National Climate Bulletin and the assessment of the SEECOF-18

Climate outlook for NHMS for previous season (winter 2018/19)

Highlights:

(prepared by Slavica Micev)

Assessment were done with respect to two periods 1961-1990 (by percentiles) and 1981-2010 (by tercyles).

According to the percentiles and with respect to the 1961-1990 period the average air temperature in December 2018 was in category normal, warm and very warm (figure 1, left), while the precipitation amount was in category normal, dry and very dry (figure 1, right).

- The average air temperature was in the range from -2.1 ^{0}C in Zabljak (mountainous region) to the 11 ^{0}C in Bar (southern coastal region).
- The temperature anomalies from the climatological mean 1961-1990 were from the -0.5 ^{0}C in Herceg Novi (northern coastal region) to the 2.6 ^{0}C in Rozaje (eatern mountainous region).
- The amount of precipitation was in the range from the 40 mm in Bijelo Polje (north eastern mountainous region) to the 212 mm in Cetinje (central region).
- The percentage from the climatological mean 1961-1990 was from the 29% in Budva to the 121% in Ulcinj.

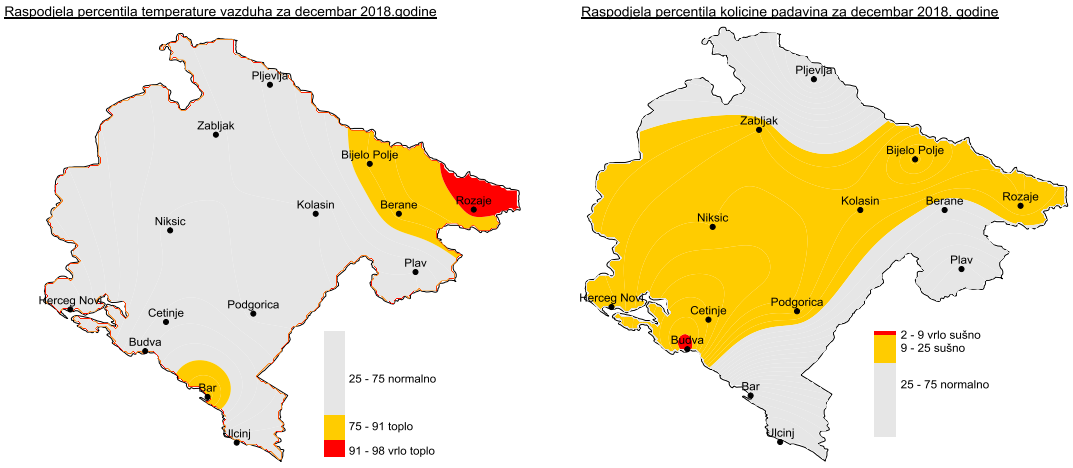

Figure 1. December - Percentile distribution of temperature anomalies (left) and precipitation (right) in Montenegro with respect to the 1961-1990 climatological mean

The average air temperature in January 2019 was in category normal for the most part in the country except western part of the central region and southern part of the coastal region where the temperature was in category cold. The precipitation was in category normal.

The average air temperature in February 2019 was in category normal in the northern region and warm in the rest of the country. February was dry month for the coastal region, the southern part of central and northern region as well. Extremely dry was in the southern part of the coastal region.

Considering the monthly temperature assessment, winter 2018/2019 was in category normal, warm and very warm (figure 2, left). The range of temperature anomalies with respect to the 1961-1990 was

from the 0.2 ^{0}C in Cetinje (central region) and Zabljak (northern region) to 2 ^{0}C in Rozaje (eastern part of northern region).

The amount of precipitation was in category normal, dry (for the most of the country) and very dry (in the central part of the coastal region, figure 2 (right)).

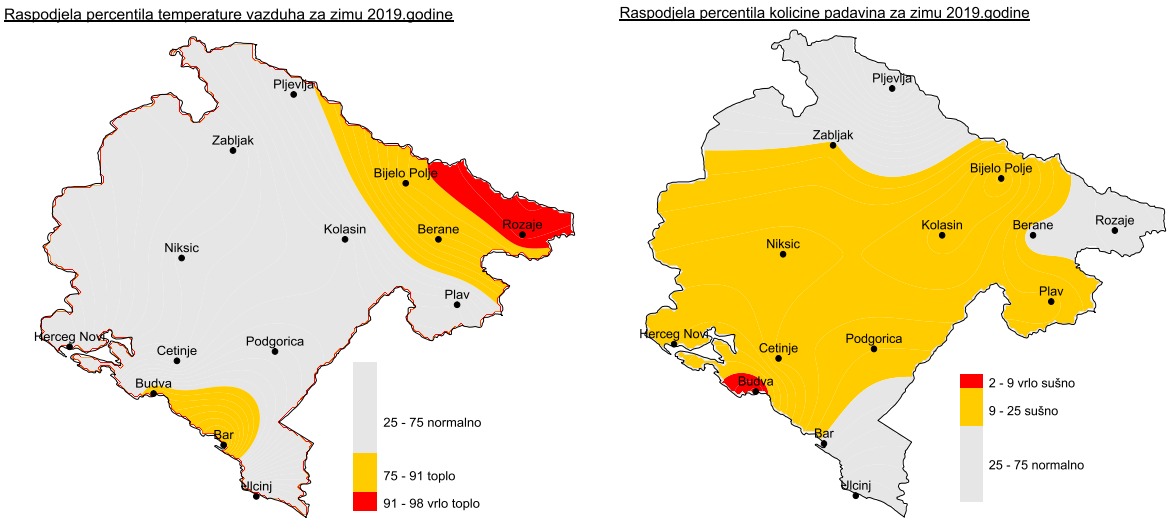

Figure 2. Winter 2018/2019 - Percentile distribution of temperature anomalies (left) and precipitation (right) in Montenegro with respect to the 1961-1990 climatological mean

Analysis with respect to the reference period 1981-2010

Season		Air Temperature (°C)					Precipitation sums (mm)			
Station	Rank*	33	50	66	Observed value	Rank*	33	50	66	Observed Value
Podgorica	37	7	6.5	6.1	6.6	15	609.7	560.5	332.3	444
Bar	20	9.7	9.1	8.5	9.6	20	518	431.3	240.7	380
Niksic	32	2.7	2.4	2.6	2.4	12	782.6	635.3	365	441
Zabljak	40	-2.3	-3.3	-3.5	-3.8	16	509.6	388.7	243.9	317
Bijelo Polje	23	0	-0.1	-1.3	0.9	15	283.8	249.8	153.2	162

*Rank – period 1949-2018 period (warmest season and lowest seasonal precipitation)

SEECOF – 20 Climate outlook validation

(prepared by Mirjana Ivanov)

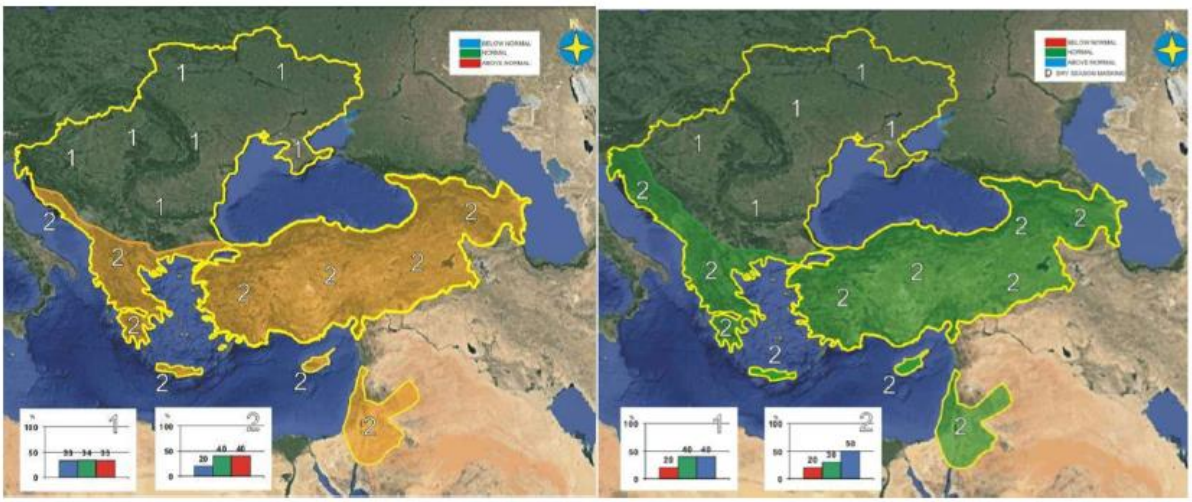

Figure 1. Graphical presentation of the winter 2018/2019 temperature outlook (left) and graphical presentation of the winter 2018/2019 precipitation outlook (right)

The outlook was good for Montenegro.

Country	Seasonal temperature (DJF)		Seasonal precipitation DJF		High Impact Events
	Observed	SEECOF-20 climate outlook for temperature	Observed	SEECOF-20 climate outlook for precipitation	
Montenegro	Normal to above normal	40% above normal 40% normal 20% below normal	Normal, dry for the most of the country, very dry in the central part of the coastal region	50% below normal 30% normal 20% above normal	Strong bora had highest impact in the southern part of the central region and along the coastal region. The trees and facades were mostly affected. (stormy weather in Budvy, https://youtu.be/3nkHZ2omdEs and in Podgorici https://youtu.be/U0ilykLFi7g, https://www.youtube.com/watch?v=ipCw6JxO38s&feature=youtu.be)