

# National Climate Bulletin and the assessment of the SEECOF-12 Climate outlook for Montenegro for previous season

## Draft template

- On the basis of the agreement made on SEECOF – 10, the suggested climatological reference period is 1981-2010. Indicate if some other base period was used.

Reference period 1961-1990

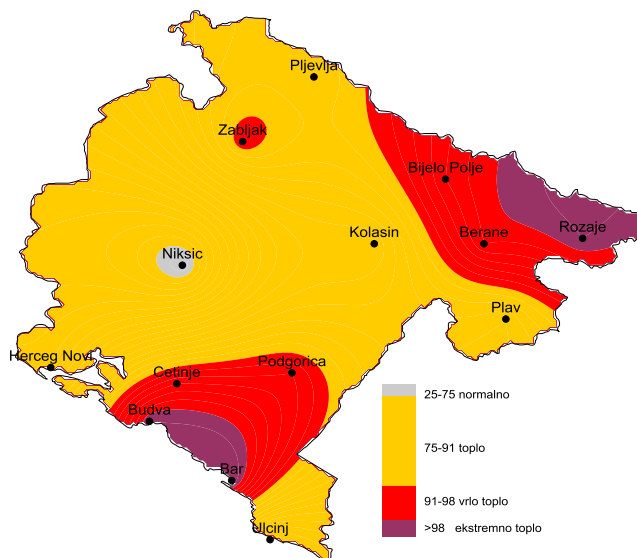
- Submit the assessment of the season and spatial distribution of tercile air temperature and precipitation sums for the season - mandatory, per month – optional

### WINTER:

Mean air temperature was in the range from  $-1.3^{\circ}\text{C}$  (in Žabljak, 1450m asl, northwestern mountainous region) to  $10.9^{\circ}\text{C}$  (in Bar, southeastern coastal region) what is above normal mean 1961-1990.

Temperature anomalies were in the range from  $+0.7^{\circ}\text{C}$  (in Herceg Novi, northwestern part of the coastal area) to  $+2.8^{\circ}\text{C}$  (in Rožaje, northeastern mountainous region), i.e. warm to extremely warm according to the percentile distribution (figure 1).

Raspodjela percentila temperature vazduha za zimu 2014/2015.godine



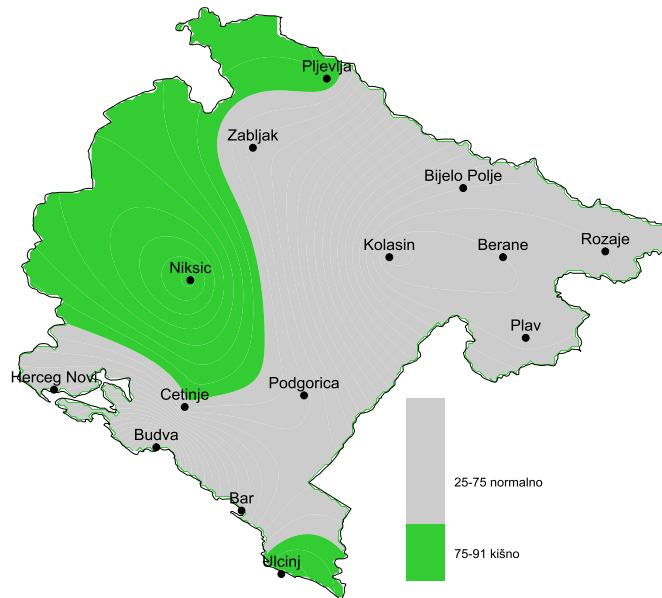
source: IHMS, prepared by Slavica Micev

**Figure 1.** The percentile distribution of the winter temperature anomalies in Montenegro with respect to the 1961-1990 basic period

Average precipitation was in the range from 196 mm in Rožaje to 1522 mm in Cetinje (mountainous area towards the coastal region, figure 2). The maximum height of the total snow cover was in Žabljak.

Precipitation anomalies was in the range from normal to wet (figure 2).

Raspodjela percentila količine padavina za zimu 2014/2015.godine



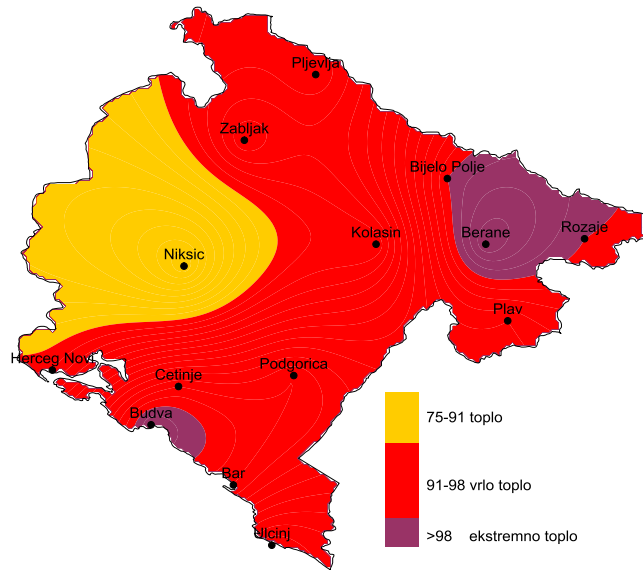
source: IHMS, prepared by Slavica Micev

**Figure 2.** The percentile distribution of the winter precipitation anomalies in Montenegro with respect to the 1961-1990 basic period

DECEMBER 2014 :

Average temperature was in the range from 0<sup>0</sup>C in Žabljak to 12<sup>0</sup>C in Budva (coastal region). Temperature anomalies were positive, in the range from +1.1<sup>0</sup>C in Herceg Novi to +4<sup>0</sup>C in Berane (northeastern mountainous region), corresponding with percentile distribution warm-very warm-extremely warm, figure 3.

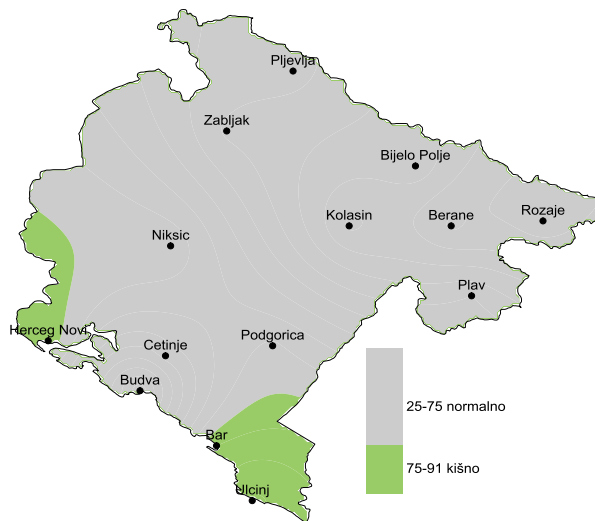
Raspodjela percentila temperature vazduha za decembar 2014.godine



**Figure 3.** The percentile distribution of temperature anomalies in December in Montenegro with respect to the 1961-1990 basic period

Average precipitation was in the range from 53mm in Rozaje to 491 mm in Cetinje. Maximum height of the total snow cover was from 10 cm in Berane to 44 cm in Cetinje. Anomalies of precipitation corresponded with the percentile distribution from normal to wet, figure 4.

Raspodjela percentila kolicine padavina za decembar 2014.godine



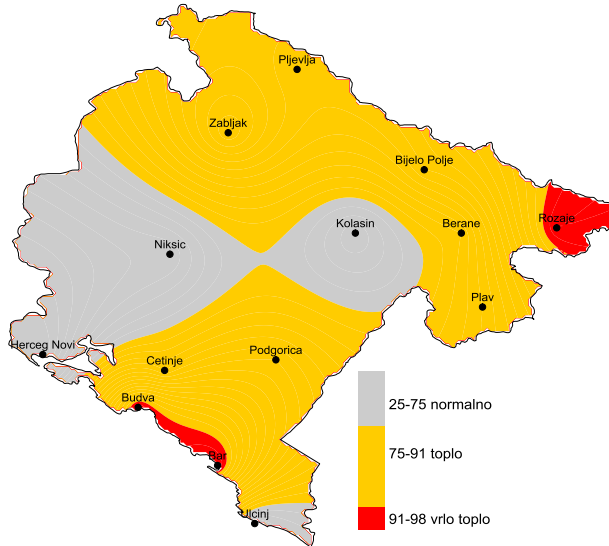
source: IHMS, prepared by Slavica Micev

**Figure 4.** The percentile distribution of precipitation anomalies in December in Montenegro with respect to the 1961-1990 basic period

## JANUARY 2015 :

Average temperature was in the range from  $-1.9^{\circ}\text{C}$  in Žabljak to  $10.5^{\circ}\text{C}$  in Budva. Temperature anomalies were in the range from  $+0.6^{\circ}\text{C}$  in Herceg Novi to  $2.8^{\circ}\text{C}$  in Rožaje what correspond to percentile distribution from warm to very warm, figure 5.

Raspodjela percentila temperature vazduha za januar 2015.godine

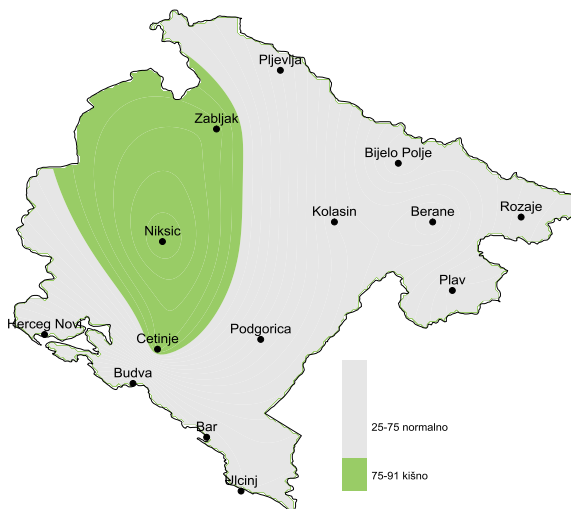


*source: IHMS, prepared by Slavica Micev*

**Figure 5.** The percentile distribution of temperature anomalies in January in Montenegro with respect to the 1961-1990 basic period

Average precipitation was in the range from 68 mm in Rožaje to 657 mm in Cetinje. Maximum amount of the total snow cover was from 16 cm in Bijelo Polje to 80 cm in Žabljak. Anomalies of precipitation were in the range from normal to wet, figure 6.

Raspodjela percentila kolicine padavina za januar 2015.godine



source: IHMS, prepared by Slavica Micev

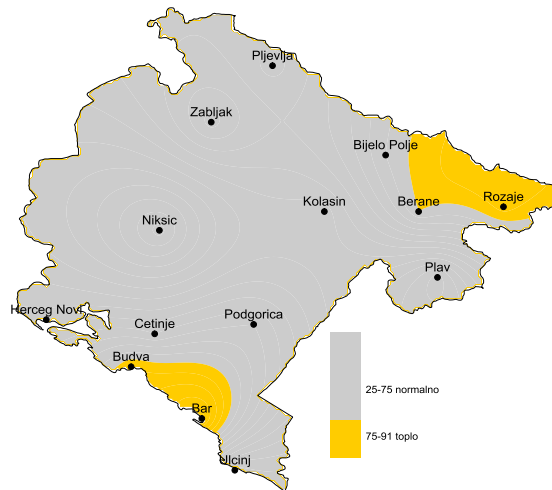
**Figure 6.** The percentile distribution of precipitation anomalies in January in Montenegro with respect to the 1961-1990 basic period

FEBRUARY 2015:

Average temperature was in the range from  $-2.2^{\circ}\text{C}$  in Žabljak to  $10.6^{\circ}\text{C}$  in Bar. Temperature anomalies were from  $+0.2^{\circ}\text{C}$  in Plav (eastern mountainous region) to  $+1.8$  in Berane, i.e. from normal to warm according to the percentile distribution, figure 7.

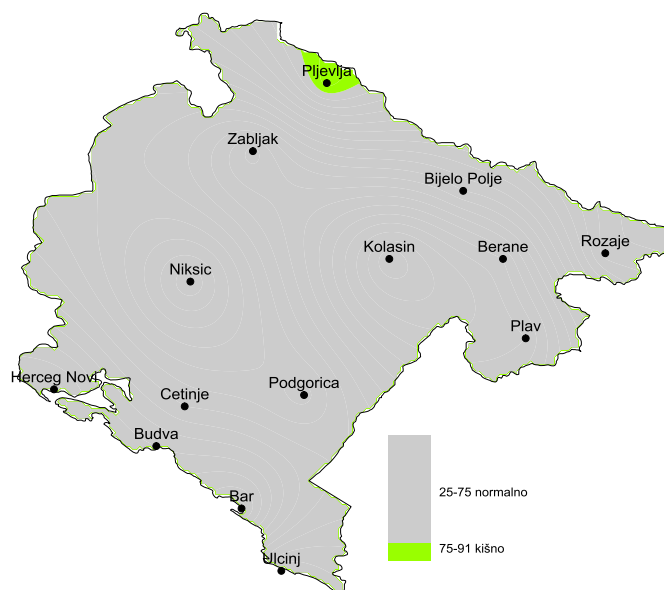
Amount of precipitation was above climatological mean and in the range from 67 mm in Berane to 373 mm in Cetinje. Maximum height of the total snow cover was from 8 cm in Rožaje to 102 cm in Žabljak. Anomalies of precipitation were in the range from normal to wet, figure 8.

Raspodjela percentila temperature vazduha za februar 2015.godine



source: IHMS, prepared by Slavica Micev

**Figure 7.** The percentile distribution of temperature anomalies in February in Montenegro with respect to the 1961-1990 basic period



source: IHMS, prepared by Slavica Micev

**Figure 8.** The percentile distribution of precipitation anomalies in February in Montenegro with respect to the 1961-1990 basic period

### 1. High Impacts Events:

This part should give a description of the climate extremes and the high-impact events that occurred during the DJF 2014-15. The description should include:

1. **Heavy precipitation followed by strong wind** affected central and southern parts of Montenegro
  - from the 1<sup>st</sup> to the 3<sup>rd</sup> December
  - damages in electrical supply in capital town Podgorica and Cetinje (mountainous region towards the coastal area) and several towns in the coastal region.
2. **Heavy precipitation followed by strong southern to southeastern wind**
  - 30<sup>th</sup> January
  - snowdrift almost 2 m of height in the towns and villages of the north mountainous region
  - impact on the traffic and electrical supply
3. **Strong blizzard**

- From the 9<sup>th</sup> to the 11<sup>th</sup> February
- Part of the main road which connected the northwestern mountainous region was closed;
- damages in electrical supply could not repaired on time
- in total 12 days without electrical energy in the villages of the northwest mountainous region

### **Assessment of the SEECOF-12 Climate outlook for 2013/14 winter season**

The table below is a verification summary of the climate outlook for the DJF 2014-15. A brief description of the observed and predicted seasonal temperature and precipitation should be added (Normal, Above normal, Below normal, No clear signal, etc.). The climatological reference period should be indicated.

Country	Seasonal temperature (DJF)		Seasonal precipitation (DJF)	
	Observed (1961-1990 as climatological mean)	SEECOF 12 climate outlook for temperature	Observed (1961-1990 as climatological mean)	SEECOF 12 climate outlook for precipitation
Montenegro	Above normal (warm-very warm–extremely warm)	Above normal	Above normal in the western parts. Normal conditions in the rest of the country.	No signal