



MENINGITIS VIGILANCE FOR AFRICA

Bulletin No. 017

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Valid until May 21, 2019

SUMMARY

- Meningitis cases significantly decreased over West Africa between 16th and 17th weeks. During the first seventeen weeks of 2019, 8801 meningitis cases with 553 deaths was reported over the African meningitis belt.
- High vigilance is needed for meningitis cases over central Mali.
- Moderate vigilance is required for meningitis cases over southern Mauritania, central Niger, central Sudan.
- Low to no vigilance is needed over the remaining parts of the meningitis belt.



FIGURE 1 – African Meningitis Belt.

22th to 28th April 2019

I. SITUATION EPIDEMIOLOGIQUE DE LA SEMAINE 17 / EPIDEMIOLOGICAL SITUATION OF WEEK 17

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	6	0	0.0	0	0	100.0
Burkina Faso ^T	59	6	10.2	1	0	100.0
Burundi ^T	10	0	0.0	0	0	100.0
Cameroun ^P	-	-	-	-	-	-
Centrafrique ^P	4	0	0.0	0	0	51.4
Côte d'Ivoire ^P	4	0	0.0	0	0	100.0
Ethiopia ^T	-	-	-	-	-	-
Ghana ^P	15	0	0.0	1	0	100.0
Guinée ^P	5	0	0.0	0	0	100.0
Guinée Bissau	-	-	-	-	-	-
Gambia ^T	0	0	0.0	0	0	100.0
Kenya	-	-	-	-	-	-
Mali ^T	13	1	7.7	0	0	100.0
Mauritania ^P	0	0	0.0	0	0	100.0
Niger ^T	34	3	8.8	0	0	100.0
Nigeria ^P	34	0	0.0	0	0	100.0
RD Congo ^{***}	-	-	-	-	-	-
Senegal ^P	10	0	0.0	0	0	98.7
South Sudan ^P	12	4	33.3	1	0	100.0
Sudan ^T	1	0	0.0	0	0	100.0
Tanzania	0	0	0.0	0	0	100.0
Tchad ^T	12	2	16.7	1	0	100.0
Togo ^P	13	0	0.0	0	0	97.7
Uganda ^P	-	-	-	-	-	-
Total	232	16	6.9	4	0	52.4

^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 17th week of the year, 2019. Data source : <https://www.who.int/emergencies/diseases/meningitis/meningitis-bulletin-17-2019.pdf?ua=1>

(Semaines notifiées / Reported weeks 01 - 17)

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	183	20	10.9	4	0	01-17	100.0	100.0
Burkina Faso ^T	1 540	105	6.8	10	0	01-17	100.0	100.0
Burundi ^T	61	1	1.6	0	0	01-17	100.0	100.0
Cameroun ^P	297	14	4.7	7	0	01-16	95.8	95.0
Centrafrique ^P	246	33	13.4	6	0	01-17	94.3	87.2
Côte d'Ivoire ^P	91	1	1.1	0	0	01-17	100.0	100.0
Ethiopia ^T	-	-	-	-	-	-	-	-
Ghana ^P	638	18	2.8	16	4	01-17	100.0	100.0
Guinée	150	5	3.3	0	0	01-17	100.0	100.0
Guinée Bissau	-	-	-	-	-	-	-	-
Gambia ^T	14	1	7.1	3	0	01-17	100.0	100.0
Kenya	55	2	3.6	0	0	01-14	100.0	100.0
Mali ^T	224	2	0.9	0	0	01-17	100.0	99.9
Mauritania ^P	0	0	0.0	0	0	01-17	100.0	100.0
Niger ^T	554	54	9.7	3	0	01-17	100.0	100.0
Nigeria ^P	1 115	60	5.4	5	2	01-17	100.0	100.0
RD Congo ^{***}	2 334	162	6.9	-	-	01-16	17.1	83.5
Senegal	152	0	0.0	0	0	01-17	100.0	99.9
South Sudan ^P	51	10	19.6	3	0	01-17	100.0	100.0
Sudan ^T	9	0	0.0	0	0	01-17	100.0	100.0
Tanzania	12	6	50.0	0	0	01-17	100.0	100.0
Tchad ^T	648	49	7.6	9	1	01-17	100.0	99.8
Togo ^P	427	10	2.3	1	2	01-17	97.7	97.4
Uganda ^P	-	-	-	-	-	-	-	-
Total	8 801	553	6.3	67	9	01-17	66.3	99.0

^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 3 – Inventory of meningitis occurrence in Africa during the first seventeen weeks of year 2019. Data source : <https://www.who.int/emergencies/diseases/meningitis/meningitis-bulletin-17-2019.pdf?ua=1>

Figure 4 shows the mean relative humidity estimated from NCEP reanalysis during 3 – 10 May 2019 period. Very dry atmospheric conditions (relative humidity below 20 %) remained over the Sahara region, particularly over eastern Mauritania, central and northern Mali, southern and central Algeria, northern Niger, northern Chad, northern Sudan, southern Libya, and southern Egypt. A continuous moistening (relative humidity between 20 and 40 %) occurred over western and central Mauritania, eastern Senegal, southern Mali, northern Burkina Faso, southern Niger, central Chad, southern Sudan, and northern South Sudan. Wet (relative humidity above 40 %) atmospheric conditions prevailed over the Gulf of Guinea countries, Tanzania, Burundi, Somalia, Kenya, Ethiopia, Uganda and Rwanda.

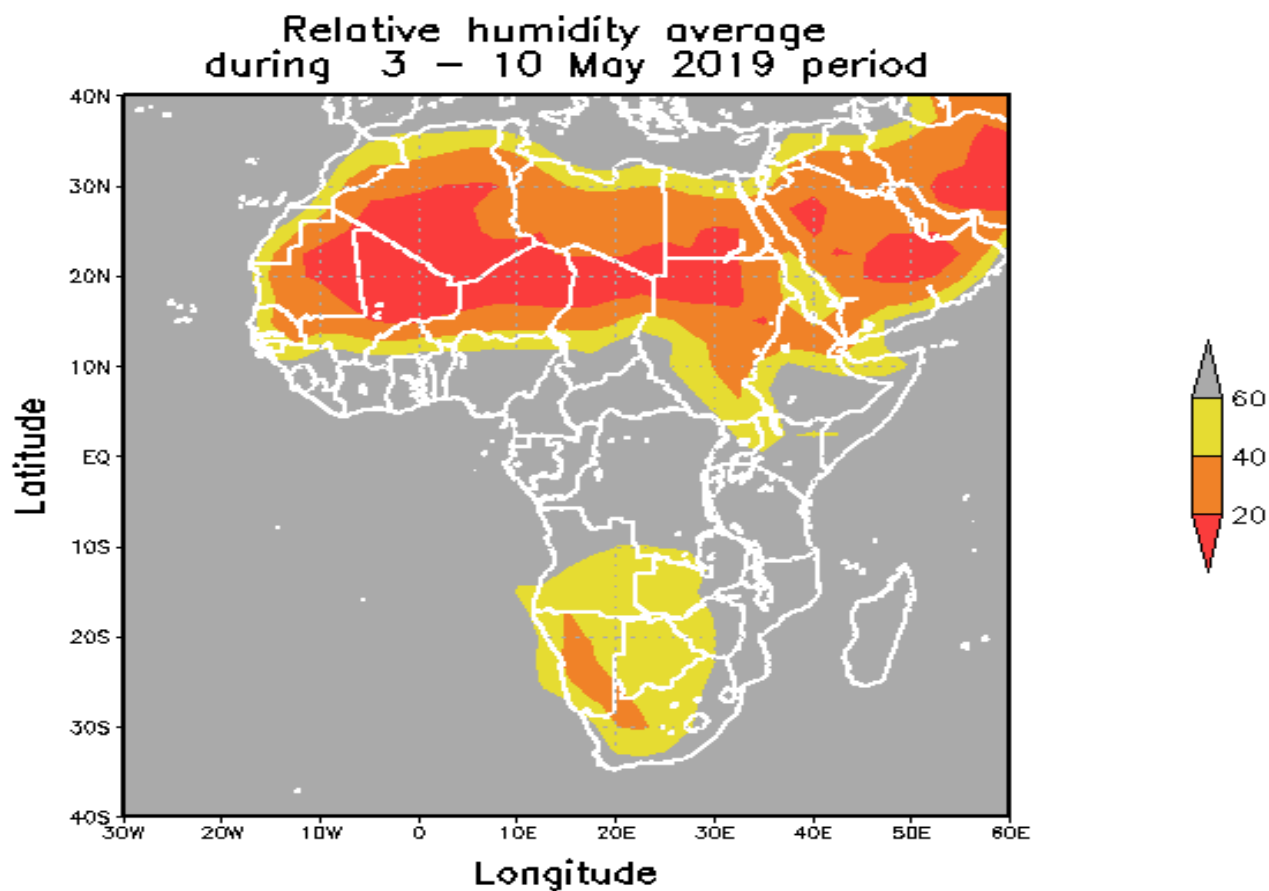


FIGURE 4 – Mean relative humidity (%) for the period 3 – 10 May 2019 estimated from NCEP reanalysis at 1000 hPa.

Figure 5 presents an example of surface dust concentrations estimated on 11th May 2019 at 00 :00 UTC. Highest values of surface dust concentrations observed over the meningitis belt were inhomogeneous during this night. Dusty atmospheric conditions prevailed over the central Sahel region, northern Senegal, and western Mauritania. Moderate surface dust concentrations were observed over the remaining part of the meningitis.

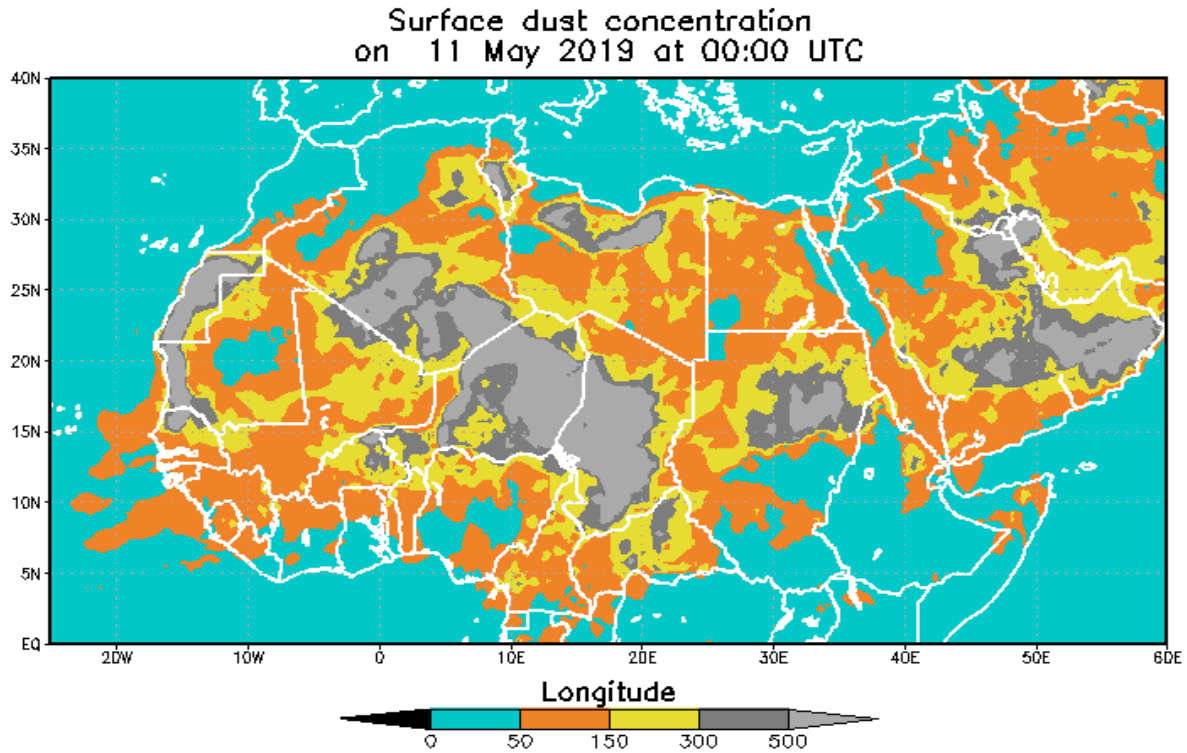


FIGURE 5 – Surface dust concentration ($\mu\text{g m}^3$) estimated on May 11, 2019 at 00 :00 UTC from Goddard Earth Observing Model (GEOS) data.

Figure 6 presents the mean meridional wind speed during the week from 3 – 10 May 2019. It shows that the ITD significantly moved over the north compare to the previous week. It reached southeastern Senegal, southern Mauritania, central Mali, Central Niger, northern Chad, and northern Sudan. The western part of 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, central and northern northern Chad, and northern Sudan.

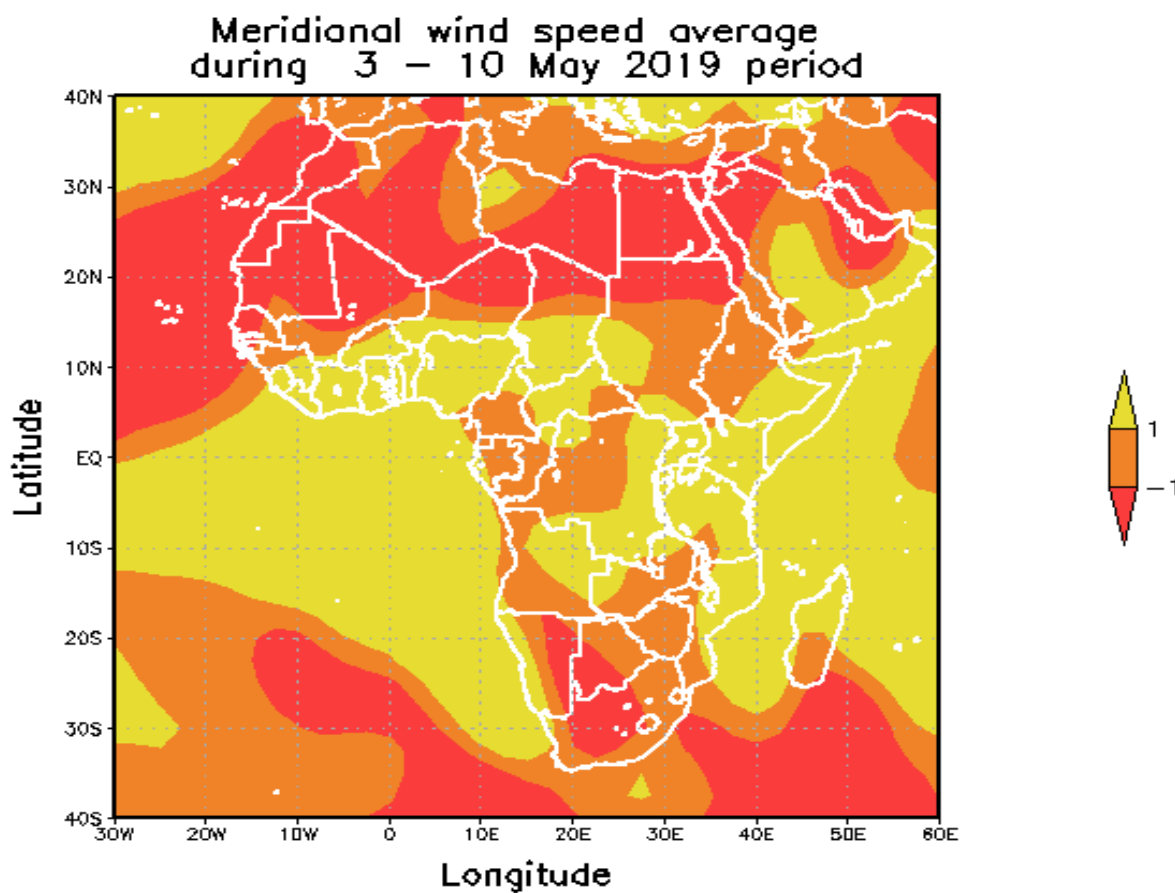


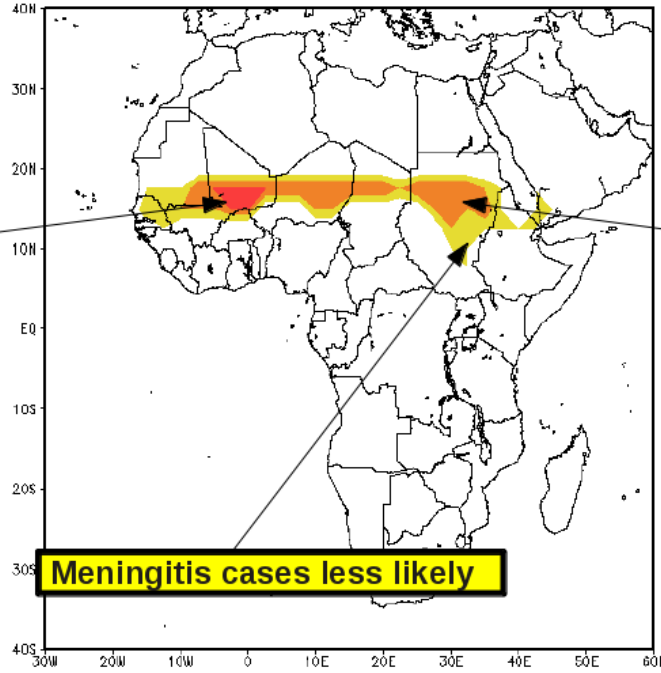
FIGURE 6 – Mean meridional wind speed (m s^{-1}) for the period 3 – 10 May 2019 estimated from NCEP reanalysis at 1000 hPa.



VIGILANCE MAP FOR EMERGENCE OF MENINGITIS IN AFRICA
ISSUED ON MAY 14, 2019



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



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

Meningitis cases less likely