

SEECOF 4 Pre-PRECOF

Monitoring results for summer 2010 and brief assessment of the correctness of the SEECOF 3 outlook

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Overview of meteorological conditions in southeastern Europe and the south Caucasus region

Temperature

Summer mean temperatures in the lowlands of the SEECOF area mostly ranged between 20 and 25°C, in some southern and eastern parts above 25°C, at some higher elevations below 20°C. Absolute maximum temperatures were near to 40°C in many parts of the area, in the south above. Nikosia in Cyprus reached 45.6°C in 1 August, the highest value since the beginning of the 20th century. Also the nights were warm, the number of tropical nights were higher than normal in many parts of southeastern Europe. Summer was warmer than normal over almost whole Europe, and so was also the SEECOF area. Anomalies were above +1°C over almost the whole area, locally above +2°C and even above +3°C in its north-easternmost parts.

The high positive anomalies were mainly due to a long and strong heatwave in July and August due a persisting blocking high with its centre over Russia, but affecting also southeastern Europe and the south Caucasus region. All the three summer months were warmer than normal; highest anomalies mostly occurred at the end of the season.

Precipitation

The summer precipitation totals over the SEECOF area ranged from less than 10 mm in southern Turkey, Cyprus and Greece up to more than 200 mm in the north, locally even much more. Precipitation anomalies were very diverse within the SEECOF area. It was considerably wetter than normal (>125% of the long-term average) particularly in northern and eastern parts of southeastern Europe and over most of Turkey. In contrast, it was mostly dry in the south Caucasus region (especially in Georgia) and near the Adriatic and Mediterranean coasts.

It was particularly wet over almost the whole SEECOF area in June with much convective rain, except in Slovenia, Cyprus and the south Caucasus. In July, most parts near the Adriatic Sea became dry, but also southern Greece and parts of Turkey. August was very dry in almost the whole SEECOF area except the north.

Especially the northern Balkan peninsula was affected by some heavy rain events in June. At the beginning of June, a quasi-stationary upper tropospheric low caused intense precipitation e.g. in Hungary and in Bosnia and Herzegovina. Severe thunderstorms with heavy rain and partly with hail were recorded in the middle of June in Slovenia, Hungary and Bulgaria. At the end of June heavy rain caused severe flooding in northern and eastern Romania and in Moldova, but also in Bosnia and Herzegovina. In July there was still some heavy rain in the north of the SEECOF area, e.g. in Slovenia and in Moldova. Turkey saw some heavy local rain even in August.

Verification of SEECOF 3 outlook

Temperature

The SEECOF 3 outlook concluded temperatures over southeastern Europe very likely above normal and with some possibility (although with no clear signal) also over the eastern Mediterranean, Turkey and the south Caucasus region. The monitored anomalies, however, were clearly above normal over the whole SEECOF area, in the eastern parts even more than over southeastern Europe. All together, the outlook was correct, but the forecast signal not so clear as to be expected for these quite strong and extended anomalies.

Precipitation

According to SEECOF 3, summer precipitation was expected to be likely near normal with a certain probability for below normal precipitation in southern parts of the SEECOF area and in the Caucasus region, and for above normal precipitation in some other parts (Carpathian region, the mountain region of Serbia and the south of Bulgaria). The monitored summer precipitation shows that some of these features were quite well predicted (surplus of precipitation in the Carpathian region and the south of Bulgaria, deficit of precipitation in the south Caucasus region), but others not, e.g. the high precipitation over Turkey and Greece.

Discussion

As predicted, ENSO turned to neutral conditions by June and then continued to be negative towards La Nina conditions. North Atlantic temperature was warmer than normal. Outstanding was the ongoing phase of a negative NAO during summer which persists now for one year (monthly means).

There was a prediction of above-normal temperatures over the whole SEECOF area by several models (e.g. also the EUROSIP ensemble). In case of precipitation, prediction was difficult as many heavy rain events affected the seasonal mean this summer.

Data basis for monitoring results: temperature and precipitation maps, and the Monthly Bulletins of RCC-CM DWD: www.dwd.de/ecsm .

Temperature maps are based on CLIMAT station data, reference period 1961-1990. Precipitation maps are from the Global Precipitation Climatology Centre (GPCC) at DWD, based on national precipitation station data networks, reference period 1951-2000.

Monthly Bulletins are based on climate information available at DWD and taken from websites of national meteorological and hydrological services.