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Application for Development**

**Centre Africain pour les
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MENINGITIS VIGILANCE FOR AFRICA

Bulletin No. 009

Issued on March 19, 2019

Valid until March 28, 2019

SUMMARY

- An increase of the meningitis cases was observed between 8th and 9th weeks over Burkina Faso, Cameroon, Niger, Nigeria, Chad and Togo. The occurrence of meningitis decreased over Benin, Ivory Coast, Ghana, and Mali.
- High vigilance is needed for meningitis cases over southern Mauritania, central Mali, central Niger, Chad, northern Nigeria, and Cameroon, and Sudan.
- Moderate vigilance is required over central and eastern Senegal, southern Mali and Niger, northeastern Nigeria, southern Chad, and South Sudan.
- Low to no vigilance is needed over the remaining parts of the meningitis belt.



FIGURE 1 – African Meningitis Belt.

25th February to 3rd March 2019

I. SITUATION EPIDEMIOLOGIQUE DE LA SEMAINE 09 / EPIDEMIOLOGICAL SITUATION OF WEEK 09

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	14	2	14.3	3	0	100.0
Burkina Faso ^T	115	7	6.1	4	0	100.0
Burundi ^T	-	-	-	-	-	-
Cameroun ^P	19	0	0.0	1	0	92.6
Centrafrique ^P	0	0	0.0	0	0	2.9
Côte d'Ivoire ^P	7	0	0.0	0	0	100.0
Ethiopia ^T	-	-	-	-	-	-
Ghana ^P	28	1	3.6	3	0	100.0
Guinea ^P	12	0	0.0	0	0	100.0
Guinée Bissau	-	-	-	-	-	-
Gambia ^T	0	0	0.0	0	0	100.0
Kenya	-	-	-	-	-	-
Mali ^T	10	0	0.0	0	0	100.0
Mauritania ^P	-	-	-	-	-	-
Niger ^T	31	4	12.9	0	0	100.0
Nigeria ^P	77	7	9.1	1	1	100.0
RD Congo ^{P**}	-	-	-	-	-	-
Senegal ^P	-	-	-	-	-	-
South Sudan ^P	1	0	0.0	0	0	100.0
Sudan ^T	0	0	0.0	0	0	100.0
Tanzania	1	0	0.0	0	0	100.0
Tchad ^T	78	7	9.0	3	1	100.0
Togo ^P	43	1	2.3	0	1	93.2
Uganda ^P	-	-	-	-	-	-
Total	436	29	6.7	15	3	51.9

^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 9th week of the year, 2019. Data source : <https://www.who.int/emergencies/diseases/meningitis/meningitis-bulletin-9-2019.pdf?ua=1>

(Semaines notifiées / Reported weeks 01- 09)

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

Pays	Cas	Décès	Létalité (%)	District en Alerte	District en Épidémie	Semaines notifiées	En districts (%)	En semaines (%)
Country	Cases	Deaths	CFR (%)	District in Alert	District in Epidemic	Reported weeks	In districts (%)	In weeks (%)
Benin^P	102	19	18.6	3	0	01-09	100.0	100.0
Burkina Faso^T	703	43	6.1	6	0	01-09	100.0	100.0
Burundi ^T	-	-	-	-	-	-	-	-
Cameroun^P	161	6	3.7	6	0	01-09	94.2	97.6
Centrafrique^P	60	8	13.3	1	0	01-09	74.3	76.5
Côte d'Ivoire^P	65	1	1.5	0	0	01-09	100.0	100.0
Ethiopia ^T	-	-	-	-	-	-	-	-
Ghana^P	421	13	3.1	10	4	01-09	100.0	100.0
Guinée^P	51	3	5.9	0	0	01-09	100.0	98.8
Guinée Bissau	-	-	-	-	-	-	-	-
Gambia^T	10	1	10.0	2	0	01-09	100.0	100.0
Kenya	27	0	0.0	0	0	01-07	100.0	100.0
Mali^T	103	0	0.0	0	0	01-09	100.0	99.9
Mauritania ^P	-	-	-	-	-	-	-	-
Niger^T	142	11	7.7	0	0	01-09	100.0	100.0
Nigeria^P	360	27	7.5	1	1	01-09	100.0	100.0
RD Congo ^{P**}	877	68	7.8	-	-	01-06	15.9	90.7
Senegal	-	-	-	-	-	-	-	-
South Sudan^P	16	2	12.5	1	0	01-09	100.0	100.0
Sudan^T	3	0	0.0	0	0	01-09	100.0	100.0
Tanzania	10	6	60.0	0	0	01-09	100.0	100.0
Tchad^T	321	29	9.0	5	1	01-09	100.0	100.0
Togo^P	147	3	2.0	0	1	01-09	93.2	100.0
Uganda ^P	-	-	-	-	-	-	-	-
Total	3 579	240	6.7	35	7	01-09	61.8	99.4

^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.

FIGURE 3 – Inventory of meningitis occurrence in Africa during the first nine weeks of year 2019. Data source : <https://www.who.int/emergencies/diseases/meningitis/meningitis-bulletin-9-2019.pdf?ua=1>

Very dry atmospheric conditions (relative humidity below 20 %) was observed over eastern Senegal, Mauritania, Mali, Niger, northeastern Nigeria, Chad, and Sudan during the week from 9 to 16 March 2019 (Figure 4). Figure 4 indicates that relative humidity between 20 and 40 % prevailed over South Sudan, central Senegal, northern Uganda, southern Mali, central Burkina Faso, central Nigeria and northern Guinea. It also shows that wet (relative humidity above 40 %) atmospheric conditions were recorded over the coast of the remaining parts of the meningitis belt.

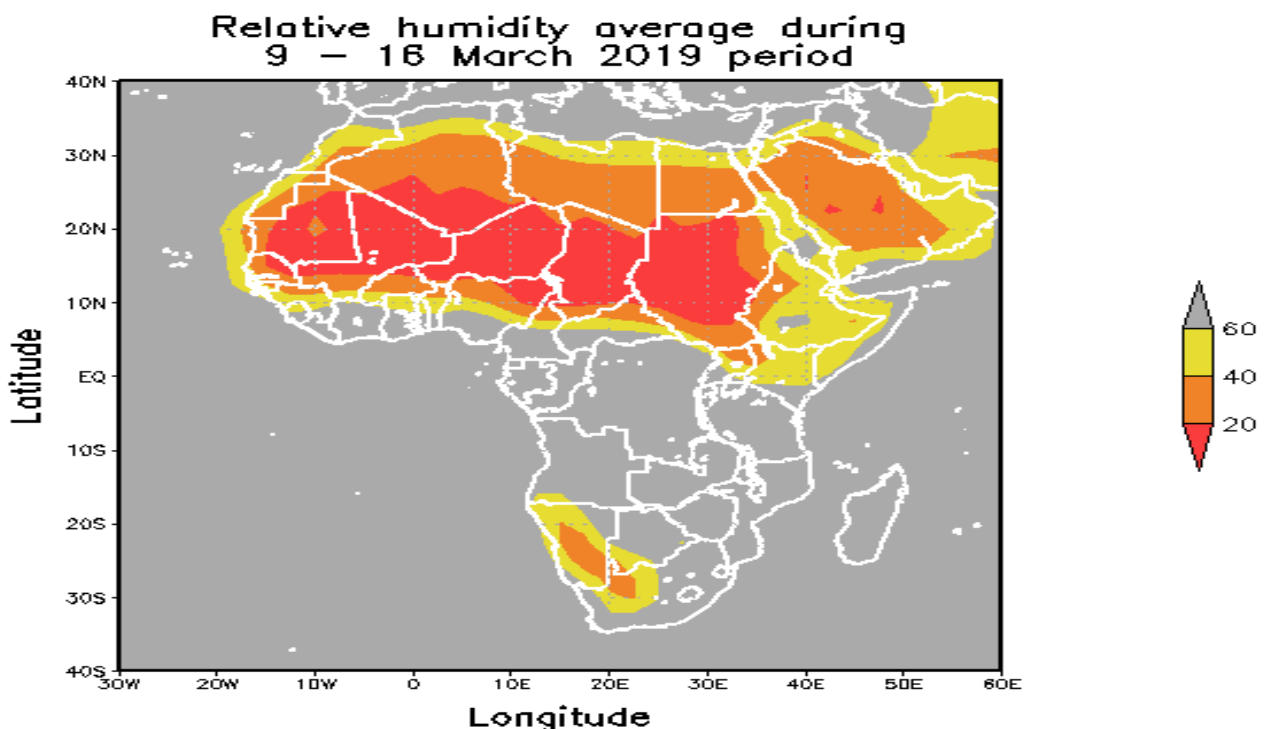


FIGURE 4 – Mean relative humidity (%) for the period from 9 to 16 March 2019.

Figure 5 shows that high surface dust concentrations were observed over the West Africa on 16th March 2019 at 00 :00 UTC. Highest values of surface dust concentrations are observed over western Senegal, eastern and northern Mauritania, southern Algeria, northern Mali, Burkina Faso, central and southern Niger, Nigeria, western Cameroon, Libya, central Chad, Sudan, Ghana, Ivory Coast, and Togo.

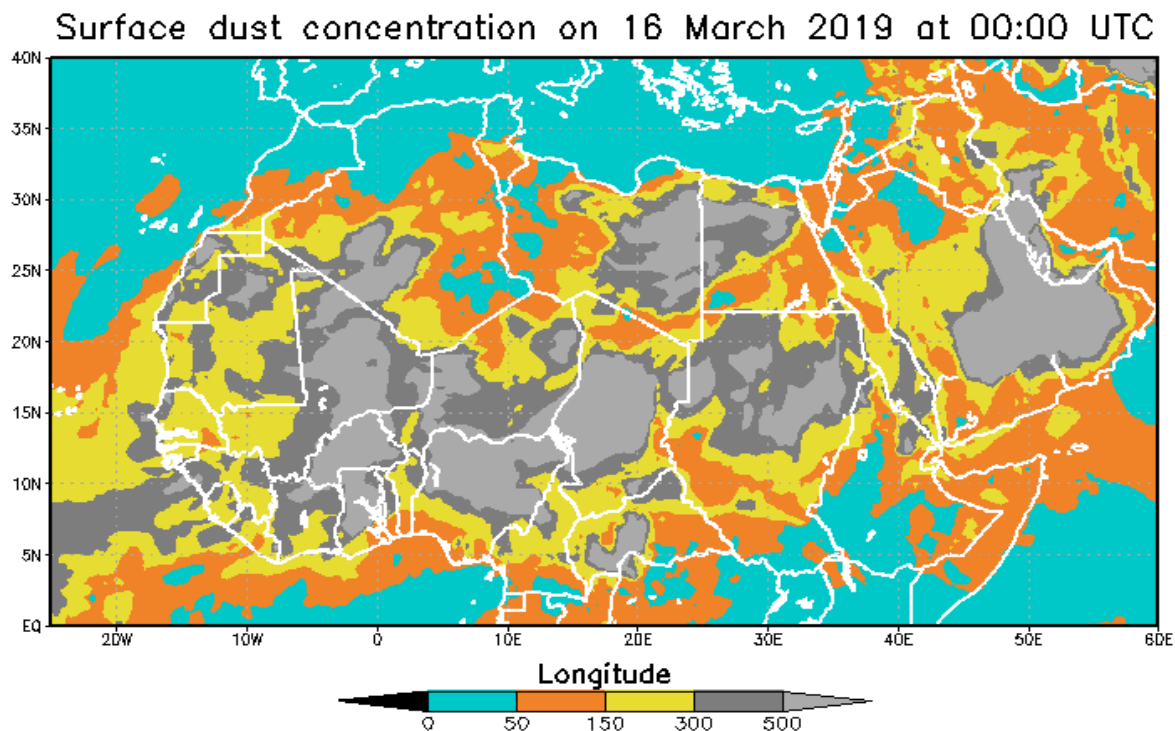


FIGURE 5 – Surface dust concentration ($\mu\text{g m}^3$) estimated on March 16, 2019 at 00 :00 UTC from NASA-GEOS data.

Figure 6 shows that during the week from 9 to 16 March 2019, the ITD moved further northward and the Harmattan flow was observed over Senegal, Gambia, central and northern Mali, northern Burkina Faso, Mauritania, Niger, northern Nigeria, Chad, and Sudan. It also indicates the installation of the monsoon flow over the Gulf of Guinea countries. This flow favors the cessation of the meningitis occurrence in this area.

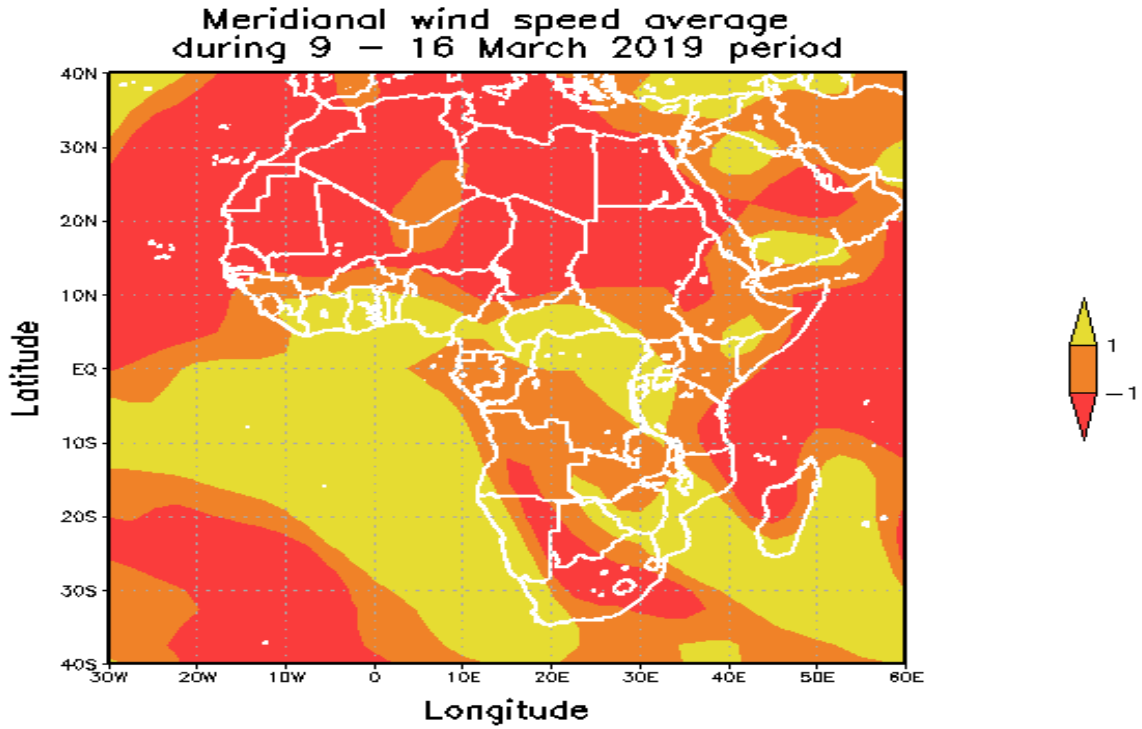
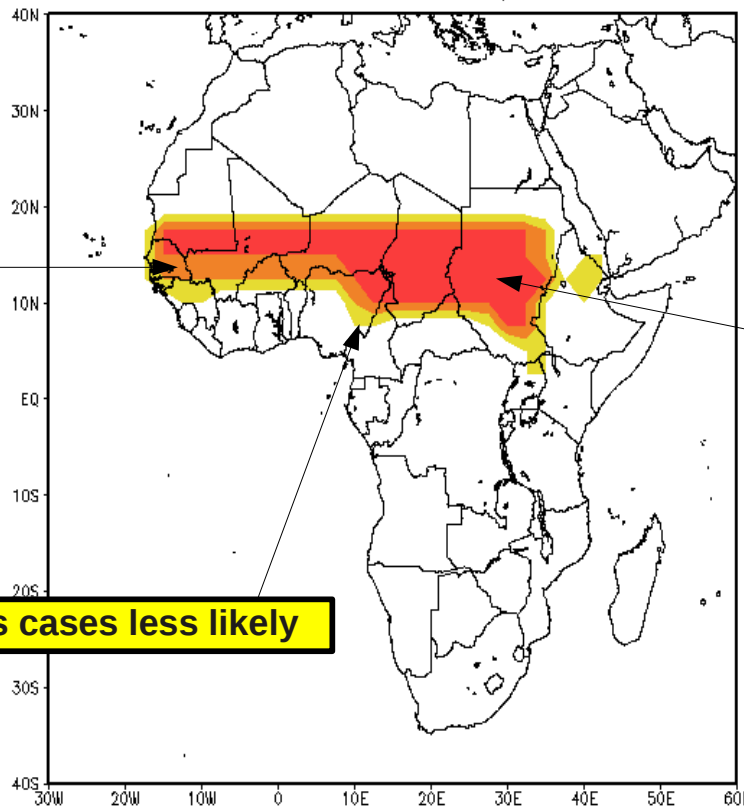


FIGURE 6 – Mean meridional wind speed (m s^{-1}) for the period from 9 to 16 March 2019.

**VIGILANCE MAP FOR EMERGENCE OF MENINGITIS IN AFRICA
 ISSUED ON March 19, 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

Meningitis cases less likely

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