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## MENINGITIS VIGILANCE FOR AFRICA

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## SUMMARY

- High vigilance is required for meningitis cases over Mali, northern Burkina faso, Niger, Chad, northern Nigeria, northern Cameroon and western Sudan.
- Moderate vigilance is needed over eastern Senegal and central Sudan
- Low to no vigilance characterizes the remaining parts of the meningitis belt.



FIGURE 1 – African Meningitis Belt.

**Table 1 : Situation épidémiologique / Epidemiological Situation**

Pays	Cas	Décès	Létalité (%)	District en Alerte	District en Epidémie	Complétude (%)
Country	Cases	Deaths	CFR (%)	District in Alert	District in Epidemic	Completeness (%)
Benin <sup>P</sup>	7	2	28.6	0	0	100.0
Burkina Faso <sup>T</sup>	54	2	3.7	1	0	100.0
Burundi <sup>T</sup>	-	-	-	-	-	-
Cameroun <sup>P</sup>	-	-	-	-	-	-
Centrafrique <sup>P</sup>	5	0	0.0	0	0	48.6
Côte d'Ivoire <sup>P</sup>	5	1	20.0	0	0	100.0
Ethiopia <sup>T</sup>	-	-	-	-	-	-
Ghana <sup>P</sup>	82	2	2.4	3	2	100.0
Guinea <sup>P</sup>	5	0	0.0	0	0	100.0
Guinée Bissau	-	-	-	-	-	-
Gambia <sup>T</sup>	-	-	-	-	-	-
Kenya	-	-	-	-	-	-
Mali <sup>T</sup>	9	0	0.0	0	0	100.0
Mauritania <sup>P</sup>	-	-	-	-	-	-
Niger <sup>T</sup>	4	1	25.0	0	0	100.0
Nigeria <sup>P</sup>	29	1	3.4	0	0	100.0
RD Congo <sup>P**</sup>	-	-	-	-	-	-
Senegal <sup>P</sup>	-	-	-	-	-	-
South Sudan <sup>P</sup>	-	-	-	-	-	-
Sudan <sup>T</sup>	0	0	0.0	0	0	100.0
Tanzania	1	1	100.0	0	0	100.0
Tchad <sup>T</sup>	15	1	6.7	1	0	100.0
Togo <sup>P</sup>	12	0	0.0	0	0	93.2
Uganda <sup>P</sup>	-	-	-	-	-	-
<b>Total</b>	<b>228</b>	<b>11</b>	<b>4.8</b>	<b>5</b>	<b>2</b>	<b>45.4</b>

FIGURE 2 – Inventory of meningitis occurrence in Africa during the 3<sup>rd</sup> week of January 2019. Data source : World Health Organization

During the week from January 27 to February 2, 2019 (Figure 2), very dry atmospheric conditions (relative humidity below 20 %) were observed over Chad, Niger, Mali, northern Burkina Faso, northern Nigeria, northern Cameroon, eastern Senegal and northwestern Sudan. Relative humidity between 20 and 40 % prevailed over parts of Sudan, Senegal and a small area over the Gulf of Guinea countries. Wet (relative humidity above 40 %) atmospheric conditions were observed over the coast.

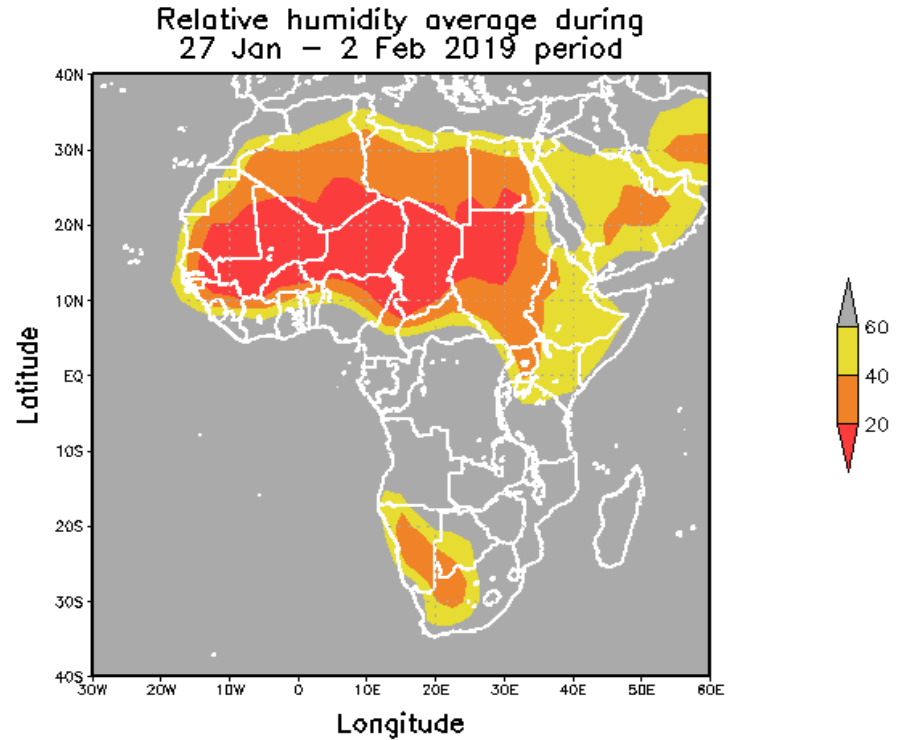


FIGURE 3 – Mean relative humidity (%) for the period from January 27 to February 2, 2019.

The surface dust concentration observed on 3<sup>rd</sup> February 2019 at 00 :00 UTC is shown in Figure 3. The figure reveals that low dust concentration ( $50 \mu\text{g m}^3$ ) was observed over the Gulf of Guinea countries, except over the extreme northern parts of Nigeria and Cameroon. The southern parts of Senegal, Mali, Niger and Chad were similarly marked by low dust concentration. Moderate dust concentration (between  $50$  and  $150 \mu\text{g m}^3$ ) were located over northern Nigeria, Mali, Sudan and central Niger. The dust concentration between  $150$  and  $300 \mu\text{g m}^3$  were observed mainly over Mauritania, central Chad, Sudan, Algeria, Libya, Morocco and Sahara Occidental. High dust concentration of more than  $300 \mu\text{g m}^3$  were located over Morocco, Algeria, Tunisia, and Libya.

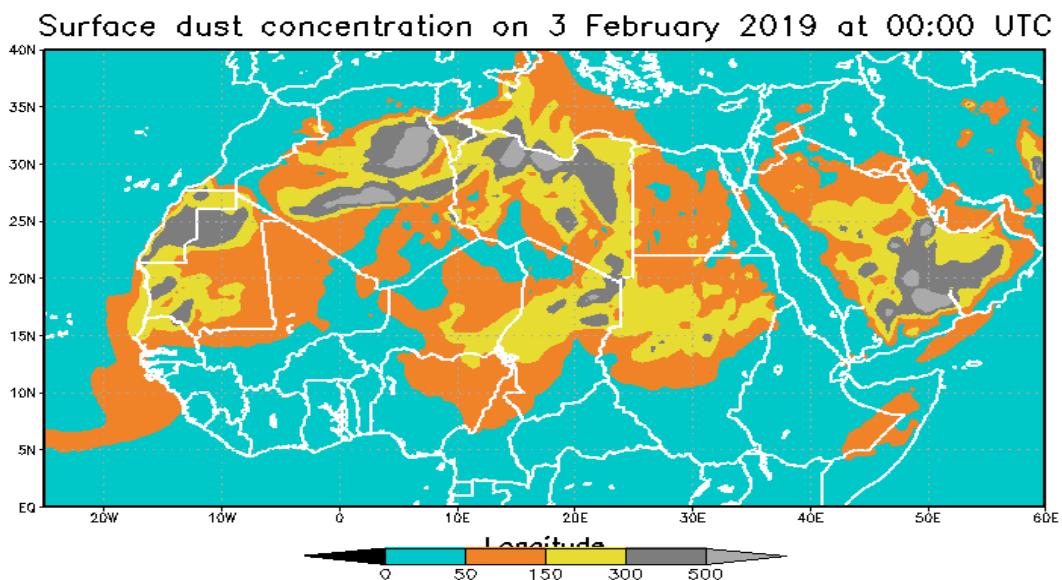


FIGURE 4 – Surface dust Concentration ( $\mu\text{g m}^3$ ) estimated on 3<sup>rd</sup> February 2019 at 00 :00 UTC from ECMWF reanalyses.

Figure 4 indicates that northerly winds were dominant over much of the meningitis belt. The highest values were observed over Senegal, northern Guinea, Burkina Faso, Mauritania, Mali, Niger, northern Nigeria, northern Cameroon, Chad and northern Sudan.

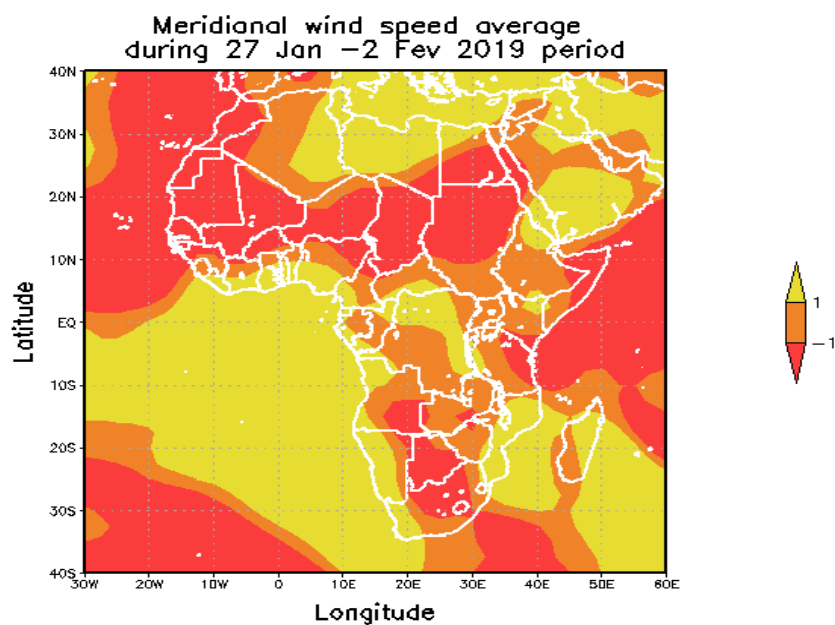
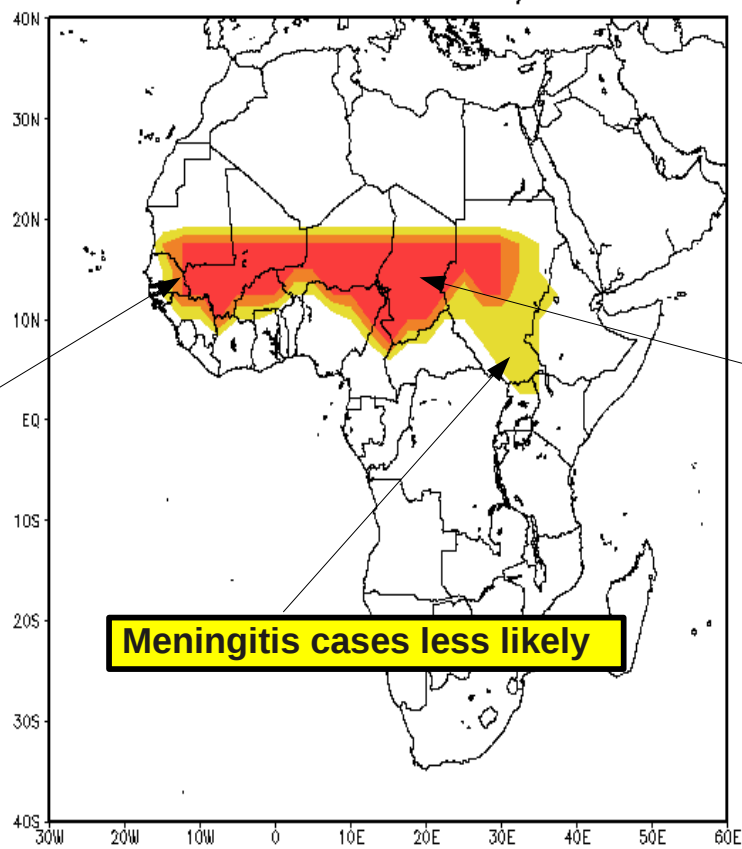


FIGURE 5 – Mean meridional wind speed ( $\text{m s}^{-1}$ ) for the period from January 27 to February 2, 2019.



VIGILANCE MAP FOR EMERGENCE OF MENINGITIS IN AFRICA  
ISSUED ON FEBRUARY 5, 2019



**HAZARD**

Dust, wind and relative humidity conditions are favorable for emergence of meningitis cases

**POTENTIAL IMPACTS**

Meningitis cases very likely

**MEASURES**

Activation of meningitis surveillance and systems

**HAZARD**

Dust, wind and relative humidity conditions are very much favorable for emergence of meningitis cases

**POTENTIAL IMPACTS**

Meningitis cases very likely and epidemics status possible

**MEASURES**

Strengthen meningitis surveillance and systems