

Qualitative evaluation of the summer 2011 forecast in Greece

1. In this report an analysis of air temperature and precipitation on a monthly basis is performed for the summer season 2011. Data are compared to the ones of the climatological period 1961-1990 and the verification of Consensus Statement forecast for the summer 2011 is also performed. The weather outlook for winter season - December 2011-January, February.

1.1 On monthly basis:

June 2011

June 2011 was warmer than normal in most areas of the country. Mean temperatures were, in general, above normal ranging from 0.3-0.7 °C on eastern mainland, 0.2-1.2 °C in the northern part, 0.7-1.4 °C over the western part and eastern Aegean and 0.2-0.9 °C in the rest of Aegean and Crete (Fig. 1). There was an exception in only three stations, which recorded near or slightly below normal (climatological value) mean temperatures in eastern Sterea, eastern Peloponnese and most of eastern Crete.

June 2011 was wetter in the areas of central Aegean, Evia, eastern Peloponnese and eastern Sterea (Fig. 2). In contrast, it was drier in the rest of the Aegean and western and northern parts.

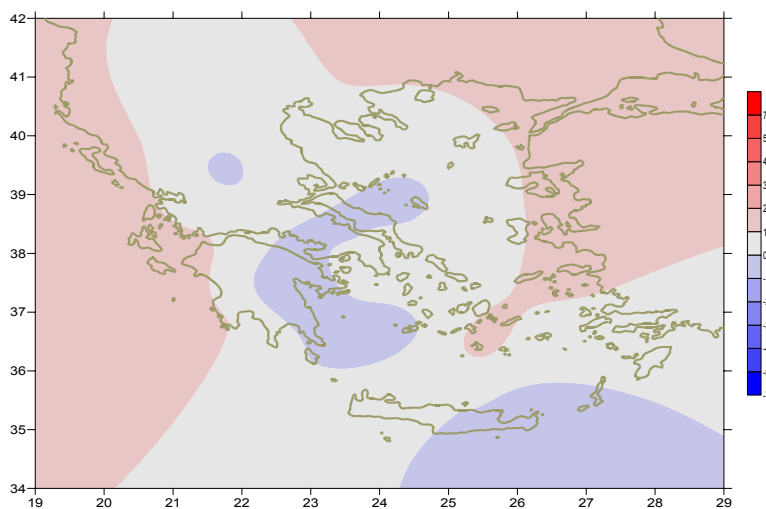


Figure 1: Mean Temperature for June 2011: departure from climatology values (in °C)

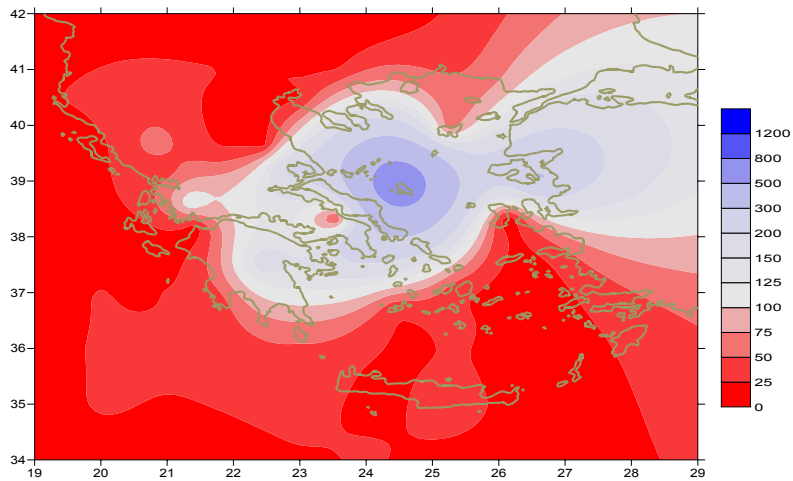


Figure 2: Precipitation for June 2011: departure from climatology values (%)

July 2011

July 2011 was also even warmer than usual all over Greece. Mean temperatures were in general 1.0-2.0 °C higher and, in some cases, in northern parts, the departure reached 3.0 °C (Fig. 3).

July 2011 was a drier month than normal (climatological values) in the greater part of the country. In many areas there was no precipitation as shown in Fig 4. However, it should be noted that, normal precipitation height in island areas and particularly in Aegean was very low.

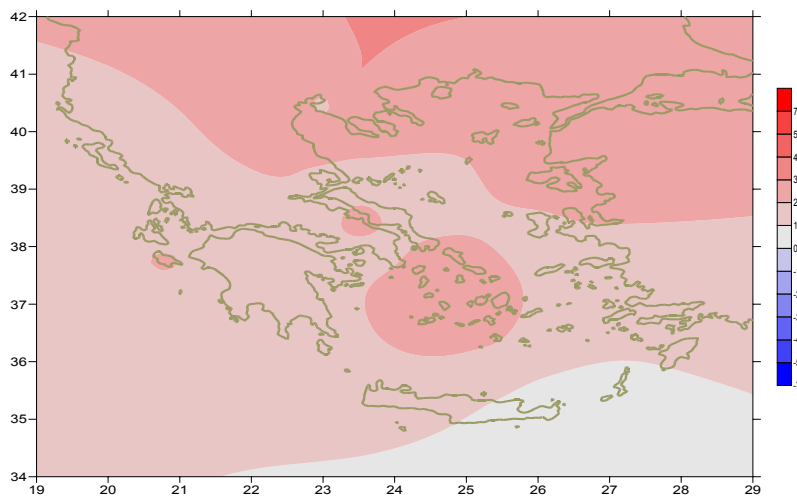


Figure 3: Mean Temperature for July 2011: departure from climatology values (in °C)

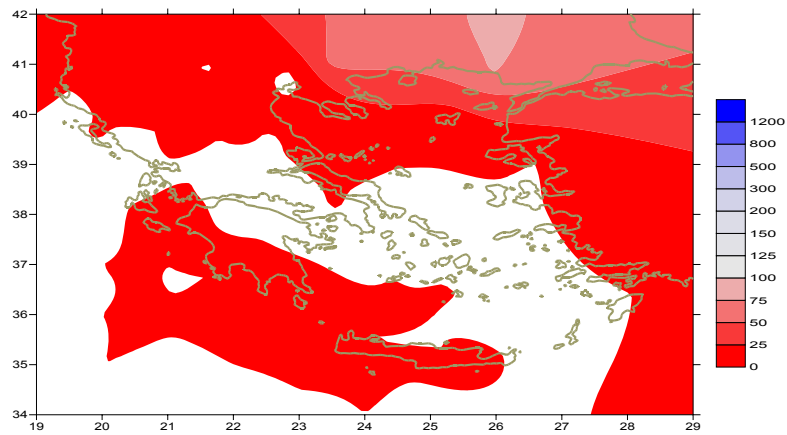


Figure 4: Precipitation for July 2011: departure from climatology values (%)

August 2011

August 2011 followed exactly the pattern of July 2011, and as a result, it was also even warmer than climatological values. Figure 5 indicates that mean temperatures were 1.8-2.7 °C above in the western and northern part of the country, 0.8-1.8 °C above over eastern mainland and northeast Aegean and finally 0.7-1.6 °C above in the rest of Aegean and Crete.

August 2011 followed the same precipitation pattern of July 2011 and was even drier than climatological values. There was an exception, locally, in central Macedonia and Thessaly as shown in Fig 6.

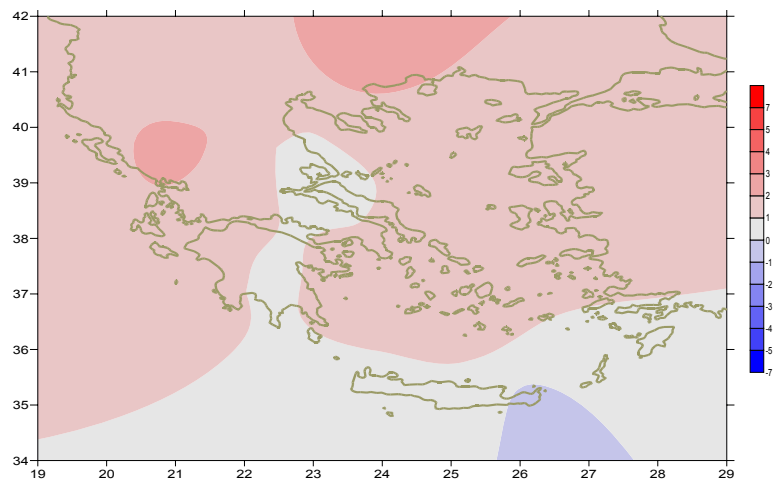


Figure 5: Mean Temperature for August 2011: departure from climatology values (in °C)

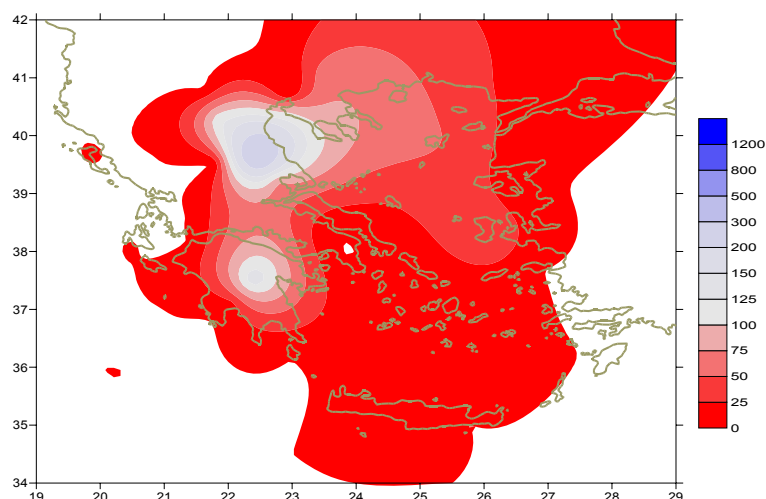


Figure 6: Precipitation for August 2011: departure from climatology values (%)

1.2 On seasonal basis, summer 2011:

The consensus statement produced at the end of the SEECOF-V meeting for mean temperature, suggested that summer season temperature in Greece will be above normal to normal. Indeed summer of 2011 was, in general, warmer than usual. The biggest deviation from normal values (up to 3 °C) was detected over mainland areas, eastern Aegean and Dodecanese. Respectively the lower values (less than 1 °C) were observed over several areas of the western part of the country.

Regarding the mean precipitation, the ECMWF seasonal forecast had predicted a small negative anomaly over southern parts of Greece, while for the rest of Greece no signal was apparent in comparison to the model climatology. Thus in the summer precipitation outlook it was proposed that southern parts of Greece had a tendency for season precipitation below normal. Observed precipitation, accounted for 30-50 % of normal values, over mainland, except in some areas of eastern mainland. In all other areas and island areas of Sporades and northeast Aegean, the summer precipitation varied between 75 and 190 % more than normal values contradictory to the consensus statement. All other areas covering the islands and particularly most of the Aegean, followed, in general, the summer regime anticipated by climatology as also stated in the summer 2011 consensus.

2. Seasonal outlook for winter 2011/2012 weather conditions over Greece

Seasonal forecasts for the forthcoming winter 2011/2012 provided by Hellenic National Meteorological Service (HNMS) are archived from the European Centre for Medium-Range Weather Forecasts (ECMWF). The HNMS receives seasonal forecasts from the European Centre for Medium-Range Weather Forecasts (ECMWF). Although HNMS does not disseminate seasonal forecasts to the public, they are used for research purposes.

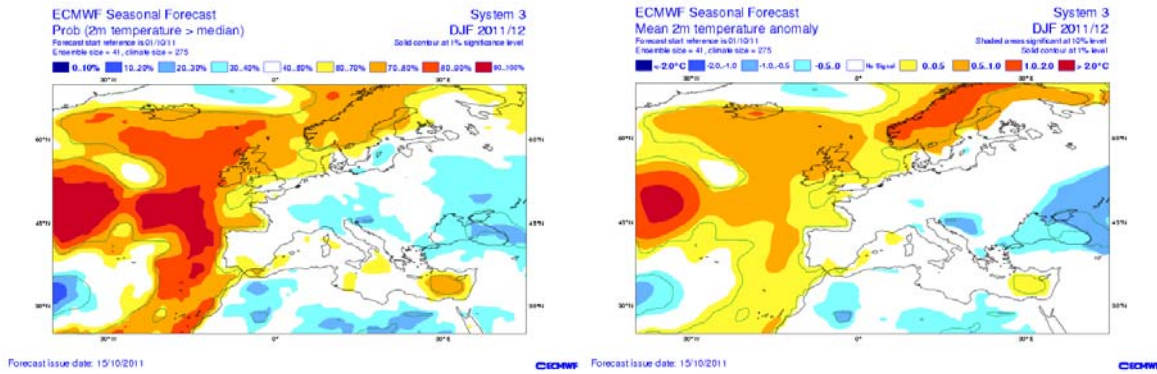


Figure 7. ECMWF seasonal forecast plots for winter 2011/2012 based on the October 2011 run for mean temperature anomalies and probabilities of values higher than median.

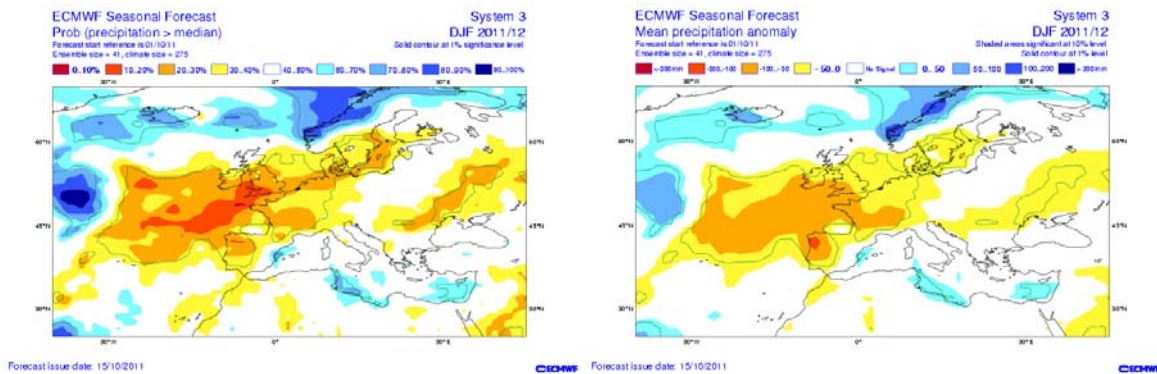


Figure 8. ECMWF seasonal forecast plots for winter 2011/2012 based on the October 2011 run mean precipitation anomalies and probabilities of values higher than median.

The ECMWF forecast for winter 2011/2012 based on the model run of October 2011 indicate that there will be no large deviations from the normal seasonal values. More specific, a small negative anomaly of the order of 0.0-0.5°C for mean temperature over Central Greece with respect to the model climatology is evident in Fig. 7 as well as a slight positive anomaly in South Eastern Greece.

Regarding the mean precipitation, the ECMWF seasonal forecast illustrated in Fig. 8 predicted a small positive anomaly over central and northern Greece, while for the rest of Greece no signal was apparent in comparison to the model climatology.