

VERIFICATION OF THE SEECOF -18 WINTER 2017/2018**CLIMATE OUTLOOK FOR REPUBLIC 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 from the SEEVCCC. The present analysis is for the winter 2017/2018, December 2017, January and February 2018, and it is based on the means of the climatological period 1981-2010.

➤ **WINTER 2017/2018**

Overall conditions in Republic of Macedonia this winter season had positive divergence from the long term average 1981-2010. During winter 2017/2018, the mean air temperature ranged between 0.1°C in Mavrovo and Lazaropole and 6.4°C in Gevgelija. Spatial distribution of the mean seasonal air temperature is shown on Figure 1. The mean air temperatures anomaly was above normal at all meteorological stations from 1.0°C in Ohrid to 2.7°C in Bitola (Figure 2).

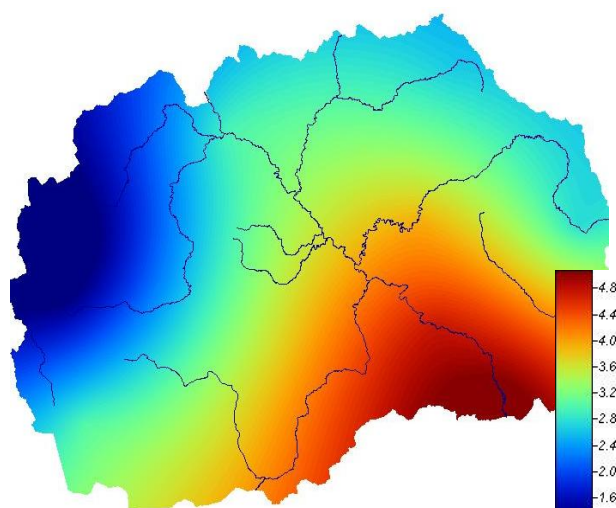


Figure 1: Spatial distribution of the mean seasonal air temperature (°C) for winter 2017/2018

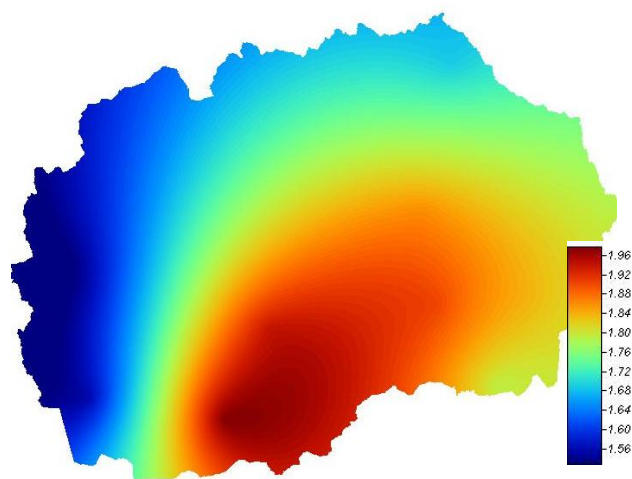


Figure 2: Mean seasonal air temperature anomaly (°C) compared to the period 1981-2010 for winter 2017/2018

The mean maximum seasonal air temperature was also above normal, with positive anomaly reaching to 3.4°C in Bitola. The mean minimum seasonal air temperature was above normal, with positive anomaly from 1.5°C in Gevgelija to 2.9°C in Bitola.

According to percentile calculation method, the west part was classified as normal and the rest of the territory as warm to extremely warm (Table1).

The highest daily winter air temperature was measured 20.3°C observed on 1st of January in Gevgelija, and the lowest winter air temperature was -13.0°C observed on 28th of February in Mavrovo.

Rainfall totals were above the average for this winter season, with exception in Gevgelija. 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 1st of December in Mavrovo with 130.5mm.

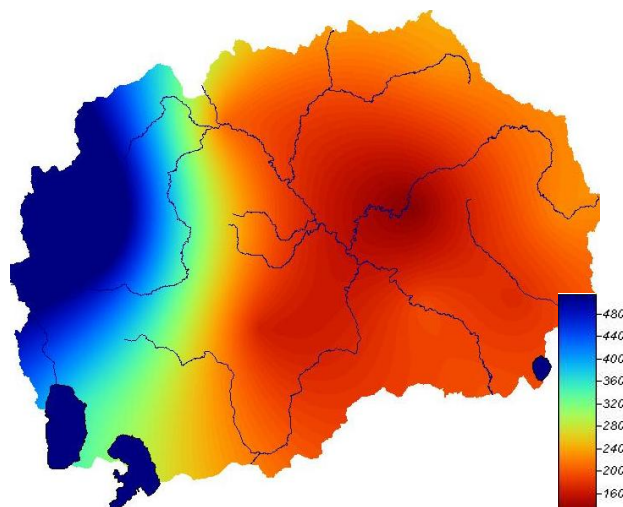


Figure 3: Spatial distribution of the precipitation sums (mm) during winter 2017/2018

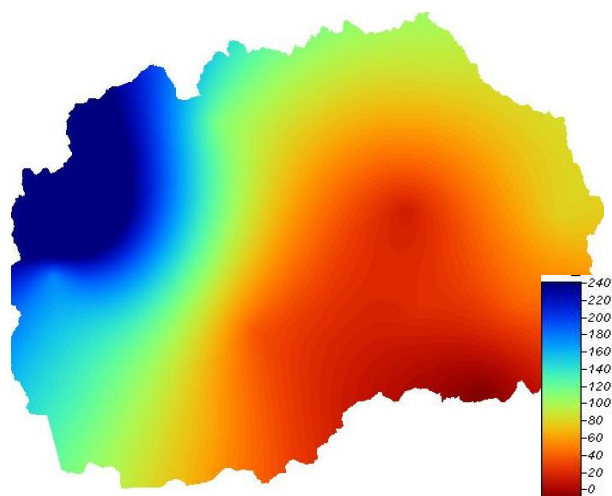


Figure 4: Spatial distribution of the precipitation sums anomaly (mm) during winter 2017/2018

According to percentile calculation method for precipitation, the territory of Republic of Macedonia was classified as normal in the southeast part to extremely wet in the northwest (Table1).

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

Table1: Air temperature and precipitation classification in Republic of Macedonia for winter 2017/2018 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.

Air Temperature (°C)	2017/2018	1981-2010	
		33	67
Berovo	1.5	-1.2	0.6
Kriva Palanka	2.5	0.4	1.4
Stip	4.4	1.8	3.2
Strumica	4.2	1.4	3.2
Demir Kapija	5.2	2.3	4.1
Gevgelija	6.4	4.5	5.6
Skopje	3.7	1.6	2.7
Prilep	3.5	0.5	2.3
Bitola	3.6	-0.5	2
Ohrid	3.7	2.1	3.1
Mavrovo	0.1	-2.7	-0.5
Lazaropole	0.1	-1.7	-0.7

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

Precipitation sums (mm)	2017/2018	1981-2010	
		33	67
Berovo	217.3	109.5	662.9
Kriva Palanka	225.0	106.9	665.4
Stip	136.8	71.3	500
Strumica	178.3	120.9	602.8
Demir Kapija	183.4	125.7	597.7
Gevgelija	192.4	111.8	776
Skopje	229.8	87.5	521.6
Prilep	178.6	80.5	531.7
Bitola	231.0	145.0	675.7
Ohrid	356.4	178.8	749.9
Mavrovo	644.5	246.7	1064.5
Lazaropole	561.7	269.0	1172.7

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

The SEECOF-18 forecast for the mean temperatures for winter season put Republic of Macedonia in zone 2, which means to have more chances for warmer than normal conditions (Figure 5). Forecast for the precipitation for DJF 2017/2018 categorized our country in zone 2 (Figure6), which means that there is not clear signal.

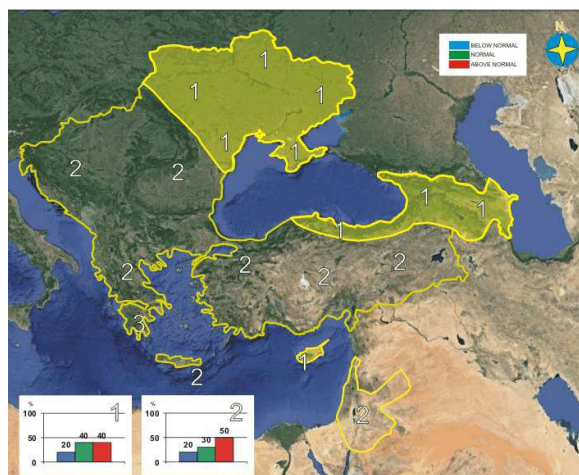


Figure 5: Graphical presentation of the winter 2017/2018 temperature outlook

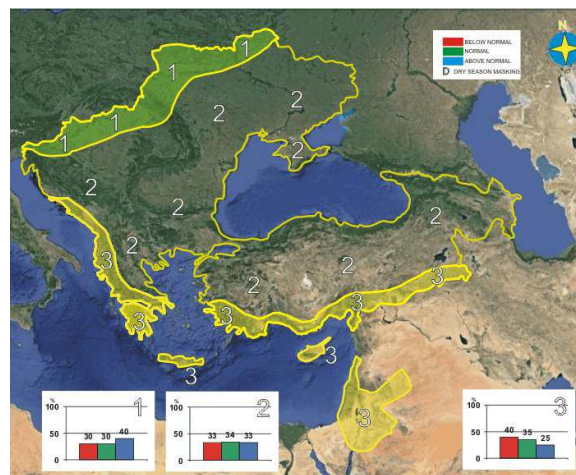


Figure 6: Graphical presentation of the winter 2017/2018 precipitation outlook

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
	Observed	SEECOF climate outlook for temperature	Observed	SEECOF climate outlook for precipitation	
REPUBLIC OF MACEDONIA	Above normal	Above normal (20, 30, 50)	Above normal	No signal (33, 34, 33)	<p>December Significant monthly amounts of precipitations; Extreme daily amount 130.0mm on 1st in Mavrovo</p> <p>January Absolute maximum temperature in Gevgelija 20.3°C on 30th exceeded the historical values for this month.</p> <p>February Significant monthly amounts of precipitations Extreme monthly sum in Lazaropole 274.1mm, Mavrovo 293.4mm and Skopje 113.3 mm; Extreme daily amount of precipitation 92.5mm in Lazaropole, 71.2mm in Mavrovo and 47.5mm in Skopje on 4th; Heavy rains caused the overflow of water from river beds and flooding;</p>