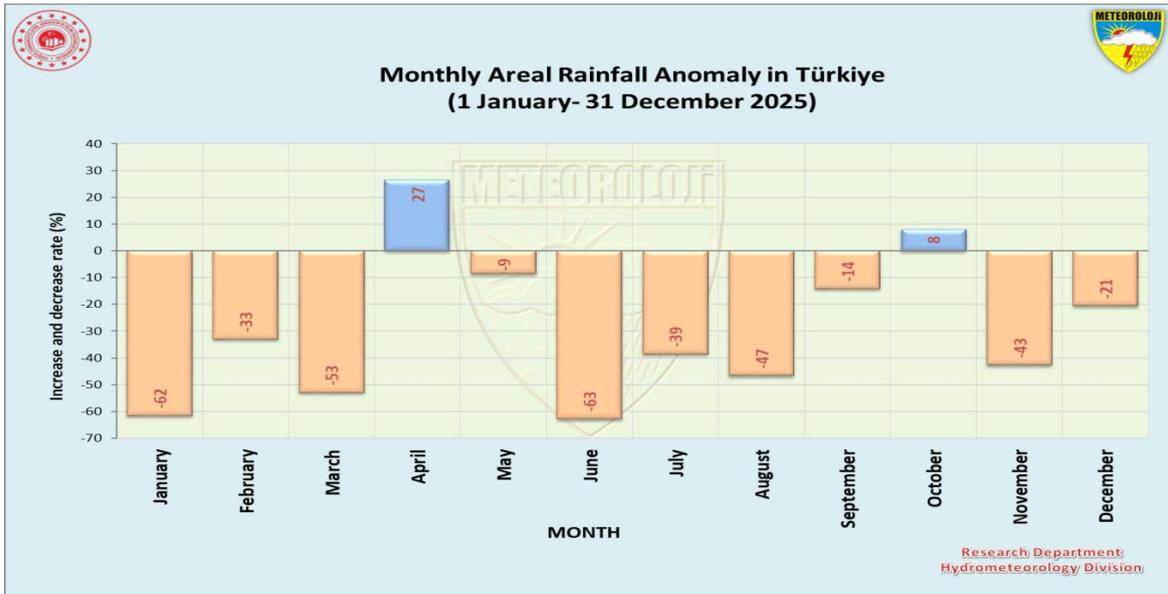


Figure 3.4. Monthly Areal Precipitation Anomaly in Türkiye (URL2)

### 3.2. Seasonal Precipitation

**Winter** precipitation decreased by 32% compared to the seasonal average and diminished by 25% relative to the previous winter (Fig 3.5).

**Spring** precipitation decreased by 13% compared to the seasonal average and decreased by 11% relative to the previous spring season (Fig 3.6).

**Summer** precipitation decreased by 53% compared to the seasonal average and by 44% relative to the previous summer rainfall. Notably, the Marmara and Black Sea Region experienced its lowest summer precipitation in the past 65 years (Fig 3.7).

**Autumn** precipitation declined by 18% compared to the seasonal average and by 6% relative to the previous autumn (Fig 3.8).

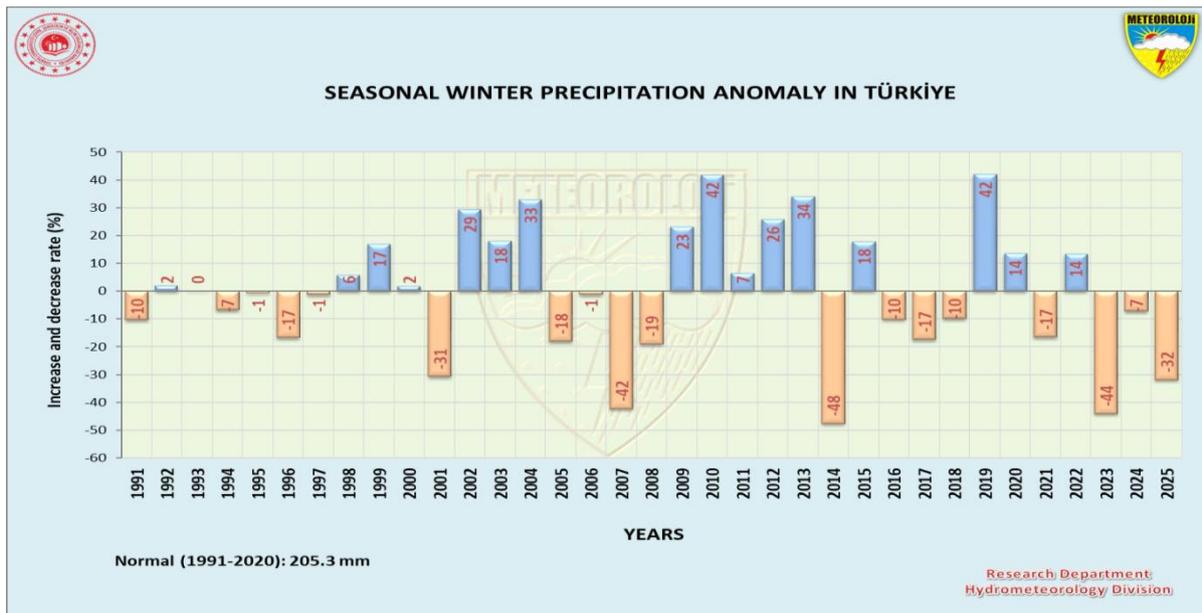
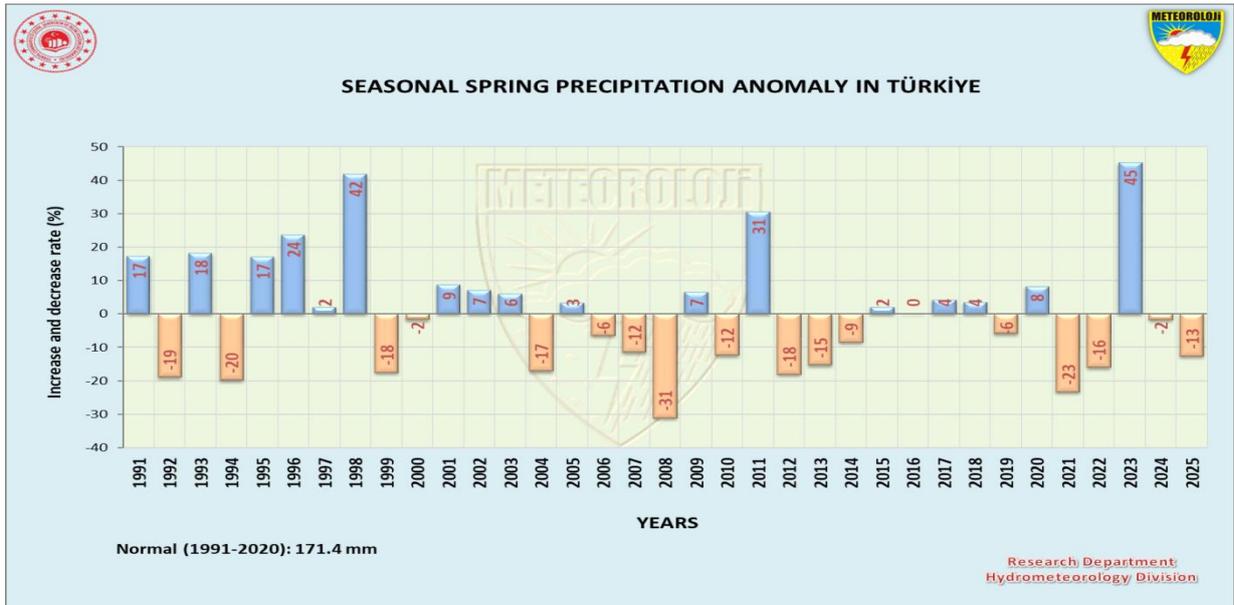
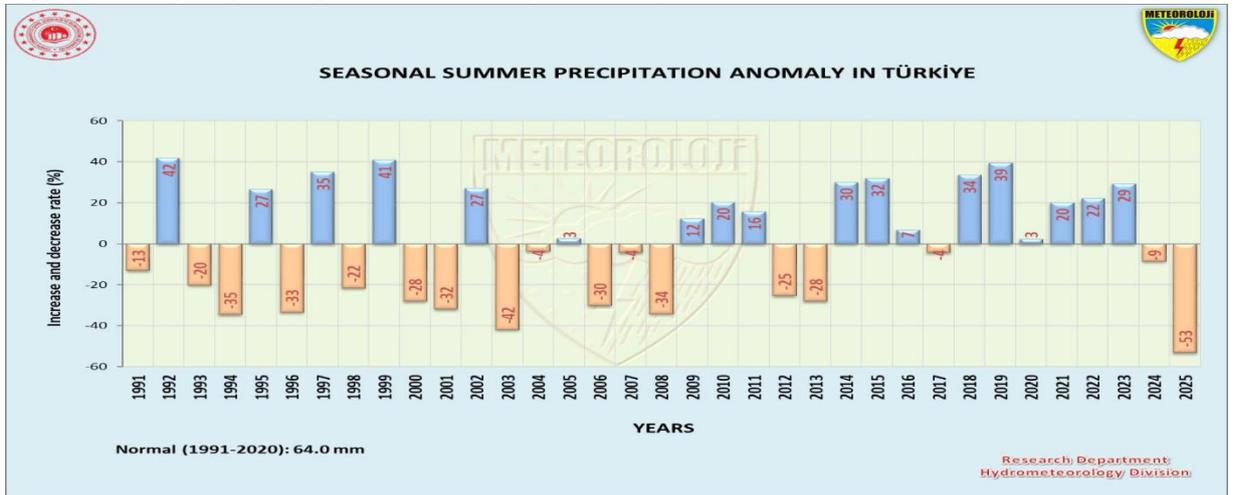


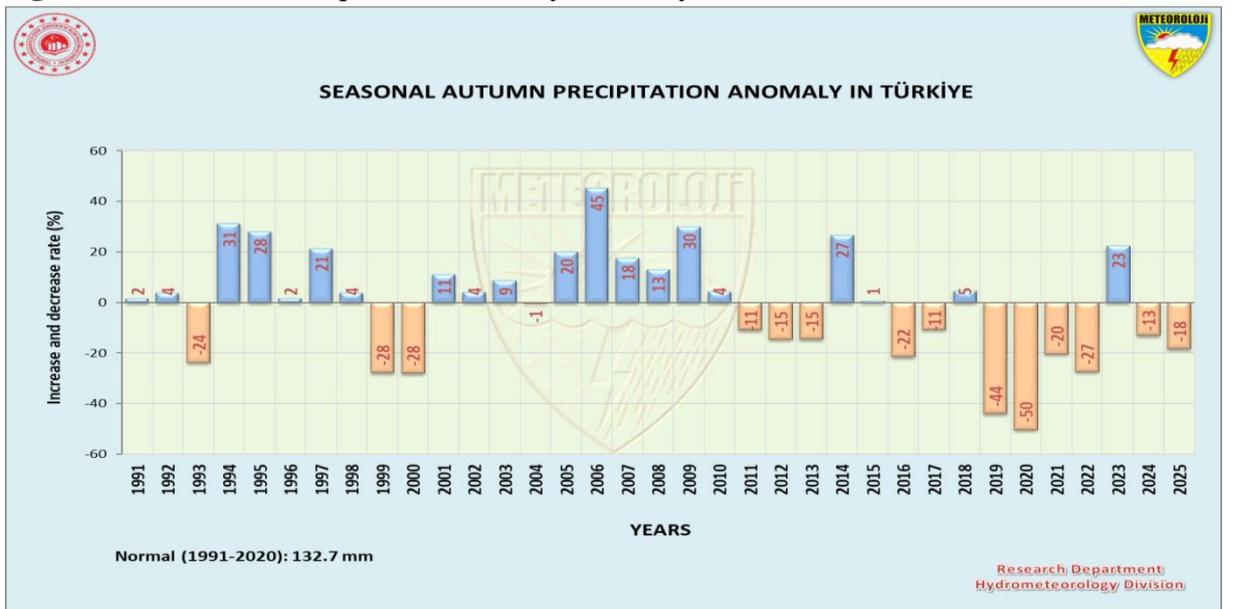
Figure 3.5. Winter Precipitation Anomaly in Türkiye in 2025



**Figure 3.6.** Spring Precipitation Anomaly in Türkiye in 2025



**Figure 3.7.** Summer Precipitation Anomaly in Türkiye in 2025



**Figure 3.8.** Autumn Precipitation Anomaly in Türkiye in 2025

#### 4. Extrem Event Assessment

The number of extreme events reached 1.011 in 2025 according to TSMS’s Database (Fig. 4.1).

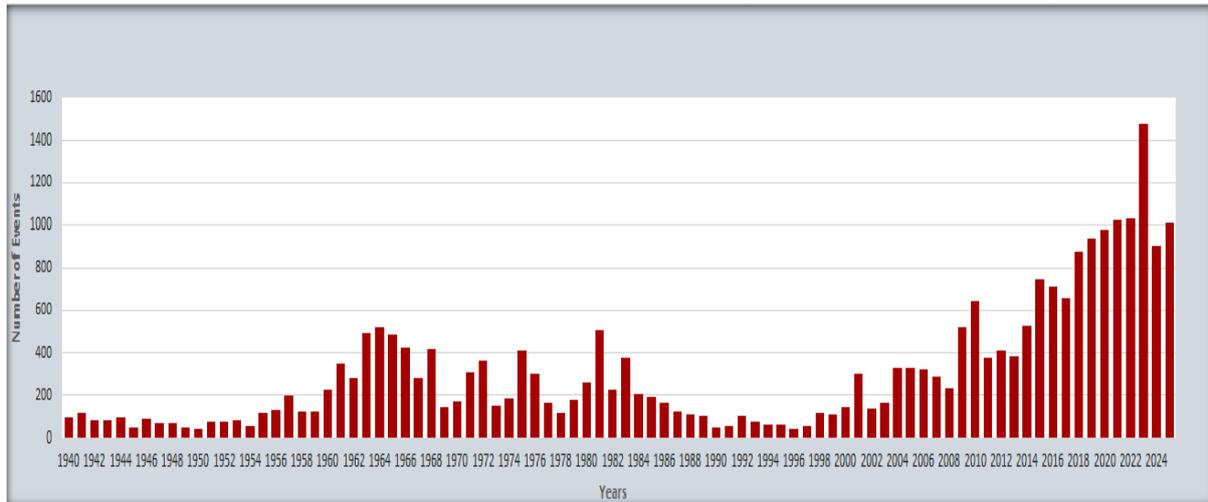


Figure 4. 1 Annual number of extreme events in Türkiye

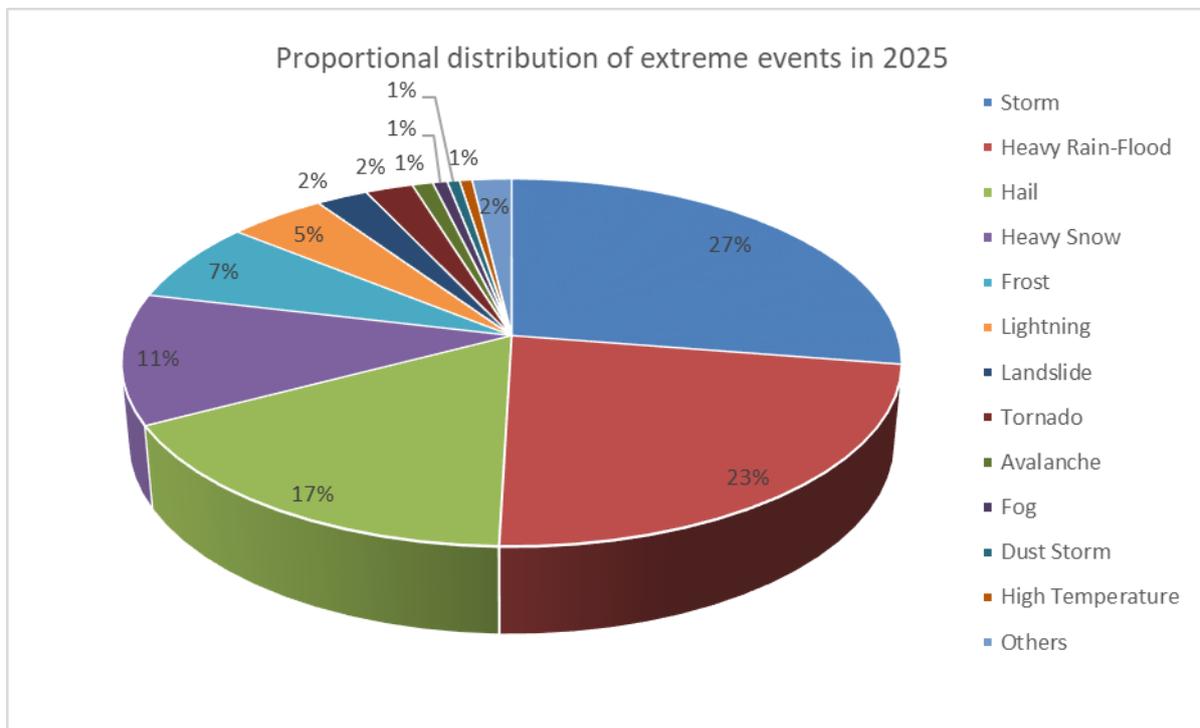


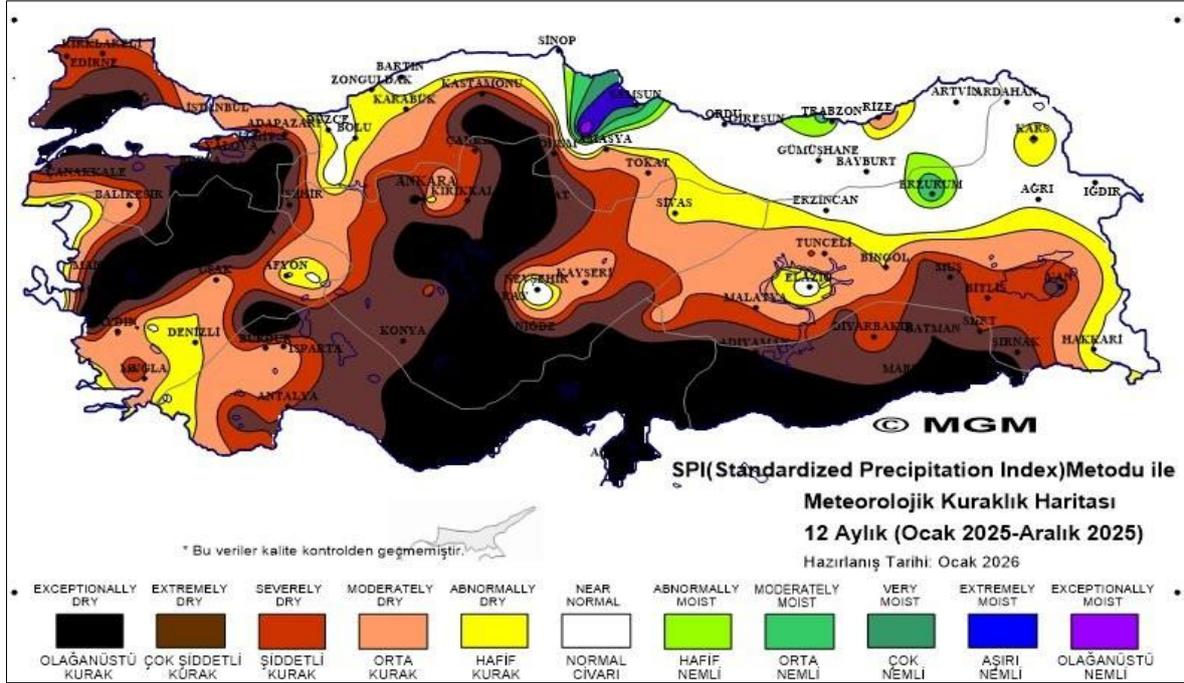
Figure 4. 2 Proportional distribution of extreme events in 2025

Extreme events in 2025 were storm with 27%, heavy rainfall and floods with 23%, hail with 17%, heavy snow with 11%, frost with 7%, lightning strikes with 5%, landslides with 2% and tornadoes with 2%. Extreme events such as avalanches, wild fires, fog and sandstorms accounted for 1% or less of the total (Figure 4.2).

#### 4.1. Drought

According to the Standard Precipitation Index (SPI) method for a 12-month (January - December 2025) meteorological drought analysis, the western Black Sea coast, central and eastern Black Sea regions, northern and eastern parts of Eastern Anatolia, and the Hakkari

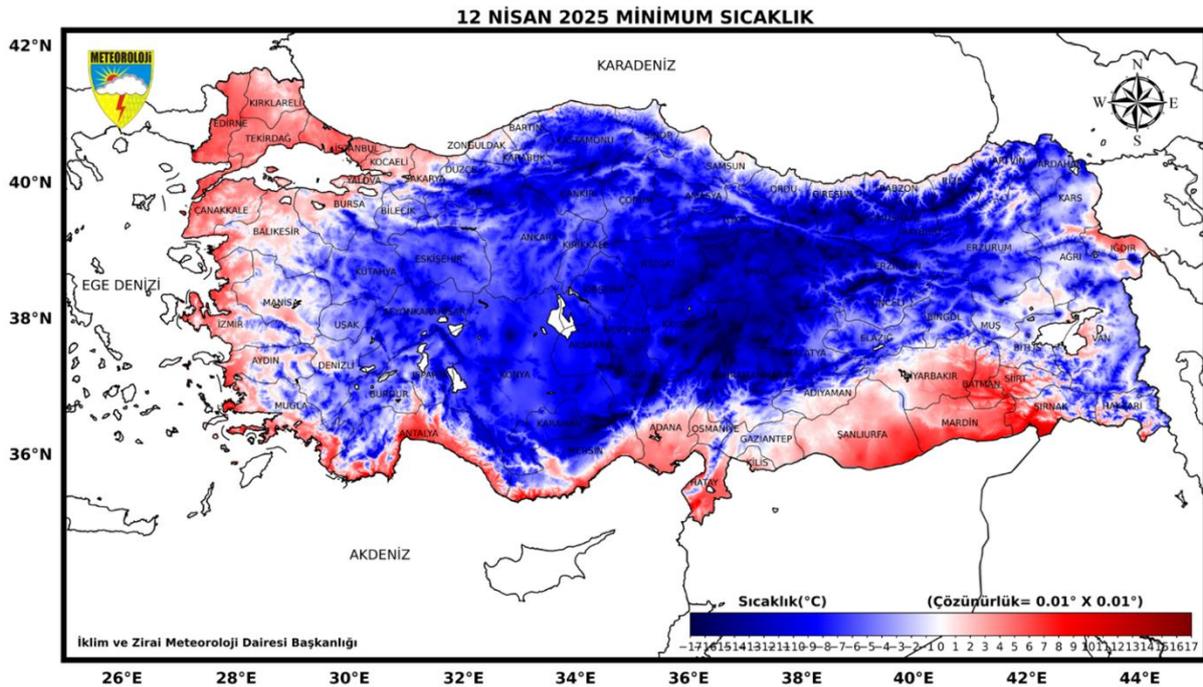
region experienced normal to slightly humid conditions; while other areas experienced varying degrees of drought (Figure 4.3).



Şekil 4.3 Türkiye'nin Standart Yağış İndeksi (URL 3)

#### 4.2. Agricultural Frost

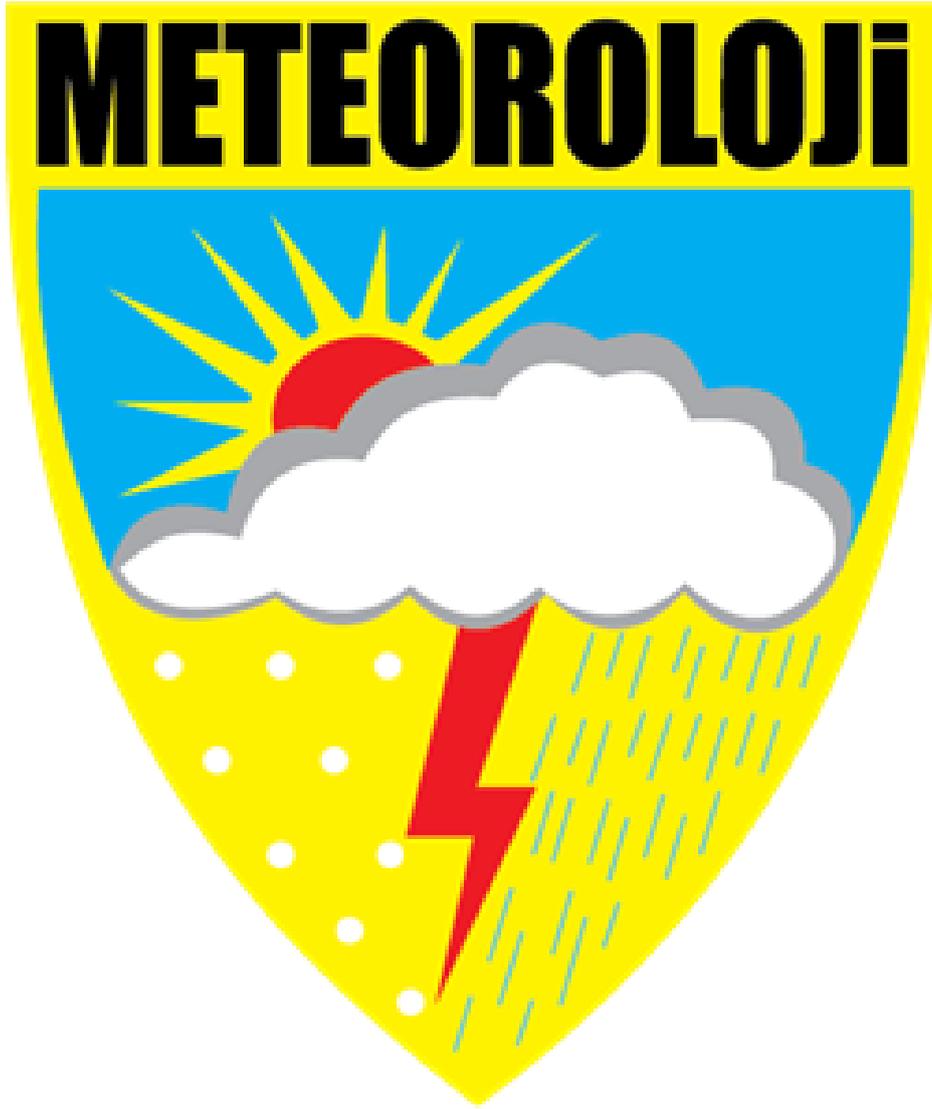
The late spring frost, which began on April 7th and lasted until April 15th, affected a large part of Türkiye, except for the western, southeastern, and coastal regions. Many agricultural products were damaged by this frost, particularly apricots in Malatya and hazelnuts in the Black Sea region (Figure 4.4).



Şekil 4.4 Türkiye 12 April 2025 minimum temperature map(URL 4)

## References

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2. URL 2: TSMS Precipitation Analysis <https://mgm.gov.tr/veridegerlendirme/yagis-raporu.aspx>
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5. NOAA, Global Climate Report Annual 2025 <https://www.ncei.noaa.gov/access/monitoring/climate-at-a-glance/global/time-series>



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