



MENINGITIS VIGILANCE FOR AFRICA

Bulletin No. 013

Issued on April 16, 2019

Valid until April 23, 2019

SUMMARY

- From week 12th to 13th, meningitis cases decreased in the African meningitis belt except over Senegal, Central African Republic and Ghana. During the week 13th, 427 meningitis cases was declared with 26 deaths. In total, 6642 meningitis cases with 430 deaths was observed during the first 13th weeks of this year.
- High vigilance is needed for meningitis cases over central Mali, central Niger, Chad, and Central Sudan.
- Moderate vigilance is required over southern Mauritania, eastern Senegal, southern Mali, southern Niger, northern Burkina Faso, Nigeria, and southern Chad.
- Low to no vigilance is needed over the remaining parts of the meningitis belt.



FIGURE 1 – African Meningitis Belt.

25th to 31st March 2019

SITUATION EPIDEMIOLOGIQUE DE LA SEMAINE 13 / EPIDEMIOLOGICAL SITUATION OF WEEK 13

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 ^P	16	0	0.0	0	0	100.0
Burkina Faso ^T	137	13	9.5	1	0	100.0
Burundi ^T	-	-	-	-	-	-
Cameroun ^P	16	1	6.2	0	0	80.0
Centrafrique ^P	8	3	37.5	0	0	65.7
Côte d'Ivoire ^P	3	0	0.0	0	0	100.0
Ethiopia ^T	-	-	-	-	-	-
Ghana ^P	31	1	3.2	2	0	100.0
Guinée ^P	11	0	0.0	0	0	100.0
Guinée Bissau	-	-	-	-	-	-
Gambia ^T	0	0	0.0	0	0	100.0
Kenya	4	0	0.0	0	0	100.0
Mali ^T	13	0	0.0	0	0	100.0
Mauritania ^P	0	0	0.0	0	0	100.0
Niger ^T	39	3	7.7	0	0	100.0
Nigeria ^P	73	3	4.1	0	0	100.0
RD Congo ^{P**}	-	-	-	-	-	-
Senegal ^P	20	0	0.0	0	0	100.0
South Sudan ^P	0	0	0.0	0	0	100.0
Sudan ^T	0	0	0.0	0	0	100.0
Tanzania	0	0	0.0	0	0	100.0
Tchad ^T	56	2	3.6	1	1	97.6
Togo ^P	-	-	-	-	-	-
Uganda ^P	-	-	-	-	-	-
Total	427	26	6.1	4	1	61.0

^P = Pays partiellement vacciné avec le MenAfriVac / Country partially vaccinated with MenAfriVac
^T = Pays entièrement vacciné avec le MenAfriVac / Country entirely vaccinated with MenAfriVac
^{**} 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 13th week of the year, 2019. Data source : <https://www.who.int/emergencies/diseases/meningitis/meningitis-bulletin-13-2019.pdf?ua=1>

(Semaines notifiées / Reported weeks 01- 13)

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

Pays	Cas	Décès	Létalité (%)	District en Alerte	District en Epidémie	Semaines notifiées	En districts (%)	En semaines(%)
Country	Cases	Deaths	CFR (%)	District in Alert	District in Epidemic	Reported weeks	In districts (%)	In weeks(%)
Benin ^P	162	19	11.7	4	0	01-13	100.0	100.0
Burkina Faso ^T	1 207	77	6.4	9	0	01-13	100.0	100.0
Burundi ^T	18	0	0.0	0	0	01-12	100.0	100.0
Cameroun ^P	248	14	5.6	7	0	01-13	95.8	94.8
Centrafrique ^P	206	31	15.0	6	0	01-13	88.6	90.1
Côte d'Ivoire ^P	78	1	1.3	0	0	01-13	100.0	100.0
Ethiopia ^T	-	-	-	-	-	-	-	-
Ghana ^P	553	14	2.5	14	4	01-13	100.0	100.0
Guinée ^P	103	3	2.9	0	0	01-13	100.0	99.0
Guinée Bissau	-	-	-	-	-	-	-	-
Gambia ^T	10	1	10.0	2	0	01-13	100.0	100.0
Kenya	50	2	4.0	0	0	01-13	100.0	100.0
Mali ^T	163	0	0.0	0	0	01-13	100.0	99.9
Mauritania ^P	0	0	0.0	0	0	01-13	100.0	100.0
Niger ^T	315	28	8.9	1	0	01-13	100.0	100.0
Nigeria ^P	771	50	6.5	3	2	01-13	100.0	100.0
RD Congo ^{P**}	1 774	129	7.3	-	-	01-12	17.1	85.7
Senegal ^P	96	0	0.0	0	0	01-13	100.0	100.0
South Sudan ^P	19	2	10.5	1	0	01-13	100.0	100.0
Sudan ^T	7	0	0.0	0	0	01-13	100.0	100.0
Tanzania	12	6	50.0	0	0	01-13	100.0	100.0
Tchad ^T	560	44	7.9	7	1	01-13	100.0	99.6
Togo ^P	290	9	3.1	1	2	01-12	97.7	96.3
Uganda ^P	-	-	-	-	-	-	-	-
Total	6 642	430	6.5	55	9	01-13	66.2	99.1

^P = Pays partiellement vacciné avec le MenAfriVac / Country partially vaccinated with MenAfriVac
^T = Pays entièrement vacciné avec le MenAfriVac / Country entirely vaccinated with MenAfriVac
^{**} 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 3 – Inventory of meningitis occurrence in Africa during the first eleven weeks of year 2019. Data source : <https://www.who.int/emergencies/diseases/meningitis/meningitis-bulletin-13-2019.pdf?ua=1>

Figure 4 shows the mean relative humidity estimated from NCEP reanalysis during 5 – 12 April 2019 period. It indicates that very dry atmospheric conditions (relative humidity below 20 %) prevailed over central and northern Mali, southern Algeria, Niger, northern Burkina Faso, central and northern Chad, southern Libya and Egypt, and Sudan. Moistening atmospheric conditions (relative humidity between 20 and 40 %) occurred over Mauritania, eastern Senegal, southern Mali, central Burkina Faso, northern Nigeria and Benin, southern Chad, South Sudan, western Ethiopia, and northern Uganda. Wet (relative humidity above 40 %) atmospheric conditions were recorded over the Gulf of Guinea countries, Tanzania, Burundi, Somalia, and Rwanda.

Relative humidity average during 5 – 12 April 2019 period

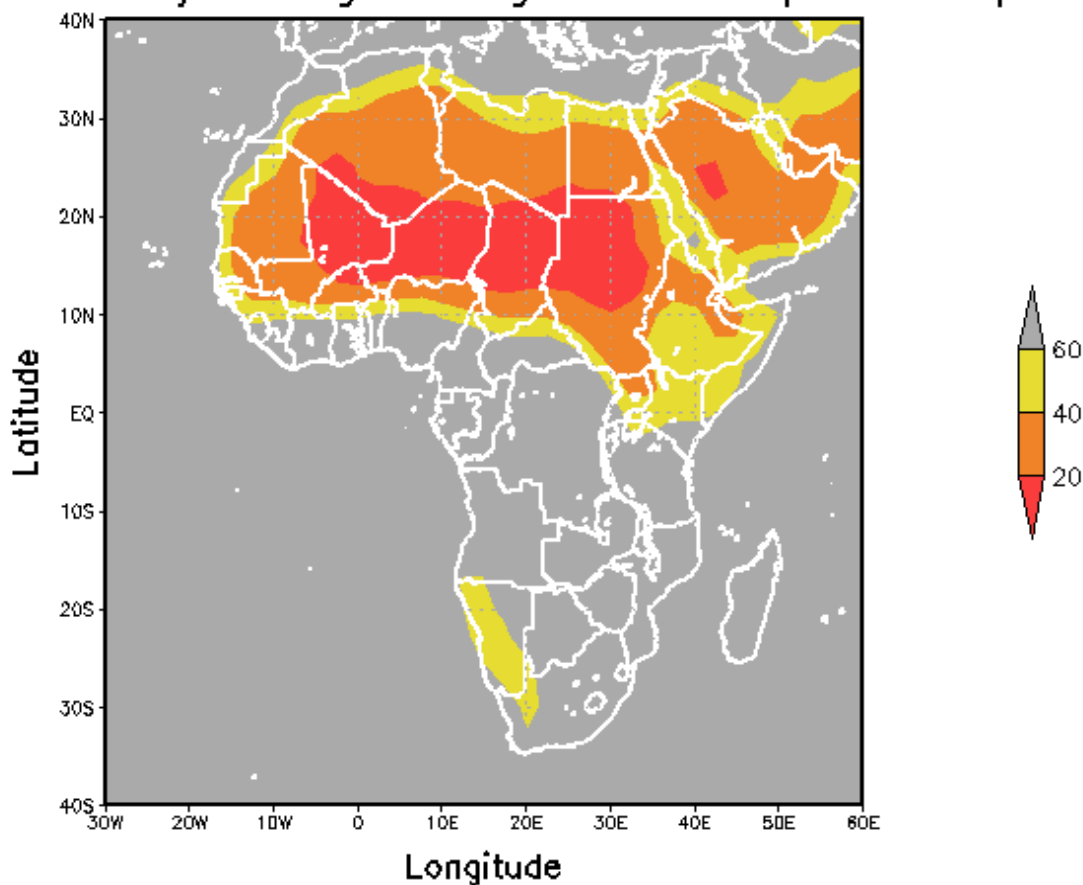


FIGURE 4 – Mean relative humidity (%) for the period 5 – 12 April 2019 estimated from NCEP reanalysis at 1000 hPa.

Figure 5 gives an example of surface dust concentrations estimated on 13th April 2019 at 00 :00 UTC. High surface dust concentrations prevailed over West Africa during this night. Highest values of surface dust concentrations was observed over northern Senegal, western Mauritania, northern Mali, Central Algeria, eastern Libya, central Sudan, central Chad, northern Cameroon and Nigeria. Moderate surface dust concentrations are observed over the remaining part of the meningitis.

Figure 6 shows the mean meridional wind speed during the week from 5 to 12 April 2019. It indicates that the south part of the Gulf of Guinea is under the influence of the monsoon flow and the ITD remains on average in the same location compare to the previous week. The Harmattan flow favoring the increase of meningitis cases occurred over Senegal, Mali, Guinea Bissau, Mauritania, central Guinea, western Sierra Leona, Niger, Burkina Faso, northern Chad, and Sudan.

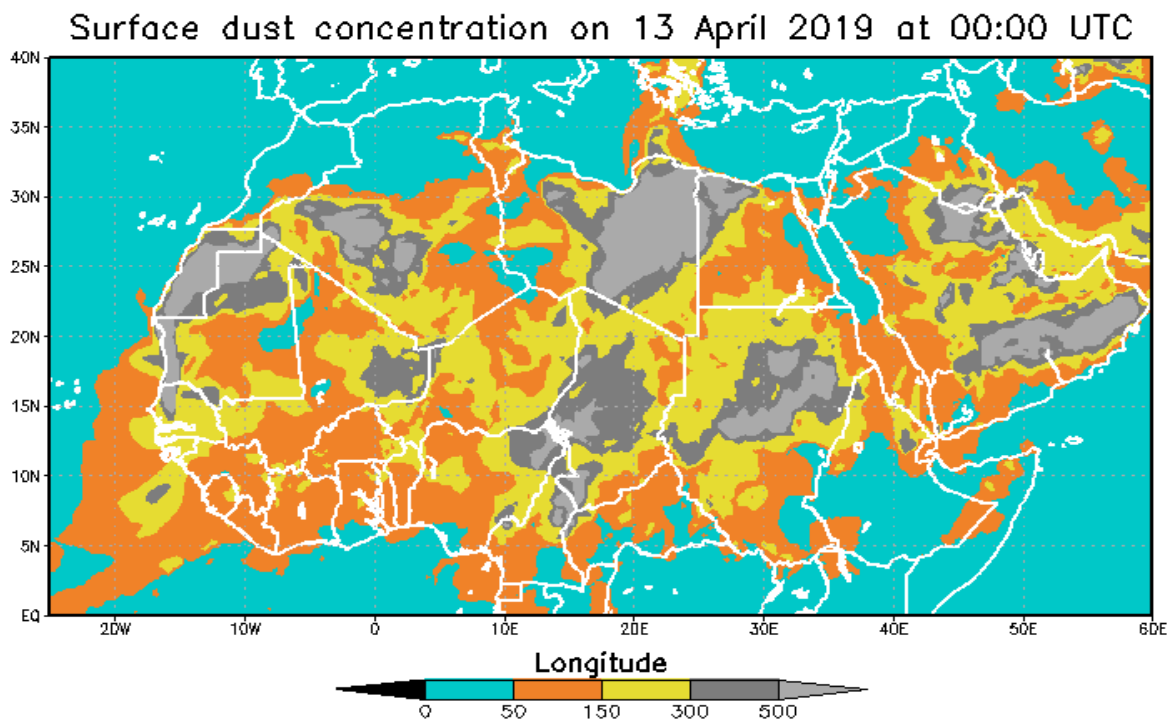


FIGURE 5 – Surface dust concentration ($\mu\text{g m}^3$) estimated on April 13, 2019 at 00 :00 UTC from Goddard Earth Observing Model (GEOS) data.

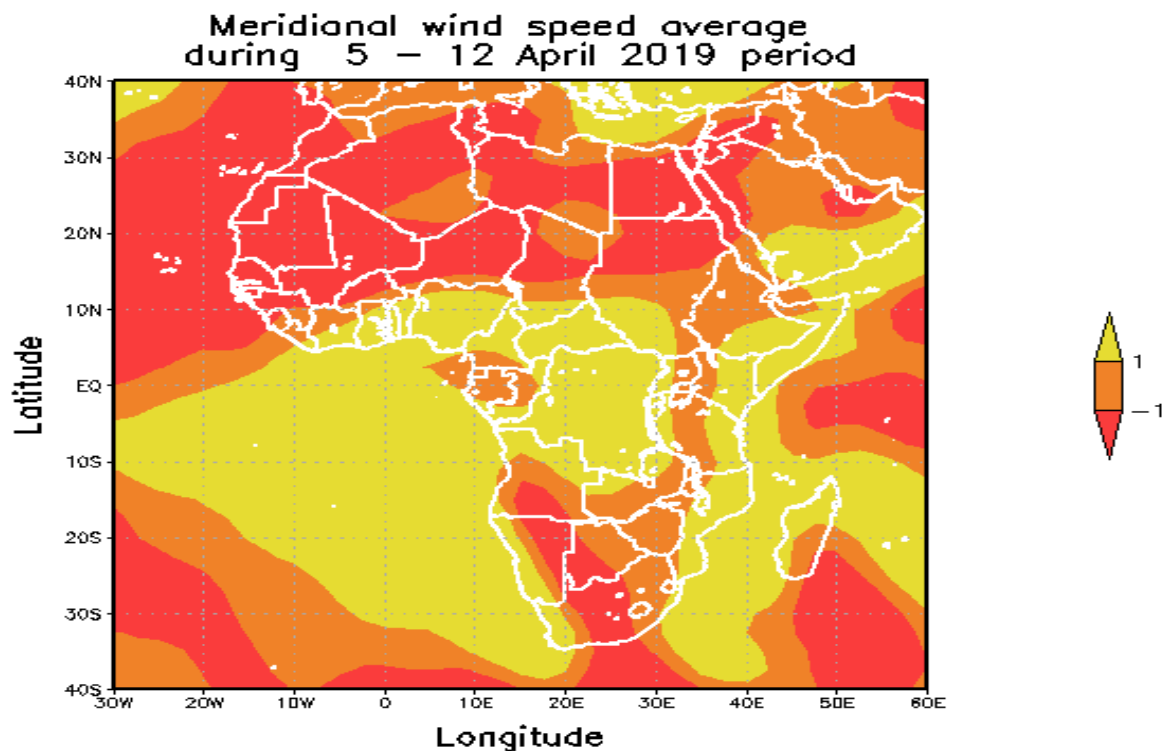


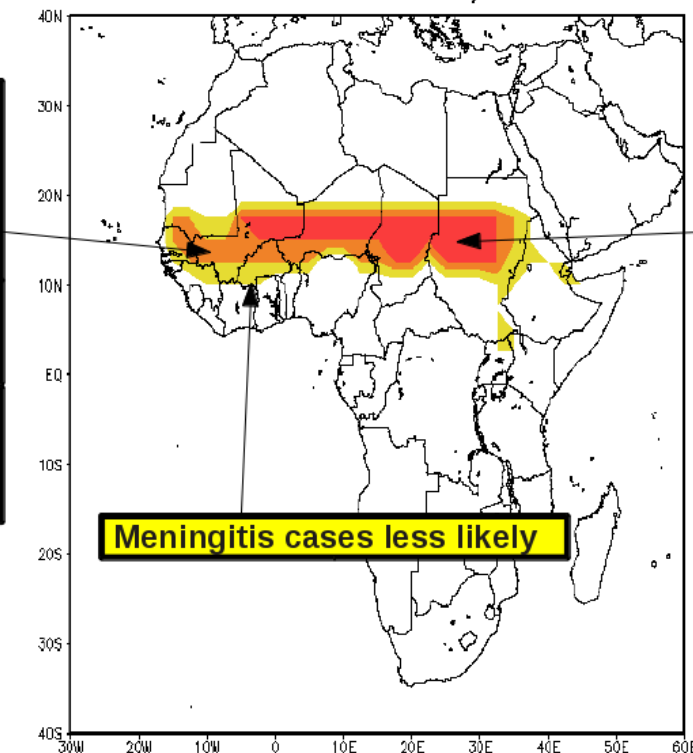
FIGURE 6 – Mean meridional wind speed (m s^{-1}) for the period 5 – 12 April 2019 estimated from NCEP reanalysis at 1000 hPa.



VIGILANCE MAP FOR EMERGENCE OF MENINGITIS IN AFRICA
ISSUED ON APRIL 16, 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