

# MENINGITIS VIGILANCE FOR AFRICA

Bulletin No. 015

Issued on April 30, 2019

Valid until May 7, 2019

## SUMMARY

- From week 14<sup>th</sup> to 15<sup>th</sup>, meningitis cases significantly decreased over West Africa. During the 15<sup>th</sup> week, 268 meningitis cases was declared with 11 deaths. In total and for the 15 first weeks of the year, 7791 meningitis cases with 486 deaths was observed over the African meningitis belt.
- High vigilance is needed for meningitis cases over central western Niger, central Chad, and Central Sudan.
- Moderate vigilance is required over southern and central Mali, central Niger, southern and western Sudan, and southern Chad.
- Low to no vigilance is needed over the remaining parts of the meningitis belt.



FIGURE 1 – African Meningitis Belt.



8<sup>th</sup> to 14<sup>th</sup> April 2019

I. SITUATION EPIDEMIOLOGIQUE DE LA SEMAINE 15 / EPIDEMIOLOGICAL SITUATION OF WEEK 15

Table 1: Situation épidémiologique / Epidemiological Situation

Pays Country	Cas Cases	Décès Deaths	Létalité (%) CFR (%)	District en Alerte District in Alert	District en Epidémie District in Epidemic	Complétude (%) Completeness (%)
Benin <sup>P</sup>	9	0	0.0	1	0	100.0
Burkina Faso <sup>T</sup>	90	5	5.6	1	0	100.0
Burundi <sup>T</sup>	0	0	0.0	0	0	100.0
Cameroun <sup>P</sup>	13	0	0.0	0	0	80.5
Centrafrique <sup>P</sup>	5	1	20.0	0	0	85.7
Côte d'Ivoire <sup>P</sup>	-	-	-	-	-	-
Ethiopia <sup>T</sup>	-	-	-	-	-	-
Ghana <sup>P</sup>	15	1	6.7	1	0	100.0
Guinée <sup>P</sup>	13	0	0.0	0	0	100.0
Guinée Bissau	-	-	-	-	-	-
Gambia <sup>T</sup>	4	0	0.0	1	0	100.0
Kenya	-	-	-	-	-	-
Mali <sup>T</sup>	14	0	0.0	0	0	100.0
Mauritania <sup>P</sup>	0	0	0.0	0	0	100.0
Niger <sup>T</sup>	-	-	-	-	-	-
Nigeria <sup>P</sup>	44	1	2.3	1	0	100.0
RD Congo <sup>**</sup>	-	-	-	-	-	-
Senegal <sup>P</sup>	11	0	0.0	0	0	100.0
South Sudan <sup>P</sup>	-	-	-	-	-	-
Sudan <sup>T</sup>	0	0	0.0	0	0	100.0
Tanzania	0	0	0.0	0	0	100.0
Tchad <sup>T</sup>	23	2	8.7	1	0	98.4
Togo <sup>P</sup>	27	1	3.7	0	1	97.7
Uganda <sup>P</sup>	-	-	-	-	-	-
<b>Total</b>	<b>268</b>	<b>11</b>	<b>4.1</b>	<b>6</b>	<b>1</b>	<b>50.7</b>

<sup>P</sup> = Pays partiellement vacciné avec le MenAfriVac / Country partially vaccinated with MenAfriVac  
<sup>T</sup> = Pays entièrement vacciné avec le MenAfriVac / Country entirely vaccinated with MenAfriVac  
<sup>\*\*</sup> La vaste majorité du territoire de la République démocratique du Congo se situe en dehors de la ceinture africaine de la méningite. Par conséquent, les seuils d'alerte et d'épidémie ne sont pas applicables / The majority of the Democratic Republic of the Congo territory is situated outside the African meningitis belt. Thus the alert and epidemic thresholds are not applicable

FIGURE 2 – Inventory of meningitis occurrence in Africa during the 15<sup>th</sup> week of the year, 2019. Data source : <https://www.who.int/emergencies/diseases/meningitis/meningitis-bulletin-15-2019.pdf?ua=1>

(Semaines notifiées / Reported weeks 01-15)

Table 2: SYNTHESE DE LA SITUATION EPIDEMIOLOGIQUE/Summary of the Epidemiological situation

Pays Country	Cas Cases	Décès Deaths	Létalité (%) CFR (%)	District en Alerte District in Alert	District en Epidémie District in Epidemic	Semaines notifiées Reported weeks	En districts (%) In districts (%)	En semaines(%) In weeks(%)
Benin <sup>P</sup>	174	19	10.9	4	0	01-15	100.0	100.0
Burkina Faso <sup>T</sup>	1 425	96	6.7	10	0	01-15	100.0	100.0
Burundi <sup>T</sup>	22	1	4.5	0	0	01-15	100.0	100.0
Cameroun <sup>P</sup>	275	14	5.1	7	0	01-15	95.8	94.8
Centrafrique <sup>P</sup>	219	33	15.1	6	0	01-15	88.6	93.1
Côte d'Ivoire <sup>P</sup>	80	1	1.3	0	0	01-14	100.0	100.0
Ethiopia <sup>T</sup>	-	-	-	-	-	-	-	-
Ghana <sup>P</sup>	591	16	2.7	15	4	01-15	100.0	100.0
Guinée	131	3	2.3	0	0	01-15	100.0	99.1
Guinée Bissau	-	-	-	-	-	-	-	-
Gambia <sup>T</sup>	14	1	7.1	3	0	01-15	100.0	100.0
Kenya	55	2	3.6	0	0	01-14	100.0	100.0
Mali <sup>T</sup>	186	1	0.5	0	0	01-15	100.0	99.9
Mauritania <sup>P</sup>	0	0	0.0	0	0	01-15	100.0	100.0
Niger <sup>T</sup>	377	34	9.0	1	0	01-14	100.0	100.0
Nigeria <sup>P</sup>	967	55	5.7	5	2	01-15	100.0	100.0
RD Congo <sup>**</sup>	2 078	142	6.8	-	-	01-14	17.1	85.3
Senegal <sup>P</sup>	118	0	0.0	0	0	01-15	100.0	100.0
South Sudan <sup>P</sup>	34	5	14.7	2	0	01-14	100.0	100.0
Sudan <sup>T</sup>	7	0	0.0	0	0	01-15	100.0	100.0
Tanzania	12	6	50.0	0	0	01-15	100.0	100.0
Tchad <sup>T</sup>	619	47	7.6	7	1	01-15	100.0	99.7
Togo <sup>P</sup>	407	10	2.5	1	2	01-15	97.7	97.1
Uganda <sup>P</sup>	-	-	-	-	-	-	-	-
<b>Total</b>	<b>7 791</b>	<b>486</b>	<b>6.2</b>	<b>61</b>	<b>9</b>	<b>01-15</b>	<b>66.2</b>	<b>99.1</b>

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FIGURE 3 – Inventory of meningitis occurrence in Africa during the first fifteen weeks of year 2019. Data source : <https://www.who.int/emergencies/diseases/meningitis/meningitis-bulletin-15-2019.pdf?ua=1>

Figure 4 shows the mean relative humidity estimated from NCEP reanalysis during 20 – 27 April 2019 period. It reveals that the very dry atmospheric conditions (relative humidity below 20 %) was observed over the Sahara region, particularly over northern Mali, Algeria, northern Niger, northern Chad, northern Sudan and Libya. Moistening atmospheric conditions (relative humidity between 20 and 40 %) occurred over Mauritania, eastern Senegal, southern Mali, northern Burkina Faso, central Niger, southern Chad, northern Nigeria, and South Sudan. This week was also marked by rain events over some parts of Mali, Niger, Burkina Faso. Wet (relative humidity above 40 %) atmospheric conditions were recorded over the Gulf of Guinea countries, Tanzania, Burundi, Somalia, and Rwanda.

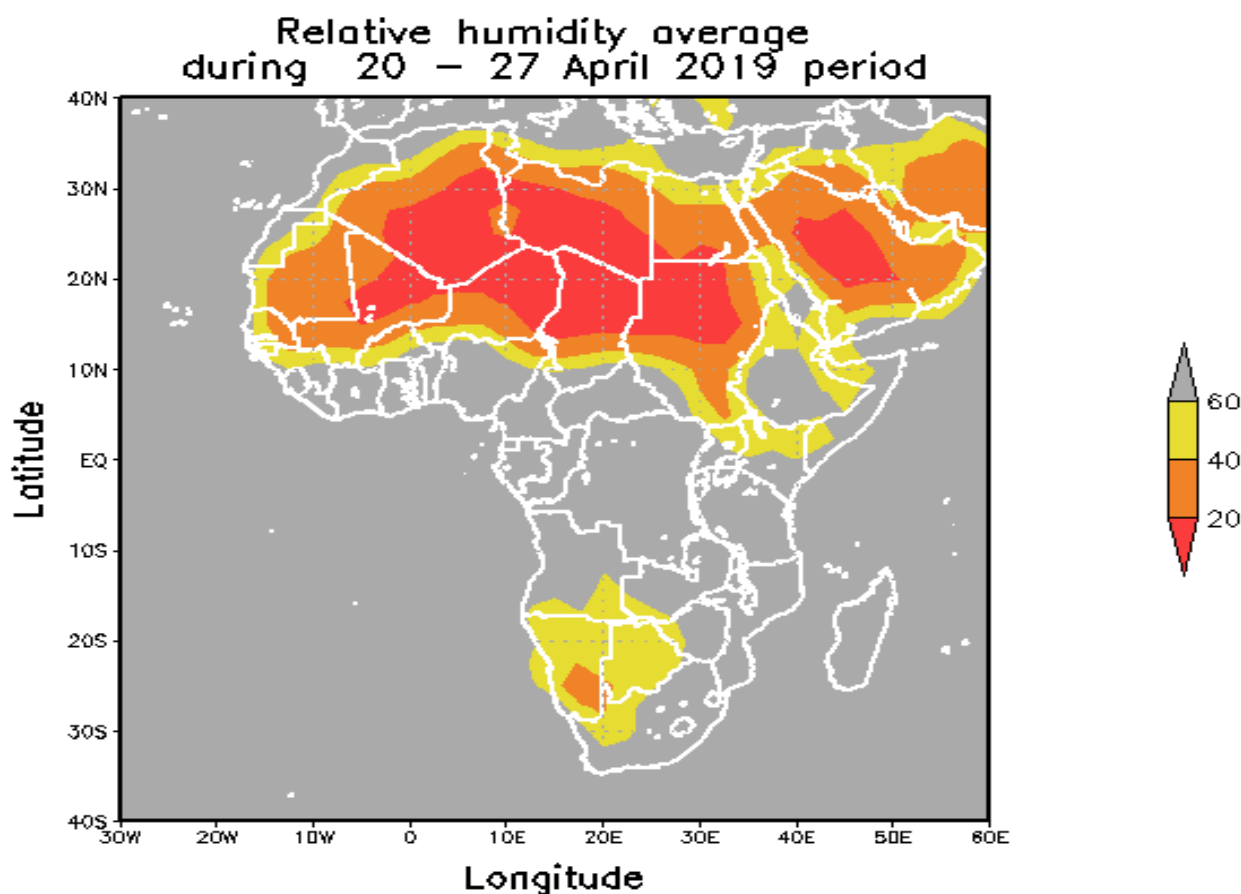


FIGURE 4 – Mean relative humidity (%) for the period 20 – 27 April 2019 estimated from NCEP reanalysis at 1000 hPa.

Figure 5 presents an example of surface dust concentrations estimated on 27<sup>th</sup> April 2019 at 00 :00 UTC. Highest values of surface dust concentrations prevailed over the central and eastern West African, northern Senegal, western Mauritania, northern Algeria, Libya, Egypt, central Sudan, and northern Sudan. Moderate surface dust concentrations are observed over the remaining part of the meningitis.

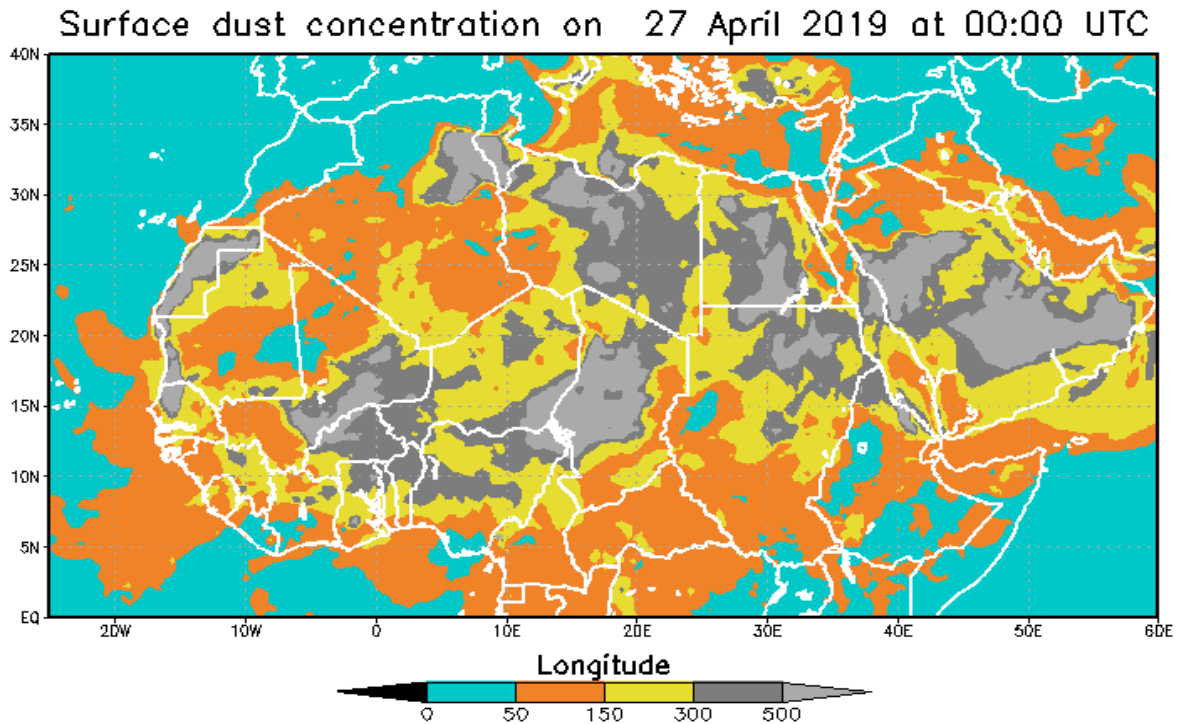


FIGURE 5 – Surface dust concentration ( $\mu\text{g m}^3$ ) estimated on April 27, 2019 at 00 :00 UTC from Goddard Earth Observing Model (GEOS) data.

Figure 6 presents the mean meridional wind speed during the week from 20 to 27 April 2019. It indicates that the all Gulf of Guinea countries was under the influence of the monsoon flow. The ITD continued his northward migration and reached southeastern Senegal, central Mali, Central Niger and central Chad. The western West Africa was under the influence of the Atlantic Inflow that gave moist atmospheric conditions. The Harmattan flow favoring the increase of meningitis cases prevailed over northern Niger, northern Chad, and northern Sudan.

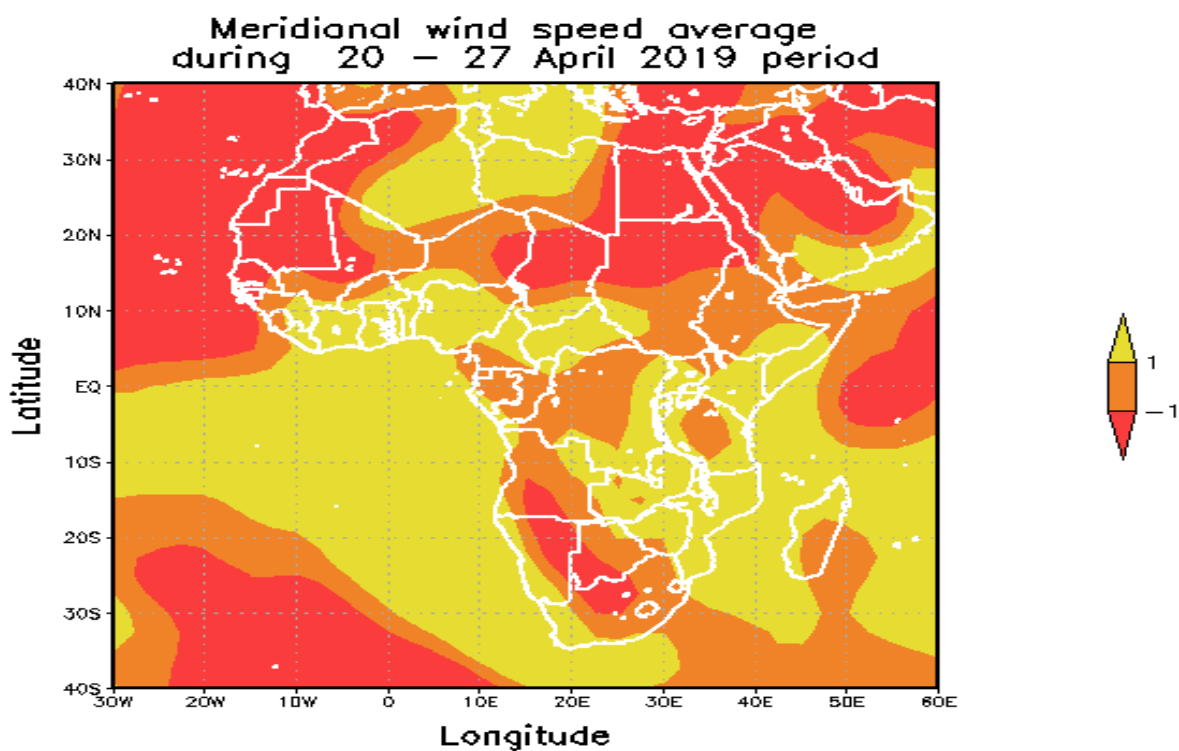


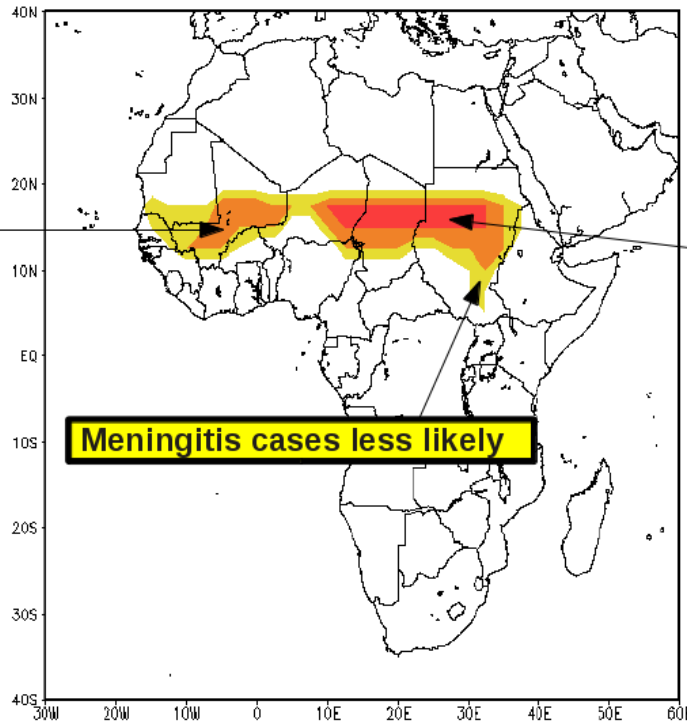
FIGURE 6 – Mean meridional wind speed ( $\text{m s}^{-1}$ ) for the period 20 – 27 April 2019 estimated from NCEP reanalysis at 1000 hPa.



VIGILANCE MAP FOR EMERGENCE OF MENINGITIS IN AFRICA  
ISSUED ON APRIL 30, 2019



<b>HAZARD</b> Dust, wind and relative humidity conditions are favorable for emergence of meningitis cases
<b>POTENTIAL IMPACTS</b> Meningitis cases very likely
<b>MEASURES</b> Activation of meningitis surveillance and systems



<b>HAZARD</b> Dust, wind and relative humidity conditions are very much favorable for emergence of meningitis cases
<b>POTENTIAL IMPACTS</b> Meningitis cases very likely and epidemics status possible
<b>MEASURES</b> Strengthen meningitis surveillance and systems