SEECOF 5

Contribution to Step 2: Assessment of the current state of the climate including large-scale climate patterns worldwide and assessments of its evolution in the course of the next months

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Based on the material contributed by MétéoFrance and Roshydromet, and additional material taken from the ECMWF/EUROSIP website: http://www.ecmwf.int

The forecasts of North Atlantic SST for summer 2011 seem to be very similar to the temperature anomaly distribution which we had recently in April: negative anomalies in the central North Atlantic, but a warm eastern North Atlantic. Similarly, it was warmer than normal in April over most of Europe, and so it is also forecasted for the summer. Also May is slightly warmer and much drier than normal at least in Central Europe up to now, which means the spring 2011 will probably also end up warmer and drier than normal there. This implies a certain persistency of the present situation, which might continue in summer.

This situation is also reflected by the large scale atmospheric situation: Although the NAO is positive since February 2011 (after a long period of a negative NAO) and became even higher in April (implying a stronger zonal flow over the North Atlantic than normal), we had a large blocking high over Europe, causing warm and particularly dry weather over much of Europe. Similar again is the forecast for the summer with above normal geopotential height in 500 hPa over most of central Europe and quite a high Blocking Index (see MétéoFrance contribution, Fig. 10), especially in July, and a higher probability for meridional and a lower probability for zonal circulation patterns over Europe. This means that it seems probable that Atlantic low pressure systems will move only rarely and weakly over the European continent. Consequently, all the EUROSIP models forecast a warmer than normal summer which will be probably also sunnier than normal.

The question is how far and how often the high pressure influence also will touch the eastern and southeastern parts of Europe. The influence seems to be weaker in the southeast compared to central and northern Europe (compared to normal conditions, see EUROSIP). MétéoFrance forecasts a higher probability of a cold Caspian Sea, but not ECMWF and UKMO. Other SEECOF areas are forecasted with a high probability of warmer than normal by all models. It seems that the uncertainty increases from the west to the east of the SEECOF area.

The precipitation signal, however, is uncertain for this summer. Although the rare and weak appearance of Atlantic low pressure systems would imply less precipitation, it remains uncertain, in how far stronger convective events could affect Europe and in how far Europe is affected by Mediterranean cyclones. It is interesting that the EUROSIP mean sea level pressure (MSLP) shows quite a high probability of low MSLP over the southern half of Europe including the whole SEECOF region, while northern Europe has a higher probability for high MSLP. This could be a sign that the SEECOF area might be affected either by more frequent or more intense (or both) Mediterranean low pressure systems than usual.