

SEECOF 5

Monitoring results for winter 2010/11 and brief assessment of the correctness of the SEECOF 4 outlook

WMO RA VI Pilot Regional Climate Centre on Climate Monitoring (RCC-CM)

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

Temperature

Seasonal mean temperatures of winter 2010/11 in the lowlands of the SEECOF area were mostly around 0°C, near the coasts, in parts of the South Caucasus region and in most of the Middle East 5-10°C, in Israel above 10°C. Higher mountains on the Balkan peninsula and in the Caucasus region had seasonal means below -5°C.

Winter was slightly colder than normal (anomalies between 0 and -1°C, 1961-1990 reference) in northeastern parts of the Balkan peninsula, whereas the rest of the SEECOF area was warmer than normal. Most of Turkey, the South Caucasus region, the eastern Mediterranean and the Middle East were even more than +1°C warmer than normal.

The cold anomalies in the northeast of the Balkan peninsula were mainly due to cold spells in December 2010 and once more in February 2011 as part of a cooling which took place over large parts of northern and eastern Europe, whereas January 2011 was generally mild on the Balkan peninsula. In contrast, very warm air masses in December 2010 and January 2011 affected especially the Middle East, Turkey and the South Caucasus. In February 2011 the cooling affected also large parts of the Balkan peninsula and the South Caucasus, only southern parts of the SEECOF region were significantly warmer than normal.

Northeastern parts of the Balkan peninsula also recorded a much higher number of ice days (daily maxima below 0°C) compared to the 1961-1990 normal.

Precipitation

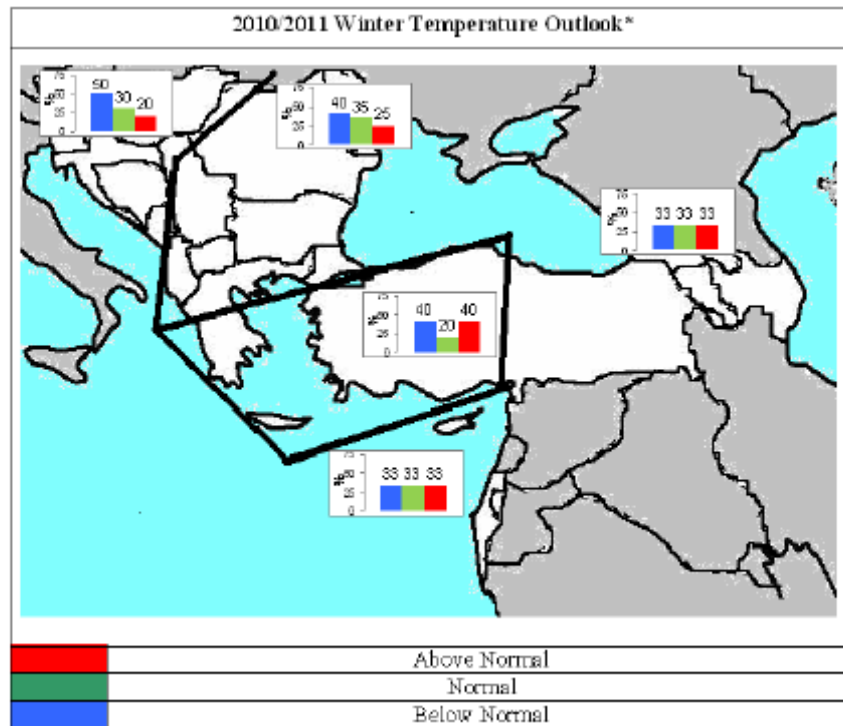
Seasonal precipitation totals were between 75 and 150 mm in most of the SEECOF region, in Turkey mostly above 150 mm, and in many coastal areas above 300 mm, according to first guess data of the Global Precipitation Climatology Centre (GPCC). Most of the SEECOF region was drier than normal (1951-2000 reference). Especially dry (<80% of the normal) was the northwest of the Balkan peninsula (especially in January and February 2011), large parts of Greece and eastern Turkey. On the other hand, especially Romania and central parts of Turkey were much wetter than normal (>125%), especially in December 2010. The south Caucasus and eastern Turkey were very dry in December 2010, but wet in February 2011.

Heavy rain events in December 2010 flooded areas in Albania, Bosnia, Serbia and Montenegro. On 13 December 2010 the coasts of Israel were severely hit by storm and heavy rain.

Widespread snowfall occurred even in southern areas, e.g. in northern Greece, Macedonia and Turkey during some days.

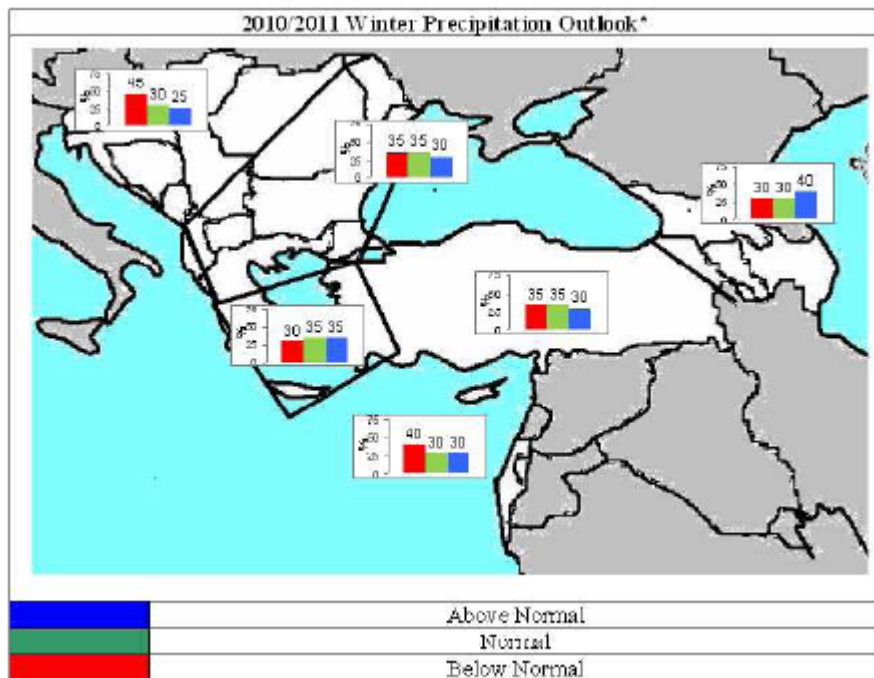
Verification of SEECOF 4 outlook

Temperature



The SEECOF 4 outlook concluded temperatures likely below normal especially on most of the Balkan peninsula, particularly in the northwest, while there was no clear signal in other parts of the SEECOF area. This was partly correct since in fact some parts of the Balkan peninsula were colder than normal, especially in the northeast. The very high warm seasonal anomaly over the South Caucasus, Turkey, and the Middle East, however, was not clearly predicted.

Precipitation



The prediction uncertainty for precipitation was quite high for that winter. However there was a certain likelihood for below-normal precipitation in northwestern parts of the Balkan peninsula which was in fact represented also by the real anomalies. Since large parts of the SEECOF area had near normal precipitation and larger anomalies were confined to smaller areas, the anomaly signals were actually not very strong over large areas. Thus, the prediction was partly correct, at least in northwestern parts.

Discussion

As predicted, quite a strong La Nina occurred that winter and a strong negative Arctic Oscillation and North Atlantic Oscillation continued during that season, but started to weaken in February. Therefore it was to be expected that cold and dry air from the north also reached at least the northern parts of the SEECOF area, but the uncertainty was high in how far these air masses advanced to southern areas.

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

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