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## MENINGITIS VIGILANCE FOR AFRICA

Bulletin No. 007

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## SUMMARY

- During the week from 11<sup>th</sup> - 17<sup>th</sup> February, 2019, meningitis cases decreased over Benin, Burkina Faso, Cameroon, Mali, Togo, and Guinea. An increase of the occurrence of meningitis was observed over Ghana, Nigeria, Gambia, Ivory Coast, Chad and Kenya.
- High vigilance is needed for meningitis cases over southern Mauritania and Mali, Burkina Faso, Niger, Chad, northern Nigeria, Cameroon, Ghana Togo, Benin, and central Sudan.
- Moderate vigilance is required over eastern Senegal, central Mali, northern Nigeria, southern Chad and northern Gulf of Guinea countries.
- Low to no vigilance is needed over the remaining parts of the meningitis belt.



FIGURE 1 – African Meningitis Belt.

**11<sup>th</sup> to 17<sup>th</sup> February 2019**

I. SITUATION EPIDEMIOLOGIQUE DE LA SEMAINE 07 / EPIDEMIOLOGICAL SITUATION OF WEEK 07

**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 <sup>P</sup>         | 9          | 3         | 33.3         | 0                  | 0                    | 100.0            |
| Burkina Faso <sup>T</sup>  | 96         | 5         | 5.2          | 1                  | 0                    | 100.0            |
| Burundi <sup>T</sup>       | -          | -         | -            | -                  | -                    | -                |
| Cameroun <sup>P</sup>      | 13         | 1         | 7.7          | 1                  | 0                    | 91.1             |
| Centrafrique <sup>P</sup>  | 3          | 1         | 33.3         | 0                  | 0                    | 45.7             |
| Côte d'Ivoire <sup>P</sup> | 8          | 0         | 0.0          | 0                  | 0                    | 100.0            |
| Ethiopia <sup>T</sup>      | -          | -         | -            | -                  | -                    | -                |
| Ghana <sup>P</sup>         | 52         | 1         | 1.9          | 2                  | 2                    | 100.0            |
| Guinée <sup>P</sup>        | 4          | 1         | 25.0         | 0                  | 0                    | 100.0            |
| Guinée Bissau              | -          | -         | -            | -                  | -                    | -                |
| Gambia <sup>T</sup>        | 3          | 0         | 0.0          | 1                  | 0                    | 100.0            |
| Kenya                      | 5          | 0         | 0.0          | 0                  | 0                    | 100.0            |
| Mali <sup>T</sup>          | 9          | 0         | 0.0          | 0                  | 0                    | 100.0            |
| Mauritania <sup>P</sup>    | -          | -         | -            | -                  | -                    | -                |
| Niger <sup>T</sup>         | 16         | 1         | 6.3          | 0                  | 0                    | 100.0            |
| Nigeria <sup>P</sup>       | 26         | 2         | 7.7          | 0                  | 0                    | 100.0            |
| RD Congo <sup>P**</sup>    | -          | -         | -            | -                  | -                    | -                |
| Senegal <sup>P</sup>       | -          | -         | -            | -                  | -                    | -                |
| South Sudan <sup>P</sup>   | -          | -         | -            | -                  | -                    | -                |
| Sudan <sup>T</sup>         | 0          | 0         | 0.0          | 0                  | 0                    | 100.0            |
| Tanzania                   | 2          | 1         | 50.0         | 0                  | 0                    | 100.0            |
| Tchad <sup>T</sup>         | 46         | 6         | 13.0         | 2                  | 1                    | 100.0            |
| Togo <sup>P</sup>          | 8          | 0         | 0.0          | 0                  | 0                    | 93.2             |
| Uganda <sup>P</sup>        | -          | -         | -            | -                  | -                    | -                |
| <b>Total</b>               | <b>300</b> | <b>22</b> | <b>7.3</b>   | <b>7</b>           | <b>3</b>             | <b>50.3</b>      |

<sup>P</sup> = Pays partiellement vacciné avec le MenAfriVac / Country partially vaccinated with MenAfriVac  
<sup>T</sup> = Pays entièrement vacciné avec le MenAfriVac / Country entirely vaccinated with MenAfriVac

FIGURE 2 – Inventory of meningitis occurrence in Africa during the 7<sup>th</sup> week of the year, 2019. Data source : <https://www.who.int/emergencies/diseases/meningitis/meningitis-bulletin-7-2019.pdf?ua=1>

(Semaines notifiées / Reported weeks 01-07)

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

| Pays<br>Country            | Cas<br>Cases | Décès<br>Deaths | Létalité (%)<br>CFR (%) | District en Alerte<br>District in Alert | District en Epidémie<br>District in Epidemic | Semaines notifiées<br>Reported weeks | En districts (%)<br>In districts (%) | En semaines (%)<br>In weeks (%) |
|----------------------------|--------------|-----------------|-------------------------|---|--|--------------------------------------|--------------------------------------|---------------------------------|
| Benin <sup>P</sup>         | 68           | 13              | 19.1                    | 1                                       | 0  | 01-07                                | 100.0                                | 100.0                           |
| Burkina Faso <sup>T</sup>  | 492          | 27              | 5.5                     | 5                                       | 0  | 01-07                                | 100.0                                | 100.0                           |
| Burundi <sup>T</sup>       | -            | -               | -                       | -                                       | -  | -                                    | -                                    | -                               |
| Cameroun <sup>P</sup>      | 125          | 5               | 4.0                     | 5                                       | 0  | 01-07                                | 93.7                                 | 97.5                            |
| Centrafrique <sup>P</sup>  | 48           | 6               | 12.5                    | 0                                       | 0  | 01-07                                | 74.3                                 | 87.9                            |
| Côte d'Ivoire <sup>P</sup> | 50           | 1               | 2.0                     | 0                                       | 0  | 01-07                                | 100.0                                | 100.0                           |
| Ethiopia <sup>T</sup>      | -            | -               | -                       | -                                       | -  | -                                    | -                                    | -                               |
| Ghana <sup>P</sup>         | 350          | 10              | 2.9                     | 8                                       | 4  | 01-07                                | 100.0                                | 100.0                           |
| Guinea <sup>P</sup>        | 28           | 3               | 10.7                    | 0                                       | 0  | 01-07                                | 100.0                                | 100.0                           |
| Guinée Bissau              | -            | -               | -                       | -                                       | -  | -                                    | -                                    | -                               |
| Gambia <sup>T</sup>        | 10           | 1               | 10.0                    | 2                                       | 0  | 01-07                                | 100.0                                | 100.0                           |
| Kenya                      | 27           | 0               | 0.0                     | 0                                       | 0  | 01-07                                | 100.0                                | 100.0                           |
| Mali <sup>T</sup>          | 80           | 0               | 0.0                     | 0                                       | 0  | 01-07                                | 100.0                                | 99.8                            |
| Mauritania <sup>P</sup>    | -            | -               | -                       | -                                       | -  | -                                    | -                                    | -                               |
| Niger <sup>T</sup>         | 100          | 6               | 6.0                     | 0                                       | 0  | 01-07                                | 100.0                                | 100.0                           |
| Nigeria <sup>P</sup>       | 203          | 10              | 4.9                     | 0                                       | 0  | 01-07                                | 100.0                                | 100.0                           |
| RD Congo <sup>P**</sup>    | 877          | 68              | 7.8                     | -                                       | -  | 01-06                                | 15.9                                 | 90.7                            |
| Senegal                    | -            | -               | -                       | -                                       | -  | -                                    | -                                    | -                               |
| South Sudan <sup>P</sup>   | -            | -               | -                       | -                                       | -  | -                                    | -                                    | -                               |
| Sudan <sup>T</sup>         | 2            | 0               | 0.0                     | 0                                       | 0  | 01-07                                | 100.0                                | 100.0                           |
| Tanzania                   | 9            | 7               | 77.8                    | 0                                       | 0  | 01-07                                | 100.0                                | 100.0                           |
| Tchad <sup>T</sup>         | 176          | 15              | 8.5                     | 2                                       | 1  | 01-07                                | 100.0                                | 100.0                           |
| Togo <sup>P</sup>          | 80           | 2               | 2.5                     | 0                                       | 0  | 01-07                                | 93.2                                 | 100.0                           |
| Uganda <sup>P</sup>        | -            | -               | -                       | -                                       | -  | -                                    | -                                    | -                               |
| <b>Total</b>               | <b>2 725</b> | <b>174</b>      | <b>6.4</b>              | <b>23</b>                               | <b>5</b>                                     | <b>01-07</b>                         | <b>60.0</b>                          | <b>99.4</b>                     |

<sup>P</sup> = Pays partiellement vacciné avec le MenAfriVac / Country partially vaccinated with MenAfriVac  
<sup>T</sup> = Pays entièrement vacciné avec le MenAfriVac / Country entirely vaccinated with MenAfriVac

FIGURE 3 – Inventory of meningitis occurrence in Africa during the first seven weeks of year 2019. Data source : <https://www.who.int/emergencies/diseases/meningitis/meningitis-bulletin-7-2019.pdf?ua=1>

The week from 26 February to 3 March 2019 (Figure 4) was very dry (relative humidity below 20 %) over Sudan, Chad, Niger, northern and central Mali, Burkina Faso, Mauritania, northern Nigeria, Benin, Togo, Ghana, Cameroon and Central African Republic. Relative humidity between 20 and 40 % prevailed over South Sudan, central and eastern Senegal, western Kenya, northern Uganda, and a small band over the Gulf of Guinea countries. Wet (relative humidity above 40 %) atmospheric conditions were recorded over the coast of the remaining parts of the meningitis belt.

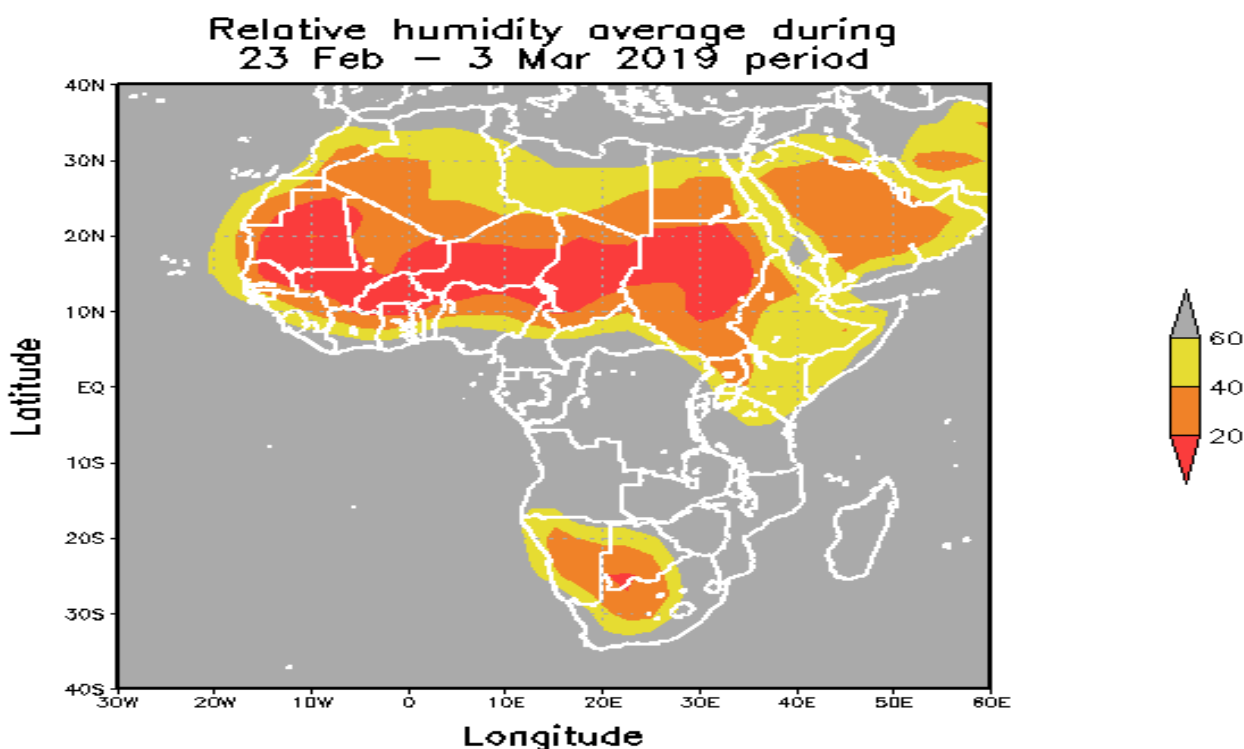


FIGURE 4 – Mean relative humidity (%) for the period from 26 February to 3 March 2019.

Figure 5 shows the surface dust concentrations observed on 2<sup>nd</sup> March 2019 at 00 :00

UTC. Moderate dust concentrations (between 50 and 150  $\mu\text{g m}^3$ ) were located over the Gulf of Guinea coasts, particularly over Nigeria, Cameroon, Gabon, western Central African Republic and eastern Chad. The surface dust concentrations between 150 and 300  $\mu\text{g m}^3$  were observed over the meningitis belt, with higher concentration (above 300  $\mu\text{g m}^3$ ) over Mauritania, Senegal, northern and central Mali, southern Algeria, central Chad, central Sudan and Niger, northern Ghana, Togo and Benin, Liberia, Sierra Leona and southern Guinea, and Ivory Coast.

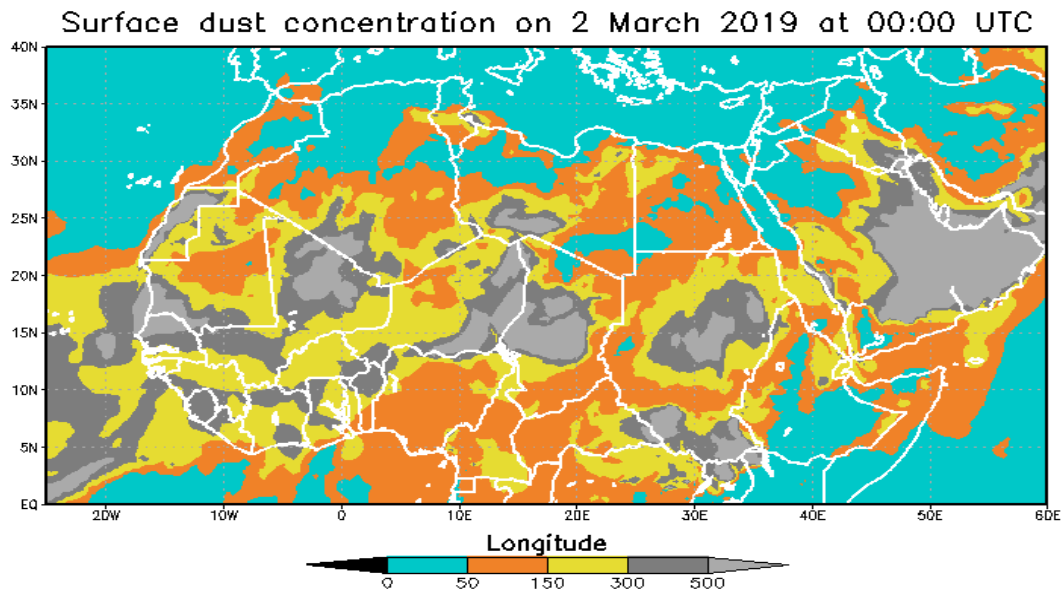


FIGURE 5 – Surface dust concentration ( $\mu\text{g m}^3$ ) estimated on March 2, 2019 at 00 :00 UTC from NASA-GEOS data.

The mean meridional wind speed map during the week from 26 February to 3 March, 2019 is shown in figure 6. This figure indicates a very slight migration of the ITD to the North. Northerly winds were dominant over much of the meningitis belt. The highest values were observed over northern Senegal, Gambia, Guinea Bissau, Burkina Faso, Mauritania, Mali, Niger, northern Nigeria, and eastern Chad.

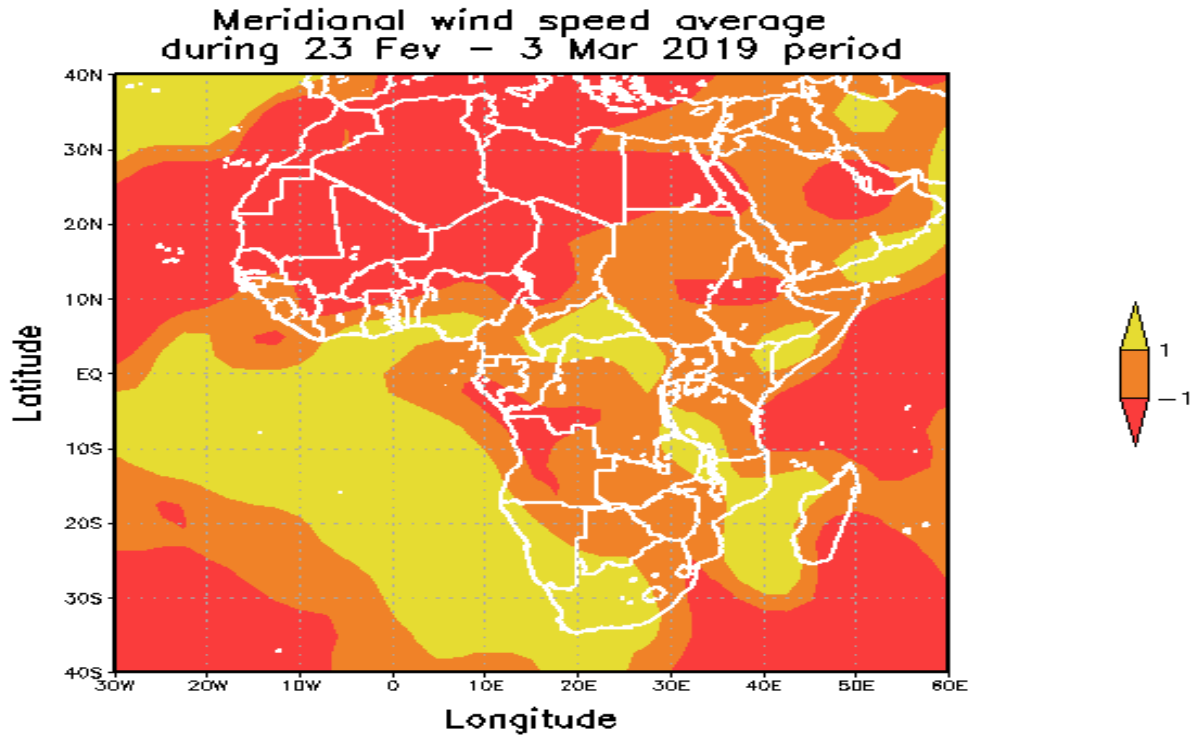
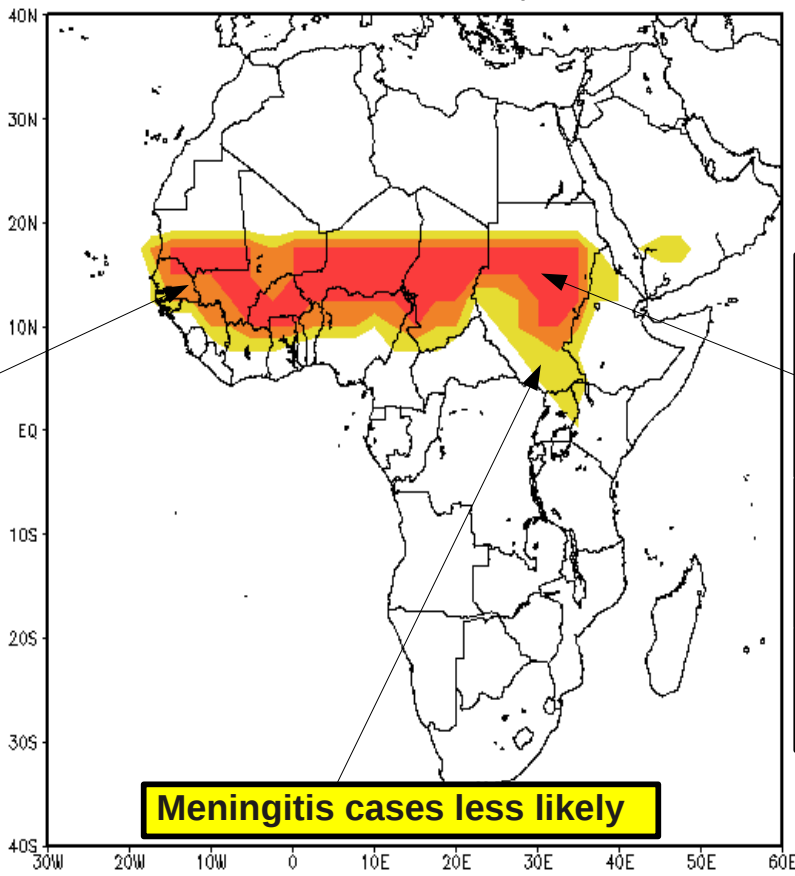


FIGURE 6 – Mean meridional wind speed ( $\text{m s}^{-1}$ ) for the period from 26 February to 3 March 2019.

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