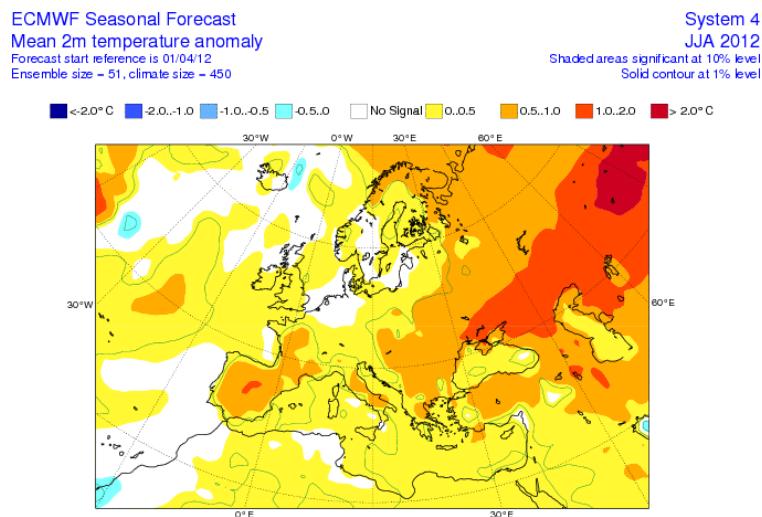


### Seasonal outlook for summer 2012 weather conditions over Greece

The seasonal forecasts of the forthcoming summer 2012 provided by Hellenic National Meteorological Service (HNMS) were archived from the European Centre for Medium-Range Weather Forecasts (ECMWF) as well as the NCEP coupled forecast system model (CFS).

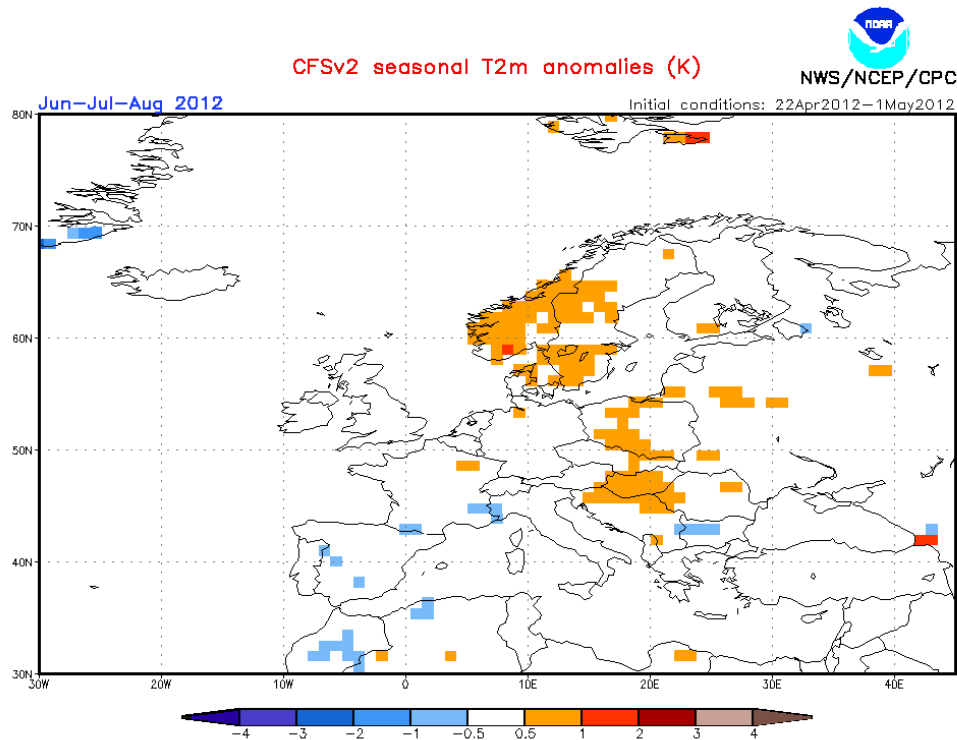
ECMWF seasonal forecast plots for summer 2012 based on the April 2012 run for mean temperature anomalies are presented in Fig. 1. It should be noted that temperature is a field with clear substantial trends to warmer values over recent decades, and this is reproduced in the seasonal forecast systems. However a small positive mean 2m temperature anomaly up to 1°C over central-east and northern Greece is expected. A slight increasing tendency of 0.0-0.5°C over west and south mainland of Greece as well as the islands is also illustrated.



**Figure 1.** ECMWF seasonal forecast plots for summer 2012 based on the April 2012 run for mean temperature anomalies

CFS forecasts are from initial conditions of the last 10 days of April (22 April-01 May), with 4 runs from each day. Forecast ensembles consist of 40 members from initial a period of 10 days. Anomalies presented are with respect to 1981-2008 hindcast climatology forecast using the CFS version 2 (CFSv2). According to version 2 of CFS outlook, illustrated in Fig. 2 temperature during summer 2012 will be almost normal with a slight anomaly ranging from -0.5 to 0.5°C with respect to 1981-2008 hindcast climatology of the summer seasonal values. Following both CFS and ECMWF forecasts it can be assumed that 2m temperature during summer 2012 over Greece will mainly follow seasonal values.

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

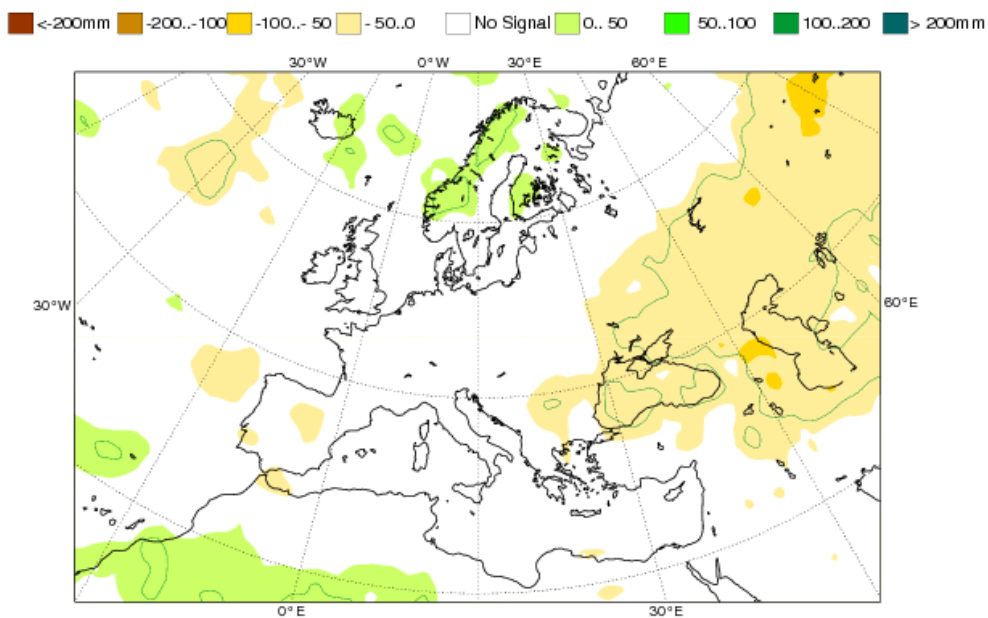


**Figure 2.** CFS version 2 seasonal forecast for summer 2012 based on the April 2012 run for mean temperature anomalies.

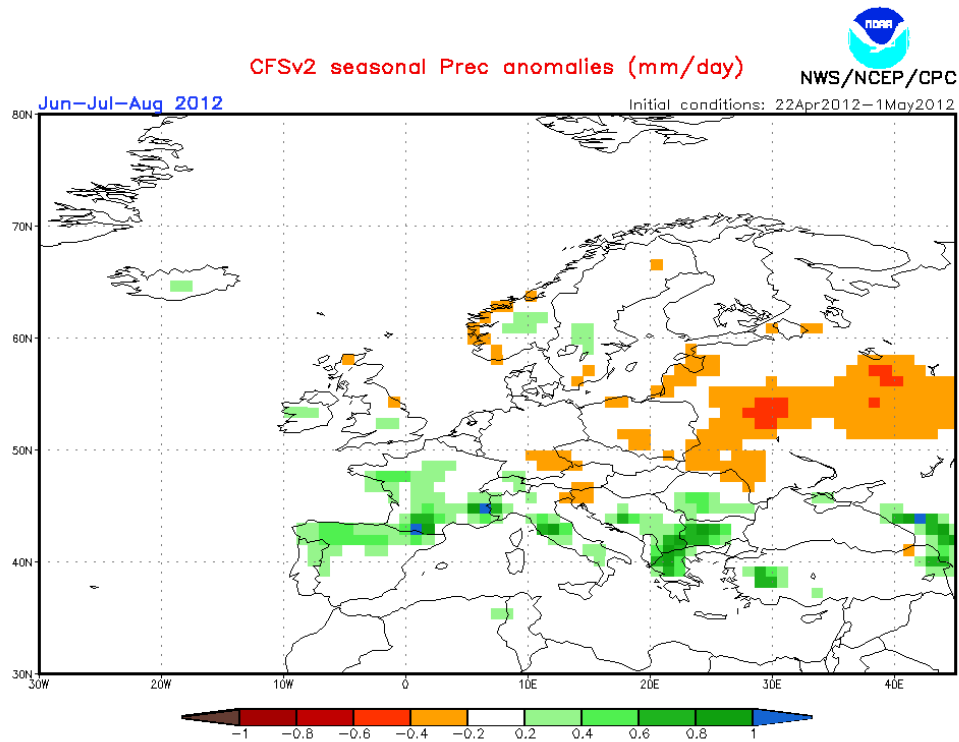
Regarding the mean precipitation, the ECMWF seasonal forecast illustrated in Fig. 3, indicates a small negative anomaly over northern Greece suggesting a drier summer, while for the rest of Greece no signal was apparent in comparison to the model climatology. Contradictory following the CFS version 2 seasonal forecast for summer 2012 (Figure 4) there is almost no precipitation anomaly for southern parts of the Greece, while a small positive anomaly is evident for central –northern parts of the country. This region is partly dominated by rough orography. As it is known that summer thunderstorm activity over Greece, develops along a convergence line following the peninsula mainland axis. During early or late summer, thunderstorm activity mostly affects inland areas, while during July and August it mostly affects coastal areas (Metaxas 1972). Therefore it is suggested that precipitation during summer 2012 will be normal and slightly above normal over central –northern parts of the country following CFS version 2 forecast.

ECMWF Seasonal Forecast  
Mean precipitation anomaly  
Forecast start reference is 01/04/12  
Ensemble size – 51, climate size – 450

System 4  
JJA 2012  
Shaded areas significant at 10% level  
Solid contour at 1% level



**Figure 3.** ECMWF seasonal forecast plots for summer 2012 based on the April 2012 run for mean precipitation anomalies



**Figure 4.** CFS version 2 seasonal forecast for summer 2012 based on the April 2012 run for mean precipitation anomalies

**Reference**

Metaxas, 1972 'Space and distribution of thunderstorm frequency in Greece'. Publications of the Laboratory of Meteorology, University of Ioannina, Greece (in Greek, extended abstract in English)