

MENINGITIS VIGILANCE FOR AFRICA

Bulletin No. 020

Issued on June 5, 2019

Valid until June 12, 2019

SUMMARY

- Meningitis cases slightly reported during the week 20th were 334 cases with 17 deaths. Largest occurrence was reported over DR Congo (115 cases with 8 deaths). During the first 20 weeks of 2019, 10205 meningitis cases with 635 deaths was reported over the African meningitis belt.
- Moderate vigilance is required for meningitis cases over southern Mauritania, central Mali, eastern Chad, and northern Sudan.
- Low to no vigilance is needed over the remaining parts of the meningitis belt.



FIGURE 1 – African Meningitis Belt.

29th April to 5th May 2019

I. SITUATION EPIDEMIOLOGIQUE DE LA SEMAINE 18 / EPIDEMIOLOGICAL SITUATION OF WEEK 18

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	7	0	0.0	0	0	100.0
Burkina Faso ^T	43	7	16.3	0	0	100.0
Burundi ^T	11	0	0.0	0	0	100.0
Cameroun ^P	11	0	0.0	1	0	67.9
Centrafrique ^P	12	0	0.0	1	0	85.7
Côte d'Ivoire ^P	1	0	0.0	0	0	96.5
Ethiopia ^T	-	-	-	-	-	-
Ghana ^P	10	1	10.0	0	0	100.0
Guinée ^P	9	0	0.0	0	0	100.0
Guinée Bissau	-	-	-	-	-	-
Gambia ^T	0	0	0.0	0	0	100.0
Kenya	-	-	-	-	-	-
Mali ^T	9	0	0.0	0	0	100.0
Mauritania ^P	0	0	0.0	0	0	100.0
Niger ^T	28	1	3.6	0	0	100.0
Nigeria ^P	47	0	0.0	0	0	100.0
RD Congo ^{P**}	115	8	7.0	-	-	10.7
Senegal ^P	15	0	0.0	0	0	100.0
South Sudan ^P	-	-	-	-	-	-
Sudan ^T	1	0	0.0	0	0	100.0
Tanzania	0	0	0.0	0	0	100.0
Tchad ^T	9	0	0.0	1	0	100.0
Togo ^P	6	0	0.0	1	0	97.7
Uganda ^P	-	-	-	-	-	-
Total	334	17	5.1	4	0	55.0

^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 20th week of the year, 2019. Data source : <https://www.who.int/emergencies/diseases/meningitis/meningitis-bulletin-20-2019.pdf?ua=1>

(Semaines notifiées / Reported weeks 01 - 20)

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	203	20	9.9	4	0	01-20	100.0	100.0
Burkina Faso ^T	1 669	121	7.2	10	0	01-20	100.0	100.0
Burundi ^T	90	1	1.1	0	0	01-20	100.0	100.0
Cameroun ^P	332	14	4.2	8	0	01-18	95.8	93.0
Centrafrique ^P	280	33	11.8	7	0	01-20	94.3	90.9
Côte d'Ivoire ^P	97	1	1.0	0	0	01-19	100.0	99.8
Ethiopia ^T	-	-	-	-	-	-	-	-
Ghana ^P	658	19	2.9	16	4	01-20	100.0	100.0
Guinée	181	5	2.8	0	0	01-20	100.0	100.0
Guinée Bissau	-	-	-	-	-	-	-	-
Gambia ^T	15	1	6.7	3	0	01-20	100.0	100.0
Kenya	55	2	3.6	0	0	01-14	100.0	100.0
Mali ^T	263	2	0.8	0	0	01-20	100.0	99.9
Mauritania ^P	0	0	0.0	0	0	01-20	100.0	100.0
Niger ^T	630	56	8.9	3	0	01-20	100.0	100.0
Nigeria ^P	1 271	62	4.9	6	2	01-20	100.0	100.0
RD Congo ^{P**}	3 078	218	7.1	-	-	01-20	17.3	85.2
Senegal	174	0	0.0	0	0	01-19	100.0	100.0
South Sudan ^P	62	10	16.1	4	0	01-20	100.0	100.0
Sudan ^T	12	0	0.0	0	0	01-20	100.0	100.0
Tanzania	12	6	50.0	0	0	01-18	100.0	100.0
Tchad ^T	679	54	8.0	9	1	01-20	100.0	99.8
Togo ^P	444	10	2.3	2	2	01-20	97.7	97.9
Uganda ^P	-	-	-	-	-	-	-	-
Total	10 205	635	6.2	72	9	01-20	66.3	98.9

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FIGURE 3 – Inventory of meningitis occurrence in Africa during the first eighteen weeks of year 2019. Data source : <https://www.who.int/emergencies/diseases/meningitis/meningitis-bulletin-20-2019.pdf?ua=1>

Figure 4 presents the mean relative humidity at 1000 hPa estimated from NCEP reanalysis during 26 May – 2 June 2019 period. It shows that the very dry atmospheric conditions (relative humidity below 20 %) was observed over the Sahara area, particularly over northern Mauritania, northern Mali, southern Algeria, central and southern Libya, northern Niger, northern Chad, northern Sudan and central 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.

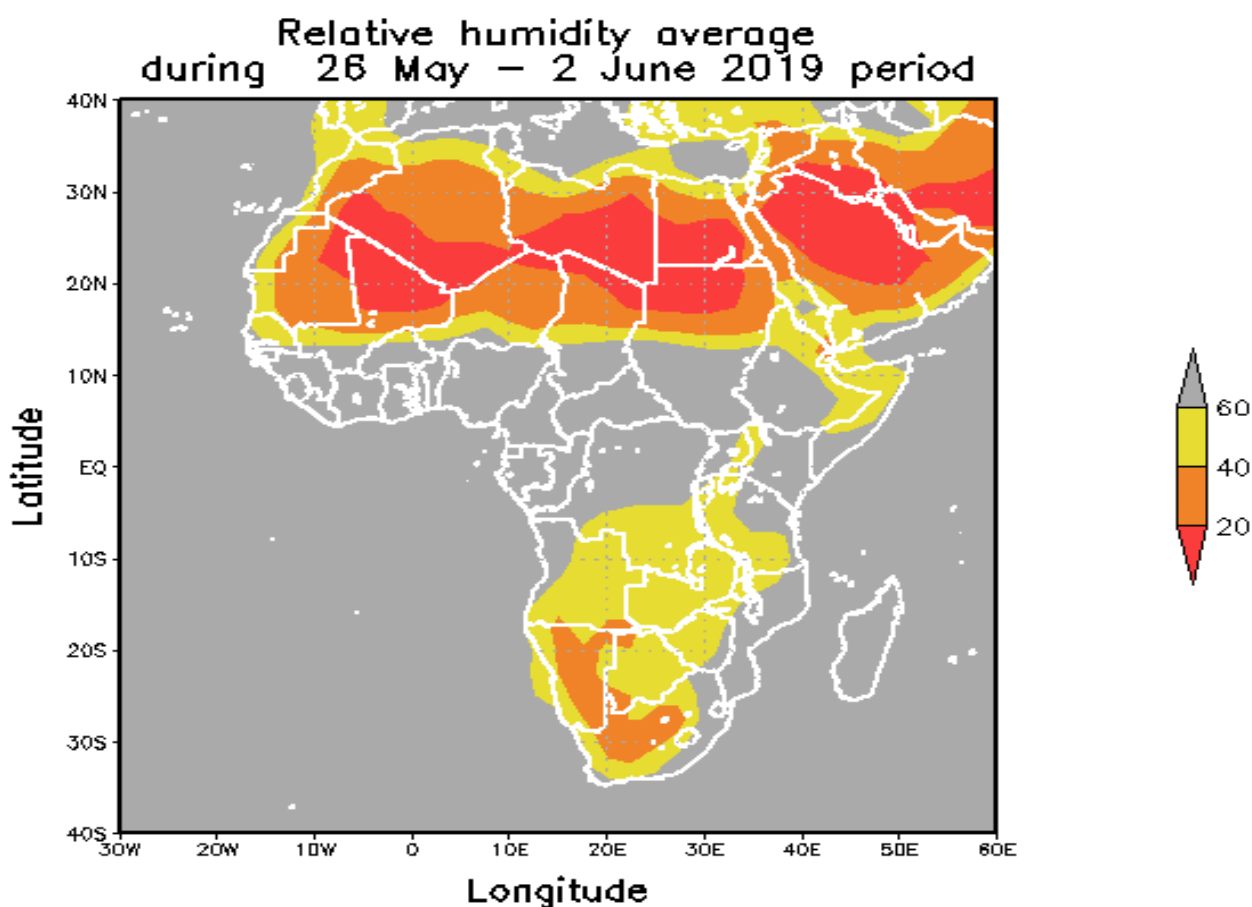


FIGURE 4 – Mean relative humidity (%) for the period 26 May – 2 June 2019 estimated from NCEP reanalysis at 1000 hPa.

Figure 5 shows an example of surface dust concentrations estimated on 2nd 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. High values of dust concentrations were also observed over Algeria, Libya, Mali, Niger, Libya, Chad, and Egypt. Moderate or low surface dust concentrations remained over the remaining part of the meningitis.

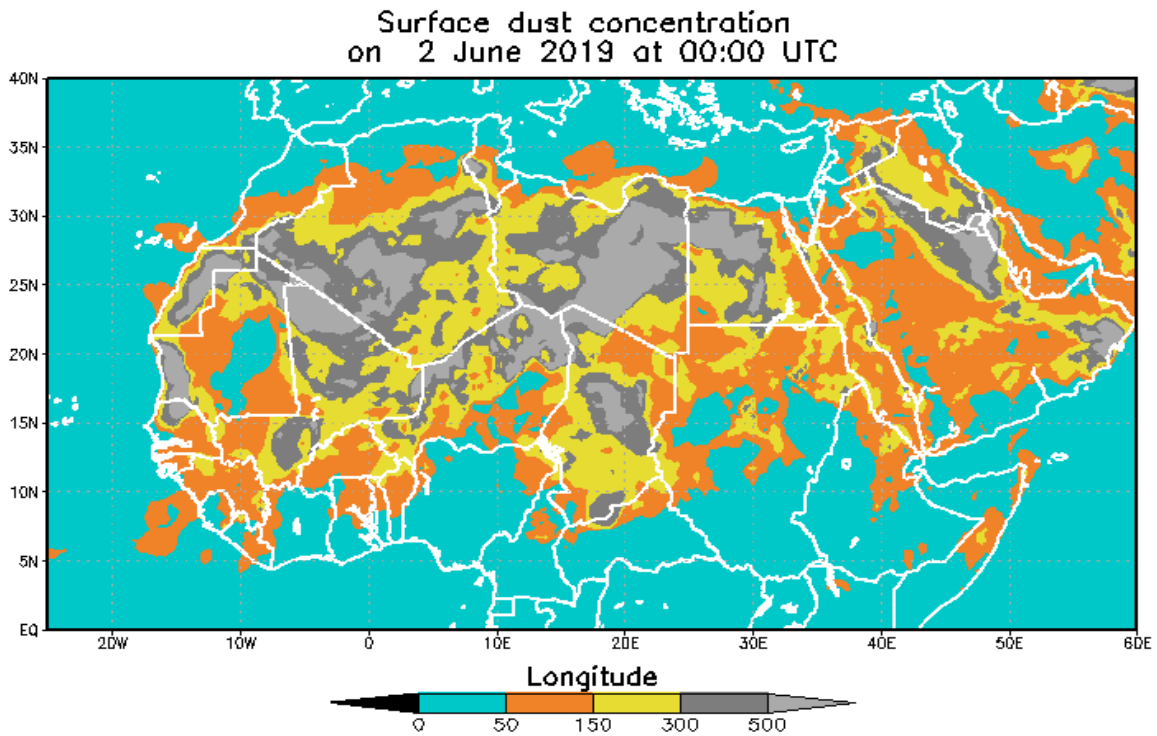


FIGURE 5 – Surface dust concentration ($\mu\text{g m}^3$) estimated on June 2, 2019 at 00 :00 UTC from Goddard Earth Observing Model (GEOS) data.

Figure 6 shows the mean meridional wind speed at 1000 hPa during the week from 26 May to 2 June 2019. It indicates that the ITD position was located on average over central Senegal, central and eastern Mali, northern Niger, northern Chad, and northern Sudan. Harmattan flow favoring the increase of meningitis cases prevailed over southern Mauritania, northern Mali, and northern Sudan.

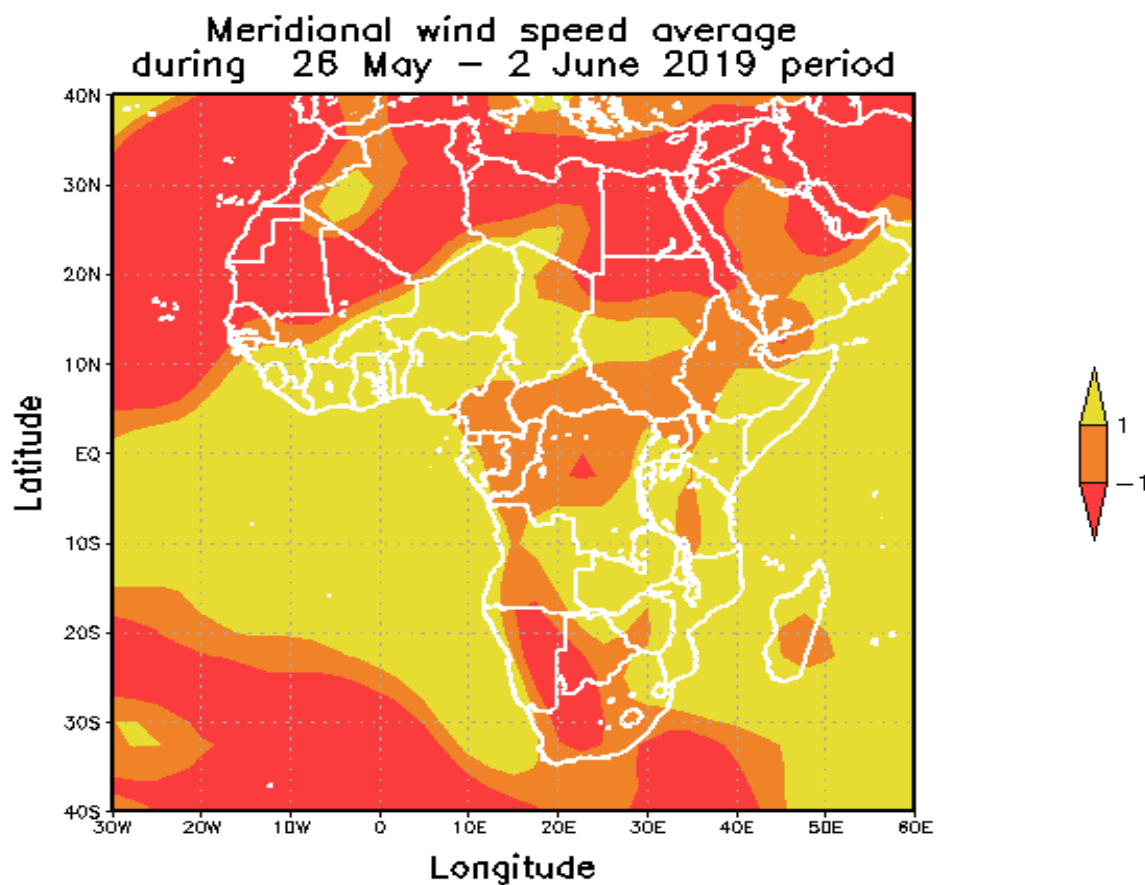
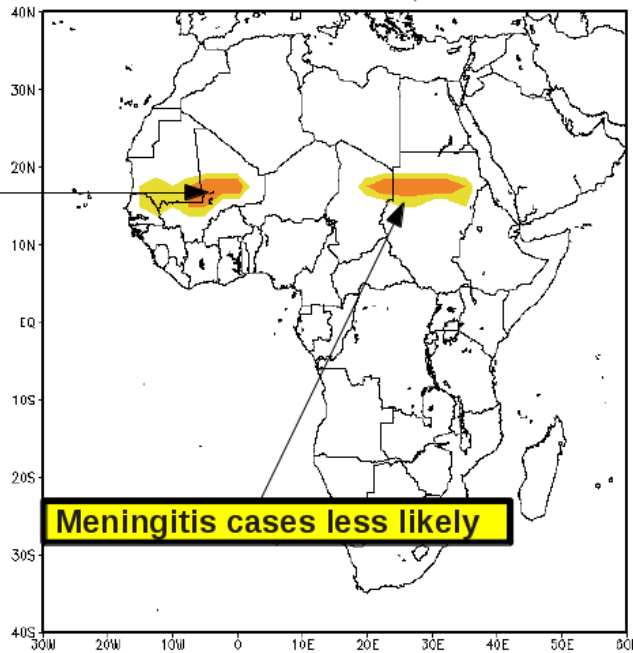


FIGURE 6 – Mean meridional wind speed (m s^{-1}) for the period 26 May – 2 June 2019 estimated from NCEP reanalysis at 1000 hPa.



VIGILANCE MAP FOR EMERGENCE OF MENINGITIS IN AFRICA
ISSUED ON JUNE 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

Meningitis cases less likely