

VERIFICATION OF THE SEECOF -30 WINTER 2023/2024

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 from the SEEVCCC. The present analysis was for the winter 2023/2024, December 2023, January and February 2024, and it is based on the means of the climatological period 1981-2010.

➤ WINTER 2023/2024

Overall conditions in Republic of N. Macedonia this winter season had positive divergence from the long term average 1981-2010. During winter 2023/2024, the mean air temperature ranged between 1.0°C in Lazaropole and 7.5°C in Gevgelija. Spatial distribution of the mean seasonal air temperature is shown on Figure 1. The mean air temperatures anomaly ranged from 2.1°C in Lazaropole to 3.5°C in Mavrovo (Figure 2).

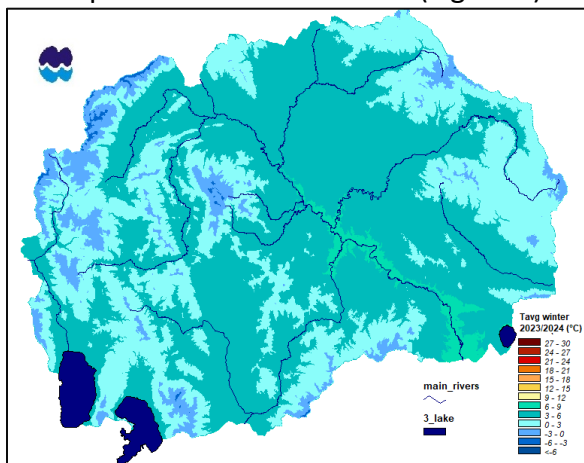


Figure 1: Spatial distribution of the mean seasonal air temperature (°C) for winter 2023/2024

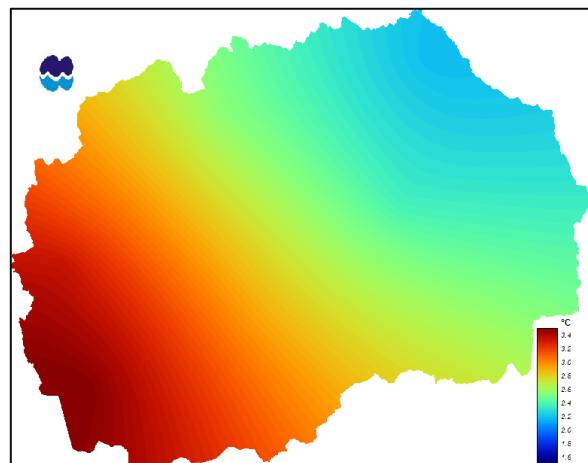


Figure 2: Mean seasonal air temperature anomaly (°C) compared to the period 1981-2010 for winter 2023/2024

The mean maximum seasonal air temperature was from 6.0°C in Lazaropole to 15.4°C in Gevgelija. The mean maximum seasonal air temperature anomaly was from 1.2°C in Berovo to 4.8°C in Bitola.

The mean minimum seasonal air temperature was from -3.3°C in Berovo to 2.1°C in Gevgelija. The mean minimum seasonal air temperature anomaly was from 1.0°C in Strumica to 3.6°C in Mavrovo.

According to percentile calculation method, the territory was classified as very to extremely warm (Table1).

The highest daily winter air temperature was measured 22.9°C observed on 06th February in Gevgelija, and the lowest winter air temperature was -19.8°C observed on 22nd of January in Berovo.

Rainfall totals were near normal. Spatial distribution of the precipitation sums is shown on Figure 3 and the anomaly compared to 1981-2010 base period on Figure 4.

The wettest day was 16th of December in Mavrovo with 59.3mm.

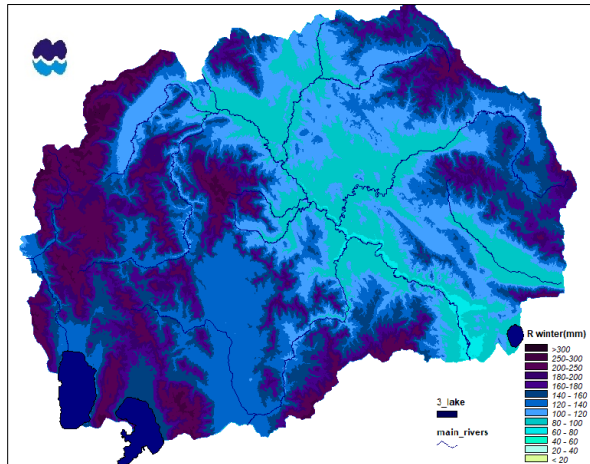


Figure 3: Spatial distribution of the precipitation sums (mm) during winter 2023/2024

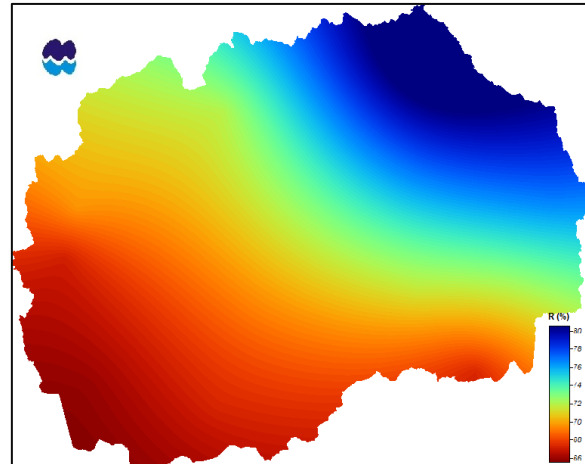


Figure 4: Spatial distribution of the precipitation sums anomaly (mm) during winter 2023/2024

According to percentile calculation method for precipitation, the territory of Republic of North Macedonia was classified as dry to normal (Table1).

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

Table1: Air temperature and precipitation classification in Republic of N. Macedonia for winter 2023/2024 using percentile method compared to 1981-2010 base period

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

Hydrometeorological Service of Republic of North Macedonia

Meteorology Department

Climatological analysis for winter 2023/2024

Air Temperature (°C)	2023/2024	1981-2010	
		33	67
Berovo	2.1	-1.2	0.6
Kriva Palanka	3.8	0.4	1.4
Stip	5.7	1.8	3.2
Strumica	4.7	1.4	3.2
Demir Kapija	5.6	2.3	4.1
Gevgelija	7.5	4.5	5.6
Skopje	5.3	1.6	2.7
Prilep	4.4	0.5	2.3
Bitola	4.0	-0.5	2.0
Ohrid	4.9	2.1	3.1
Lazaropole	1.0	-2.7	-0.5
Mavrovo	2.0	-1.7	-0.7

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

Precipitation sums (mm)	2023/2024	1981-2010	
		33	67
Berovo	110.8	109.5	662.9
Kriva Palanka	147.7	106.9	665.4
Stip	69.4	71.3	500
Strumica	107.9	120.9	602.8
Demir Kapija	127.9	125.7	597.7
Gevgelija	89.9	111.8	776.0
Skopje	58.5	87.5	521.6
Prilep	76.2	80.5	531.7
Bitola	127.9	145.0	675.7
Ohrid	125.9	178.8	749.9
Lazaropole	153.3	246.7	1064.5
Mavrovo	271.7	269.0	1172.7

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

According SEECOF-30 forecast winter temperature is likely to be above-normal for Republic of N. Macedonia. Forecast for the precipitation for DJF 2023/2024 categorized our country in region where winter precipitation totals are likely to be above-normal.

Find also below a table 4 presenting the general anomalies of SEECOF products and extreme events of the recorded winter weather.

Country	Seasonal temperature (DJF)		Seasonal precipitation (DJF)		High Impact Events 2024
	Observed	SEECOF climate outlook for temperature	Observed	SEECOF climate outlook for precipitation	
REPUBLIC OF N.MACEDONIA	Above normal	Above normal	Dry to normal	Above normal (20, 30, 50)	