

VERIFICATION OF THE SEECOF -19 SUMMER 2018 CLIMATE OUTLOOK FOR REPUBLIC OF MACEDONIA COMPARED TO THE 1981-2010 BASE PERIOD

Hydrometeorological Service of Republic of 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 2018, June, July and August, and it is based on the means of the climatological period 1981-2010.

➤ SUMMER 2018

The mean seasonal air temperature during summer 2018 ranged between 15.8°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 -0.5°C in Prilep to 0.3°C in Berovo and Gevgelija (Figure2).

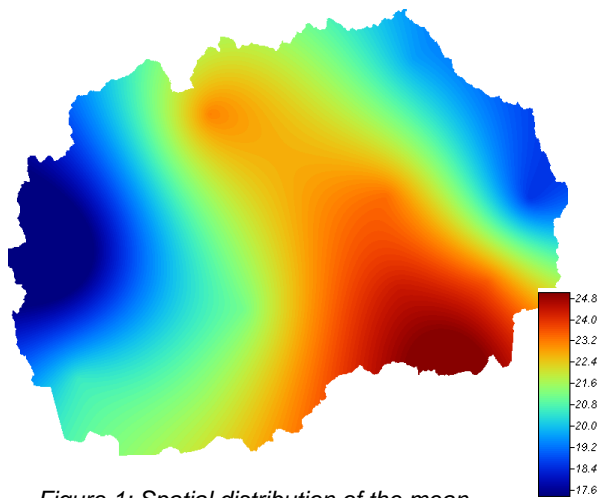


Figure 1: Spatial distribution of the mean seasonal air temperature (°C) during summer 2018

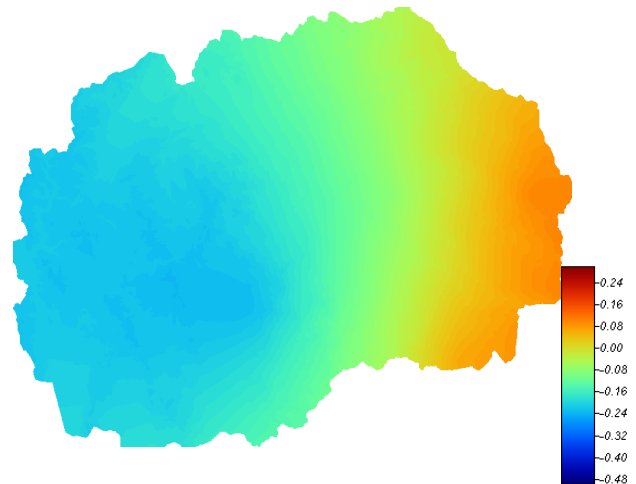


Figure 2: Mean seasonal air temperature anomaly (°C) compared to the period 1981-2010 during summer 2018

The mean maximum seasonal air temperature anomaly was from -0.8°C in Prilep to 0.3°C in Gevgelija. The mean minimum seasonal air temperature was above normal, with positive anomaly from 0.7°C in Demir Kapija and Lazaropole to 1.7°C in Berovo. The highest daily air temperature during summer 2018 was measured 37.2°C observed on 18th of August in Gevgelija. The lowest air temperature during summer 2018 was measured 5.2°C observed on 24th of June in Berovo.

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

Rainfall totals were above average for this summer season. Spatial distribution of the precipitation sums is shown on Figure 3 and the anomaly compared to 1981-2010 base period on Figure 4.

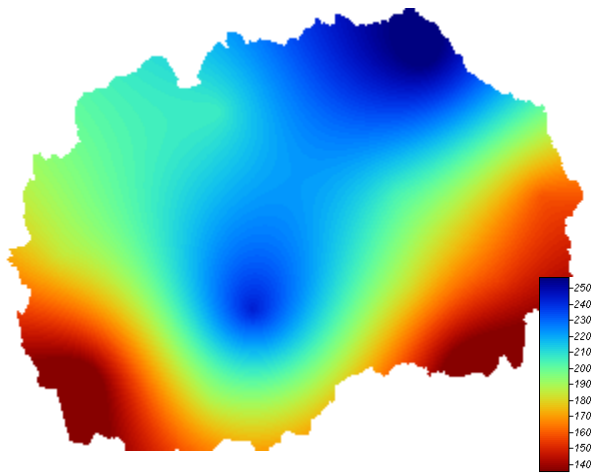


Figure 3: Spatial distribution of the precipitation sums (mm) during summer 2018

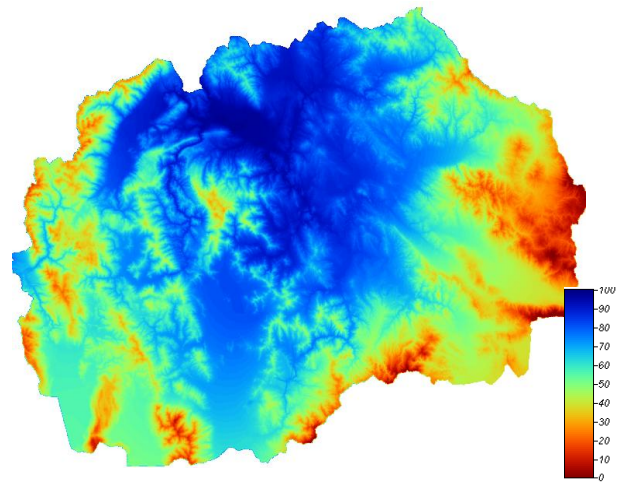


Figure 4: Spatial distribution of the precipitation sums anomaly (mm) during summer 2018

The wettest day was 15th of August with 47.3mm measured in Stip.

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	extremely wet
Strumica	normal	wet
Demir Kapija	normal	wet
Gevgelija	normal	normal
Skopje	normal	extremely wet
Prilep	cold	extremely wet
Bitola	normal	wet
Ohrid	normal	wet
Lazaropole	normal	normal

Table1: Air temperature and precipitation classification in Republic of Macedonia for summer 2018 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)	1981-2010		
	summer 2018	33	67
Berovo	18.5	17.8	18.6
Kriva Palanka	19.6	19.3	20.0
Stip	23.3	23.0	24.0
Strumica	23.5	23.0	23.8
Demir Kapija	24.3	24.1	24.9
Gevgelija	25.6	25.0	26.0
Skopje	23.1	23.0	23.8
Prilep	21.1	21.3	22.1
Bitola	21.5	21.4	22.0
Ohrid	20.5	20.4	21.0
Lazaropole	15.8	15.7	16.2

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

Precipitation sums (mm)	1981-2010		
	summer 2018	33	67
Berovo	158.3	138.8	162.8
Kriva Palanka	262.1	132.4	142.2
Stip	203.9	87.6	104.1
Strumica	154.5	85.1	180.3
Demir Kapija	181.3	75.0	210.3
Gevgelija	123.1	61.9	269.5
Skopje	205.8	86.8	110.6
Prilep	242.8	75.3	128.5
Bitola	188.0	77.6	200.8
Ohrid	124.6	65.6	238.3
Lazaropole	183.8	138.8	162.8

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

The SEECOF-19 forecast product for the mean temperatures for summer season puts Republic of Macedonia in a zone 2, which is likely to experience above average summer temperatures (Figure 5). Forecast for the precipitation for JJA 2018 categorized our country in zone 2 (Figure 6). Zone 2 is with high uncertainties, probabilities for below-, near-, or above- average conditions are approximately equal.

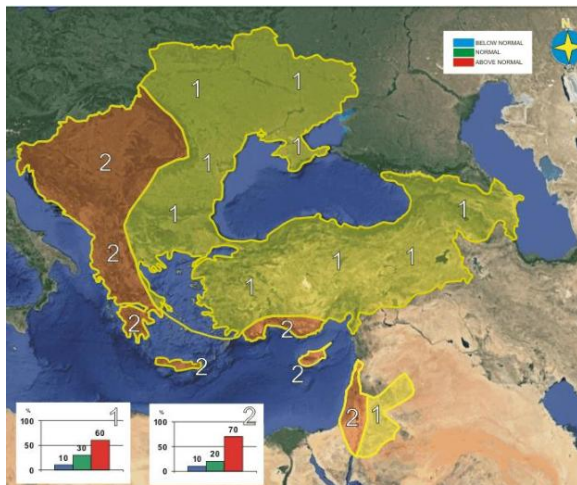


Figure 5: Graphical presentation of the 2018 summer temperature outlook

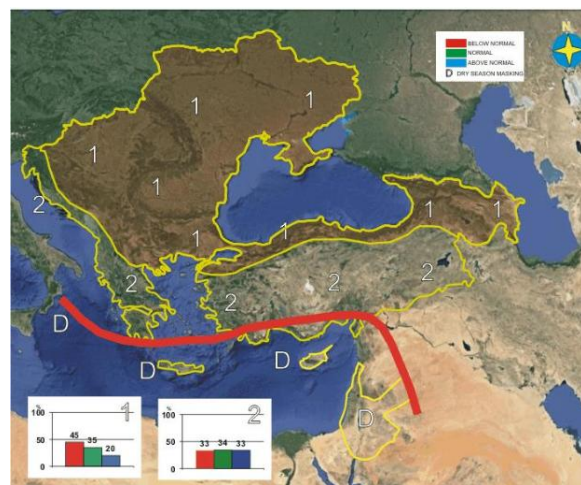


Figure 6: Graphical presentation of the 2018 summer precipitation outlook

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.

Hydrometeorological Service of Republic of Macedonia

Meteorology Department

Climatological analysis for summer 2018

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 MACEDONIA	Normal	Above average (10, 20, 70)	Above normal - variable precipitation regime	No predictive signal (33, 34, 33)	June - Exceeded daily precipitation 39.6mm on 15 th in Skopje