

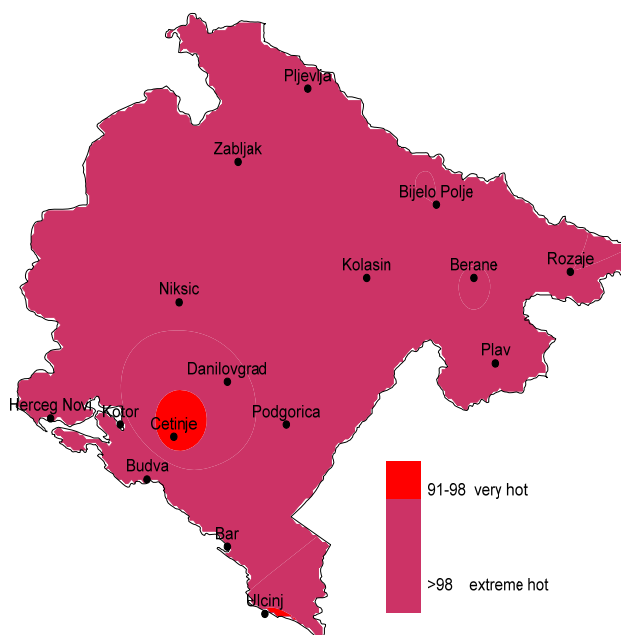
## Characteristics of temperature and precipitation in summer 2013 in Montenegro

- temperature higher than normal
- according to the percentile temperature is ranked as “very hot“ and “extremely hot“;
- precipitation is ranked as „dry“, „normal“ and „wet“.

Mean air temperature ranged from 15.4<sup>0</sup>C in Žabljak to 27.4<sup>0</sup>C in Podgorica. Deviations from the mean summer temperature were positive ranging from + 1.5<sup>0</sup>C in Ulcinj to +3.0<sup>0</sup>C in Rožaje. Summer in capital town Podgorica was warmer for +2.5<sup>0</sup>C than climatological mean 1961-1990.

On a scale of highest summer temperature in Montenegro, summer 2013 is in the top 10 highest values, but is “cooler than summer 2012“.

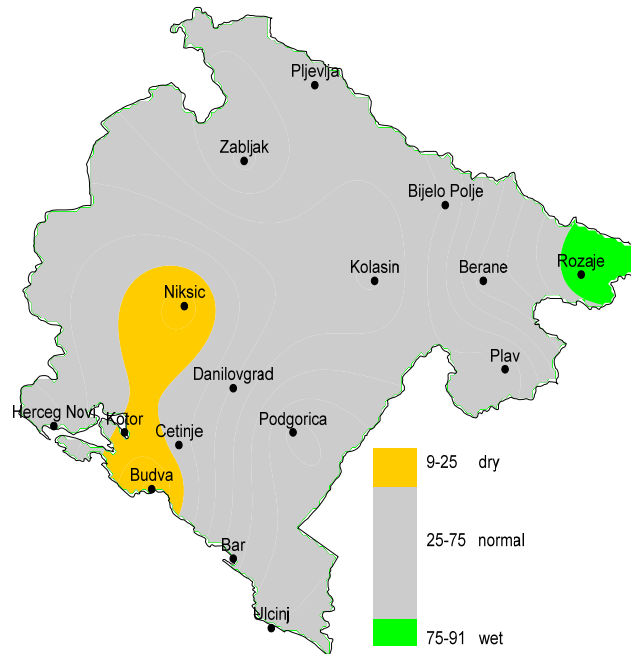
Number of tropical days ranged from 3 days in Žabljak to 70 days in Podgorica.



source: IHMS

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

The average summer rainfall ranged from 78 mm in Budva (coastal region) to 354 mm in Rožaje, what was higher than in previous summer. In capital town Podgorica, total sum was 185 mm, i.e. +15% more than climatological normal. From the coastal region total sum was ranging from + 49% in Budva to +144% in Rozaje in Polimsko-ibarski region (eastern part of Montenegro). Generally, larger part of Montenegro experienced normal precipitation conditions (figure 2).



*source: IHMS*

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

### **OBSERVED EXTREME EVENTS AND THEIR IMPACTS**

1. 10.08.2013 storm with heavy rainfall in Rozaje (eastern part of Montenegro, i.e. Polimsko-ibarski region). Impacts:
  - the roads were damaged by heavy rainfall and therefore torrential river flow, who brought sediments over 1m, destroyed cottages, fences;
  - over 150 households in surroundings of Rozaje were cut from the main town
  - around 20 houses were flooded;
  - estimated material losses is 300.000 eur.

2. 27<sup>th</sup> Augustu, 2013- Atmospheric disaster followed by strong lightening in surroundings of Pljevlja (north mountainous region) killed 20 goats, 10 small goats (kids) and burnt 300 m of hays which was prepared for the winter in the vicinity of Pljevlja. According to the people experience, there is more lightening than in previous years.

## ***2013 Summer Season Assessment of Montenegro Compare to SEECOF 9 Experts Forecast***

Climate outlook statement for the summer 2013 is good matching with the observed situation in Montenegro.

Comparing to the summer season temperature assessment for Zone 2, majority of the regions in Montenegro experienced above-average summer season temperature (over 98 percentile) with respect to the 1961-1990 basic period.

Comparing prediction of precipitation in Zone 2 with observed summer season precipitation in Montenegro, seasonal precipitation was near normal (in larger part of Montenegro) – below – or above (only in eastern part) average. During the august, episodes of enhanced convection with heavy rainfall were observed especially in northeastern parts of Montenegro (i.e. Polimsko-ibarski region).

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