

Seasonal outlook for winter 2012/13 weather conditions over Greece

The Hellenic National Meteorological Service (HNMS) provides seasonal forecasts of the forthcoming winter 2012/13 archived from the European Centre for Medium-Range Weather Forecasts (ECMWF) as well as the NCEP coupled forecast system model (CFS). The seasonal climate outlook for winter 2012/13 regarding precipitation and temperature based on both systems, indicates that both parameters will be above normal referred to the 1981-2010 climatology. Thus the forthcoming winter will be warmer and wetter for Greece than climatological averages.

More specific mean 2m temperature anomaly extracted from ECMWF seasonal forecast (system 4) for December – January and February 2012/13 (DJF 2012/13) based on the November 2012 run are presented in Figure 1. A small positive anomaly of the mean 2m temperature up to 1°C over south and eastern Greece is forecasted while a slight increasing tendency of 0.0-0.5°C is evident over west and central mainland of Greece as well as northern islands.

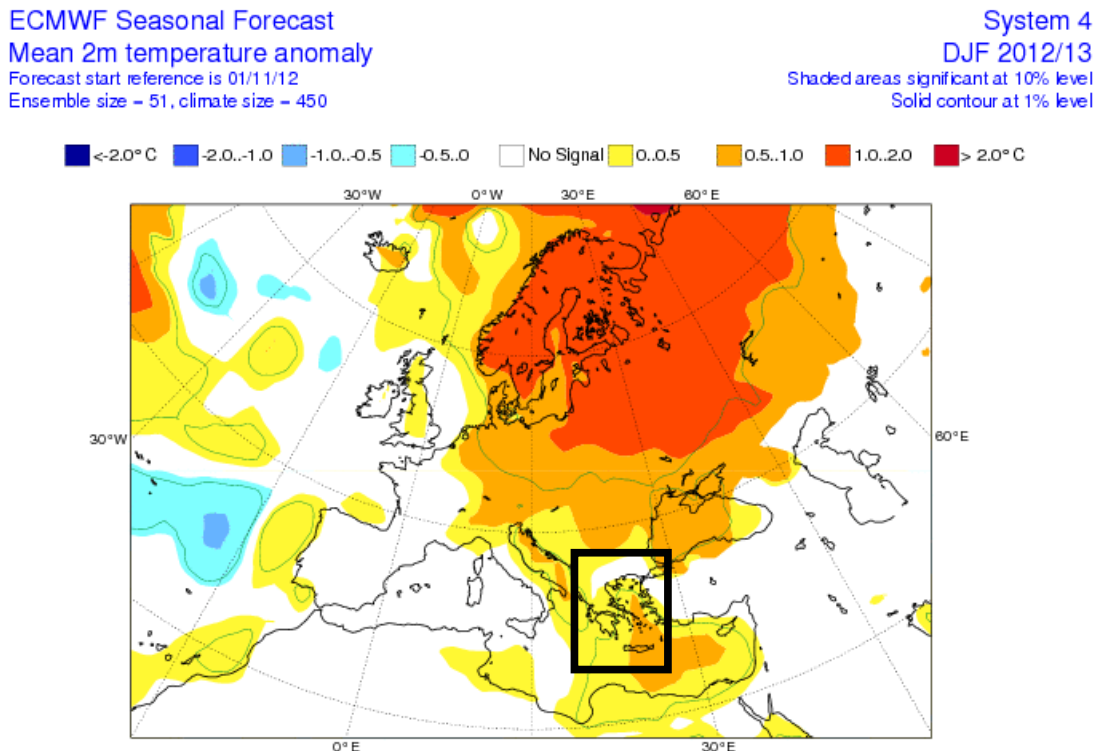


Figure 1. ECMWF seasonal forecast plots for winter 2012/13 for mean temperature anomalies, based on the November 2012 run

In addition the CFS forecasts with initial conditions based on the first 10 days of November (1-10 November 2012), with 4 runs from each day are illustrated in Figure 2. Temperature during winter 2012/13 will also be above normal with a slight anomaly ranging from 0.5 to 1°C, in respect to the 1981-2008 hind-cast climatology of the winter

seasonal values, over eastern parts of the country. Following both CFS and ECMWF forecasts it can be assumed that 2m temperature during winter 2012/13 has a 50% probability to be above normal over eastern Greece.

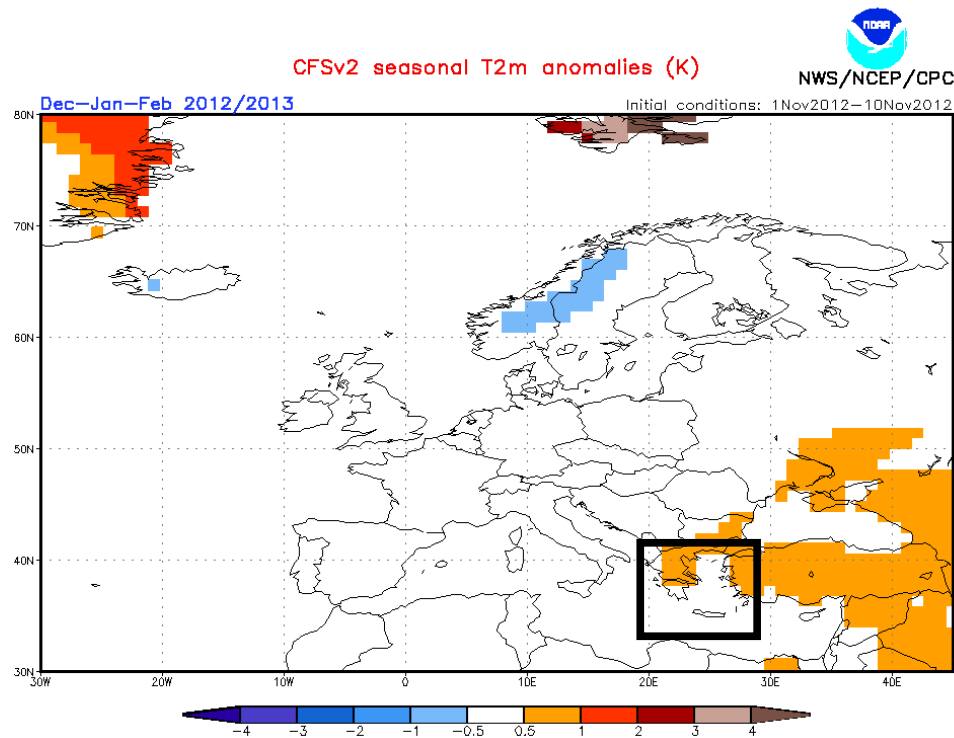


Figure 2. CFS version 2 seasonal forecast for winter 2012/13 for mean temperature anomalies, based on the November 2012 run
Source: (<http://origin.cpc.ncep.noaa.gov/products/people/wwang/cfsv2fcst/>)

Regarding the mean precipitation, the ECMWF seasonal forecast illustrated in Fig. 3, indicates a small positive anomaly over south-eastern Greece and mainly the islands while no signal is evident for the mainland of Greece compared to model climatology. According to the CFS version 2 seasonal forecasts (Figure 4), there is not an evident signal of precipitation anomaly for southern parts of the Greece, while a small positive anomaly is evident for north-western parts of the country as well as the islands located at the eastern parts of Greece. In addition according to ECMWF Seasonal forecast the probability of precipitation to exceed the upper 20th percentile at eastern part of Greece is above 40% as shown in Figure 5. Thus in both models the islands located over East Aegean Sea are those regions in which the distribution of likely outcomes is shifted substantially from the climatological averages.

ECMWF Seasonal Forecast
 Mean precipitation anomaly
 Forecast start reference is 01/11/12
 Ensemble size – 51, climate size – 450

System 4
 DJF 2012/13
 Shaded areas significant at 10% level
 Solid contour at 1% level

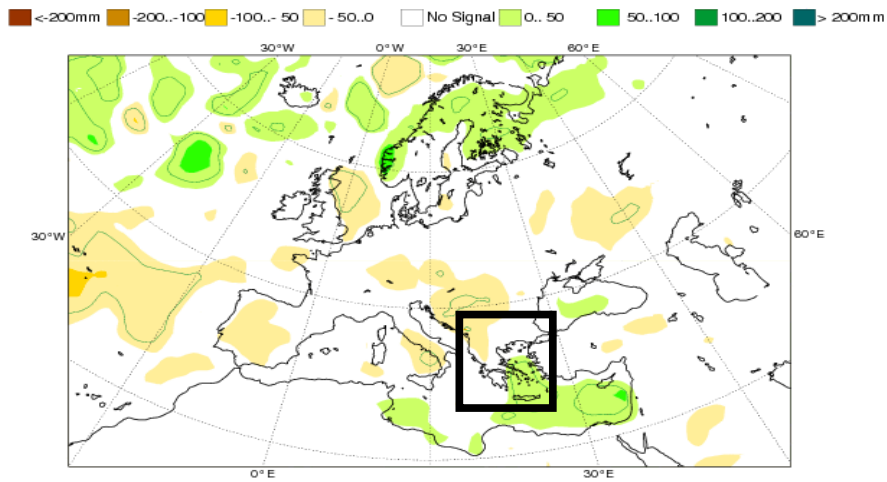


Figure 3. ECMWF seasonal forecast plots for winter 2012/13 for mean precipitation anomalies, based on the November 2012 run

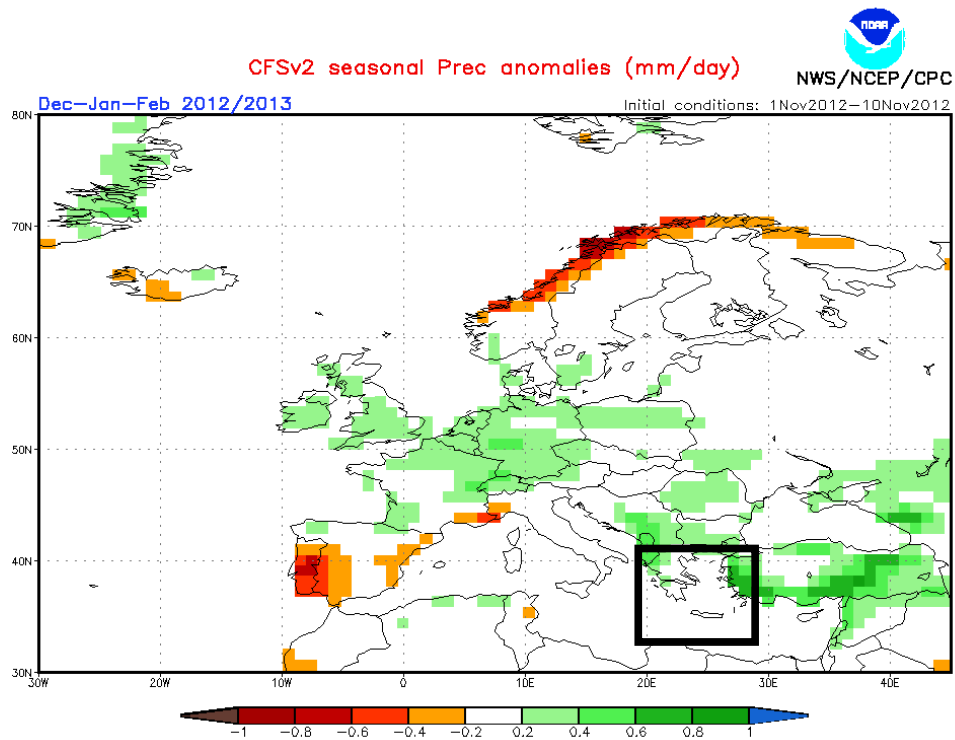


Figure 4. CFS version 2 seasonal forecast for winter 2012/13 for mean precipitation anomalies, based on the November 2012 run

Source: (<http://origin.cpc.ncep.noaa.gov/products/people/wwang/cfsv2fcst/>)

ECMWF Seasonal Forecast
Prob(highest 20% of climatology) - precipitation
Forecast start reference is 01/11/12
Ensemble size - 51, climate size - 450

System 4
DJF 2012/13

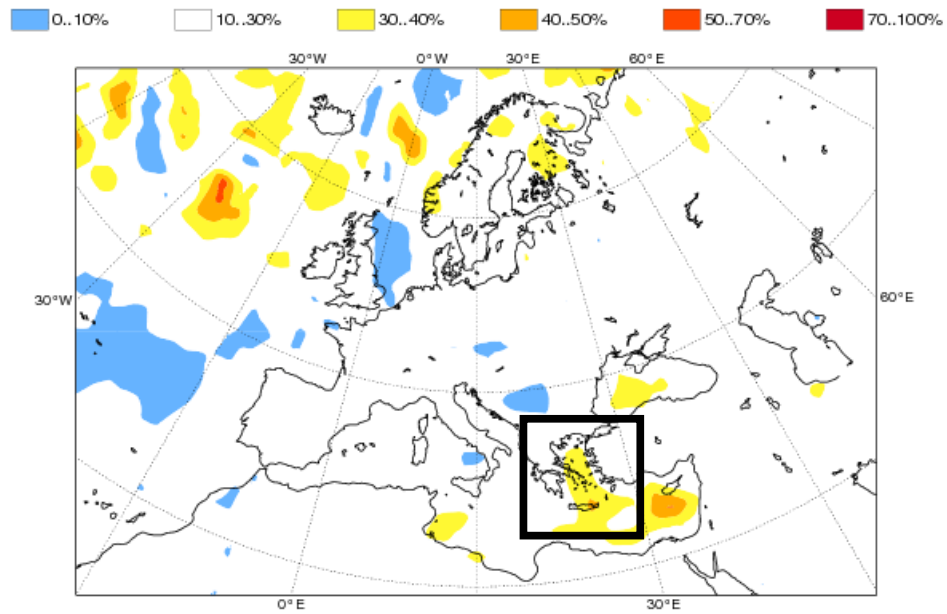


Figure 5. ECMWF seasonal forecast plots for winter 2012/13 for precipitation, based on the November 2012 run for precipitation