

## ROYAUME DU MAROC

Ministère de l'Équipement,  
du Transport, de la Logistique et de l'Eau  
Département de l'Eau

DIRECTION DE LA METEOROLOGIE NATIONALE



المملكة المغربية  
وزارة التجهيز والنقل  
واللوجستيك والماء  
قطاع الماء  
مديرية الأرصاد الجوية الوطنية

### SEASONAL FORECAST OUTLOOK for North Africa

*March-April-May 2019 issued February-2019*

Seasonal forecast outlook for North Africa RCC domain is based on the ARPEGE-Climat coupled model output jointly with seasonal forecasts issued from ECMWF, UK Met-Office and IRI. The ARPEGE-Climat v5.2 coupled model is running at MAROC-METEO super-computer each month to elaborate seasonal ensemble forecasts. Sets of 27 forecasts are initialized by 9 atmospheric analysis, taken from ECMWF database, and 3 ocean analysis (PSY2G3R4) issued from MERCATOR center.

We also try to exploit the sources of predictability contained in the sea surface temperature (SST) by statistical methods when it is possible. We note, however, that this influence is not the same from one region to another or throughout all the year.

**NB:**

- 1. New: Multi-model probabilistic forecasts from EUROSIP and WMO LC-LRFMME*
- 2. All dynamical forecasts are experimental.*

### Synthesis:









































The analysis of current circulation, sea surface temperature, ENSO phenomenon and dynamical/statistical models outputs show probably for March-April-May 2019:

- For temperature:
  - ✚ Very likely above normal condition over Morocco, Algeria, Tunisia, Libya and Egypt.
- For precipitation:
  - ✚ Normal to below normal conditions over Morocco, Algeria, Tunisia, Northern Libya and Northern Egypt.

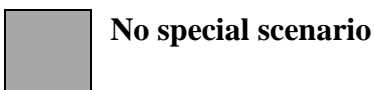
**NB: Precipitation forecasts are given for September to May (the main rainy season). Temperature forecasts are given for January to December.**

**Tables summarizing seasonal forecast for March-April-May 2019**

**1. Seasonal temperature forecast**















































<b>Model/multi-model</b>	<b>Morocco</b>	<b>Algeria</b>	<b>Tunisia</b>	<b>Libya</b>	<b>Egypt</b>
<b>ARPEGE-Climat</b>					
<b>ECMWF</b>	 Ext N & Atlantic Coast (S & C)  Elsewhere			 Ext N  Elsewhere	 Ext N  Elsewhere
<b>UK Met-Office</b>			 Almost Tunisia	 Ext N & CE  Elsewhere	 CW  Elsewhere
<b>EUROSIP</b>				 Ext N  Elsewhere	
<b>LRF-NMME</b>					
<b>IRI</b>	 C  Elsewhere	 SE  Elsewhere		 Ext S  Elsewhere	 W  Elsewhere
<b>Synthesis</b>	<b>Probably above normal conditions</b>	<b>Probably above normal conditions</b>	<b>Probably above normal conditions</b>	<b>Probably above normal conditions</b>	<b>Probably above normal conditions</b>

**Legend**



N: North; S: South ; W:West ; E:East ; C:center ; ATL : Atlas

## 2. Seasonal precipitation forecast

Model/multi-model	Morocco	Algeria	Tunisia	Libya	Egypt
<i>ARPEGE-Climat</i>					
<i>ECMWF</i>		 CW  Elsewhere	 S  Elsewhere	 N  Elsewhere	 NW  Elsewhere
<i>UK Met-Office</i>	 S  Elsewhere	 NE  Elsewhere	 Ext N & SE  Elsewhere	 W  Elsewhere	 N  Elsewhere
<i>EUROSIP</i>		 Almost Algeria		 Ext N  Elsewhere	
<i>LRF-NMME</i>	 S  NE & Atlantic coast C  Elsewhere	 Almost Algeria	 S  Elsewhere	 Ext NE  Elsewhere	 Almost Egypt
<i>IRI</i>	 Ext NE  Elsewhere	 Ext NW  Elsewhere	 Almost Tunisia	 Almost Libya	 Almost Egypt
<b>Synthesis</b>	<b>Probably normal to below normal conditions</b>	<b>Probably normal to below normal conditions</b>	<b>Probably normal to below normal conditions</b>	<b>Probably normal to below normal conditions over the North. No special scenario elsewhere</b>	<b>Probably normal to below normal conditions over the North. No special scenario elsewhere</b>

### Legend



Below-Normal



Normal



Above-Normal



No special scenario

N: North; S: South; W: West; E: East; C: Center; ATL: Atlas