

VERIFICATION OF THE SEECOF -31 SUMMER 2024 CLIMATE OUTLOOK FOR REPUBLIC OF NORTH MACEDONIA COMPARED TO THE 1981-2010 BASE PERIOD

Hydrometeorological Service of Republic of North Macedonia prepares regular seasonal climate analysis, based on the products of SEECOF seasonal forecasts and the forecast products from the SEVCCC. The present analysis is for the summer season 2024 (June, July and August), and it is based on the averages of the climatological period 1981-2010.

➤ **SUMMER 2024**

The mean seasonal air temperature during summer 2024 ranged between 18.0°C in Lazaropole to 28.2°C in Gevgelija. Spatial distribution of the mean seasonal air temperature is shown on Figure 1. The mean air temperatures anomaly was from 2.0°C in Lazaropole to 3.8°C in Strumica. The anomaly is positive for the whole territory (Figure 2).

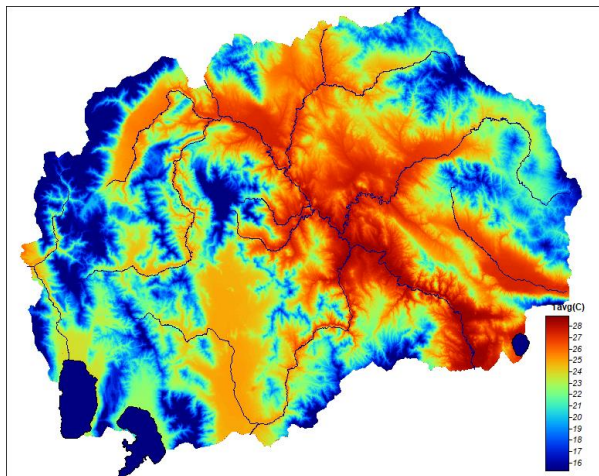


Figure 1: Spatial distribution of the mean seasonal air temperature (°C) during summer 2024



Figure 2: Spatial distribution of the mean seasonal air temperature anomaly (°C) during summer 2024

The mean maximum seasonal air temperature anomaly was from 3.6°C in Prilep and Ohrid to 4.9°C in Strumica and Demir Kapija. The mean minimum seasonal air temperature anomaly was from 1.0°C in Lazaropole to 2.8°C in Skopje and Mavrovo. The highest daily air temperature during summer 2024 was measured 42.9°C observed on 18th of July in Demir Kapija. The lowest air temperature during summer 2024 was 5.5°C observed on 6th of June in Lazaropole.

According to percentile calculation method, the summer season 2024 was classified as extremely warm for the whole country (Table1).

Hydrometeorological Service of Republic of North Macedonia

Meteorology Department

Climatological analysis for summer 2024

Rainfall totals were variable for this summer season. There were a lot of spatially isolated events with stormy weather, intensive precipitation, thunderstorms, heavy winds...The wettest day was 27th of June with 66.4mm measured in Kriva Palanka.

According to percentile calculation method, this summer precipitation regime was classified as extremely dry to normal (Table1).

Meteorological station	Temperature	Precipitation
Berovo	extremely warm	very dry
Kriva Palanka	extremely warm	normal
Stip	extremely warm	normal
Strumica	extremely warm	extremely dry
Demir Kapija	extremely warm	normal
Gevgelija	extremely warm	normal
Skopje	extremely warm	normal
Prilep	extremely warm	dry
Bitola	extremely warm	very dry
Ohrid	extremely warm	dry
Lazaropole	extremely warm	extremely dry
Mavrovo	extremely warm	very dry

Table 1: Air temperature and precipitation classification in Republic of North Macedonia for summer 2024 using percentile method compared to 1981-2010 base period

The values of distribution of tercile for the air temperature and the precipitation sums are shown in table 2 and 3, respectively.

Air Temperature (°C)	summer 2024	1981-2010	
		33	67
Berovo	21.2	17.8	18.6
Kriva Palanka	22.3	19.3	20.0
Stip	27.1	23.0	24.0
Strumica	27.2	23.0	23.8
Demir Kapija	28.0	24.1	24.9
Gevgelija	28.2	25.0	26.0
Skopje	26.7	23.0	23.8
Prilep	24.7	21.3	22.1
Bitola	25.0	21.4	22.0
Ohrid	23.4	20.4	21.0
Lazaropole	18.0	15.7	16.2
Mavrovo	19.3	15.9	16.7

Table 2: Values of distribution of tercile for air temperature for period 1981-2010

Precipitation sums (mm)	summer 2024	1981-2010	
		33	67
Berovo	73.8	138.8	176.9
Kriva Palanka	174.9	132.4	207.3
Stip	72.7	87.6	131.9
Strumica	36.7	85.1	132.6
Demir Kapija	78.6	75.0	98.0
Gevgelija	72.1	61.9	136.0
Skopje	105.7	86.8	136.7
Prilep	53.8	75.3	135.8
Bitola	49.4	77.6	126.4
Ohrid	47.7	65.6	112.6
Lazaropole	65.2	118.5	190.4
Mavrovo	82.5	103.2	168.4

Table 3: Values of distribution of tercile for precipitation for period 1981-2010

The SEECOF-31 forecast product for the mean temperatures for summer season puts Republic of North Macedonia in a zone 1, which is likely to experience above

Hydrometeorological Service of Republic of North Macedonia

Meteorology Department

Climatological analysis for summer 2024

average summer temperatures (10; 20; 70). Forecast for the precipitation for JJA 2024 categorized our country in zone 1 below-normal conditions in (50; 30; 20).

A general judgment for the models evaluation for summer season is that the model was **efficient** concerning the temperature and precipitation.

Find also below a table presenting the general anomalies of SEECOF products and extreme events of the recorded summer weather.

Country	Seasonal temperature (JJA)		Seasonal precipitation (JJA)		High Impact Events (JJA)
	Observed	SEEVCCC climate outlook for temperature	Observed	SEEVCCC climate outlook for precipitation	
REPUBLIC OF NORTH MACEDONIA	Above average	Above average (10, 20, 70)	Extremely dry to normal	Below-normal (50, 30, 20)	- Highest number of summer days (Tmax>25.0C) June - Highest value of daily Tmin 23.6°C on 23 rd in Skopje - Highest value of daily Tavg 31.4°C on 21 st in Strumica