

MENINGITIS VIGILANCE FOR AFRICA

Bulletin No. 021

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SUMMARY

- Meningitis cases slightly reported during the week 21th were 217 cases with 15 deaths. Largest occurrence was reported over DR Congo (142 cases with 11 deaths). During the first 21 weeks of 2019, 10545 meningitis cases with 658 deaths was reported over the African meningitis belt.
- Moderate vigilance is required for meningitis cases over northeastern Senegal, southern Mauritania, central Mali, northern Chad, and northern Sudan.
- Low to no vigilance is needed over the remaining parts of the meningitis belt.



FIGURE 1 – African Meningitis Belt.

I. SITUATION EPIDEMIOLOGIQUE DE LA SEMAINE 21 / EPIDEMIOLOGICAL SITUATION OF WEEK 21

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	9	0	0.0	0	0	100.0
Burkina Faso ^T	4	0	0.0	0	0	100.0
Burundi ^T	0	0	0.0	0	0	100.0
Cameroun ^P	-	-	-	-	-	-
Centrafrique ^P	2	0	0.0	0	0	28.6
Côte d'Ivoire ^P	-	-	-	-	-	-
Ethiopia ^T	-	-	-	-	-	-
Ghana ^P	11	0	0.0	0	0	100.0
Guinée ^P	5	0	0.0	0	0	100.0
Guinée Bissau	-	-	-	-	-	-
Gambia ^T	-	-	-	-	-	-
Kenya	3	0	0.0	0	0	100.0
Mali ^T	14	0	0.0	0	0	98.7
Mauritania ^P	0	0	0.0	0	0	100.0
Niger ^T	6	0	0.0	0	0	100.0
Nigeria ^P	28	3	10.7	0	0	100.0
RD Congo ^{**}	142	11	7.7	-	-	12.4
Senegal ^P	-	-	-	-	-	-
South Sudan ^P	0	0	0.0	0	0	100.0
Sudan ^T	0	0	0.0	0	0	100.0
Tanzania	-	-	-	-	-	-
Tchad ^T	5	0	0.0	0	0	100.0
Togo ^P	8	1	12.5	0	0	97.7
Uganda ^P	-	-	-	-	-	-
Total	237	15	6.3	0	0	51.7

^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 21th week of the year, 2019. Data source : <https://www.who.int/emergencies/diseases/meningitis/meningitis-bulletin-21-2019.pdf?ua=1>

(Semaines notifiées / Reported weeks 01 - 21)

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	212	20	9.4	4	0	01-21	100.0	100.0
Burkina Faso ^T	1 673	121	7.2	10	0	01-21	100.0	100.0
Burundi ^T	90	1	1.1	0	0	01-21	100.0	100.0
Cameroun ^P	332	14	4.2	8	0	01-18	95.8	93.0
Centrafrique ^P	285	34	11.9	7	0	01-21	94.3	89.8
Côte d'Ivoire ^P	97	1	1.0	0	0	01-19	100.0	99.8
Ethiopia ^T	-	-	-	-	-	-	-	-
Ghana ^P	689	19	2.8	16	4	01-21	100.0	100.0
Guinée	186	5	2.7	0	0	01-21	100.0	100.0
Guinée Bissau	-	-	-	-	-	-	-	-
Gambia ^T	15	1	6.7	3	0	01-20	100.0	100.0
Kenya	95	2	2.1	2	0	01-21	100.0	100.0
Mali ^T	277	2	0.7	0	0	01-21	100.0	99.9
Mauritania ^P	0	0	0.0	0	0	01-21	100.0	100.0
Niger ^T	636	56	8.8	3	0	01-21	100.0	100.0
Nigeria ^P	1 299	65	5.0	6	2	01-21	100.0	100.0
RD Congo ^{**}	3 263	236	7.2	-	-	01-21	17.5	84.8
Senegal	174	0	0.0	0	0	01-19	100.0	100.0
South Sudan ^P	62	10	16.1	4	0	01-21	100.0	100.0
Sudan ^T	12	0	0.0	0	0	01-21	100.0	100.0
Tanzania	12	6	50.0	0	0	01-18	100.0	100.0
Tchad ^T	684	54	7.9	9	1	01-21	100.0	99.8
Togo ^P	452	11	2.4	2	2	01-21	97.7	98.0
Uganda ^P	-	-	-	-	-	-	-	-
Total	10 545	658	6.2	74	9	01-21	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.

FIGURE 3 – Inventory of meningitis occurrence in Africa during the first twenty one weeks of year 2019. Data source : <https://www.who.int/emergencies/diseases/meningitis/meningitis-bulletin-21-2019.pdf?ua=1>

Figure 4 presents the mean relative humidity at 1000 hPa estimated from NCEP reanalysis during 2 – 8 June 2019 period. It indicates that the very dry atmospheric conditions (relative humidity below 20 %) was observed over eastern Mauritania, northern Mali, parts of Algeria, northwestern Niger, southern Libya, northern Chad, northern Sudan, and southern Egypt. The Atlantic inflow associated with northwesterly wind (see Figure 6) moistened atmospheric conditions over Mauritania and Senegal (relative humidity between 20 and 60 %). The northward migration of the ITD favored moistening conditions over central Mali, northern Niger, northern Chad, and central Sudan. Very wet (relative humidity above 60 %) atmospheric conditions prevailed over the Gulf of Guinea countries, Tanzania, Burundi, Somalia, Kenya, Ethiopia, Uganda and Rwanda.

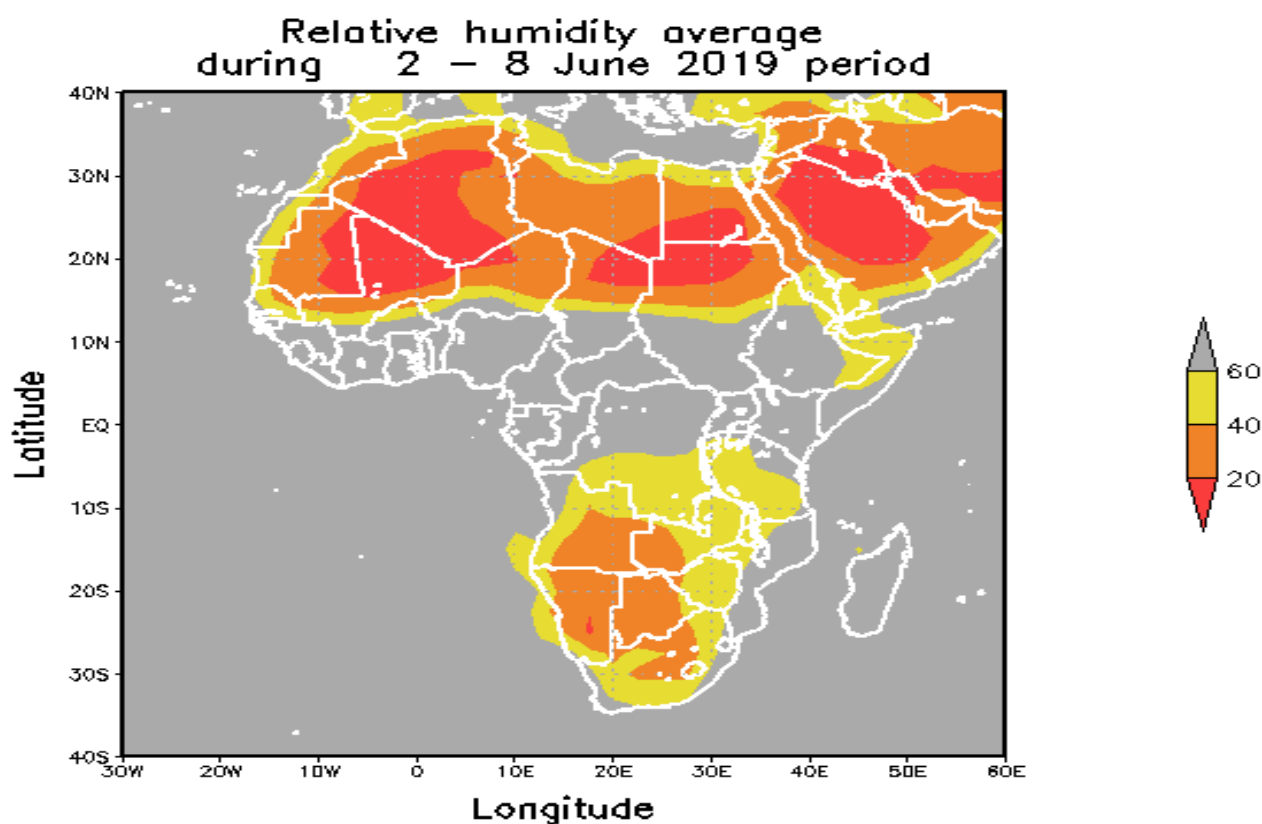


FIGURE 4 – Mean relative humidity (%) for the period 2 – 8 June 2019 estimated from NCEP reanalysis at 1000 hPa.

Figure 5 presents an example of surface dust concentrations estimated on 8th June 2019 at 00 :00 UTC. Highest values of surface dust concentrations observed over the meningitis belt prevailed over the Sahel during this night. Dusty atmospheric conditions prevailed over northern Senegal, western Mauritania and due to the intensification of the northwesterly wind from Açores High pressure. High values of dust concentrations were also observed over northern Mali, parts of Algeria, Libya, Niger, Libya, Chad, northern Sudan, northern Nigeria, eastern Burkina Faso, and Egypt. Moderate or low surface dust concentrations remained over the rest of the remaining part of the meningitis.

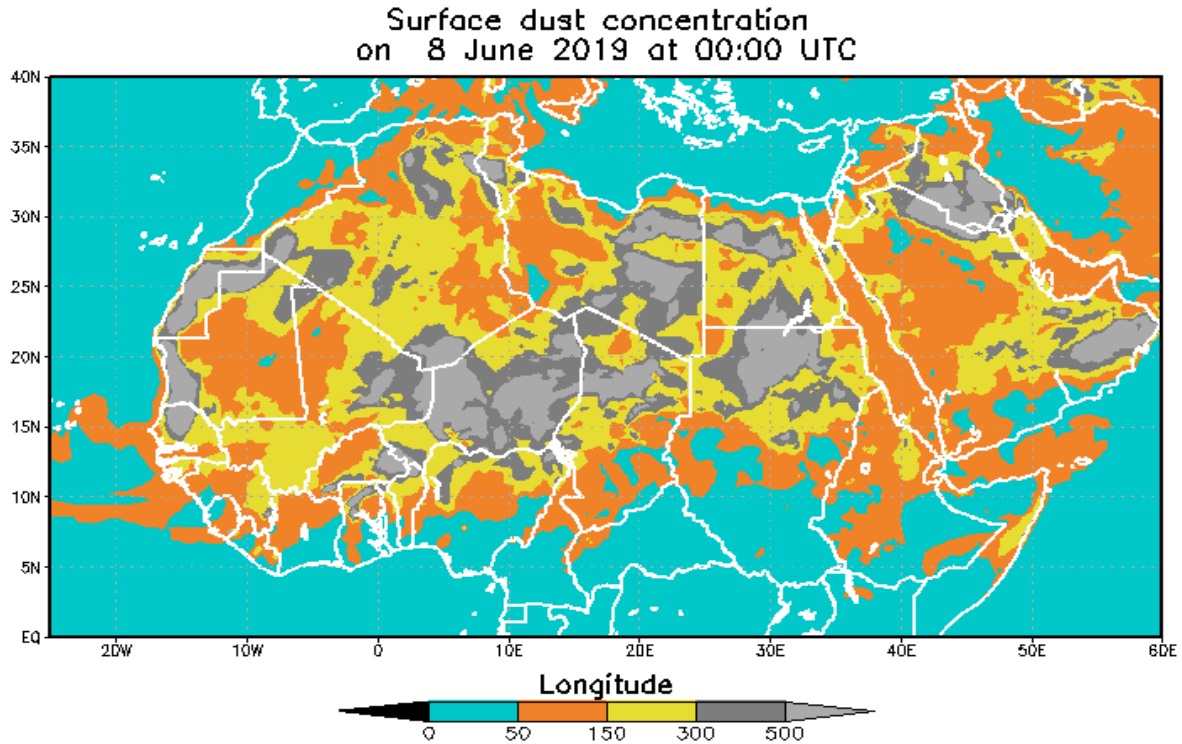


FIGURE 5 – Surface dust concentration ($\mu\text{g m}^3$) estimated on June 8, 2019 at 00 :00 UTC from Goddard Earth Observing Model (GEOS) data.

Figure 6 presents the mean meridional wind speed at 1000 hPa during the week from 2 to 8 June 2019. It shows that the ITD position was located on average over central Senegal, southern Mauritania, central and eastern Mali, northern Niger, northern Chad, and northern Sudan. Harmattan flow favoring the increase of meningitis cases prevailed over Mauritania, northern Mali, northern Niger, northern Chad, and northern Sudan.

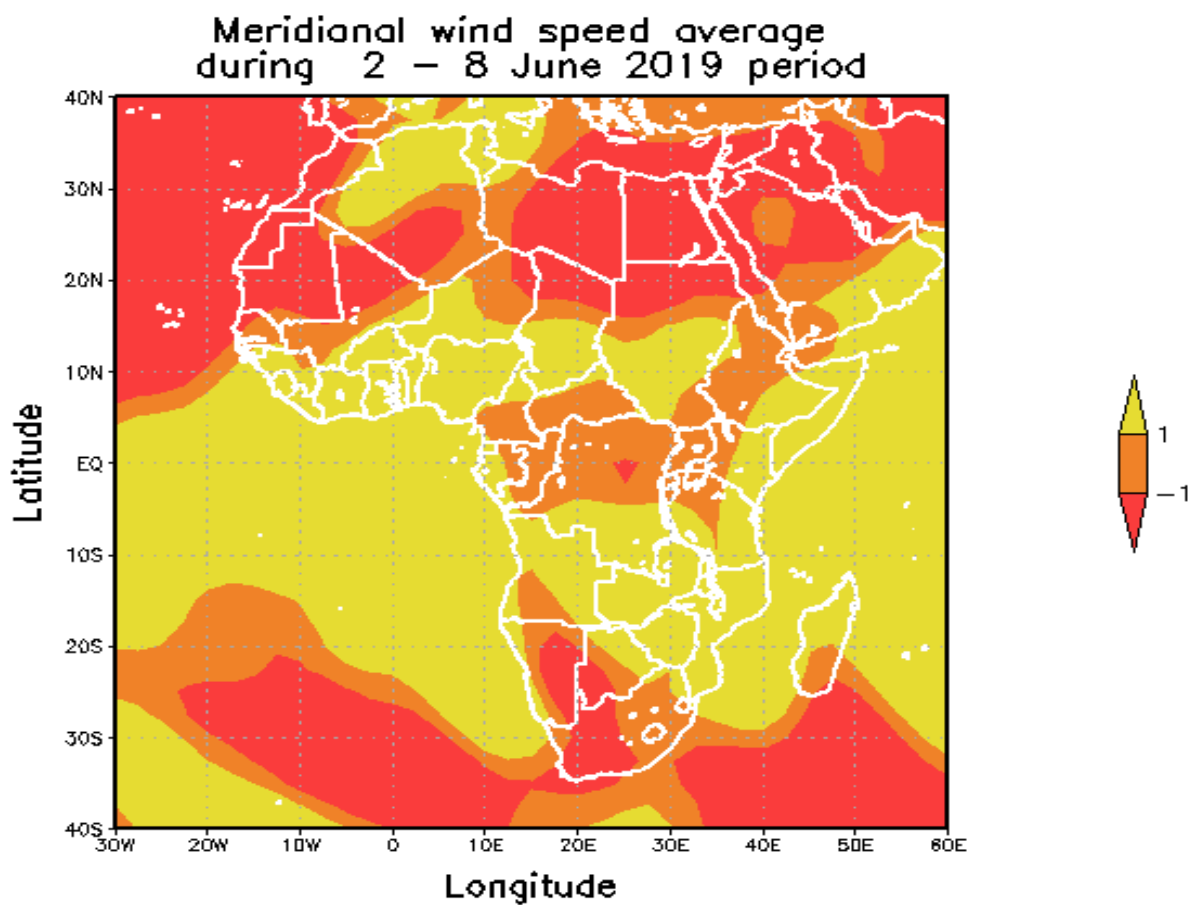


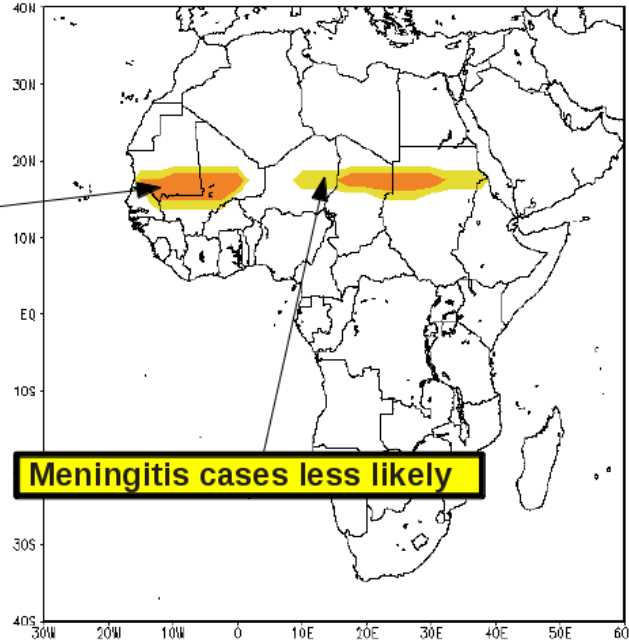
FIGURE 6 – Mean meridional wind speed (m s^{-1}) for the period 2 – 8 June 2019 estimated from NCEP reanalysis at 1000 hPa.



VIGILANCE MAP FOR EMERGENCE OF MENINGITIS IN AFRICA
ISSUED ON JUNE 11, 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