

**Republic Hydrometeorological Service of Serbia**

Kneza Viseslava 66

11000 Belgrade

Republic of Serbia



# **MONTHLY BULLETIN FOR SERBIA**

## **APRIL 2025**

Belgrade, the 5<sup>th</sup> of May 2025

Division for Climate Monitoring and Climate Forecast  
Department of National Center for Climate Change, Climate Model Development and Disaster  
Risk Assessment

web: <http://www.hidmet.gov.rs>

mail: [office@hidmet.gov.rs](mailto:office@hidmet.gov.rs)

## Contents

AIR TEMPERATURE .....	1
Mean monthly air temperature .....	1
Maximum air temperature .....	6
Minimum air temperature.....	7
PRECIPITATION .....	9
CLOUD COVER, BRIGHT AND CLOUDY DAYS .....	15
SUNSHINE DURATION (INSOLATION) .....	17
OVERVIEW OF THE SYNOPTIC SITUATION* .....	18
APPENDIX .....	19
Mean air temperature .....	19
Maximum air temperature .....	23
Minimum air temperature.....	27
Precipitation .....	31

- ❖ *Warm and averagely rainy April in most of Serbia*
- ❖ *The wettest April for Zrenjanin, 3<sup>rd</sup> wettest for Valjevo*
- ❖ *The 3<sup>rd</sup> driest April for Kikinda*
- ❖ *Absolute daily precipitation maximum for April was surpassed in Zrenjanin*

## AIR TEMPERATURE

### Mean monthly air temperature

April was warm in most of the country, with average air temperature in the southern areas. Departure of the mean air temperature from the 1990-2020 normal was +0,87 °C, consequently, April 2025 was among the 15 warmest in the 1951-2025 period (*Figure 1*). April 2018 ranks as the warmest on record with the anomaly of +4,37 °C.

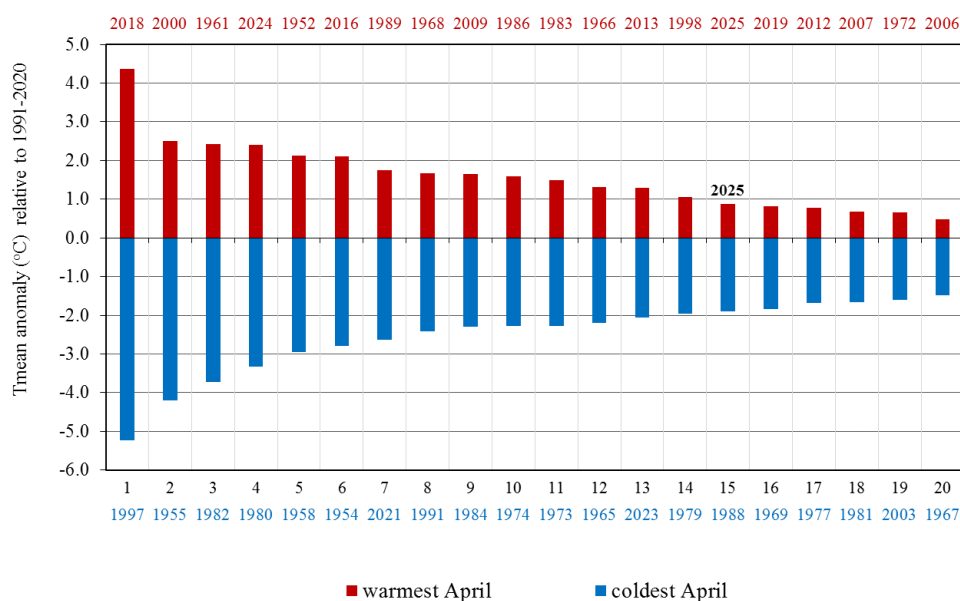


Figure 1. Rank of the warmest and coldest April in Serbia for the period from 1951 to 2025

April 2025 was the **6<sup>th</sup> warmest** for Loznica (Figure 2), the **7<sup>th</sup> warmest** for Sombor (Figure 3) and the **8<sup>th</sup> warmest** for Palic (Figure 4).

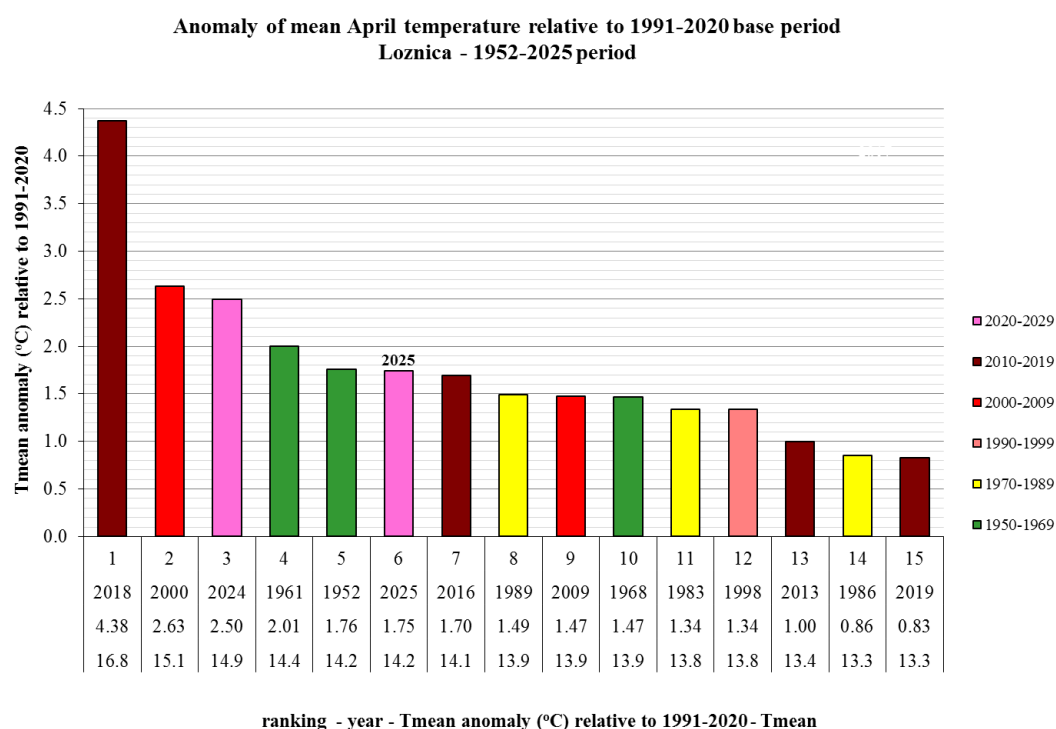


Figure 2. Rank of the warmest April in Loznica

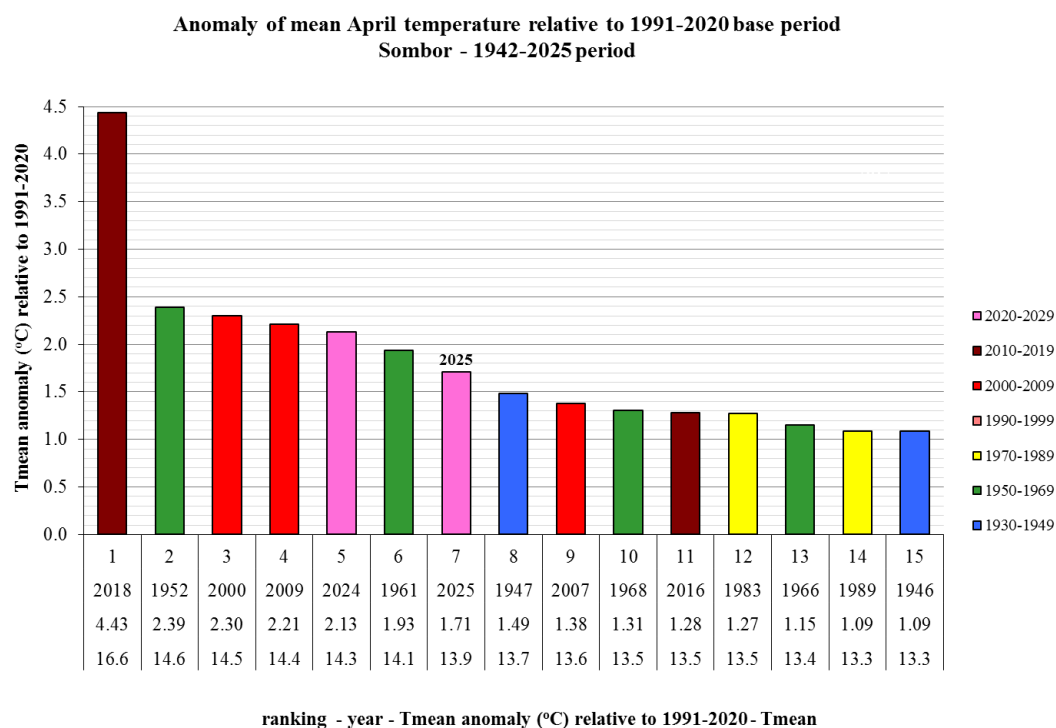


Figure 3. Rank of the warmest April in Sombor

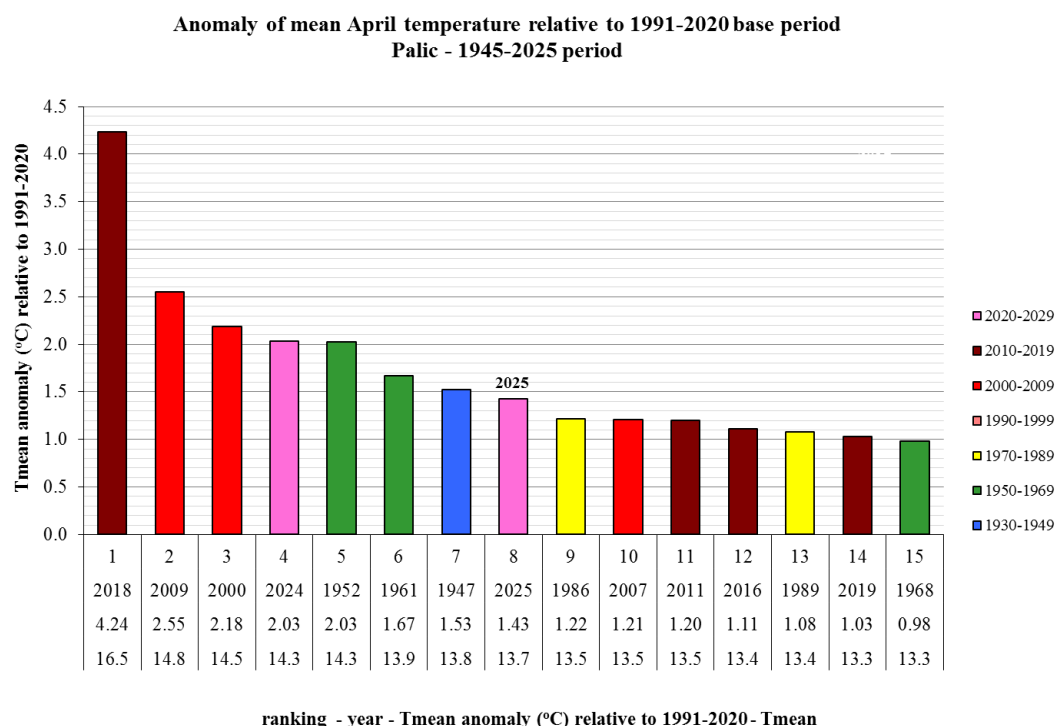


Figure 4. Rank of the warmest April on Palic

Mean air temperature in Serbia ranged from 10,6 °C in Dimitrovgrad to 14,7 °C in Belgrade, and on the mountains from 3,5 °C at Kopaonik to 8,6 °C at Zlatibor (*Figure 5*).

Departure of the mean air temperature from the normal<sup>1</sup> for the 1991–2020 base period ranged from +0,1 °C in Zajecar to +1,7 °C in Loznica and Sombor (*Figure 6*).

Mean April air temperature, based on the percentile method<sup>2</sup>, was in the warm category in most of the country, normal in the southern and southeastern regions, and very warm on Palic, Sombor and Loznica (*Figure 7*).

<sup>1</sup> Term **normal** refers to **climatological standard normal**, that is, the average value of a particular climate element, calculated for the period from January 1, 1991 to December 31, 2020

<sup>2</sup> **n**th percentile of a variable refers to the value of the observed variable below which there is n percent of data previously arranged in an ascending order

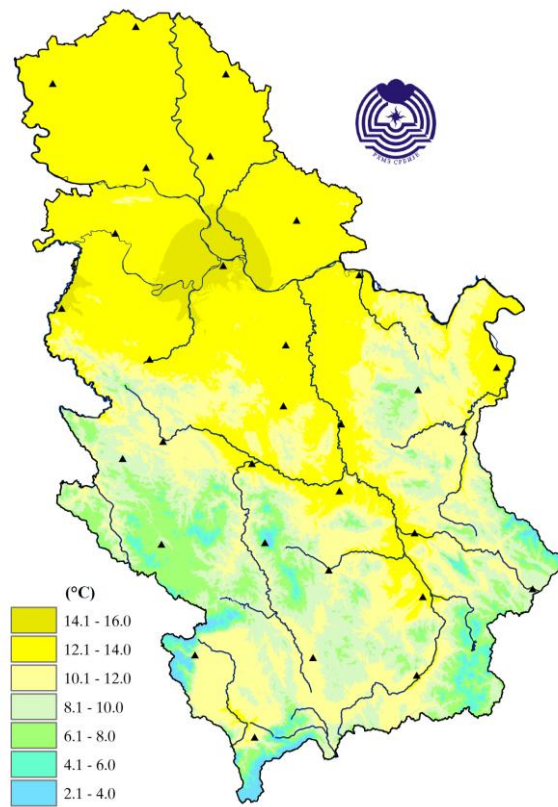


Figure 5. Spatial distribution of mean monthly air temperature (°C)

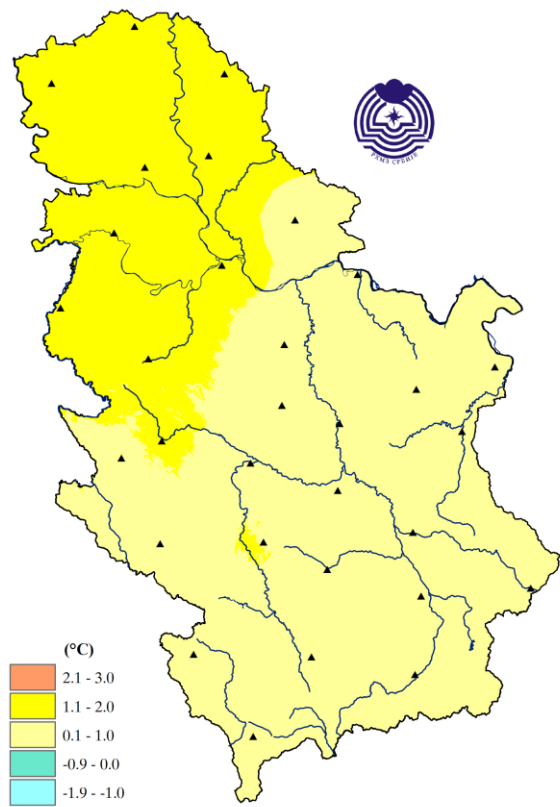


Figure 6. Spatial distribution of mean monthly air temperature anomaly (°C)

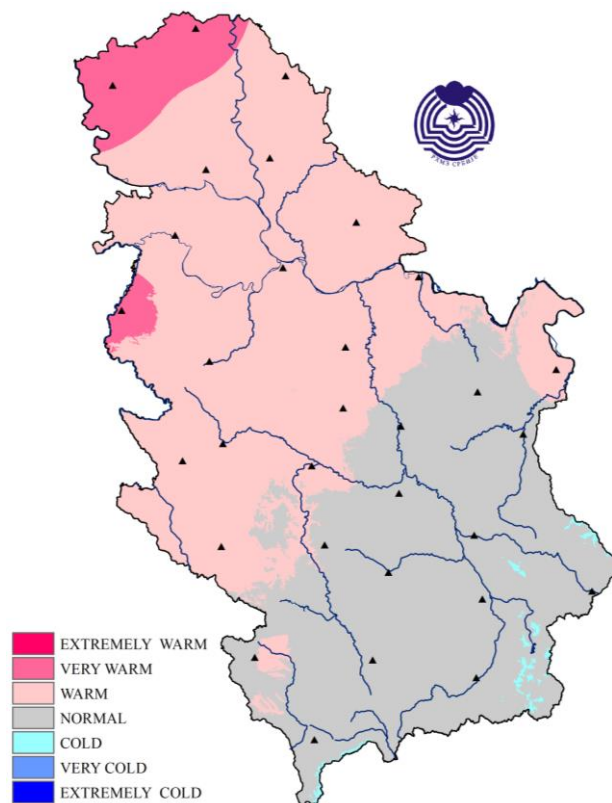


Figure 7. Spatial distribution of the mean monthly air temperature using percentile method

Mean daily air temperature in Belgrade, based on the percentile method, was in the categories of cold and very cold in the middle of the first decade of April, and in the categories of warm and very warm from the middle of the month until the middle of the third decade (*Figure 8*). Daily course of the mean daily air temperature and the accompanying percentiles for the stations Sombor, Novi Sad, Loznica, Negotin, Kragujevac, Zlatibor, Nis and Vranje are given in the [Appendix](#).

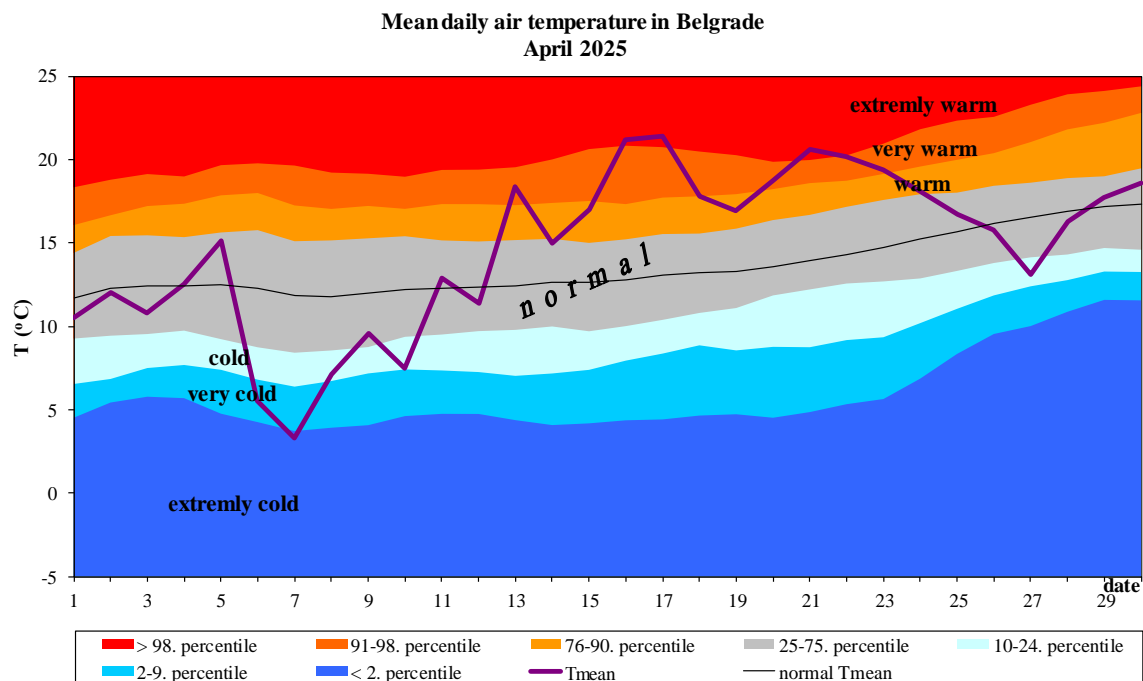


Figure 8. Daily course of the mean daily air temperature and accompanying percentiles for Belgrade

## Maximum air temperature

The mean maximum air temperature ranged from 18,1 °C in Dimitrovgrad to 20,5 °C in Sombor, while Belgrade observed mean maximum air temperature 20,2 °C. On the mountains, the mean maximum April air temperature ranged from 7,8 °C at Kopaonik to 13,9 °C in Sjenica.

Based on the percentile method, mean maximum monthly air temperature was in the categories of normal and warm.

In Serbia, the highest maximum daily air temperature of 30,3 °C was measured in Loznica on April 16. On April 22, Belgrade observed the highest air temperature of 28,6 °C.

Kopaonik recorded 3 ice days<sup>3</sup> while Zlatibor and Sjenica observed 1 ice day.

Summer days<sup>4</sup> were recorded across entire Serbia, apart from the mountains. The least number of days, total of 3, was registered in Sremska Mitrovica, and the highest number, total of 7 days, was recorded in Veliko Gradiste, Negotin, Krusevac, Cupriji, Nisu and Leskovcu. The recorded number of summer days was 2 to 3 days above April average in most of Serbia.

One tropical day<sup>5</sup> was recorded in Loznica.

Figure 9 shows daily course of the maximum daily air temperature and the accompanying percentiles for Belgrade in April 2025 and for the stations Sombor, Novi Sad, Loznica, Negotin, Kragujevac, Zlatibor, Nis and Vranje are given in the [Appendix](#).

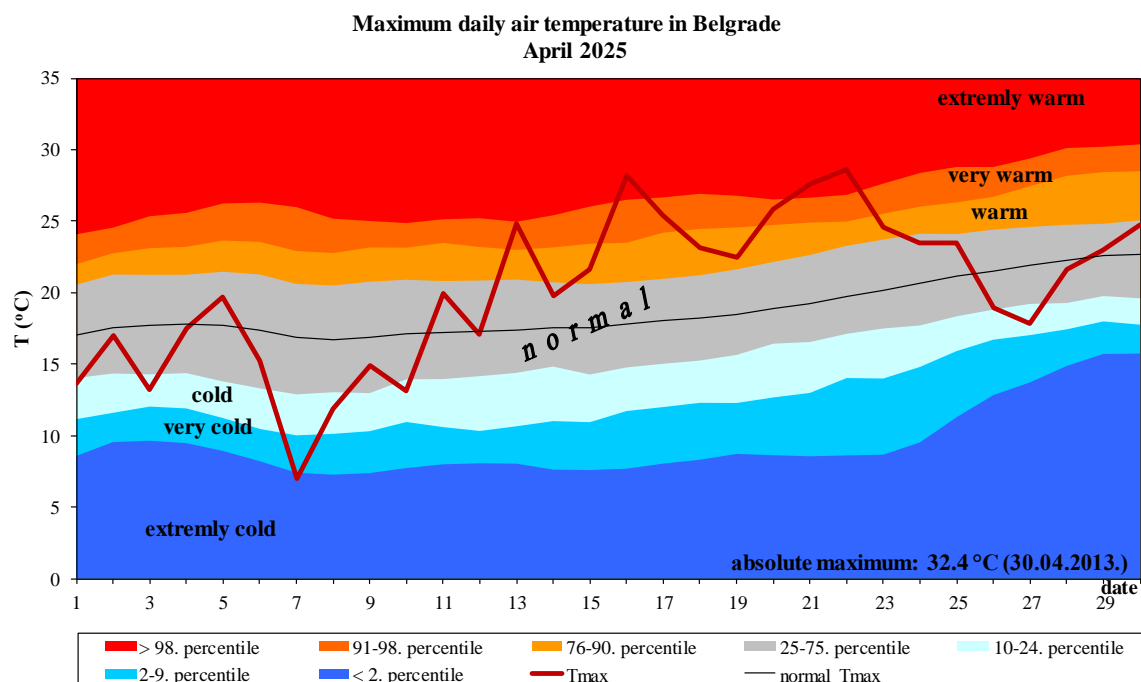


Figure 9. Daily course of the maximum daily air temperature and accompanying percentiles for Belgrade

<sup>3</sup> Ice day is defined as the day with maximum air temperature lower than 0 °C

<sup>4</sup> Summer day refers to a day with maximum daily air temperature 25 °C and above

<sup>5</sup> Tropical day refers to a day with maximum daily air temperature 30 °C and above



## Minimum air temperature

Mean minimum air temperature in April ranged from 4,7 °C in Dimitrovgrad to 9,6 °C in Belgrade. On the mountains, mean minimum air temperature ranged from 0,3 °C at Kopaonik to 4,6 °C at Zlatibor.

Based on the percentile method, mean minimum monthly air temperature was in the categories of normal and warm in most of the country, and very warm in Sombor, Loznica and Pozega.

The lowest minimum daily air temperature of -12,0 °C was measured at Kopaonik on April 8. On the same day, in the lowland, the lowest daily air temperature of -6,8 °C was recorded at Kopaonik on April 8. In the lowland, the lowest daily air temperature was recorded the same day in Dimitrovgrad, whereas on the same day, Belgrade observed the lowest monthly air temperature of -0,8 °C.

Frost days<sup>6</sup> were not recorded in Loznica and Negotin, whereas the highest number of frost days, total of 7, was recorded in Vranje. Belgrade recorded 1 frost day. On the mountains, number of frost days ranged from 6 at Crni Vrh and Zlatibor, to 12 at Kopaonik. The recorded number of frost days was around April average in most of Serbia.

Kopaonik observed 2 days with severe frost<sup>7</sup>.

Cold wave<sup>8</sup> was recorded in Vranje from April 6 to 11, and in Zrenjanin, Veliko Gradište, Smederevska Palanka, Banatski Karlovac and Zajecar from April 7 to 11.

Figure 10 shows assessment of the minimum and maximum air temperature in Serbia for April based on the tercile distribution relative to the 1991-2020 base period. It can be noted that the mean maximum air temperature was above upper tercile, and the mean minimum air temperature at the lower tercile threshold.

---

<sup>6</sup> Frost day is defined as the day with minimum air temperature lower than 0°C

<sup>7</sup> Day with severe frost is defined as the day with the minimum air temperature -10 °C and below

<sup>8</sup> Cold wave is, according to the percentile method, is a period during which minimum daily air temperature is in the very cold and extremely cold categories for 5 consecutive days or longer

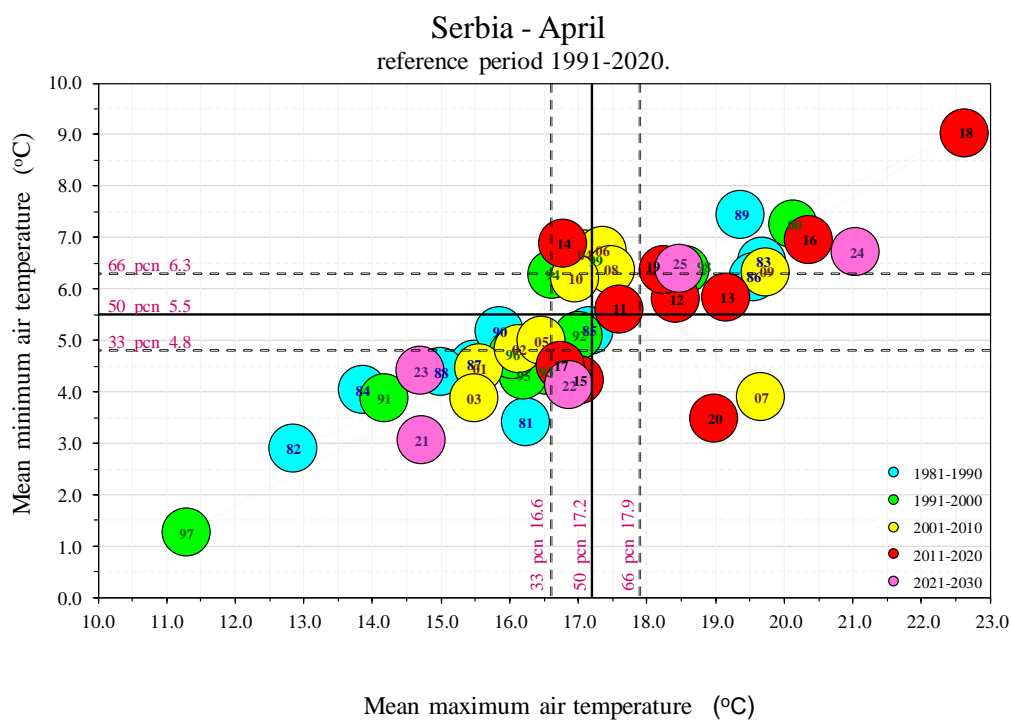


Figure 10. Assessment of minimum and maximum air temperature for Serbia with the accompanying terciles in relation to the 1991-2020 base period

Figure 11 shows daily course of the minimum daily air temperature and the accompanying percentiles for Belgrade in April 2025, and for the stations Sombor, Novi Sad, Loznica, Negotin, Kragujevac, Zlatibor, Nis and Vranje are given in the [Appendix](#).

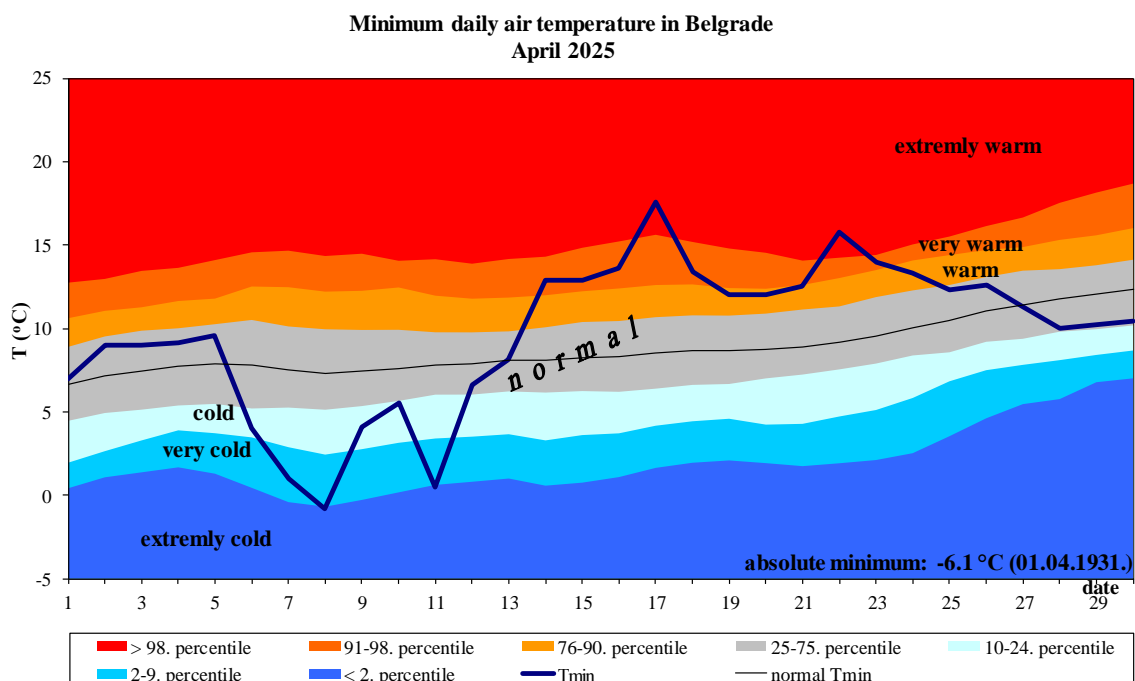


Figure 11. Daily course of the minimum daily air temperature and accompanying percentiles for Belgrade

## PRECIPITATION

April 2025 was **the wettest** on record for Zrenjanin since 1925 (*Figure 12*) with the precipitation sums of 124,0 mm thereby breaking the previous 2001 record of 97,0 mm, **and the third wettest** for Valjevo since 1926 (*Figure 13*).

April 2025 was **the 3rd driest** for Kikinda since 1925 (*Figure 14*), and the 9th driest for Cuprija since 1925 (*Figure 15*).

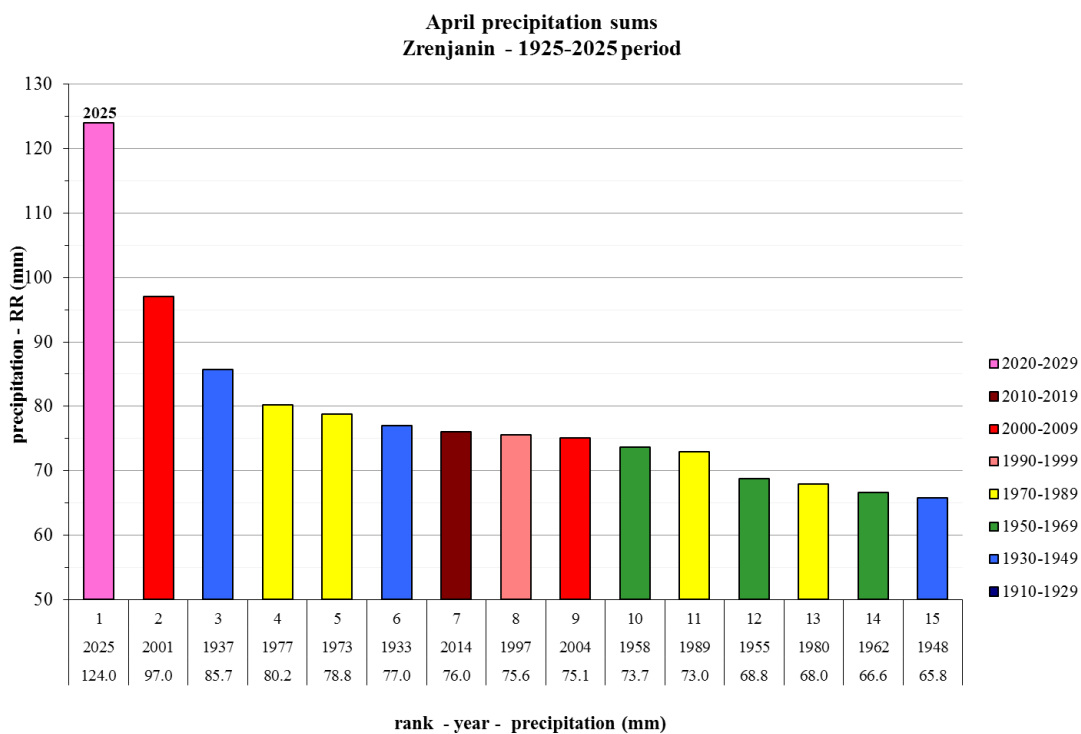


Figure 12. Rank of the highest precipitation in Zrenjanin

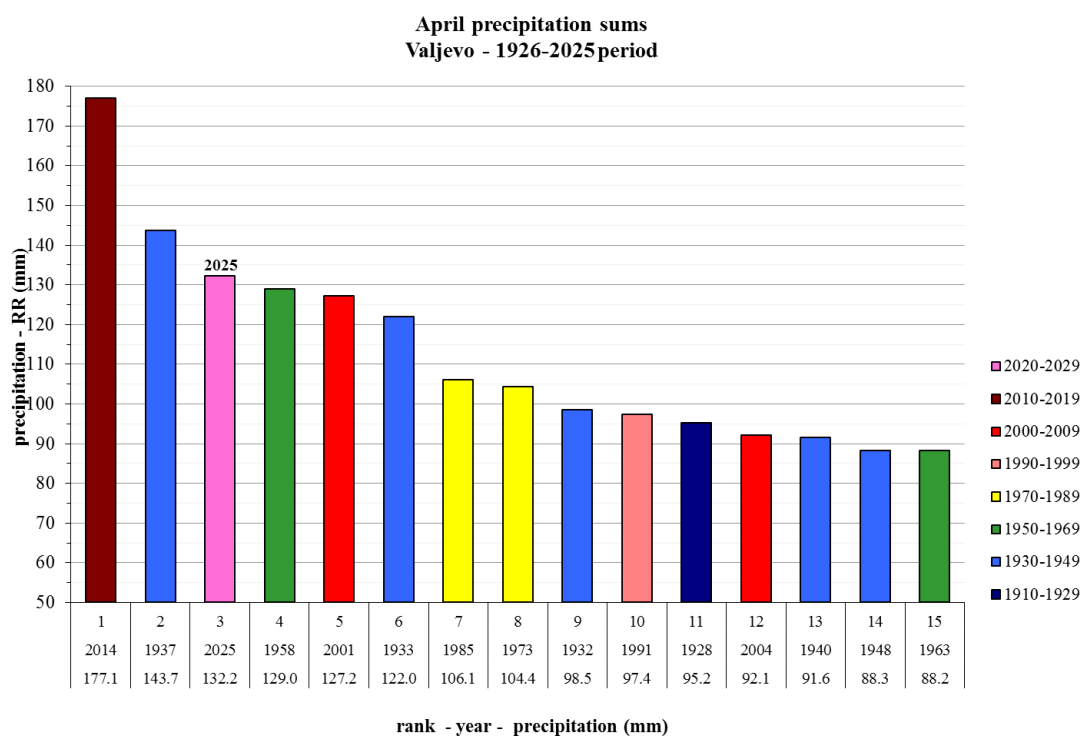


Figure 13. Rank of the highest precipitation in Valjevo

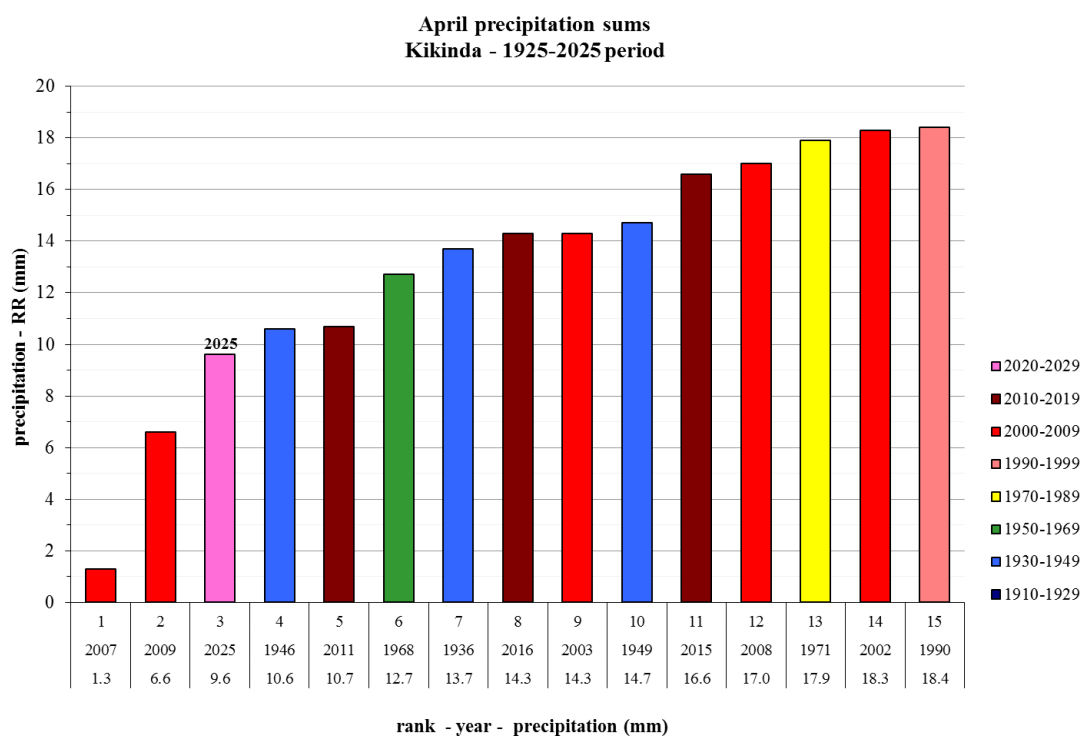


Figure 14. Rank of the lowest precipitation in Kikinda

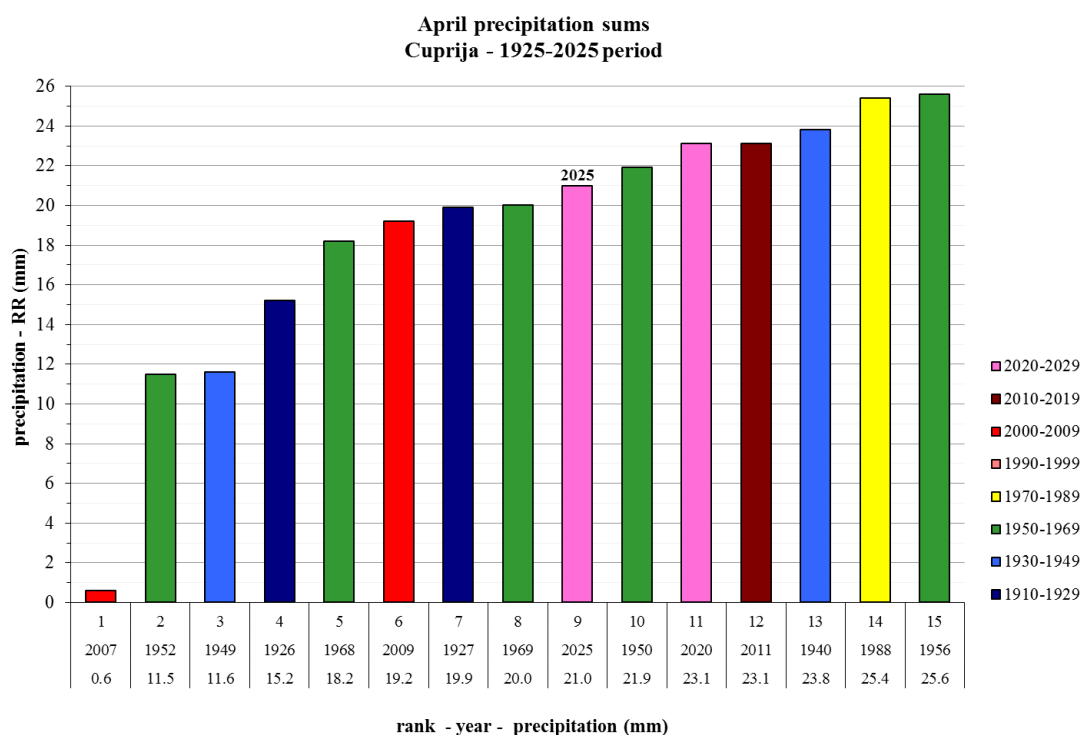


Figure 15. Rank of the lowest precipitation in Cuprija

April precipitation sums in Serbia ranged from 9,6 mm in Kikinda to 132,2 mm in Valjevo, while Belgrade recorded 48,1 mm (*Figure 16*).

Precipitation totals relative to the normal for the 1991-2020 base period ranged from 23% in Kikinda to 302% in Zrenjanin (*Figure 17*).

Based on the percentile method, precipitation sums were in the following category: normal in most of Serbia, rainy on Palic, Sremsk Mitrovica and Pozega, very rainy in Valjevo, extremely rainy in Zrenjanin, dry in Veliko Gradiste, Kursumlija, Krusevac and Nis, and very dry in Kikinda and Cuprija (*Figure 18*).

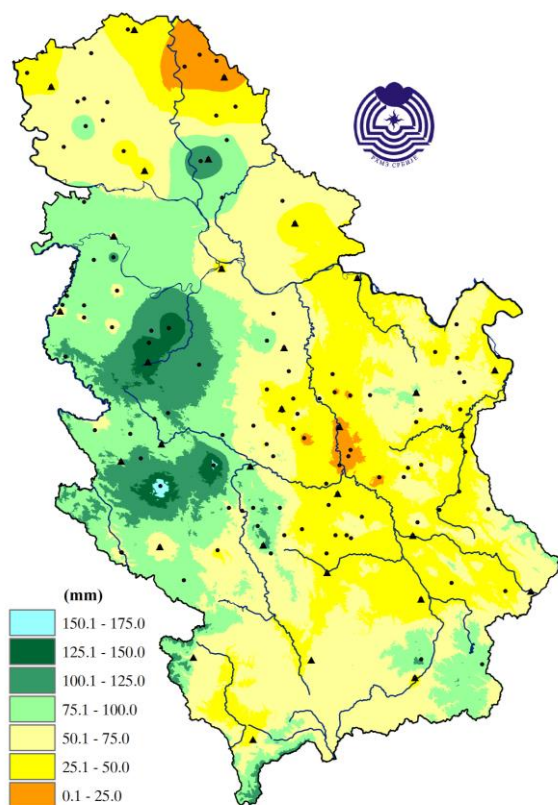


Figure 16. Spatial distribution of the monthly precipitation sums (mm) according to data from 28 major meteorological, 20 climatological and 82 rain gauge stations

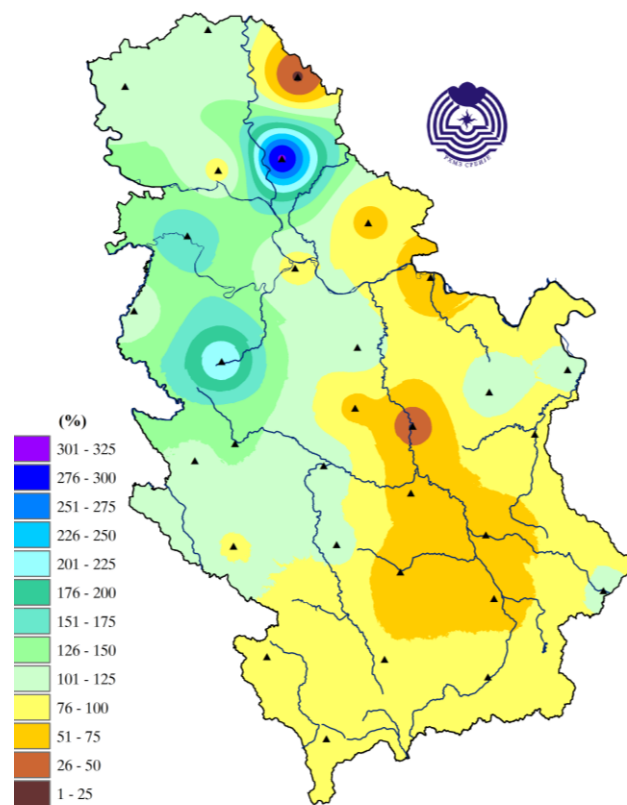


Figure 17. Spatial distribution of the monthly precipitation sums in the percentages of normal for the 1991–2020 base period

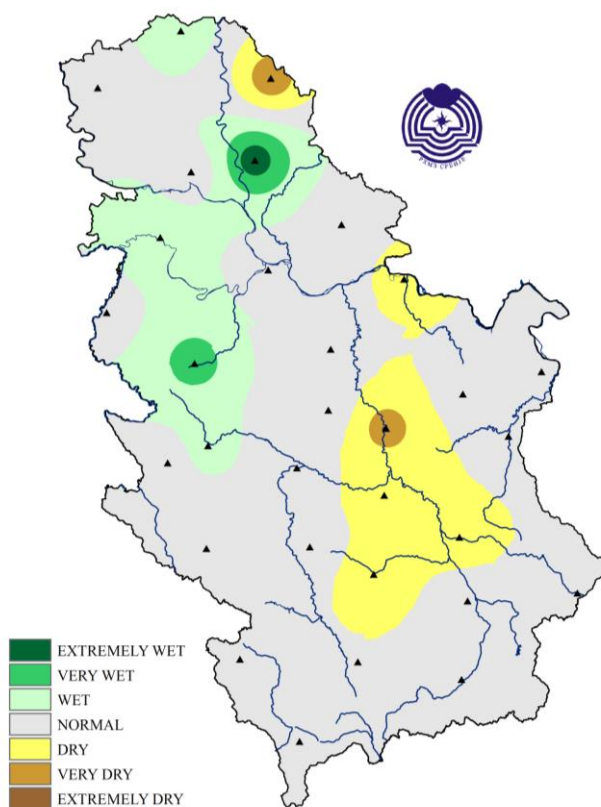


Figure 18. Monthly precipitation sums according to the percentile method

The highest daily precipitation sum of 43,7 mm was recorded in Zrenjanin on April 27 **thereby breaking the previous record** of 37,2 mm set on April 16, 1977. On April 26, Belgrade recorded the highest daily precipitation sum of 12,4 mm.

Number of days with precipitation in April ranged from 5 on Palic to 20 in Valjevo, Sjenica, Vranje and Kopanik (*Figure 19*). The recorded number of days with precipitation in the northern and eastern part of Serbia was up to 6 days below April average, in the southern and western Serbia up to 8 days above the average (*Figure 20*).

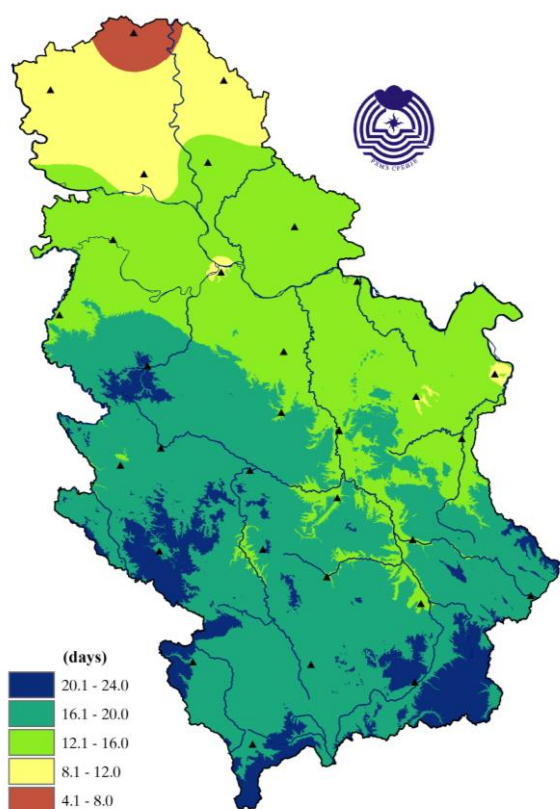


Figure 19. Spatial distribution of number of days with precipitation

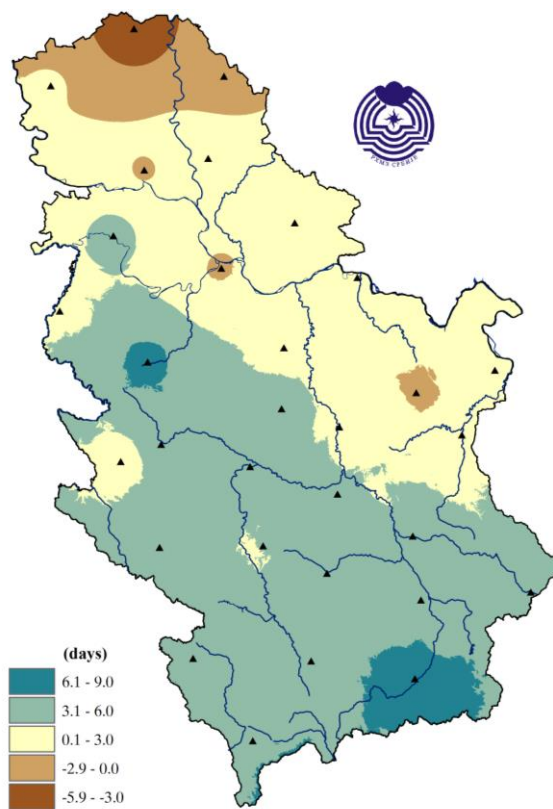


Figure 20. Spatial distribution of deviation of number of days with precipitation

At the beginning of the month, snow cover was recorded on the mountains, snow depth of 1 cm was registered in Dimitrovgrad on April 7, and in Kursumlija on April 7 and 8. The highest snow depth of 12 cm was recorded at Kopaonik on April 8.

Number of days with snow cover was the following: Kopaonik – 13 days, Zlatibor and Sjenica – 3 days, Kursumlija – 2 days, Crni Vrh and Dimitrovgrad – 1 day.

Figure 21 shows assessment of air temperature and precipitation sums for Serbia for April based on the tercile distribution relative to the 1991 – 2020 base period. It can be noted that April 2025 was marked by air temperature above the upper tercile and precipitation sums within the average.

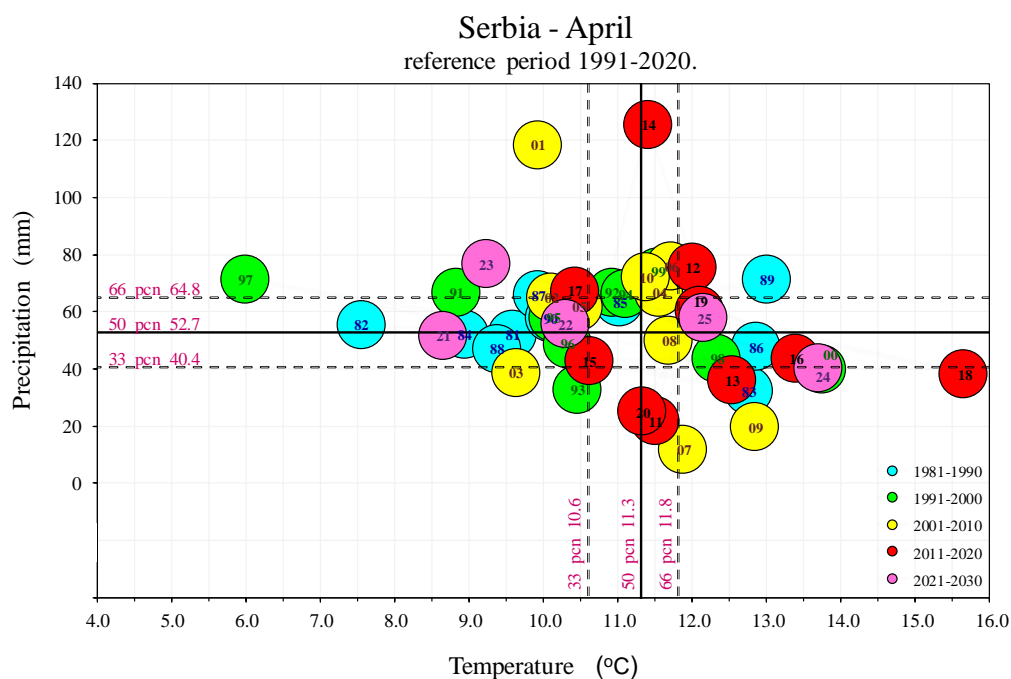


Figure 21. Assessment of air temperature and precipitation for Serbia with the accompanying terciles in relation to the 1991-2020 base period

Figure 22 show daily and cumulative precipitations sums with averaged normal 1991-2020 for April in Belgrade, and for the stations Sombor, Novi Sad, Loznica, Negotin, Kragujevac, Zlatibor, Nis and Vranje precipitation sums are given in [Appendix](#).

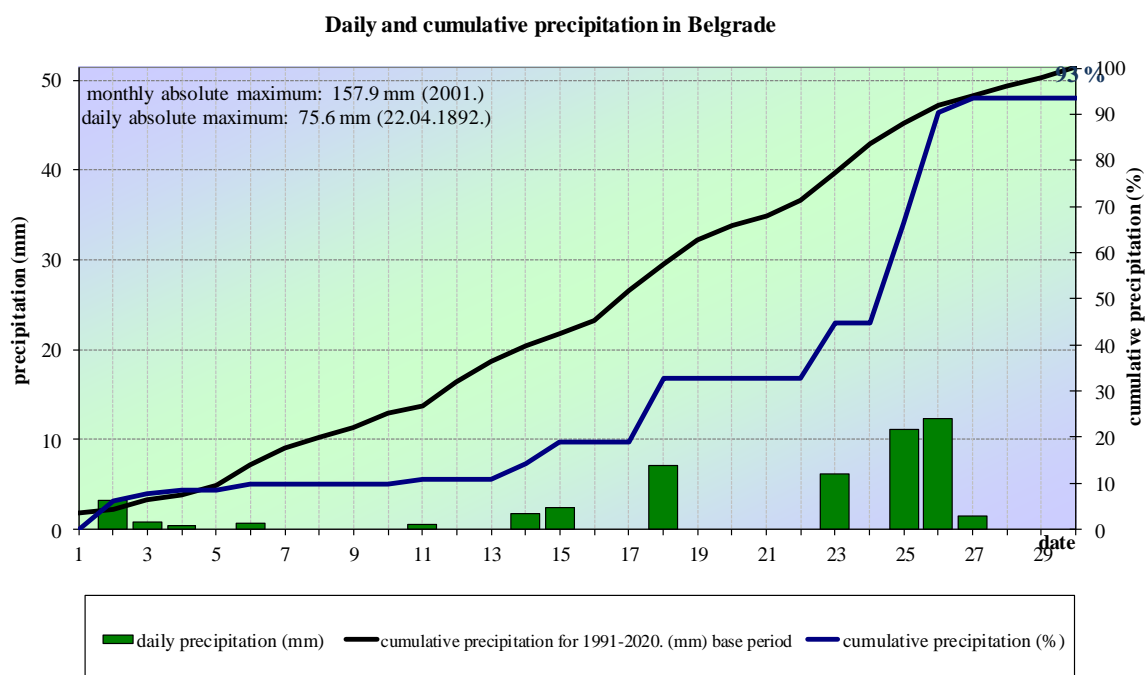


Figure 22. Daily and cumulative precipitation in Belgrade



## CLOUD COVER, BRIGHT AND CLOUDY DAYS

Mean April cloud cover in Serbia was around the average, ranging from 5/10 to 7/10. Figures 23, 24 and 25 show average daily cloud cover for April for Belgrade, Zlatibor and Sombor.

Number of bright days<sup>9</sup> ranged from 2 in Novi Sad, Valjevo, Belgrade, Smederevska Palanka, Sjenica, Pozega, Kraljevo, Zlatibor and Kopaonik to 5 days in Banatski Karlovac. The observed number of bright days was 1 to 3 days below April average.

Number of cloudy days<sup>10</sup> ranged from 3 in Banatski Karlovac to 14 on Zlatibor, while Belgrade observed 8 cloudy days. Number of cloudy days was around April average in most of the country.

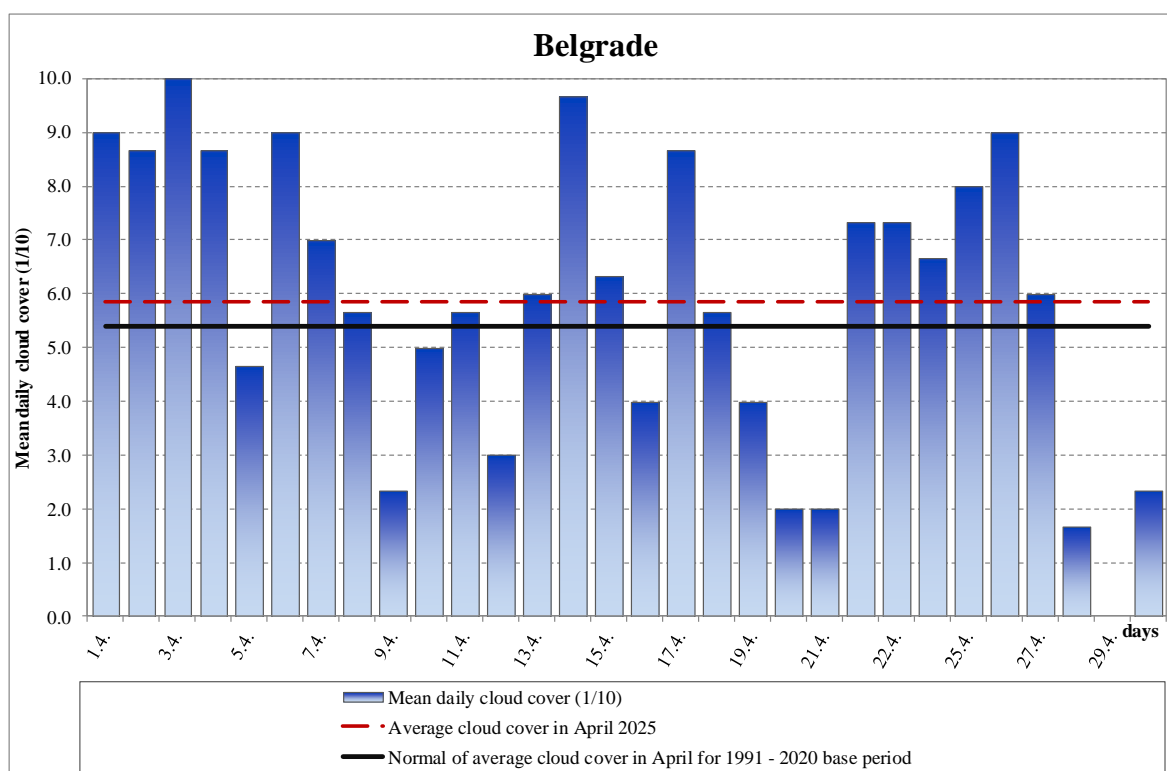


Figure 23. Mean daily cloud cover in Belgrade

<sup>9</sup> Bright day refers to a day with cloud cover less than 2/10

<sup>10</sup> Cloudy day refers to a day with cloud cover over 8/10

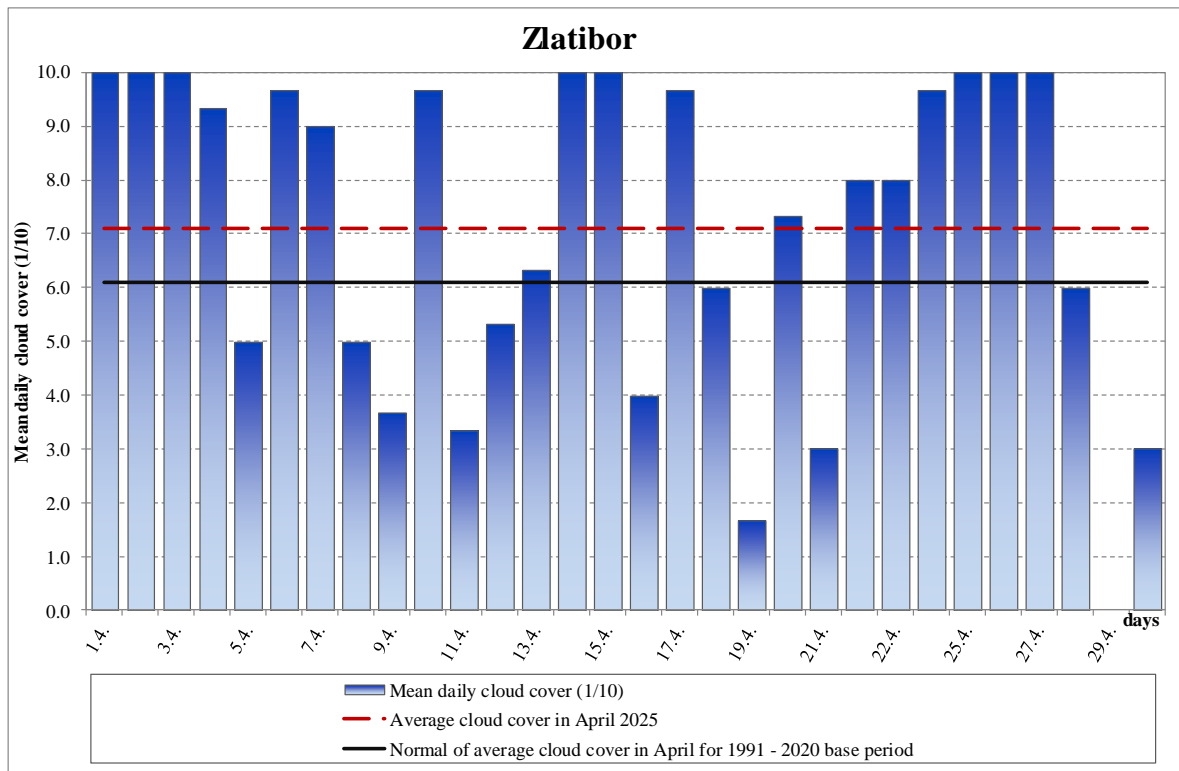


Figure 24. Mean daily cloud cover on Zlatibor

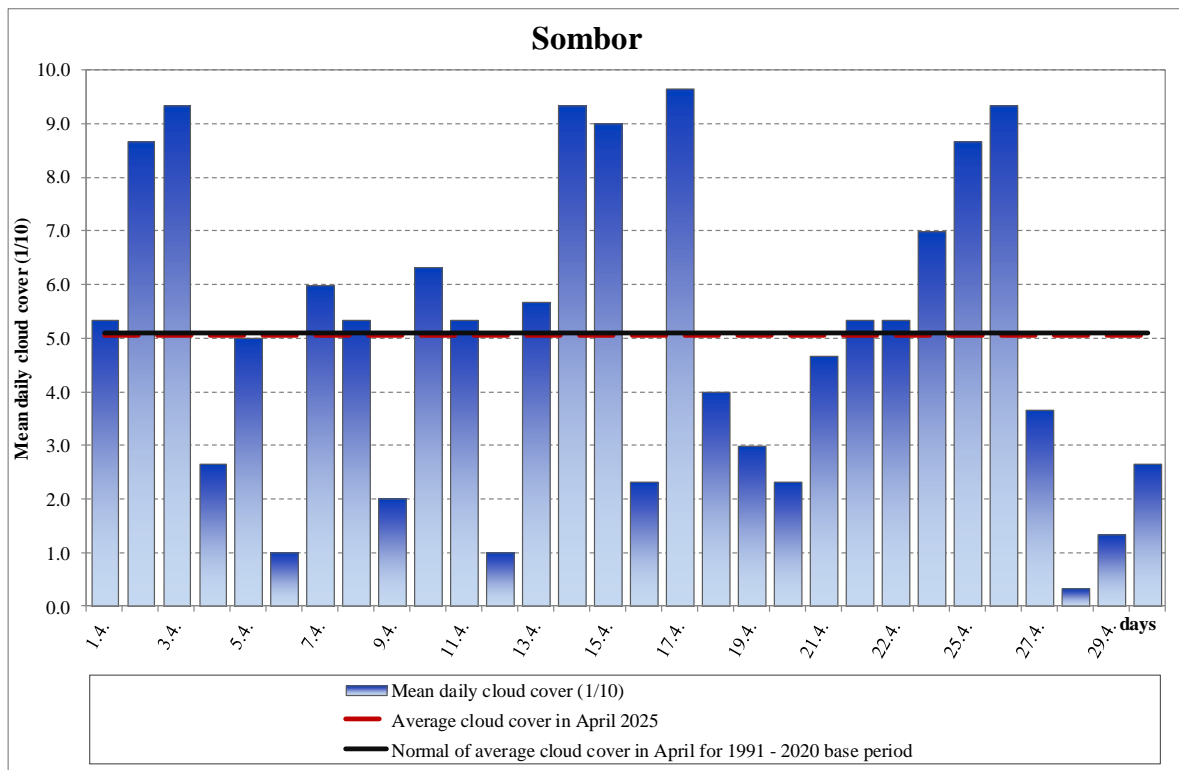


Figure 25. Mean daily cloud cover in Sombor

## SUNSHINE DURATION (INSOLATION)

Sunshine duration in April ranged from 141,8 hours at Kopaonik to 256,5 hours in Kikinda (Figure 26).

April insolation ranged from 88% in Kragujevac to 121% in Kikinda relative to the normal for the 1991-2020 base period (Figure 27).

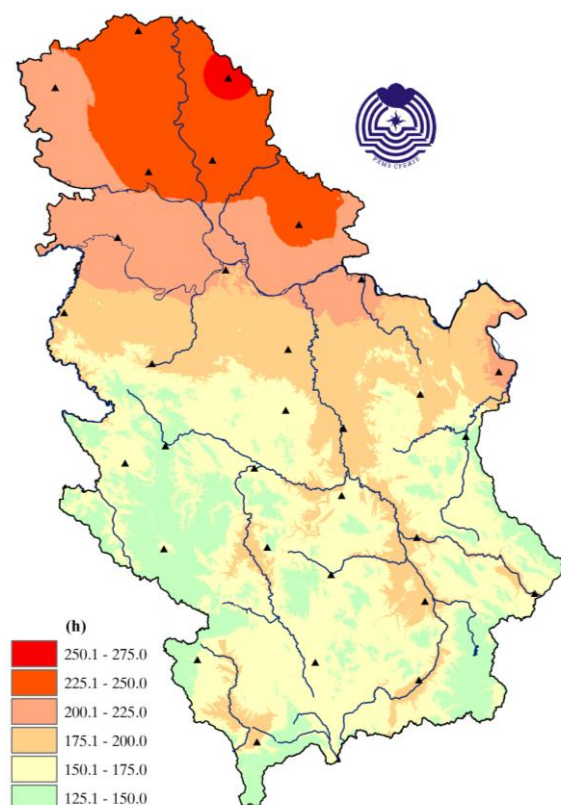


Figure 26. Insolation, expressed in hours

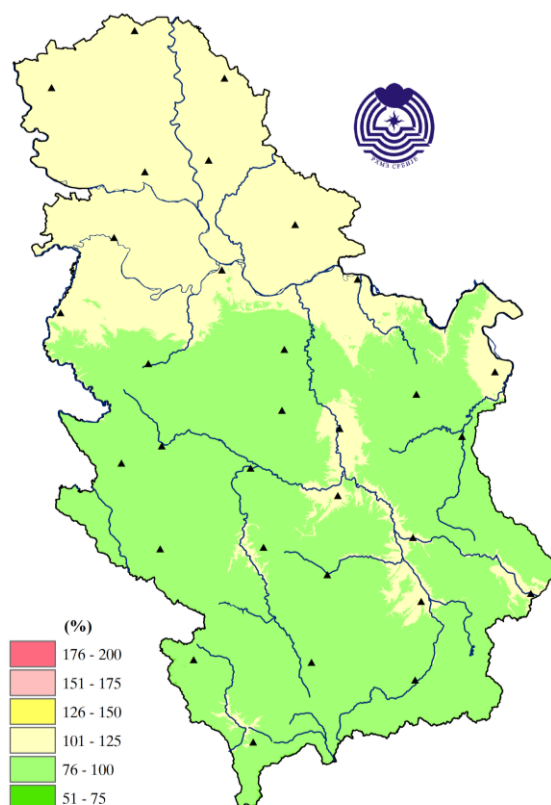


Figure 27. Insolation expressed in the percentages of normal

\* **Note:** Climate analysis of meteorological elements was done based on the preliminary data obtained from 28 main meteorological stations

## OVERVIEW OF THE SYNOPTIC SITUATION\*

*At the beginning of the month, brief cooling, incursion of cold air from the north and northeast, at places with heavy rain, snow on the mountains, followed by morning frost; most of April influence of low pressure field emanating from the Mediterranean, Adriatic Sea and above the Balkans, and mostly warm air mass, changeable and unsettled weather, with rain and brief showers, in the second part of the month at places with showers and severe weather events.*

At the beginning of the month, a low pressure from the central Mediterranean and accompanying waves of moist air moved eastward and northeastward, toward Turkey and Asia Minor, maintaining unsettled weather over our region, with occasional rain and brief showers, more frequent in central, southern, and eastern areas. An anticyclone and a ridge were recorded over northern Europe. Period in the middle of the first decade was marked by a cold air incursion from the north and northeast, along with the influence of a cold atmospheric front, causing occasional rain and showers during the front's passage; snow on the mountains and, in some southern and lower areas, as well. In a subsequent period, weather turned chilly causing morning frost in the ensuing days and the lowland.

At the end of the first and beginning of the second decade, the weather was dry and chilly, gradually becoming warmer with the strengthening of a ridge and the advection of warm and moist air from the central Mediterranean toward the Balkans. At the same time, low pressures developed and deepened over Western Europe, from the North Sea to the western Mediterranean and northern Africa. Initially, cloudiness within the ridge and the warm air mass were prevalent, followed by an increase in the pressure gradient and strong southerly surface circulation. Apart from the changeable, windy, and warm weather, local showers and thunderstorms were observed in mountainous areas, as well as in the southern and eastern parts of the country. The south and southeast wind occasionally reached storm-force gusts in Vojvodina, southern Banat, the lower Danube region, and mountainous areas. Afterwards, the pressure gradient weakened, the low pressure filled in, followed by a brief atmospheric stabilization with a thermal ridge and a weak gradient pressure and geopotential field resulting in predominantly dry and gradually warmer conditions.

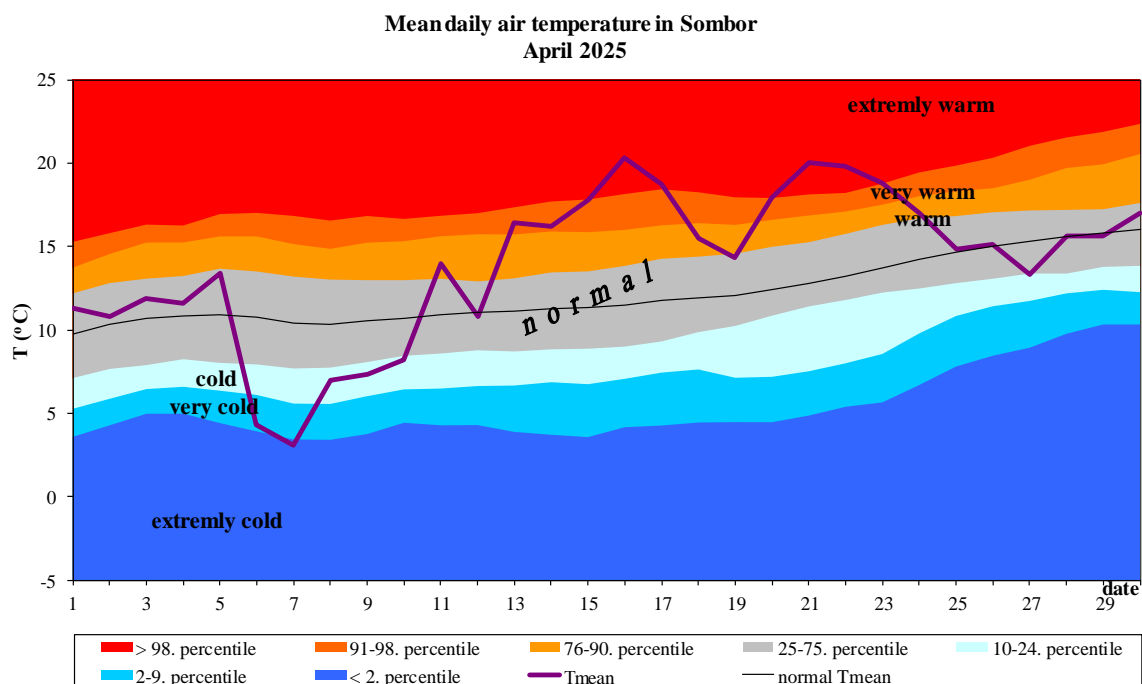
Period at the beginning of the third decade was marked by a strengthening of a low pressure in the Gulf of Genoa, and a warm but unstable air mass over the central Mediterranean, the Balkans, and Central Europe in the form of shallow wave disturbances and convergence lines, locally causing heavy showers, thunderstorms, and severe weather, especially in the eastern, southern, and central parts of the country. Then, in the middle of the period, shallow surface low pressure and disturbances from the north and northeast, along with a weakly developed cold front at the surface moved across the west, southwest, the Pannonian Plain, and the Balkan Peninsula, locally causing heavy rain and showers throughout the country, particularly in the west, southwest, and northeast, at places brief severe weather events were recorded.

Period at the end of the month was marked by an increase in pressure and geopotential, along with the advection of a somewhat warmer air mass over our region. The weather was mostly sunny and moderately warm with daytime cloud development and brief showers, largely in mountainous areas. A ridge and high pressure were present over Western and Central Europe.

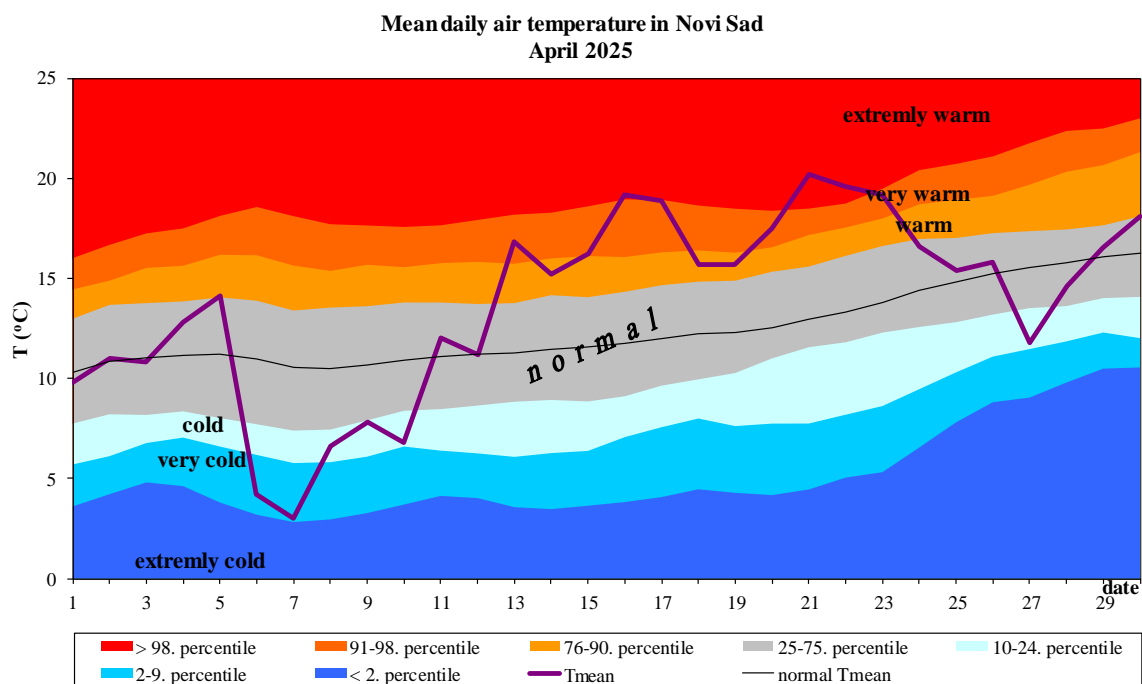
\* National Center for Hydrometeorological Early Warning System

# APPENDIX

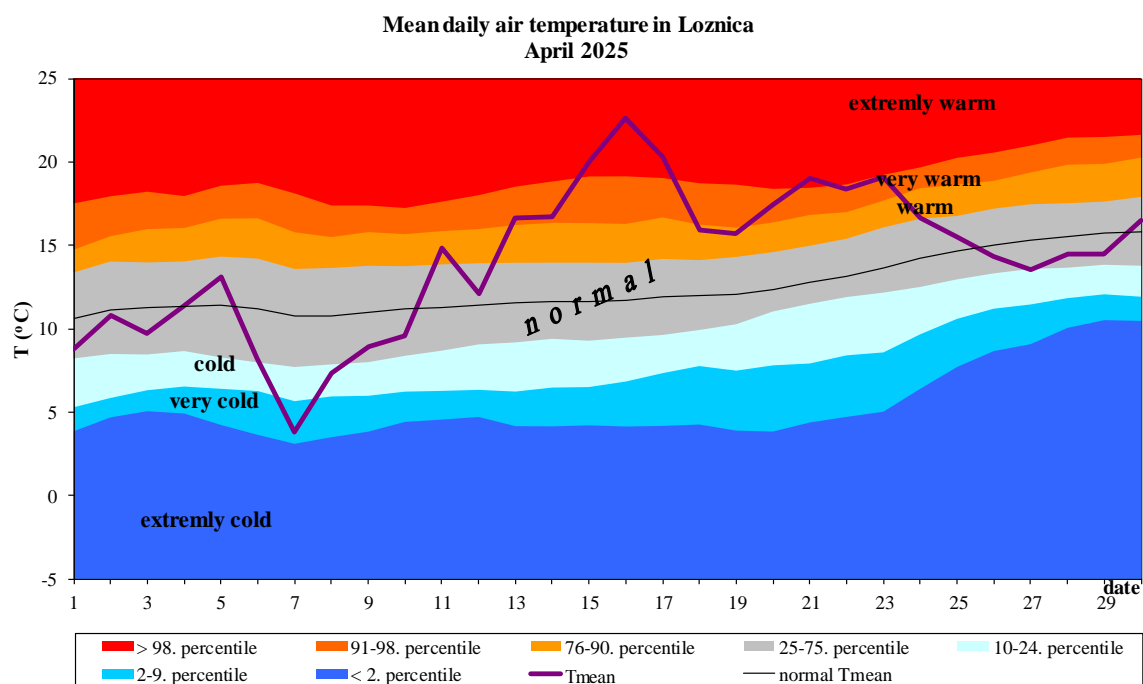
## Mean air temperature



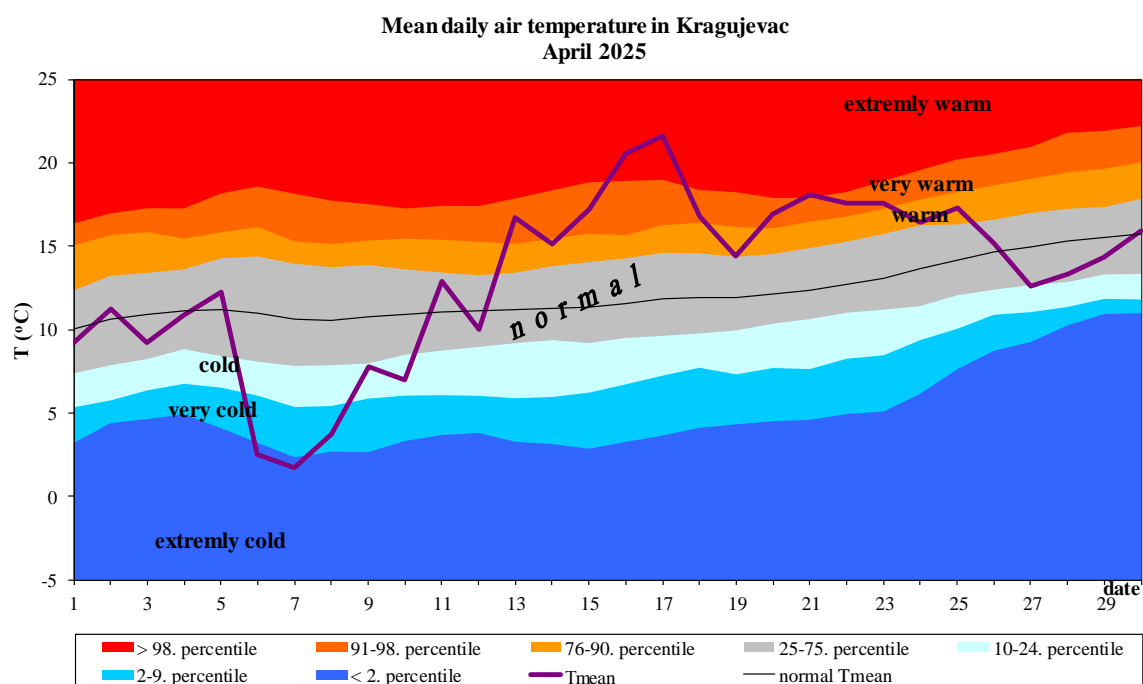
Appendix 1. Daily course of the mean daily air temperature and accompanying percentile for Sombor



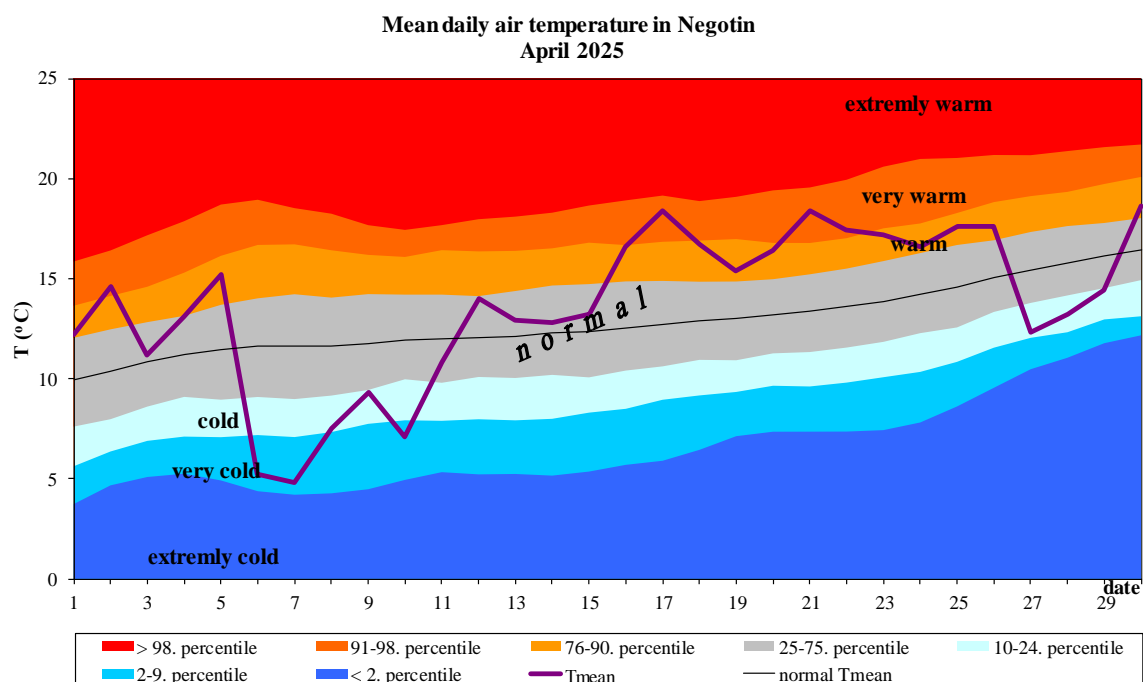
Appendix 2. Daily course of the mean daily air temperature and accompanying percentile for Novi Sad



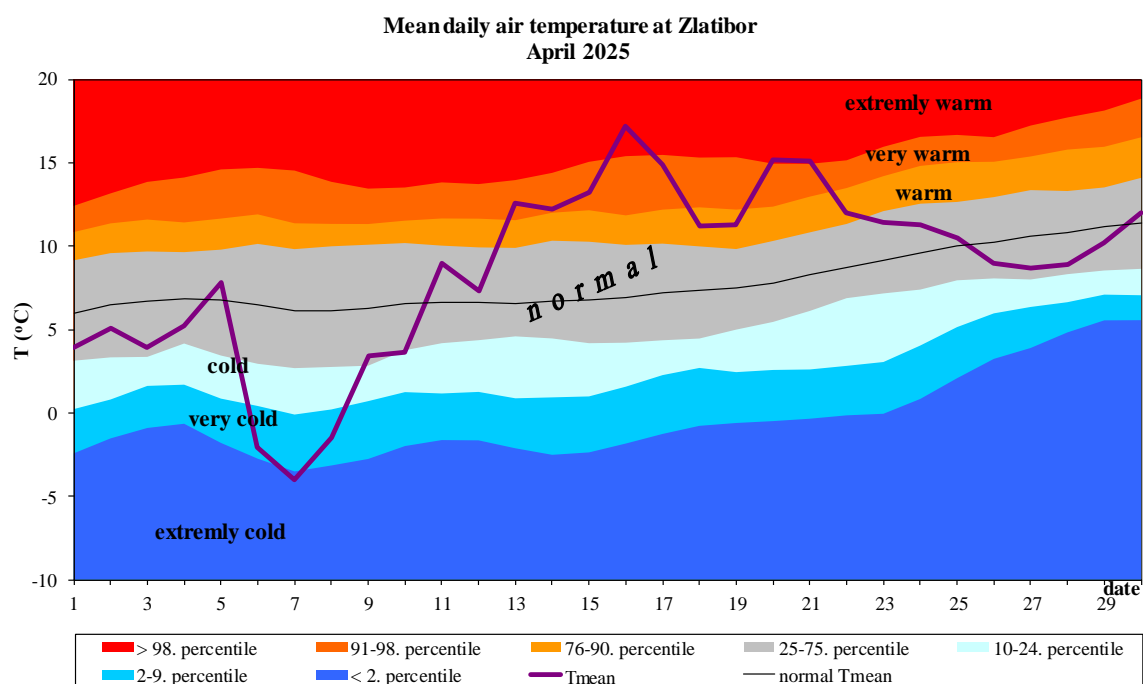
Appendix 3. Daily course of the mean daily air temperature and accompanying percentile for Loznica



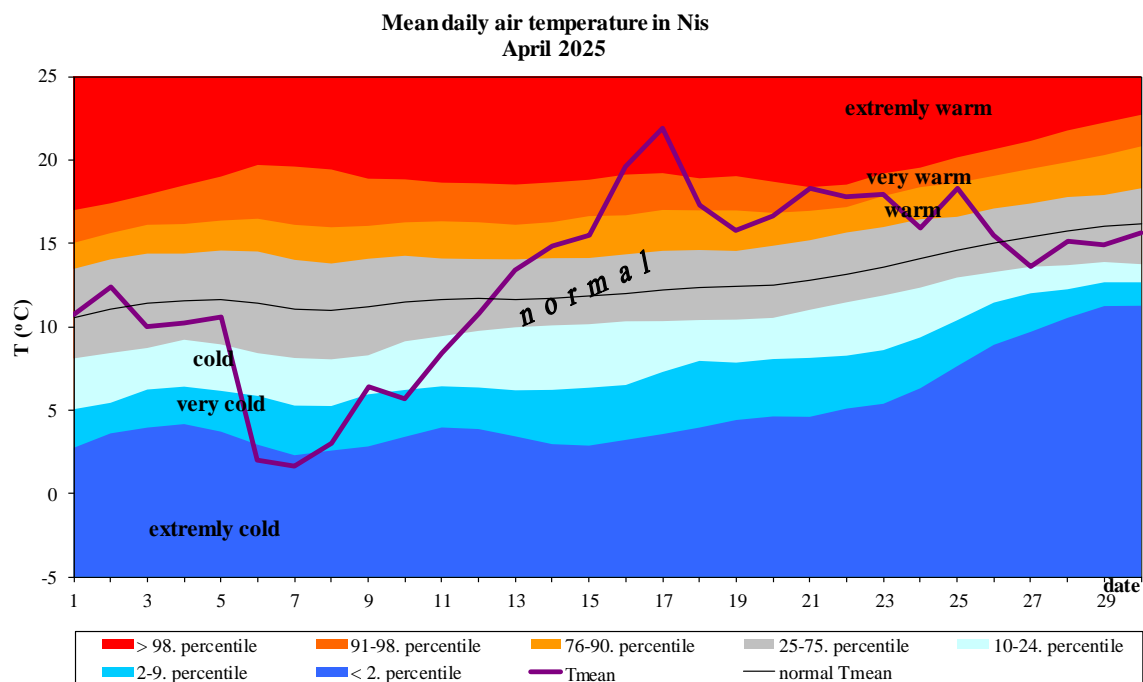
Appendix 4. Daily course of the mean daily air temperature and accompanying percentile for Kragujevac



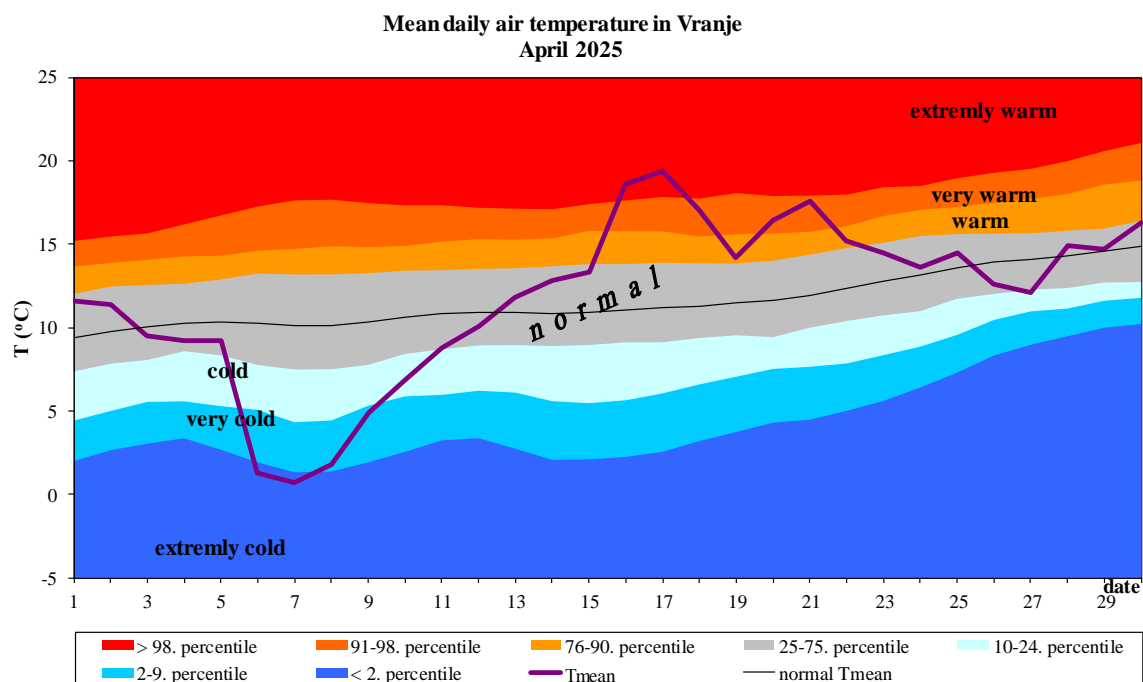
Appendix 5. Daily course of the mean daily air temperature and accompanying percentile for Negotin



Appendix 6. Daily course of the mean daily air temperature and accompanying percentile on Zlatiboru



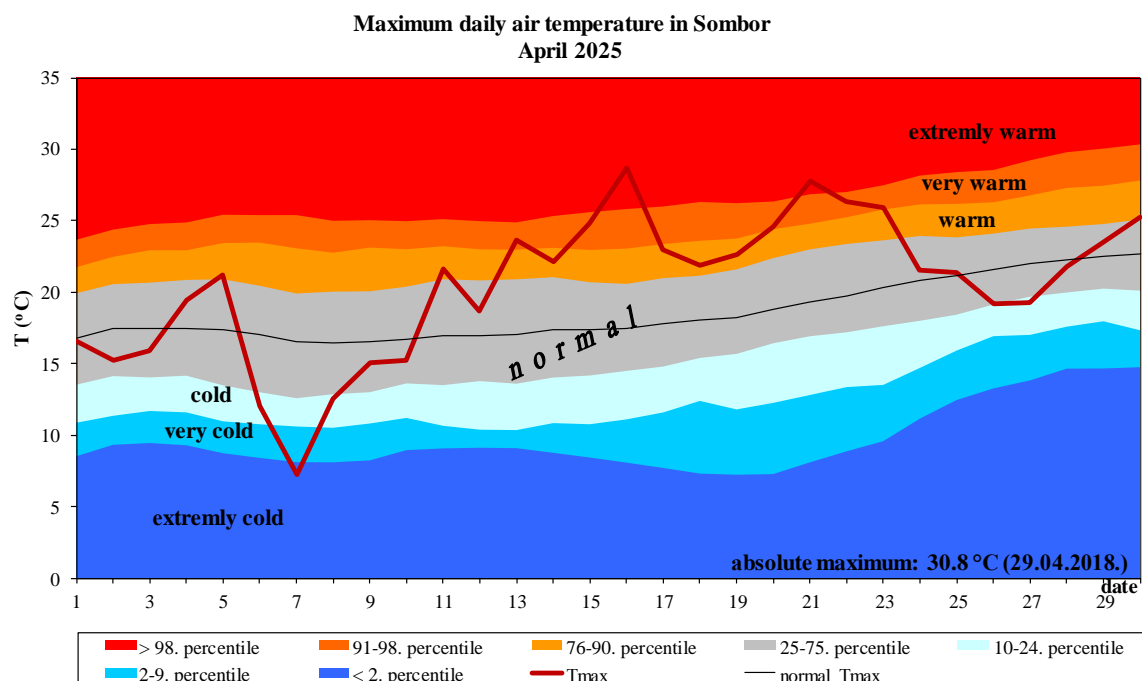
Appendix 7. Daily course of the mean daily air temperature and accompanying percentile for Nis



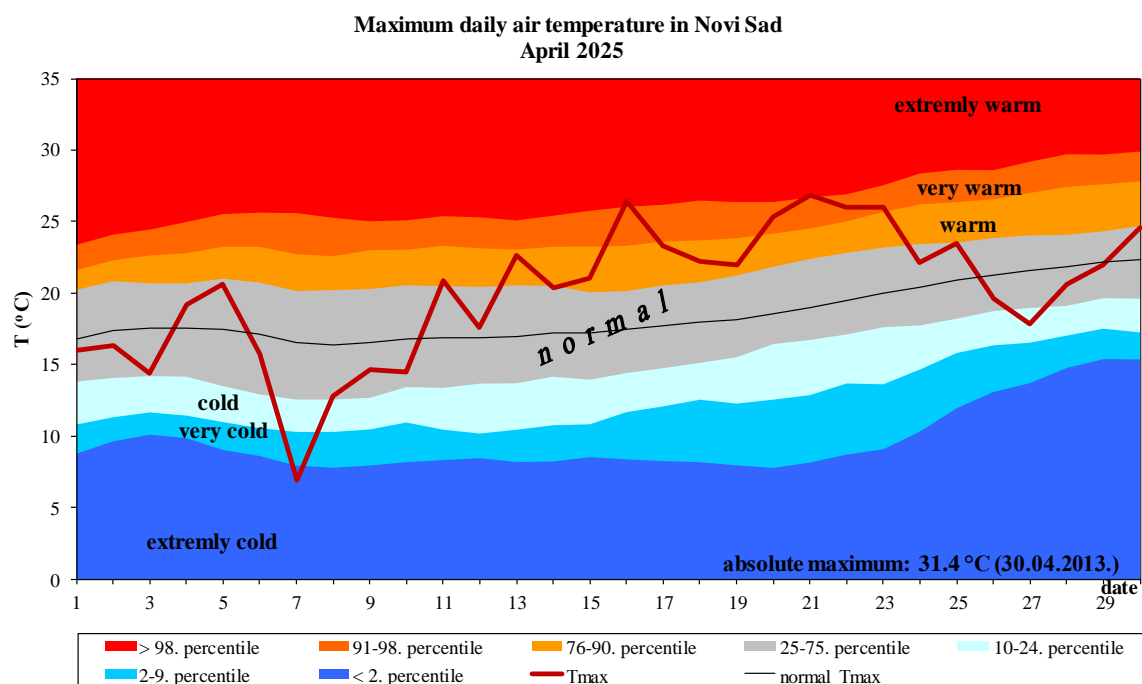
Appendix 8. Daily course of the mean daily air temperature and accompanying percentile for Vranje



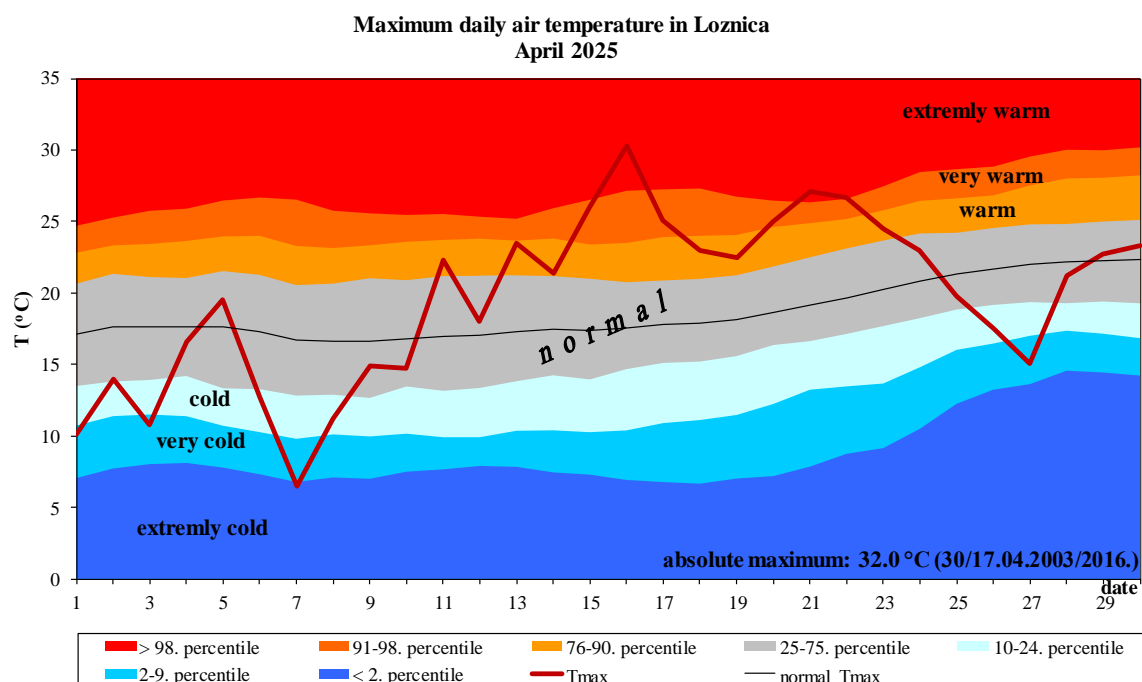
## Maximum air temperature



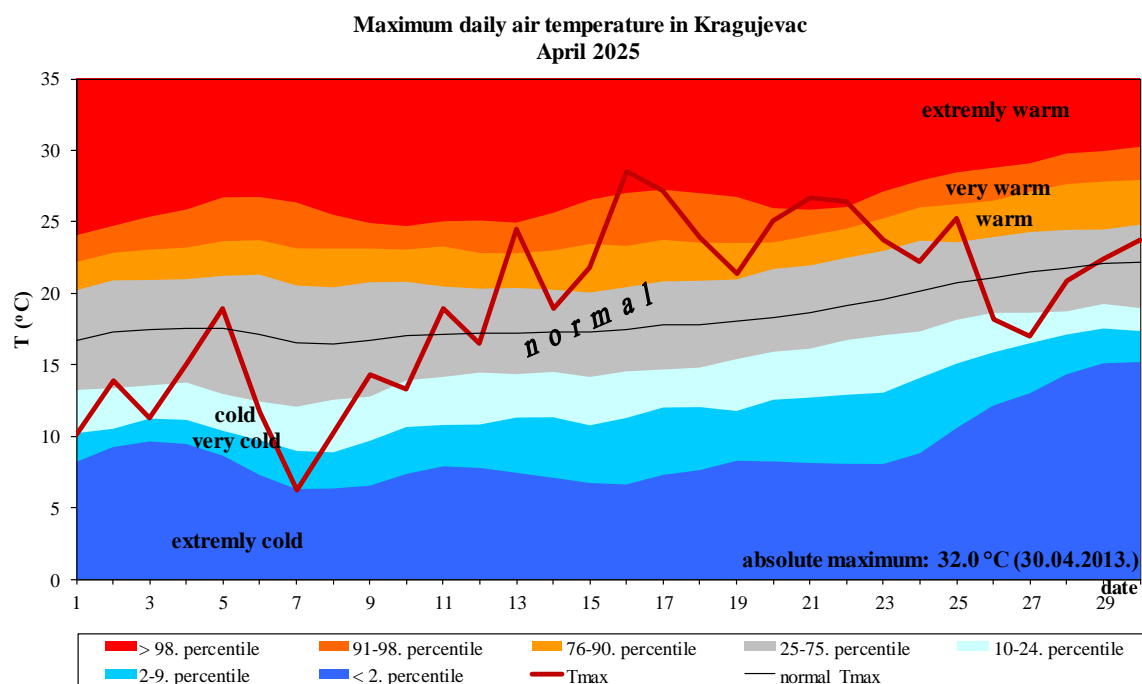
Appendix 9. Daily course of the maximum daily air temperature and the accompanying percentile for Sombor



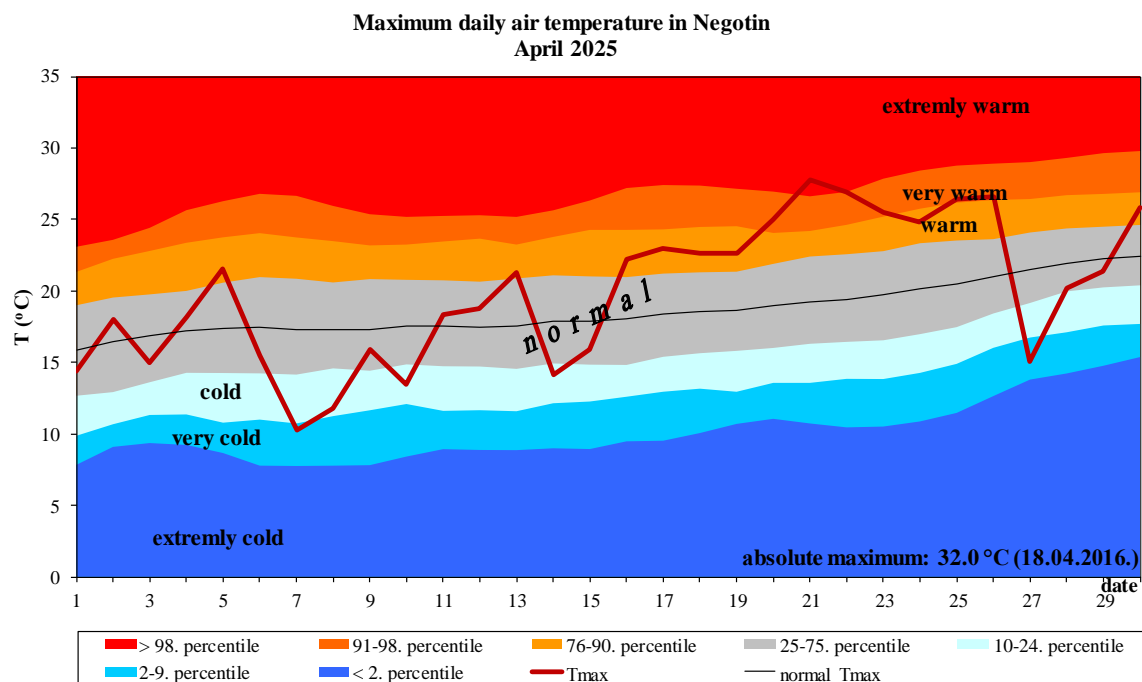
Appendix 10. Daily course of the maximum daily air temperature and the accompanying percentile for Novi Sad



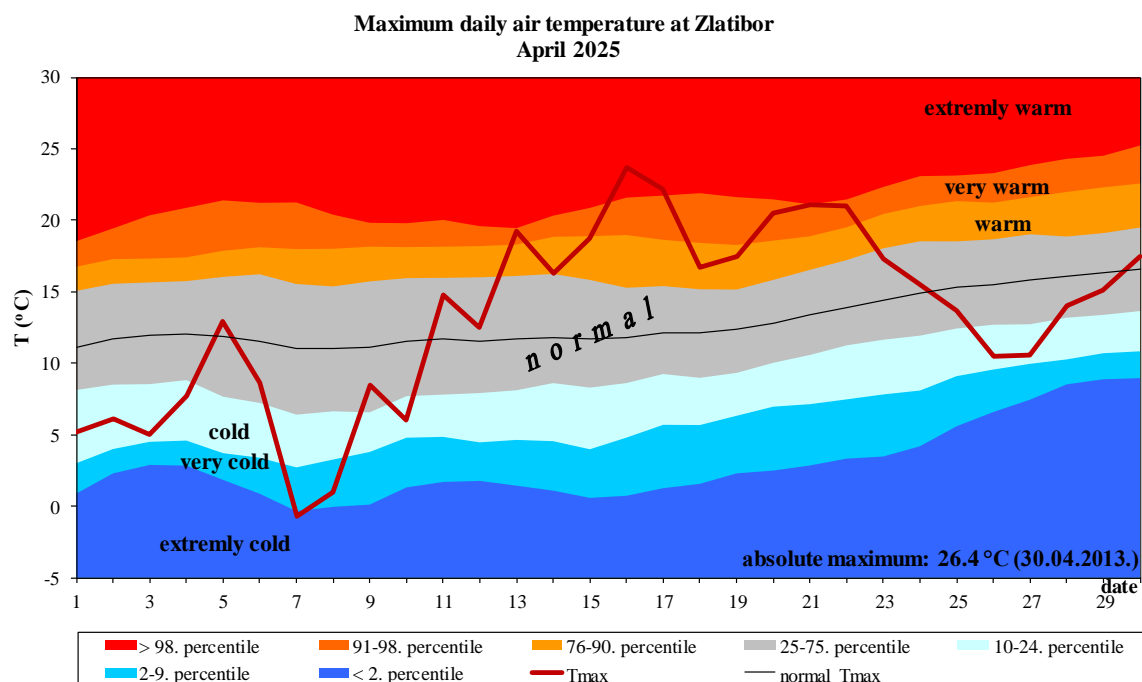
Appendix 11. Daily course of the maximum daily air temperature and the accompanying percentile for Loznica



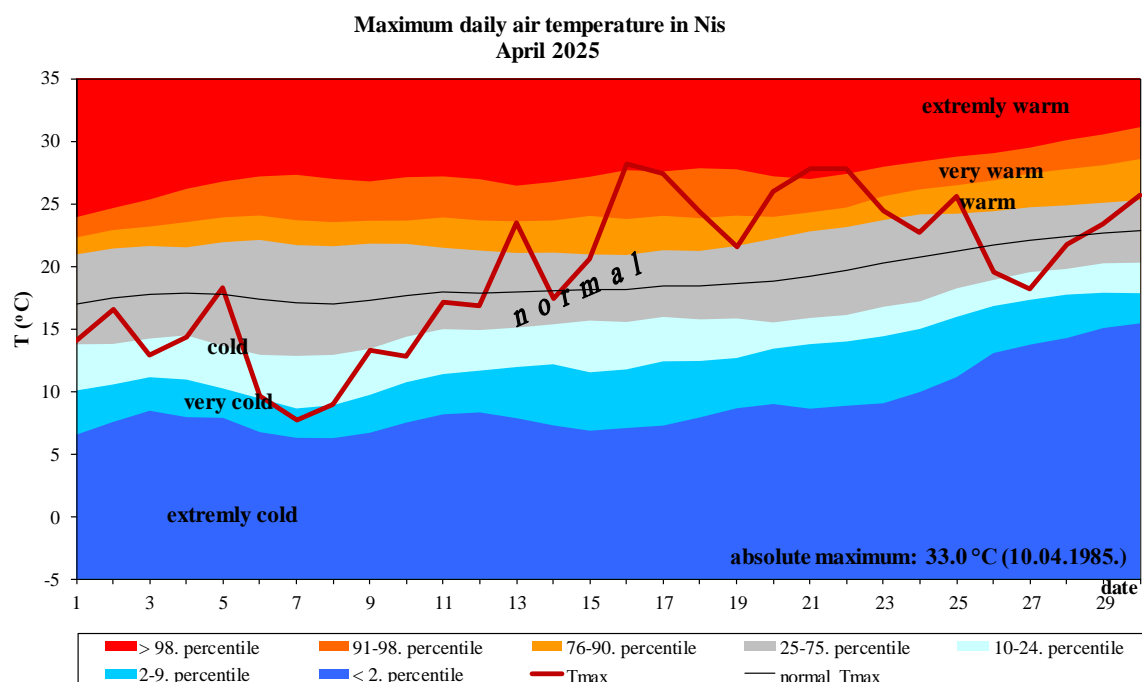
Appendix 12. Daily course of the maximum daily air temperature and the accompanying percentile for Kragujevac



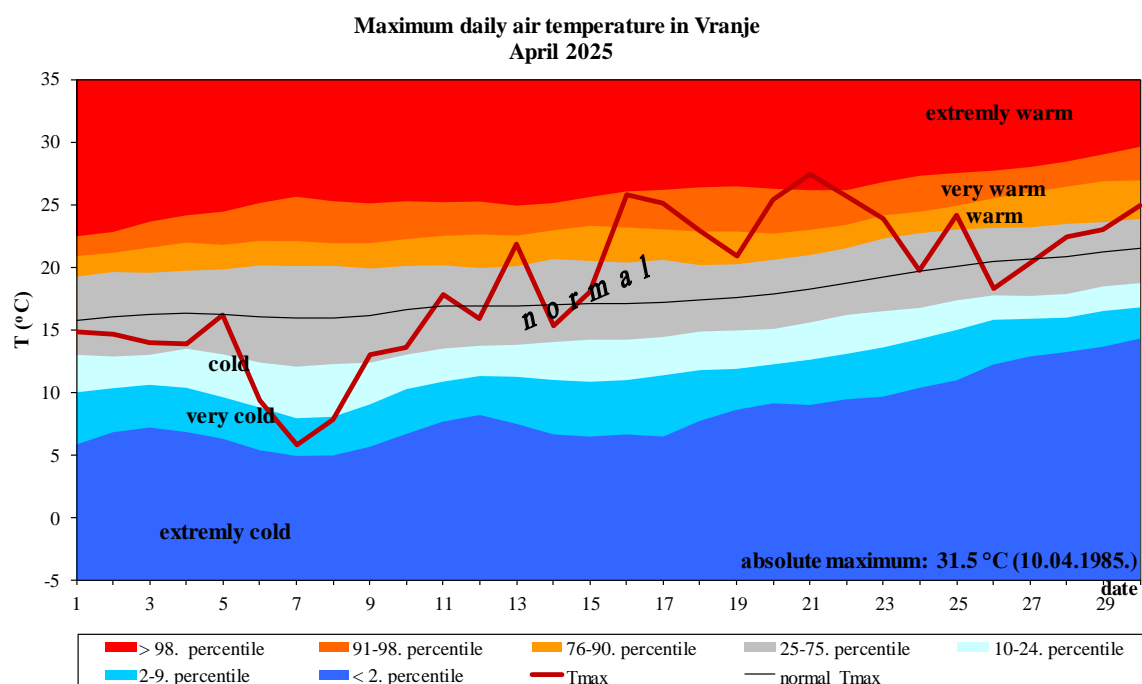
Appendix 13. Daily course of the maximum daily air temperature and the accompanying percentile for Negotin



Appendix 14. Daily course of the maximum daily air temperature and the accompanying percentile on Zlatibor

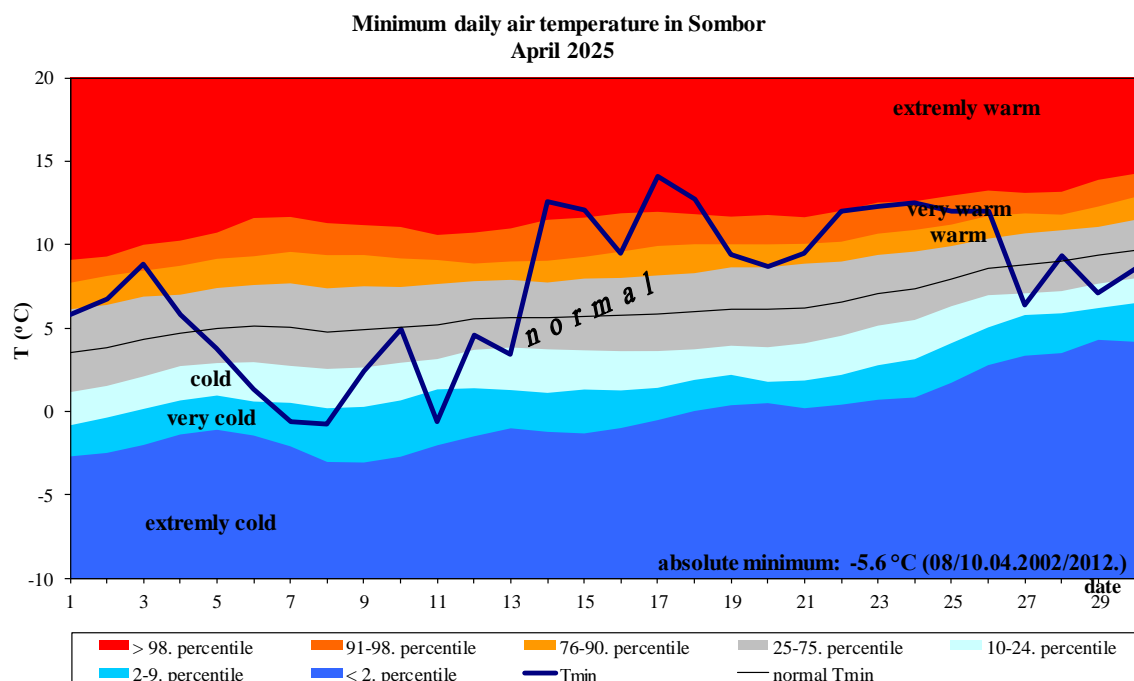


Appendix 15. Daily course of the maximum daily air temperature and the accompanying percentile for Nis

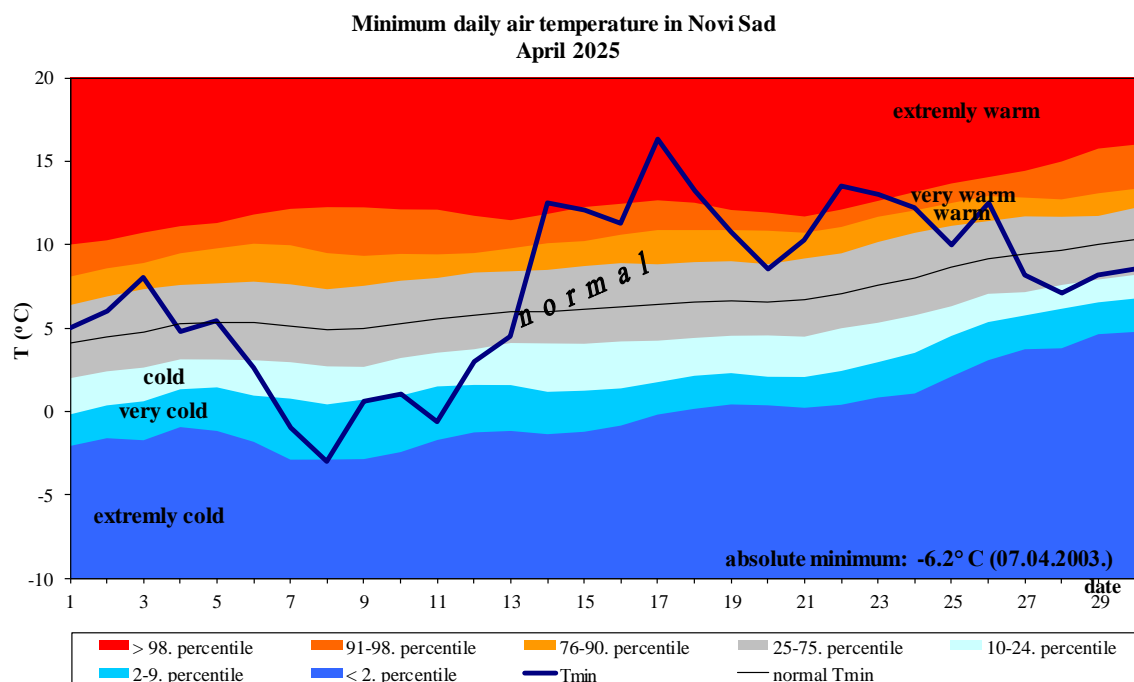


Appendix 16. Daily course of the maximum daily air temperature and the accompanying percentile for Vranje

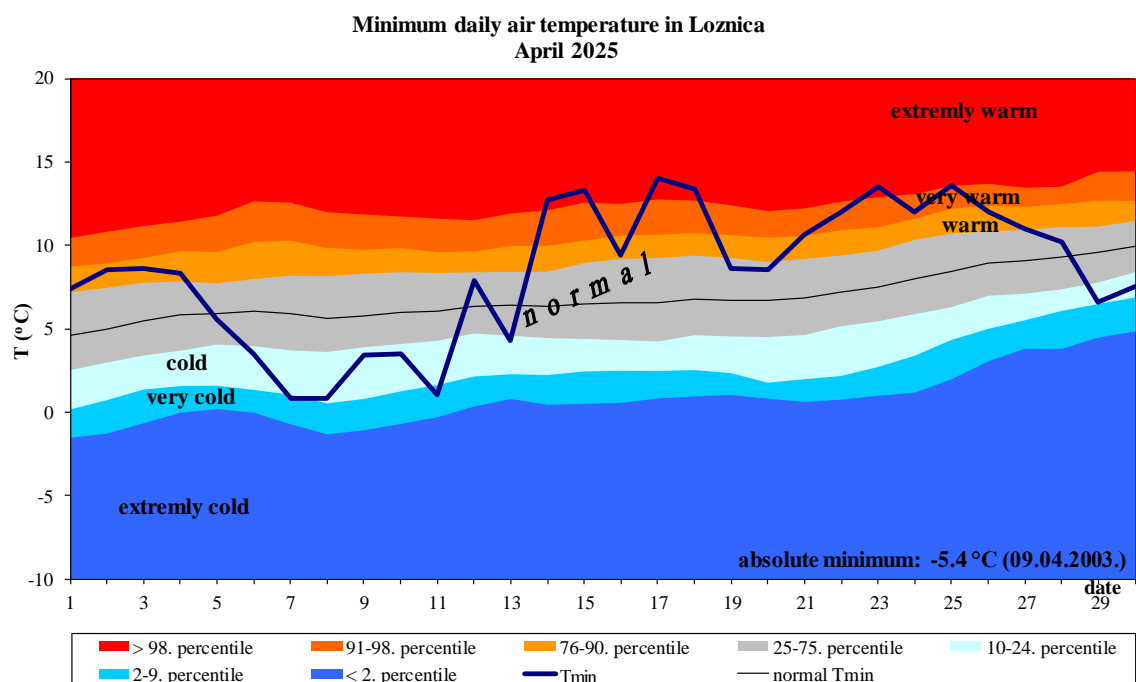
## Minimum air temperature



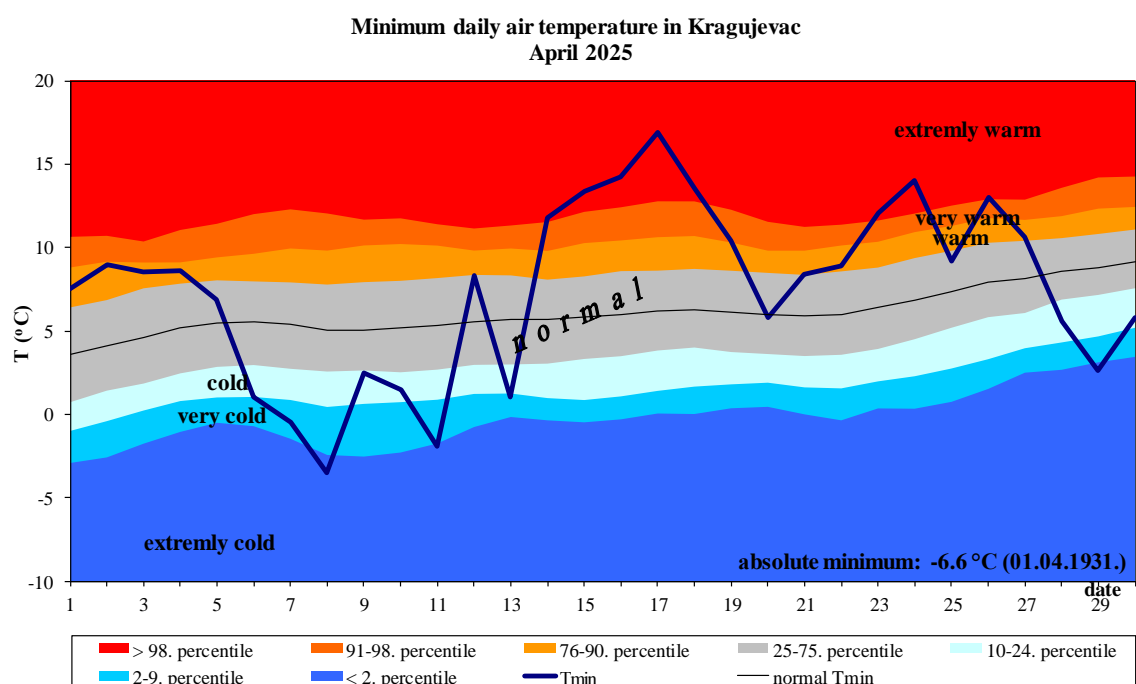
Appendix 17. Daily course of the minimum daily air temperature and the accompanying percentile for Sombor



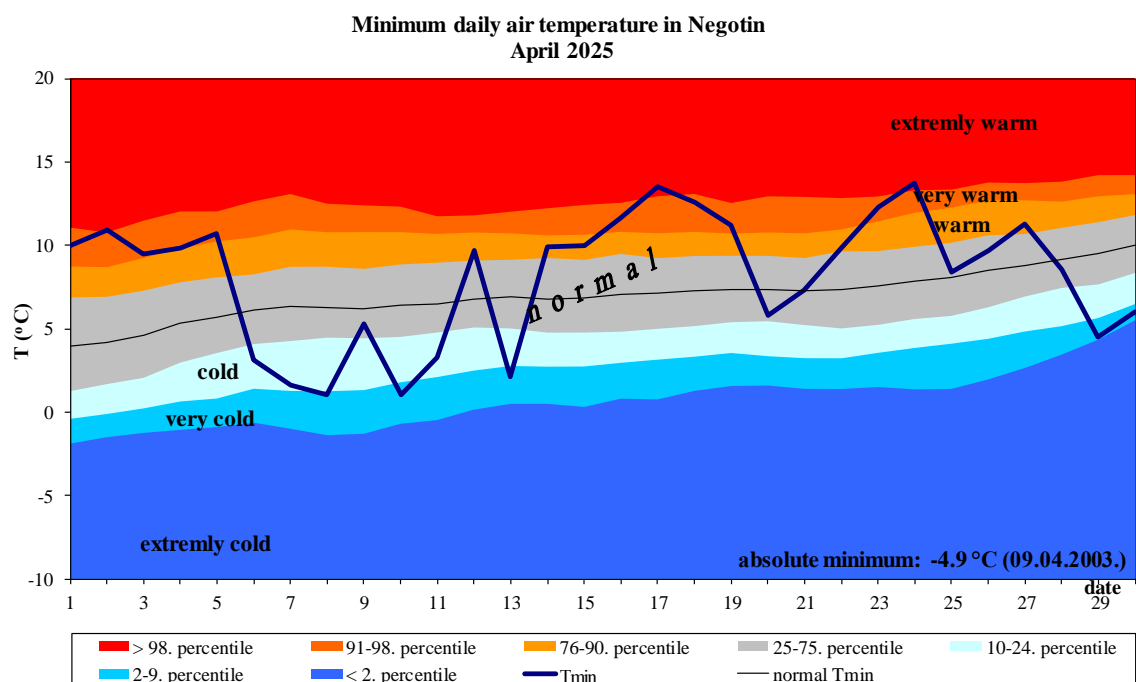
Appendix 18. Daily course of the minimum daily air temperature and the accompanying percentile for Novi Sad



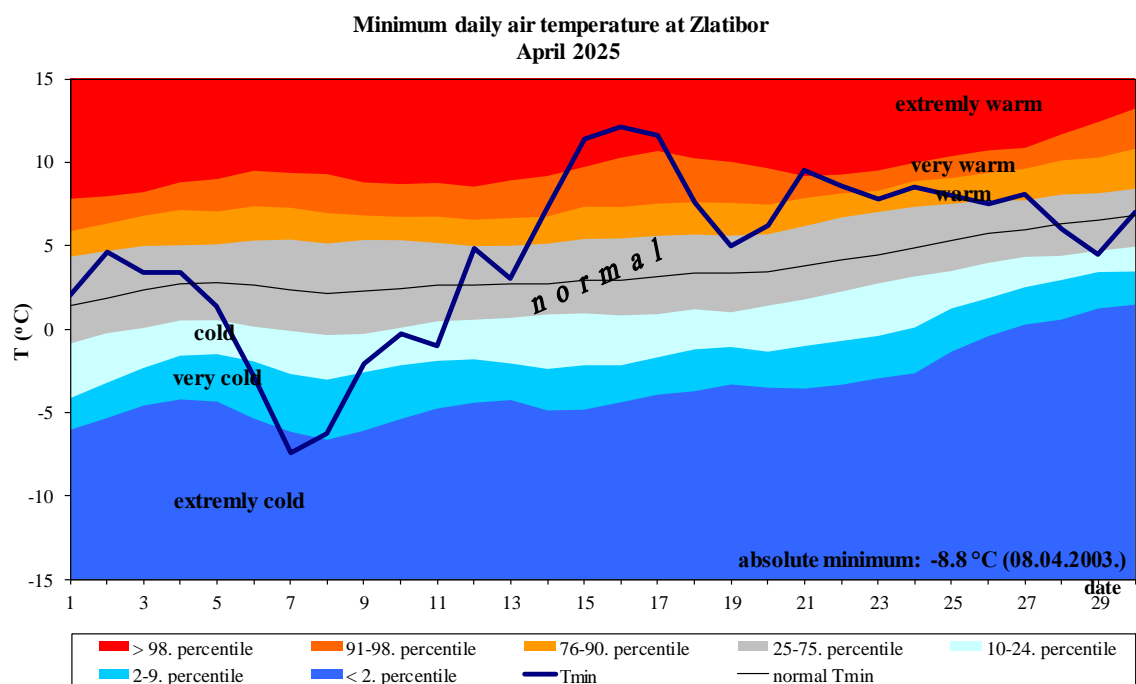
Appendix 19. Daily course of the minimum daily air temperature and the accompanying percentile for Loznica



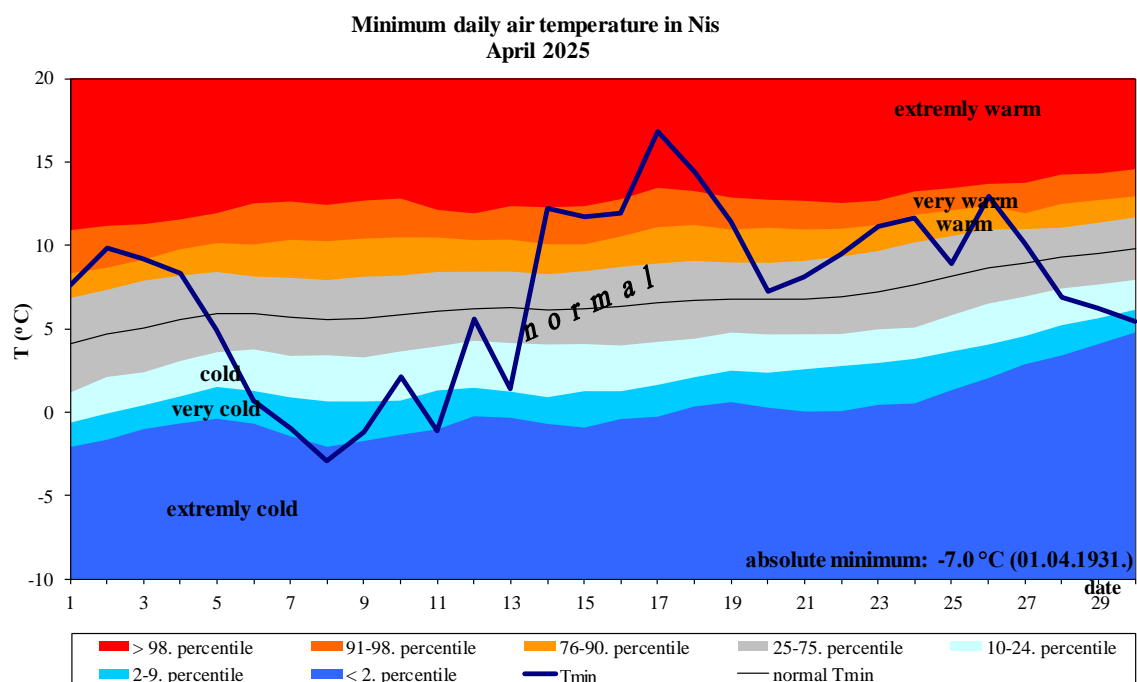
Appendix 20. Daily course of the minimum daily air temperature and the accompanying percentile for Kragujevac



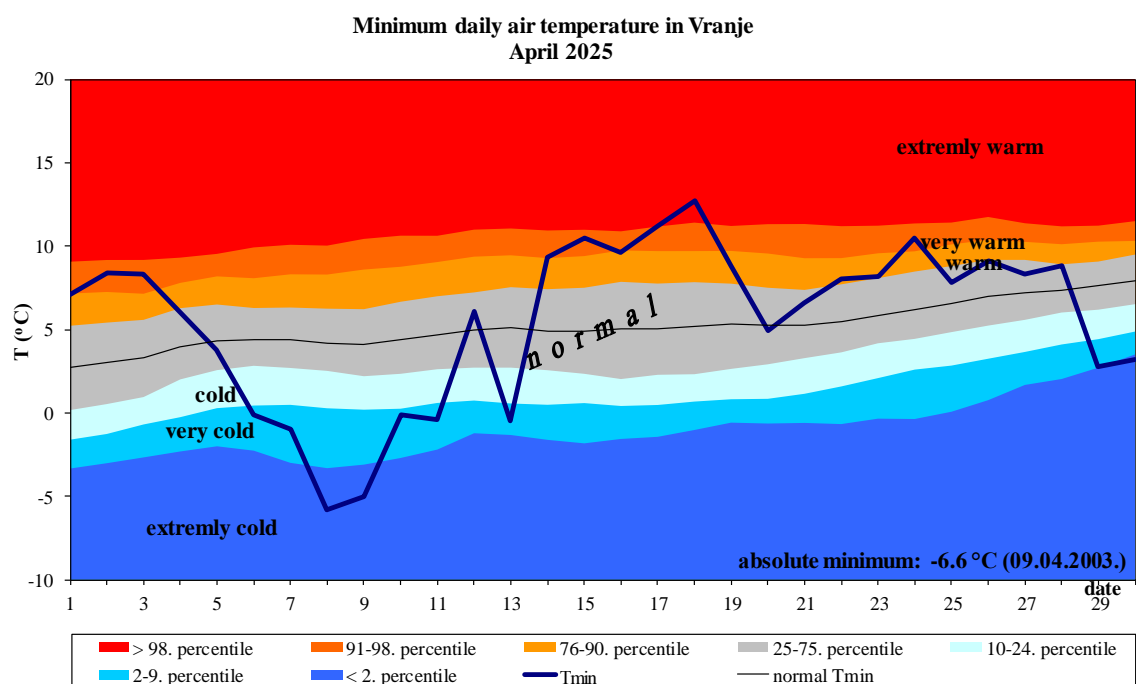
Appendix 21. Daily course of the minimum daily air temperature and the accompanying percentile for Negotin



Appendix 22. Daily course of the minimum daily air temperature and the accompanying percentile on Zlatibor



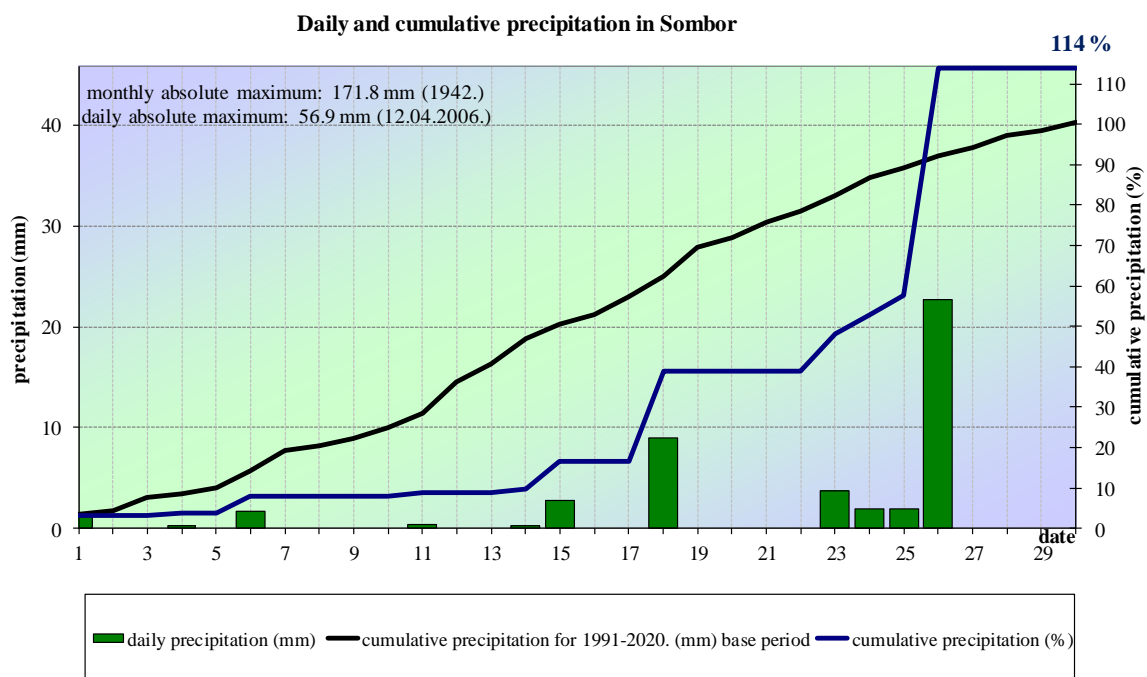
Appendix 23. Daily course of the minimum daily air temperature and the accompanying percentile for Nis



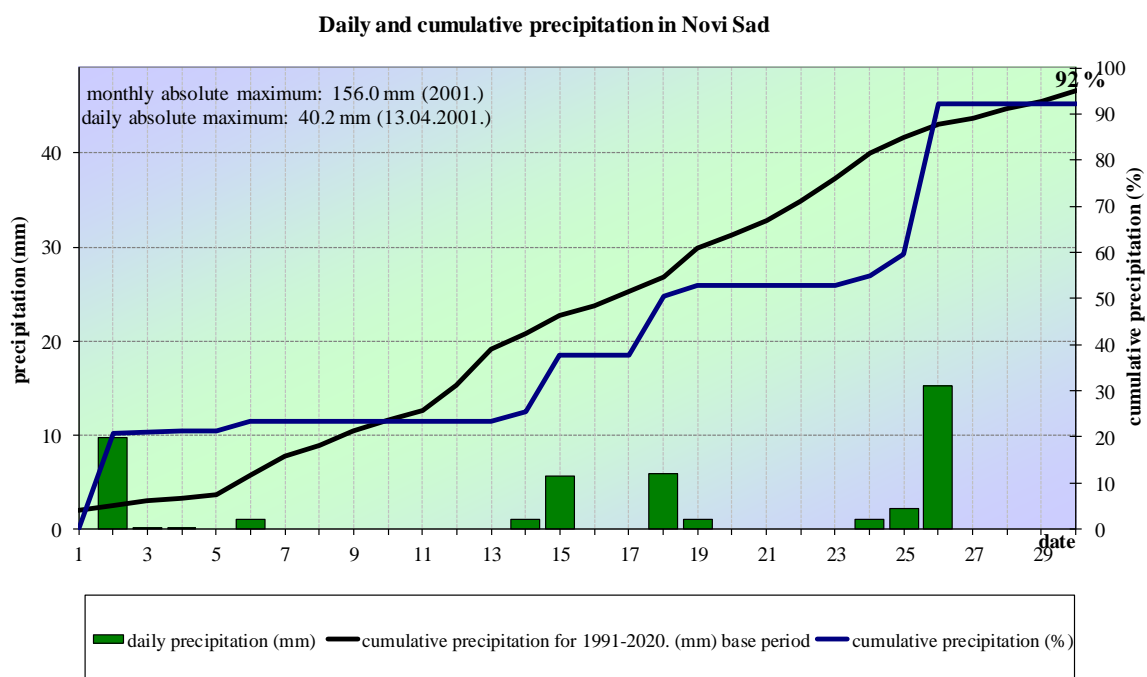
Appendix 24. Daily course of the minimum daily air temperature and the accompanying percentile for Vranje



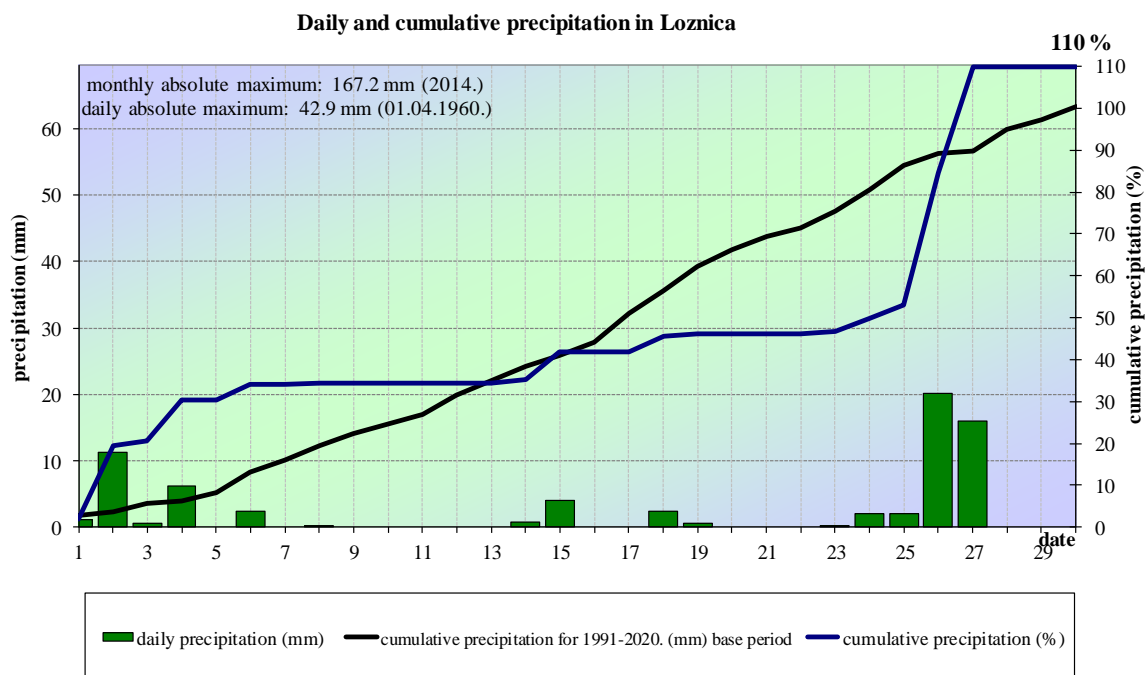
# Precipitation



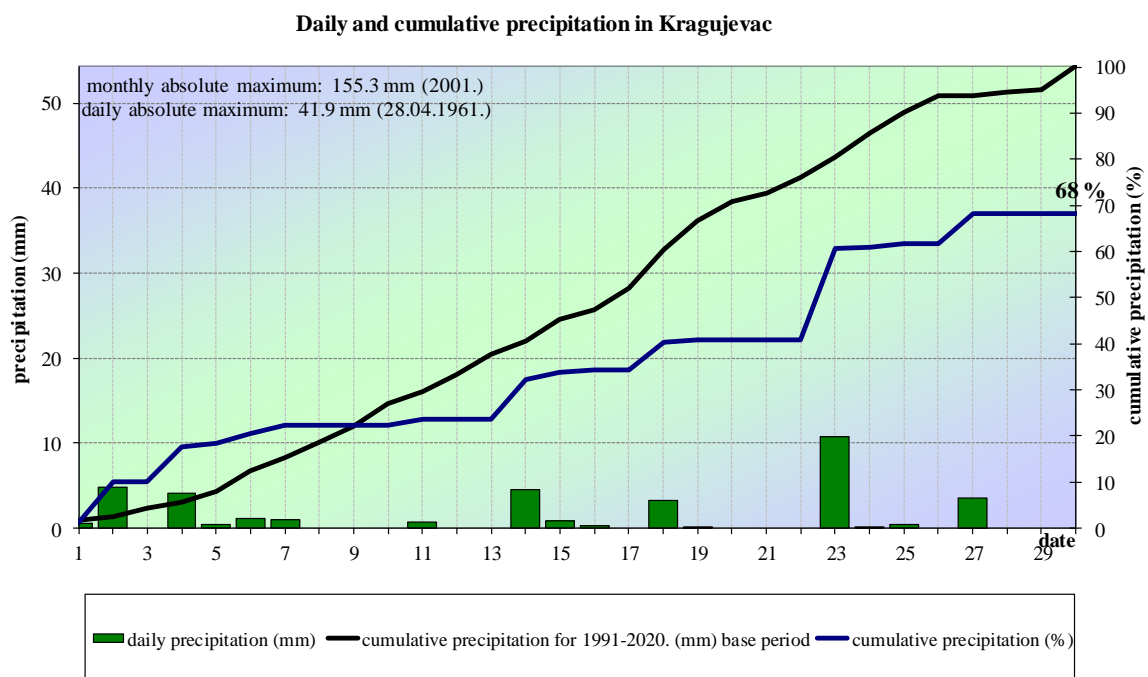
Appendix 25. Daily and cumulative precipitation sums for Sombor



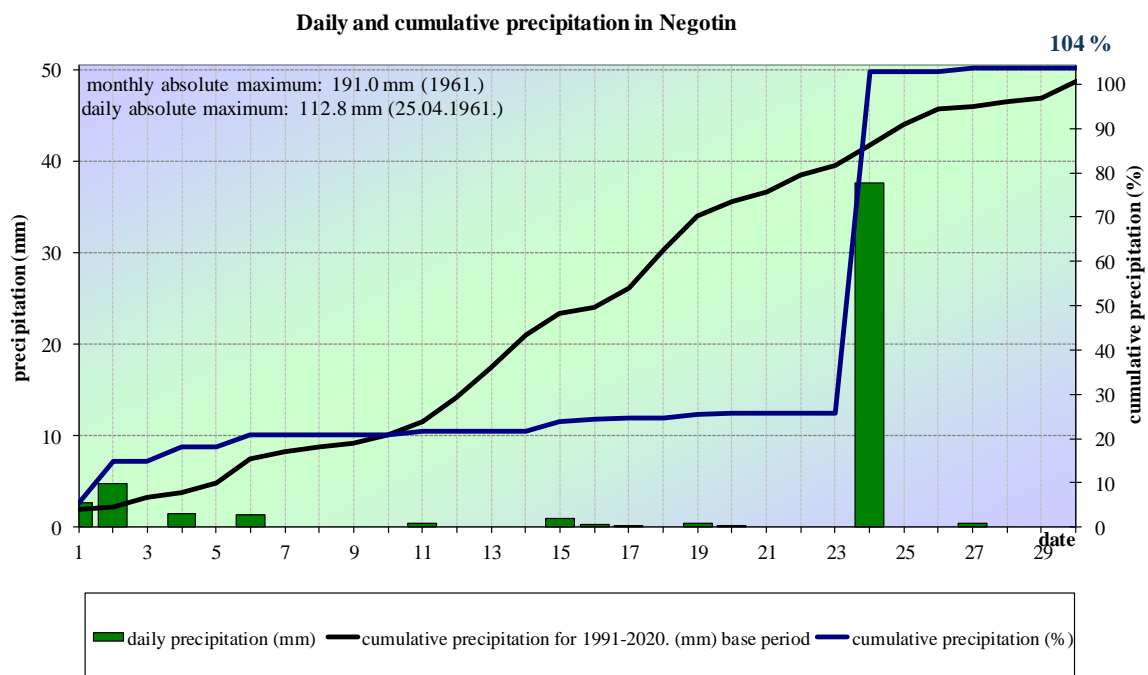
Appendix 26. Daily and cumulative precipitation sums for Novi Sad



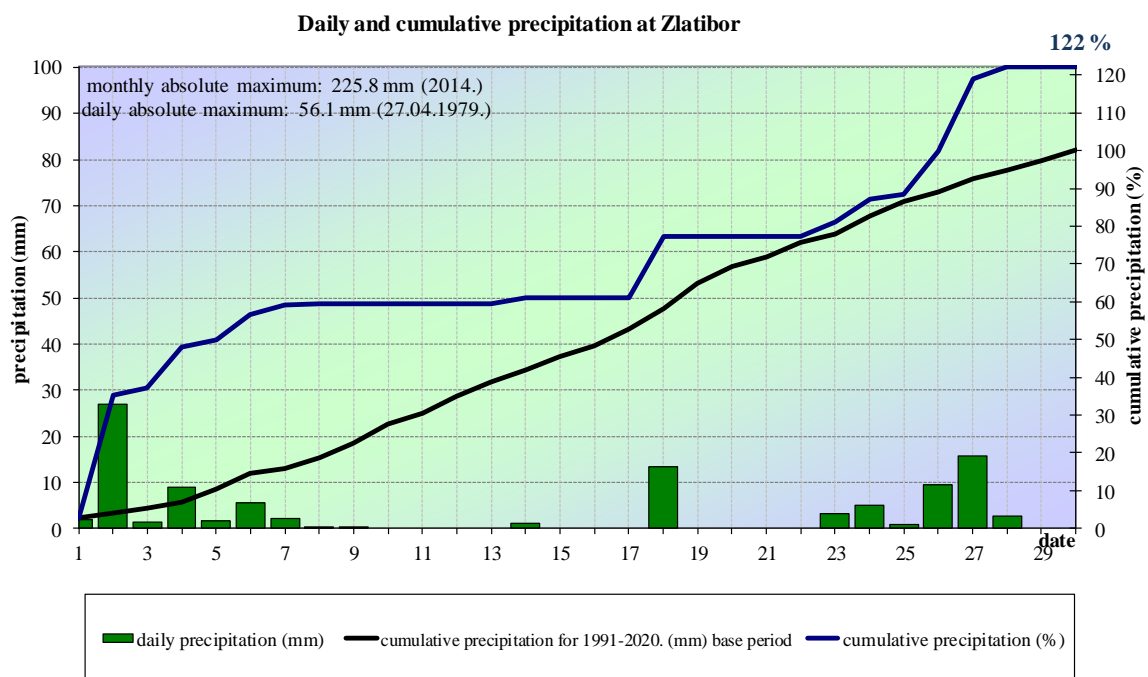
Appendix 27. Daily and cumulative precipitation sums for Loznica



Appendix 28. Daily and cumulative precipitation sums for Kragujevac

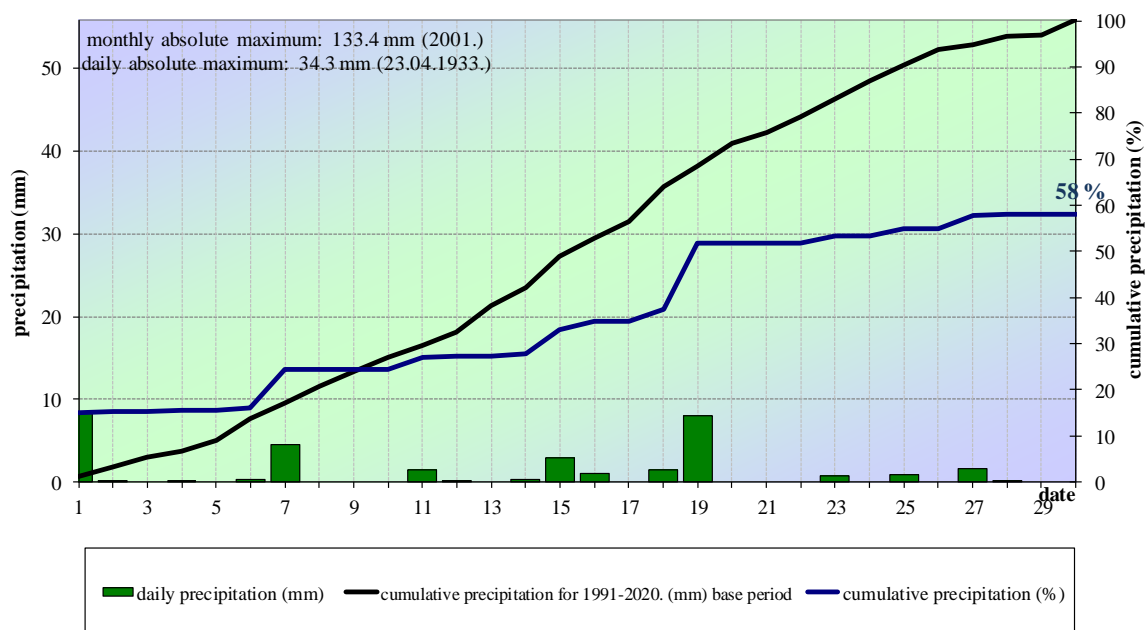


Appendix 29. Daily and cumulative precipitation sums for Negotin



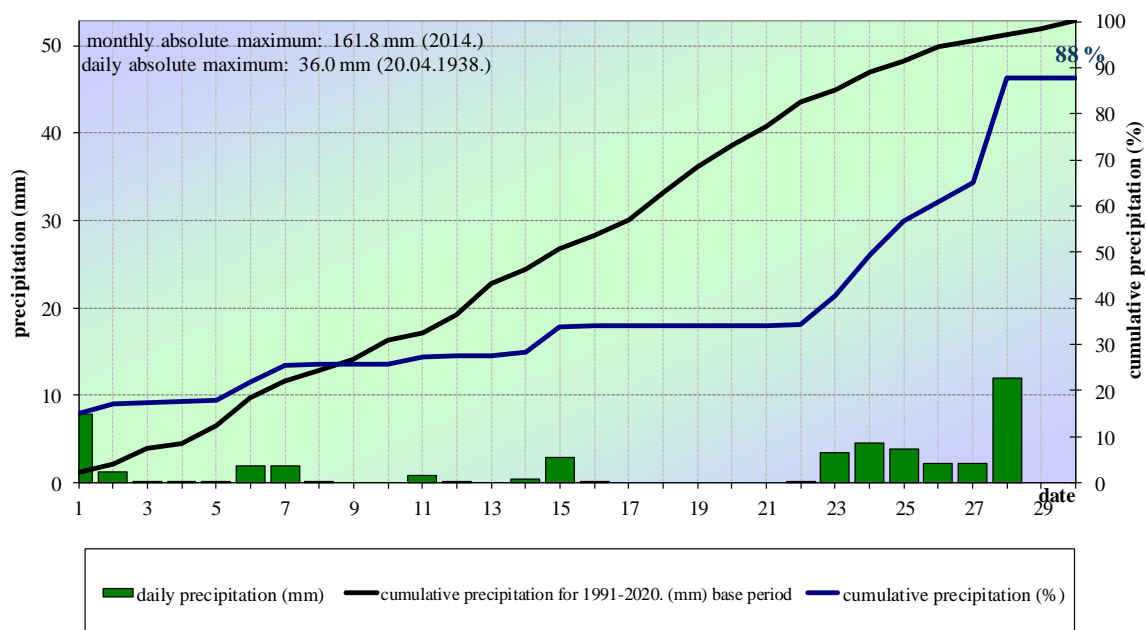
Appendix 30. Daily and cumulative precipitation sums on Zlatibor

Daily and cumulative precipitation in Nis



Appendix 31. Daily and cumulative precipitation sums for Nis

Daily and cumulative precipitation in Vranje



Appendix 32. Daily and cumulative precipitation sums for Vranje