

Seasonal Forecast Verification

For the winter season DJF 2019/2020

Country: Egypt

Institute: Egyptian Meteorological Authority

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1. The ARABCOF-5 Climate outlook for the 2019/2020 winter season

1.1 TEMPERATURE

According to ARABCOF-4 consensual outlook, temperatures were projected to be above normal conditions over Egypt. The probabilities of the three categories (below normal, normal and above normal) are respectively 10%, 30% and 60% in the northern part of Egypt and the same probabilities 10%, 40% and 50% of the southern part as shown in (figure 1).

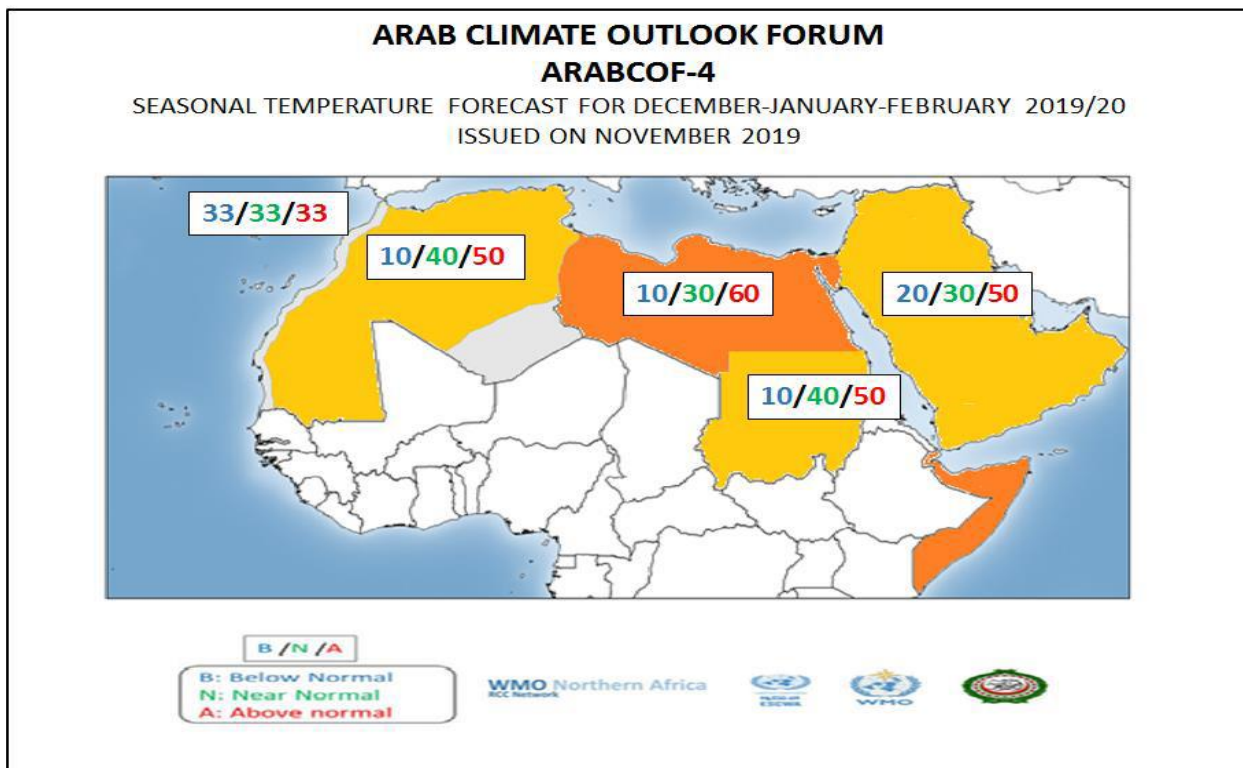


Fig.1: Winter ARABCOF-4 consensus temperature outlook for DJF 2019/2020

1.2 PRECIPITATION

Figure 2 is displayed precipitation in Egypt, according to ARABCOF-4. The probabilities of the three categories are 33% for “below normal”, 33% for “normal” and 33% “above normal”, for the all Egypt implies the fact that no meaningful forecast can be provided in these seasonally dry areas.

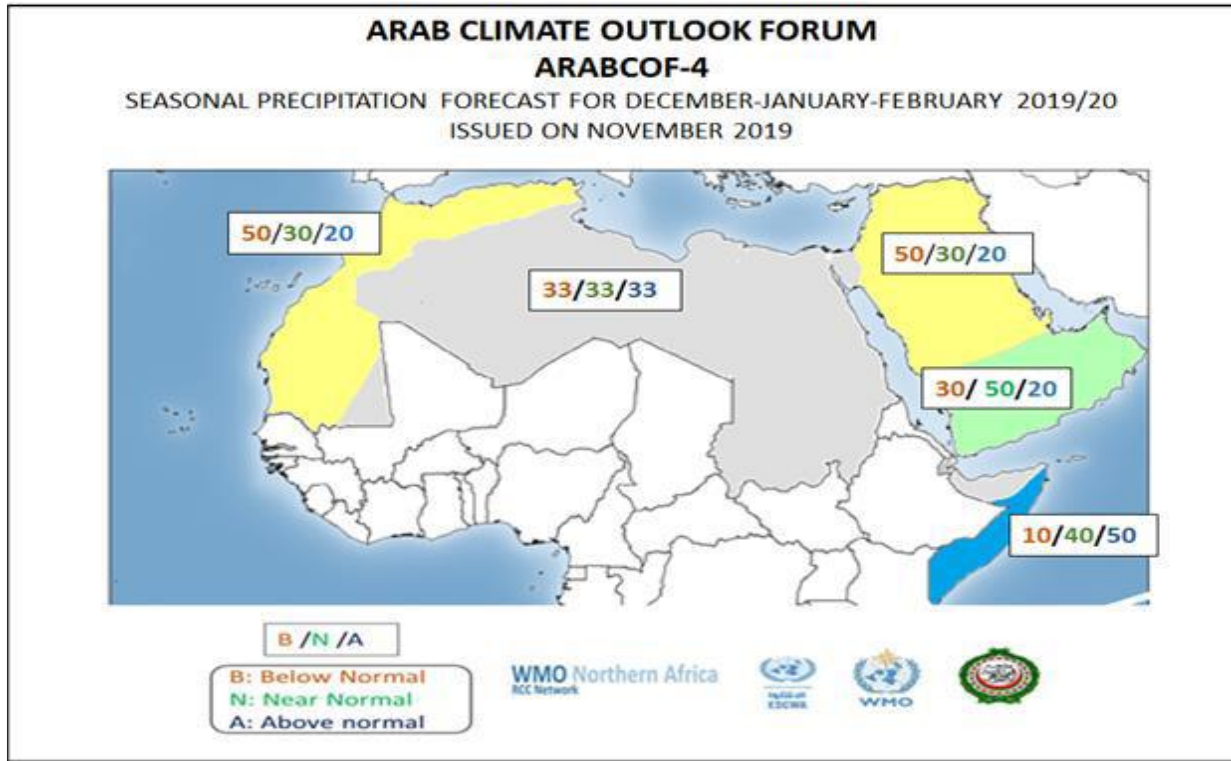


Fig.2: Winter ARABCOF-4 consensus precipitation outlook for DJF 2019/2020

2. Analysis of the 2019/2020 winter season

Using station observations as shown in (Fig. 3, 4)

This analysis, using the climatological period 1981-2010, a classification of winter precipitation and temperature data, from 12 synoptic stations that cover most of climatic regions of Egypt, except Western Egypt (Sahara region) see table (1).

Table (1)

station	306 <i>HEMM</i> Mersa Matruh 1	309 <i>DABAA</i> Dabaa 2	318 <i>HEAX</i> Alexandria 3	333 <i>HEPS</i> Port Said 4	337 <i>HEAR</i> El Arish 5	366 <i>HECA</i> Cairo 6	387 <i>MINYA</i> Minya 7	393 <i>HEAT</i> Asyut 8	405 <i>HELX</i> Luxor 9	414 <i>HESN</i> Aswan 10	463 <i>HEGN</i> Hurguada 11	435 <i>KHRGA</i> Kharga 12
Latitud	31.33	30.93	31.2	31.26	31.08	30.13	28.08	27.05	25.66	23.96	27.15	35.45
Longitu	27.21	28.46	29.95	32.29	33.83	31.4	30.73	31.01	32.7	32.78	33.71	30.53
Altitude	25	18	-2	6	31	64	40	226	93	200	16	73

2.1 TEMPERATURE

For winter temperature, above normal conditions was observed over all 12 stations of Egypt. Figure 4 shows the temperature values over Egypt during winter season DJF 2019-2020 was close to the right tercile) using climatological period is 1981-2010.

2.2 PRECIPITATION

In general, Precipitation was marked by a strong regional disparity with rainfall deficits in the south and surpluses in the north. Winter precipitations during 2019-2020 were below normal over the most of synoptic stations except Cairo station was normal, Alexandria, Hurguada, Minya, and Luxor stations were above normal.

3 High Impacts Events

Winter 2019/2020 was characterized by some extreme events.

a) Minimum temperature

The lowest value of minimum temperature over Egypt was about 3.2°C on the 3 January 2020 in Hurguada station.

b) Maximum temperature

The highest value of maximum temperature over Egypt was about 37°C on the 12 February 2020 in Aswan station.

c) Maximum precipitation

The station of Mersa Matruh recorded 26.2 mm on 6 December 2019, the highest 24 hour rainfall.

4 Verification of the ARABCOF-4 climate outlook for the winter seasons.

Verification of the ARABCOF-4 summarized as shown in table (2) Winter 2019/2020 was characterized by some extreme events.

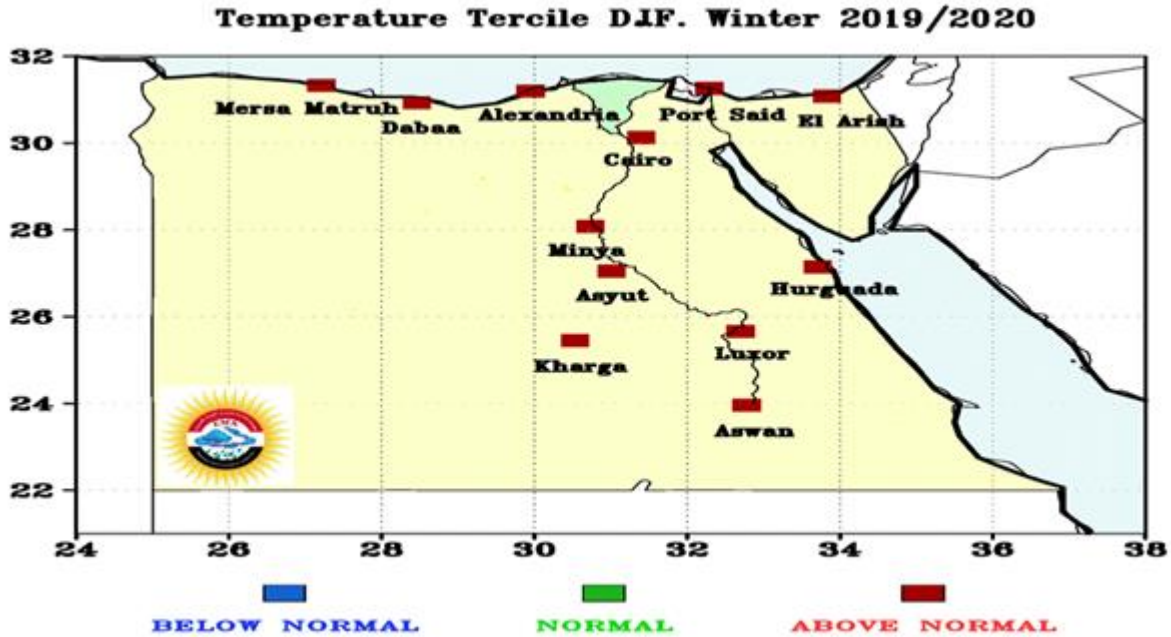


Fig.3: **Winter (DJF 2019/2020)** observed temperature over stations classified by terciles, climatological period is 1981-2010 (**B**: left tercile, **N**: medium tercile, **A**: right tercile)

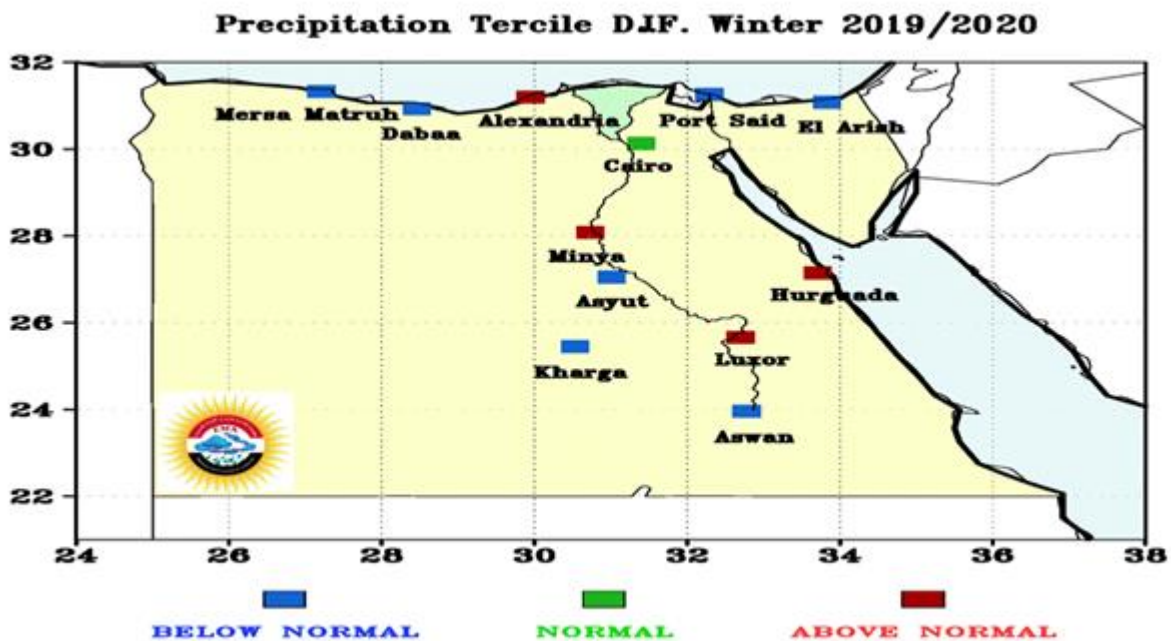


Fig.4: **Winter (DJF 2019/2020)** observed precipitation over stations classified by terciles, climatological period is 1981-2010 (**B**: left tercile, **N**: medium tercile, **A**: right tercile)

Table (2)

Country Egypt Station ID in zone (62)	Seasonal temperature (DJF 2019/2020)			ARABCOF- 4 climate outlook for temperature	Seasonal precipitation (DJF 2019/2020)			ARABCOF- 4 climate outlook for precipitation	High impact events for12 stations			
	Observed (1981-2010) as climatological reference				B	N	A			B	N	A
	B	N	A									
Mersa Matruh (306)	-	-	A	Above normal conditions (10%,30%,60%) over the Northern Egypt	B	-	-	Normal to below normal conditions (33%,33%,33%) over the Northern Egypt	- The station of Mersa Matruh recorded 26.16 mm on 6 December 2019, the highest 24 hour rainfall.			
Dabaa (309)	-	-	A		B	-	-					
Alexandria (318)	-	-	A		-	-	A					
Port Said (333)	-	-	A		B	-	-					
El Arish (337)	-	-	A		B	-	-					
Cairo (366)	-	-	A		-	N	-					
Minya (387)	-	-	A	Above normal conditions (10%,40%,50%) over the Southern Egypt	-	-	A	Normal to below normal condition (33%,33%,33%) over the Southern Egypt		-The lowest value of minimum temperature over Egypt was about 3.2°C on the 3 January 2018 in Hurguada. -The highest value of maximum temperature over Egypt was about 37°C on the 12 February 2018 in Aswan.		
Asyut (393)	-	-	A		B	-	-					
Luxor (405)	-	-	A		-	-	A					
Aswan (414)	-	-	A		B	-	-					
Hurguada (463)	-	-	A		-	-	A					
Kharga (463)	-	-	A		B	-	-					