

VERIFICATION OF THE SEECOF -23 SUMMER 2020 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 2020, June, July and August, and it is based on the means of the climatological period 1981-2010.

➤ SUMMER 2020

The mean seasonal air temperature during summer 2020 ranged between 14.7°C in Lazaropole to 25.6°C in Gevgelija. Spatial distribution of the mean seasonal air temperature is shown on Figure1. The mean air temperatures anomaly was from -0.2°C in Demir Kapija and Prilep to 0.3°C in Gevgelija and Strumica.

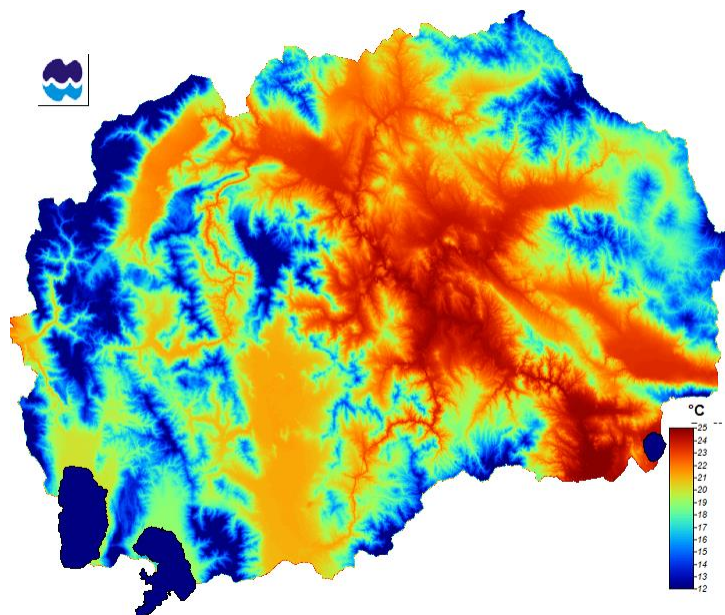


Figure 1: Spatial distribution of the mean seasonal air temperature (°C) during summer 2020

The mean maximum seasonal air temperature anomaly was from -0.3°C in Kriva Palanka to 0.7°C in Mavrovo. The mean minimum seasonal air temperature was above normal, with positive anomaly from 0.1°C in Kriva Palanka to 1.0°C in Bitola. The highest daily air temperature during summer 2020 was measured 41.7°C observed on 31st of July in Gevgelija. The lowest air temperature during summer 2020 was measured 1.0°C observed on 20th of June in Berovo.

According to percentile calculation method the territory was classified as normal (Table1).

Rainfall totals were variable for this summer season. Spatial distribution of the precipitation sums is shown on Figure 2 and the anomaly compared to 1981-2010 base period on Figure 3.

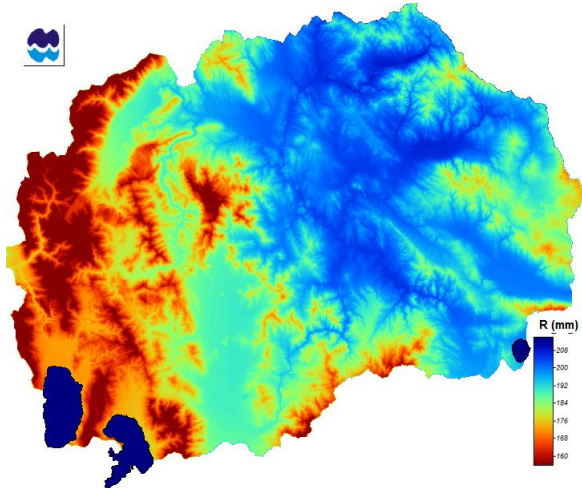


Figure 2: Spatial distribution of the precipitation sums (mm) for summer 2020

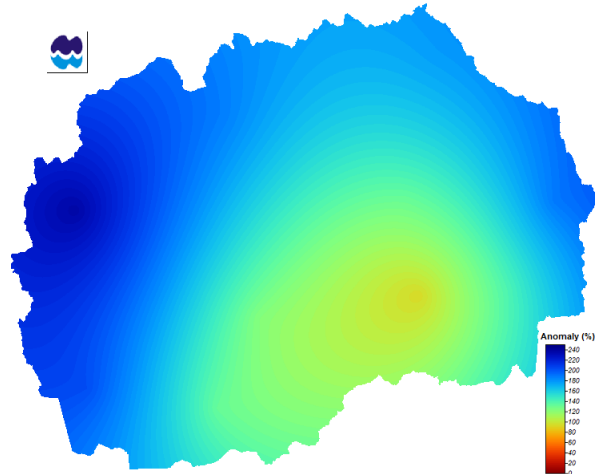


Figure 3: Spatial distribution of the precipitation sums anomaly (mm) for summer 2020

The wettest day was 7th of August with 62.1mm measured in Strumica.

According to percentile calculation method the precipitation regime was variable, from normal to extremely wet (Table1).

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

Table1: Air temperature and precipitation classification in Republic of North Macedonia for summer 2020 using percentile method compared to 1981-2010 base period

Hydrometeorological Service of Republic of North Macedonia

Meteorology Department

Climatological analysis for summer 2020

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	1981-2010	
	2020	33	67
Berovo	18,4	17.8	18.6
Kriva Palanka	19,7	19.3	20.0
Stip	23,5	23.0	24.0
Strumica	23,8	23.0	23.8
Demir Kapija	24,2	24.1	24.9
Gevgelija	25,6	25.0	26.0
Skopje	23,3	23.0	23.8
Prilep	21,4	21.3	22.1
Bitola	21,8	21.4	22.0
Ohrid	20,8	20.4	21.0
Mavrovo	16,3	15.9	16.7

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

Precipitation sums (mm)	summer	1981-2010	
	2020	33	67
Berovo	179,2	138.8	162.8
Kriva Palanka	276,2	132.4	142.2
Stip	176,0	87.6	104.1
Strumica	194,4	85.1	180.3
Demir Kapija	243,8	75.0	210.3
Gevgelija	147,1	61.9	269.5
Skopje	185,3	86.8	110.6
Prilep	217,3	75.3	128.5
Bitola	232,8	77.6	200.8
Ohrid	122,8	65.6	238.3
Mavrovo	133,0	103.2	168.4

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

The SEECOF-23 forecast product for the mean temperatures for summer season puts Republic of North Macedonia in a zone 1, which is likely to experience above average summer temperatures (Figure 5). Forecast for the precipitation for JJA 2020 categorized our country in zone 1 (Figure 6). Zone 1 is likely to experience a precipitation deficit.

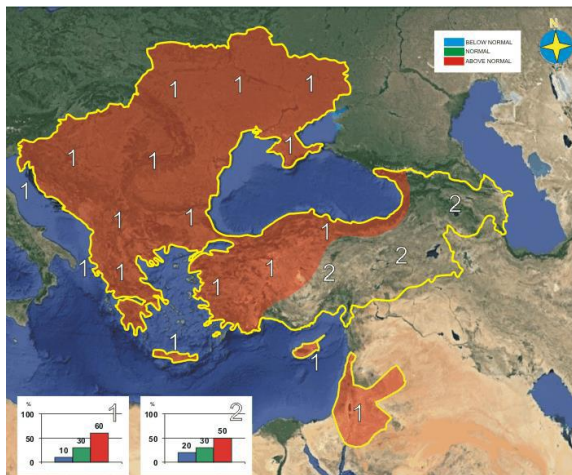


Figure 5: Graphical presentation of the 2020 summer temperature outlook

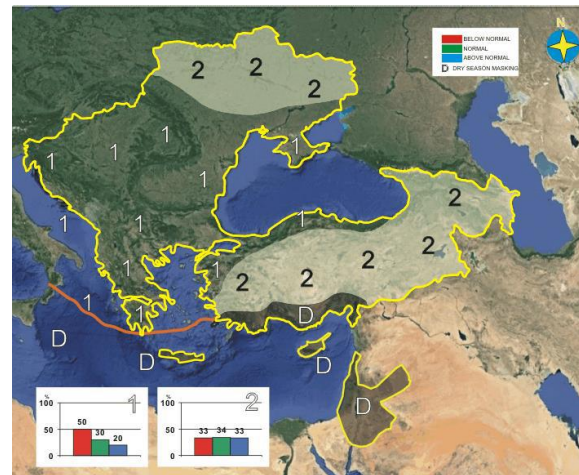


Figure 6: Graphical presentation of the 2020 summer precipitation outlook

A general judgment for the models evaluation for summer season is that the model was not efficient concerning the temperature. Concerning the precipitation, evaluation of the model is difficult because of the variable regime.

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
	Observed	SEEVCCC climate outlook for temperature	Observed	SEEVCCC climate outlook for precipitation	
REPUBLIC OF NORTH MACEDONIA	Normal	Above average (20, 30, 50)	Above normal - variable precipitation regime	No predictive signal (33, 34, 33)	July - Exceeded daily precipitation 53.6mm on 5 th in Bitola