



**Step 3 of the
MEDITERRANEAN CLIMATE OUTLOOK FORUM (MedCOF-7)
Last updated 23rd November 2016**

**SEASONAL OUTLOOK FOR THE WINTER SEASON 2015-16 FOR THE
MEDITERRANEAN REGION**

Climate experts from WMO RA VI RCC Network Node on long-range forecasting (Meteo France and Hydrometeorological Centre of Russia), WMO RA VI RCC Network Node on climate monitoring (Deutscher Wetterdienst, Germany), WMO Northern Africa RCC Network Node on long-range forecasting (Directorate of National Meteorology, Morocco), WMO Northern Africa RCC Network Node on climate monitoring (National Institute of Meteorology, Tunisia), South East Europe Virtual Climate Change Centre (SEEVCCC, Serbia), Euro-Mediterranean Center on Climate Change (CMCC, Italy), Istituto de Biometeorología (IBIMET CNR, Italy), National Hydrometeorological Services and Research Institutes of MedCOF region provided their valuable contribution to the successful implementation of MedCOF-7 by developing the relevant documents and providing scientific guidance and recommendations.

The MedCOF-7 comprised of the following steps:

- Step 1: verification of the MedCOF-6 seasonal forecast
- Step 2: assessment of the current state of the climate including large-scale climate patterns worldwide and assessments of its likely evolution in the course of the next months;
- Step 3: building the consensus forecast for 2016-17 winter season.

All relevant documentation is posted and updated in MedCOF web site:
<http://www.medcof.aemet.es> .

MedCOF- 7 CLIMATE OUTLOOK

FOR THE 2016-2017 WINTER SEASON¹

This prediction is based on output from dynamical models, statistical models and known teleconnections of large-scale climate features.

A weak La Niña event now established in the tropical Pacific Ocean seems to be maintained during the remainder of fall, persisting through mid-winter, then weakening to cool-neutral by later winter. The long lasting North Atlantic cold blob over a large area to the south of Greenland shows some weakening trend. Although tropical ocean forcing is relatively weak, possible teleconnections from North Atlantic tropics suggest some perspective of anomalous cyclonic circulation over Southern Europe consistent with a negative phase of NAO. Finally as a summary, a significant number of GPC models shows as common feature some slight predominance of a positive phase for EA and SCAN patterns of variability and also climate drivers tend to point to an enhance occurrence of negative NAO.

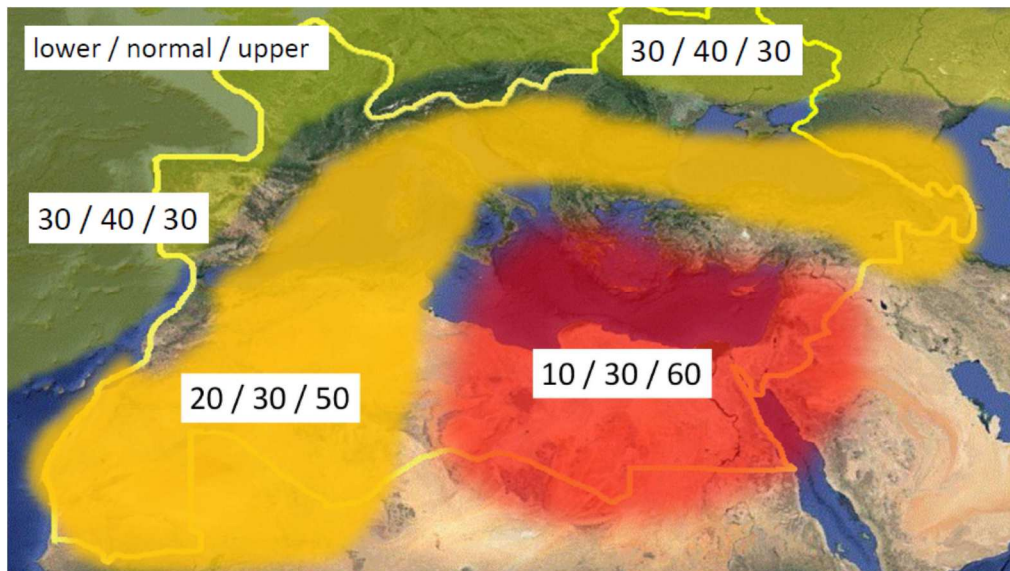


Figure 1. Graphical presentation of the 2016-17 winter temperature outlook. The maps show the probabilistic consensus forecast for tercile categories of anomalies for seasonal mean temperature, relative to the period 1981-2010. Due to the climate warming trend anomalies are affected by the selected reference period.

¹The graphical representation of climate outlook in this statement is only for guidance purposes, and does not imply any opinion whatsoever concerning the legal status of any country, territory, city or area or of its authorities, or concerning the delimitation of its frontiers or boundaries.



Due to the contradictory forcing over the North Atlantic/European sector with mean circulation dominated by a positive EA pattern with potentially cold episodes during negative NAO periods (possibly more frequent than climatology), there is uncertainty in the forecasting systems' prediction of large-scale atmospheric circulation during the winter. However, the most probable scenario over the Mediterranean basin is a cyclonic signal in the western part -due to the mentioned teleconnection from the tropics- and a high geopotential anomaly over Middle East.

This probable scenario would explain the consensus for a positive gradient of temperature anomalies pointing from the NW to the SE of the domain (see figure 1).

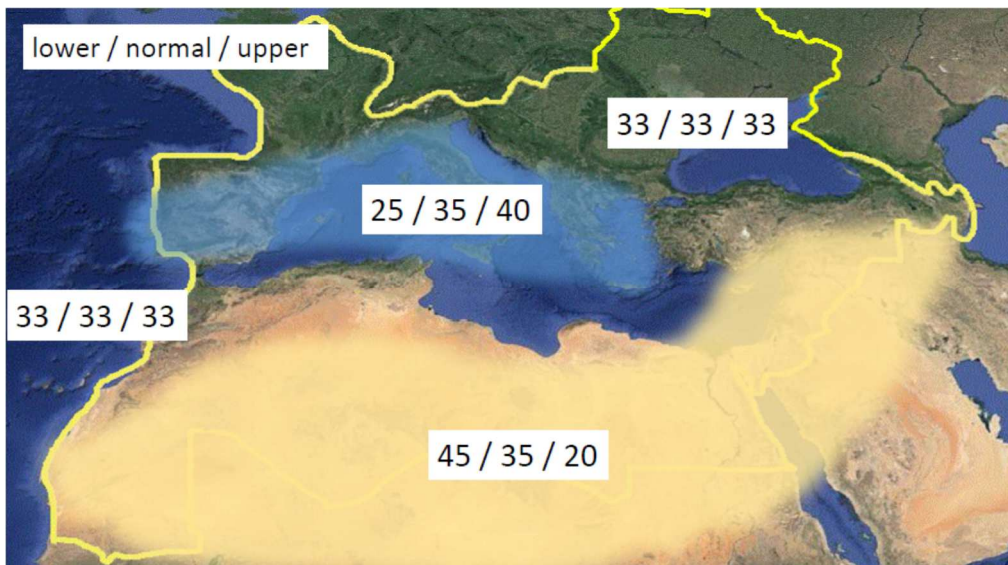


Figure 2. The same as figure 1 but for precipitation.

Although precipitation uncertainties are larger than for temperature, over the central part of the MedCOF region a wetter-than-normal winter is favoured, whereas over Middle East a drier-than-normal would predominate. For the rest of the region no large-scale precipitation signal is present in the forecasts (see figure 2).



WMO Northern Africa
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Sub-seasonal variations, not predictable a long time in advance, may dominate at times, so regular updates to the forecast are strongly recommended. In addition, local factors (for example SSTs in the smaller basins of the region) may shape local variability at a regional level.

Note that it is necessary to express seasonal forecasts in terms of probability due to inherent uncertainty. Any further advice on the forecast signals, smaller scales, shorter-range updates and warnings will be available throughout the winter from the National Meteorological Services, along with details on the methodology and skill of long-range predictions.



APPENDIX: Contributors to MedCOF-7

- World Meteorological Organization
- European Centre for Medium Range Weather Forecast, United Kingdom
- Météo France, Republic of France
- Roshydromet, Russia
- Agencia Estatal de Meteorología, Spain
- Deutscher Wetterdienst, Federal Republic of Germany
- National Centre of Meteorology and Aeronautical Climatology, Italy
- Euro-Mediterranean Center on Climate Change, Italy
- Institute of Biometeorology, Italy
- South East European Virtual Climate Change Center hosted by Republic Hydrometeorological Service of Serbia, Republic of Serbia
- National Meteorology Office, Algeria.
- Egyptian Meteorological Authority, Egypt
- National Institute of Meteorology and Hydrology, Republic of Bulgaria
- Meteorological and Hydrological Service, Republic of Croatia
- Meteorological Service, Republic of Cyprus
- Meteorological Service, Israel
- Meteorological Department, Jordan
- Meteorological Department, Lebanon
- National Environmental Agency of Georgia, Georgia
- Hydromet Service, Armenia
- Republic Hydrometeorological Institute, Former Yugoslav Republic of Macedonia
- Ministry of Transport, National Office of Meteorology, Mauritania
- Institute of Hydrometeorology and Seismology of Montenegro, Montenegro
- National Centre for Meteorological Research, Directorate of National Meteorology, Morocco
- National Meteorological Administration, Romania
- Republic Hydrometeorological Service of the Republic of Srpska, Bosnia and Herzegovina
- Federal Hydrometeorological Institute, Bosnia and Herzegovina
- Hydrometeorological Center, Ukraine
- Slovenian Environment Agency, Meteorological Office, Slovenia
- State Hydrometeorological Service, Republic of Moldova
- Republic Hydrometeorological Service of Serbia, Republic of Serbia
- National Institute of Meteorology, Tunisia
- State Meteorological Service, Turkey