



# MENINGITIS VIGILANCE FOR AFRICA

Bulletin No. 014

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## SUMMARY

- High vigilance is needed for meningitis cases over southeastern Mauritania, central Mali, central Niger, western Chad, and Central Sudan.
- Moderate vigilance is required over southern Mauritania, southern Mali, southern Niger, northern Burkina Faso, southern and eastern Chad, and central Sudan.
- Low to no vigilance is needed over the remaining parts of the meningitis belt.



FIGURE 1 – African Meningitis Belt.

Figure 2 presents the mean relative humidity estimated from NCEP reanalysis during 14 – 20 April 2019 period. It shows that very dry atmospheric conditions (relative humidity below 20 %) prevailed over eastern Mauritania, central and northern Mali, Algeria, Niger, northern Chad, and northern Sudan. Moistening atmospheric conditions (relative humidity between 20 and 40 %) occurred over western Mauritania, eastern Senegal, southern Mali, Burkina Faso, central Chad, South Sudan, and northern Uganda. Wet (relative humidity above 40 %) atmospheric conditions were recorded over the Gulf of Guinea countries, Tanzania, Burundi, Somalia, and Rwanda.

### Relative humidity average during 14 – 20 April 2019 period

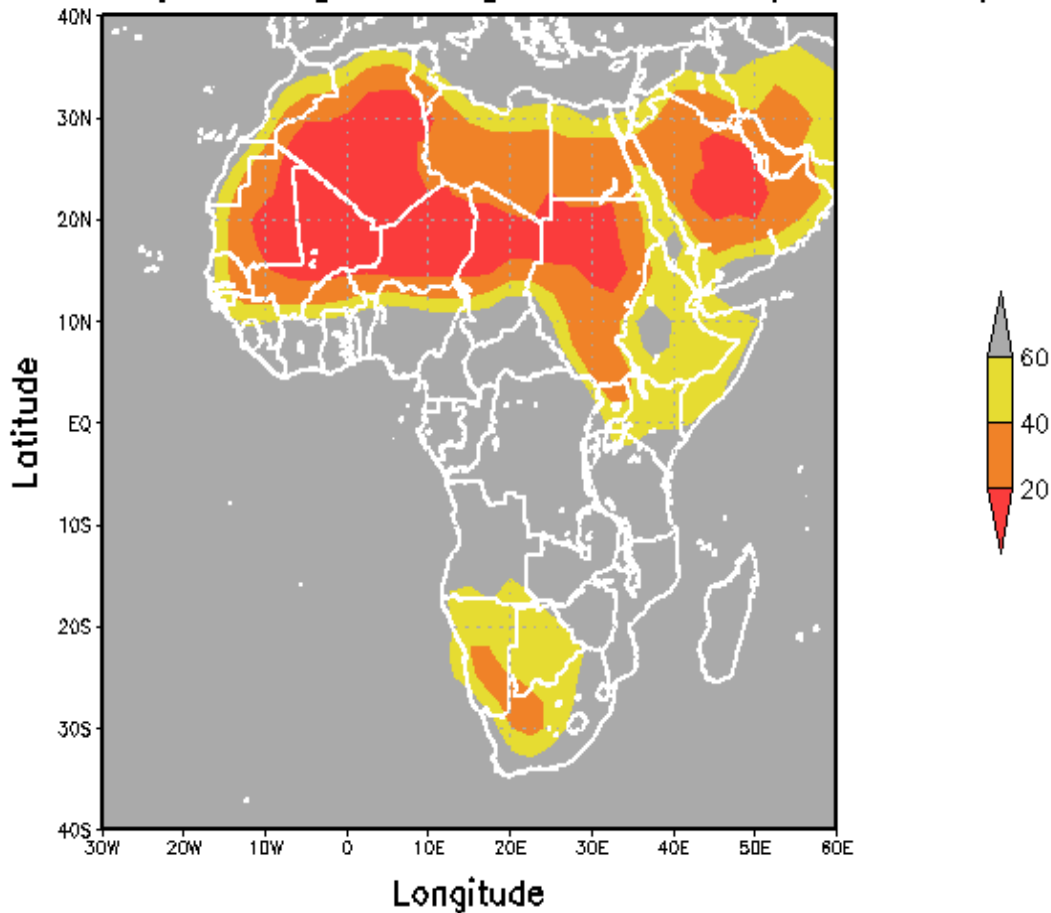


FIGURE 2 – Mean relative humidity (%) for the period 14 – 20 April 2019 estimated from NCEP reanalysis at 1000 hPa.

Figure 3 shows an example of surface dust concentrations estimated on 20<sup>th</sup> April 2019 at 00 :00 UTC. Highest values of surface dust concentrations was recorded over northern Senegal, western Mauritania, southern Mali, Central Algeria, Libya, central Sudan, South Sudan, Chad, northern Cameroon, southern Niger, northern Burkina Faso and Benin, and Nigeria. Moderate surface dust concentrations are observed over the remaining part of the meningitis.

Figure 4 shows the mean meridional wind speed during the week from 14 to 20 April 2019. It indicates that the south part of the Gulf of Guinea is under the influence of the monsoon flow. During this week, the ITD continued his northward migration and reached southern Niger, northern Burkina Faso and southeastern Mali. The Harmattan flow favoring the increase of meningitis cases occurred over northern Senegal, northern Mali, Mauritania, northern Niger, northern Chad, and Sudan.

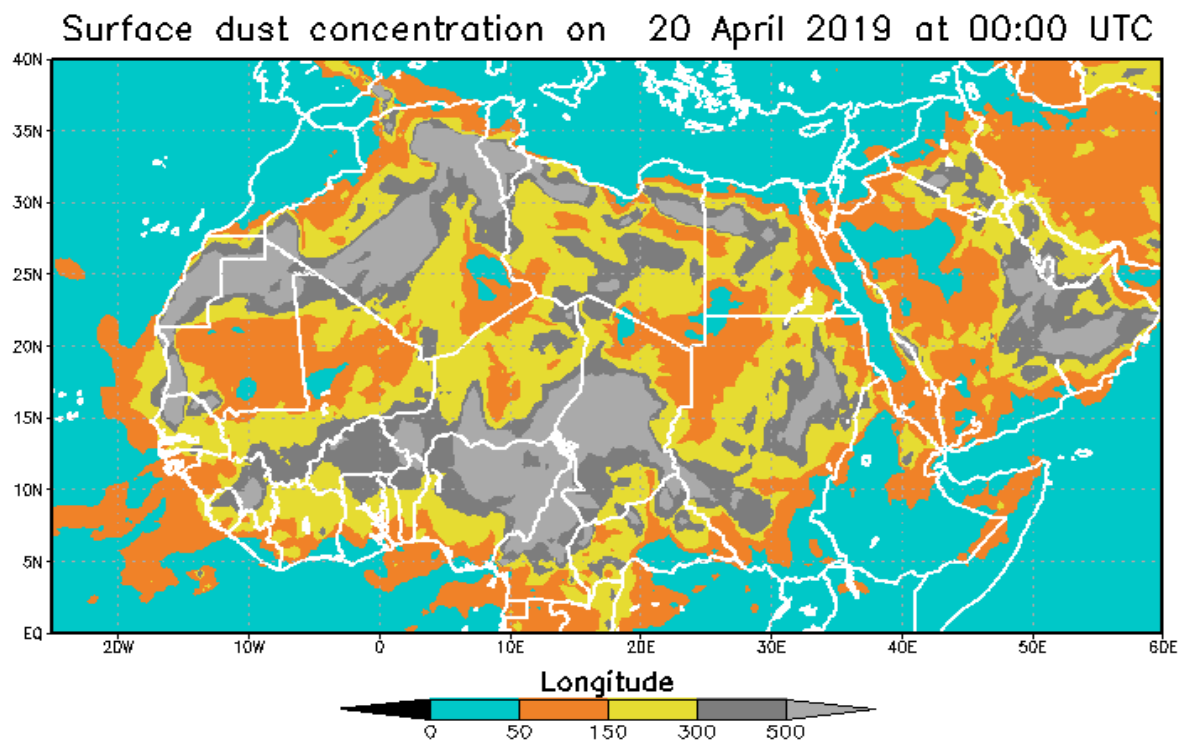


FIGURE 3 – Surface dust concentration ( $\mu\text{g m}^3$ ) estimated on April 20, 2019 at 00 :00 UTC from Goddard Earth Observing Model (GEOS) data.

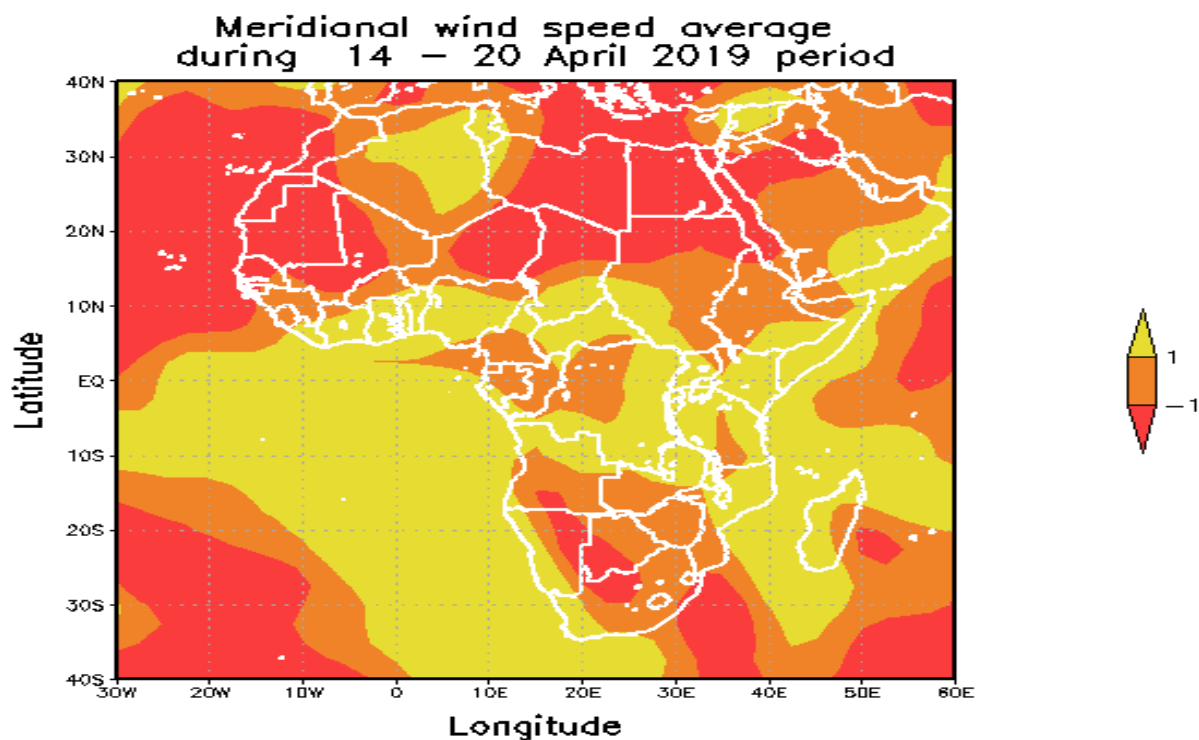


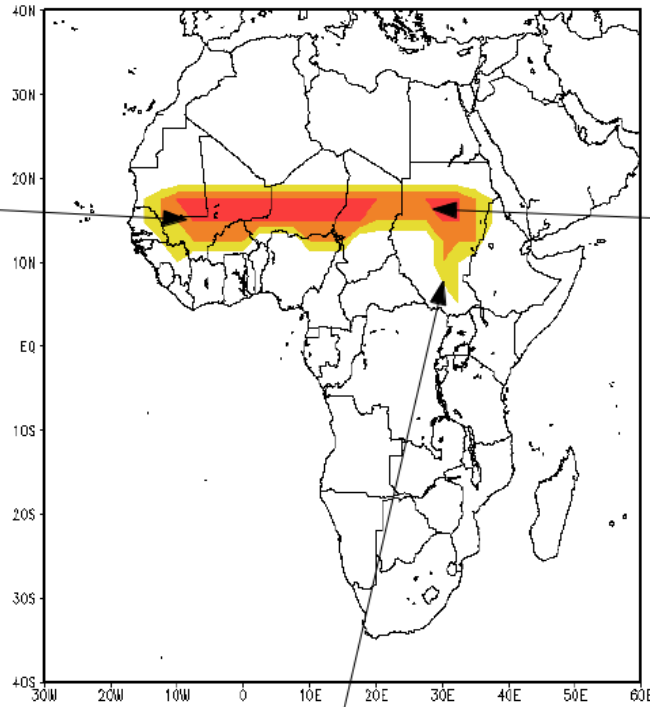
FIGURE 4 – Mean meridional wind speed ( $\text{m s}^{-1}$ ) for the period 14 – 20 April 2019 estimated from NCEP reanalysis at 1000 hPa.



VIGILANCE MAP FOR EMERGENCE OF MENINGITIS IN AFRICA  
ISSUED ON APRIL 23, 2019



<b>HAZARD</b> Dust, wind and relative humidity conditions are favorable for emergence of meningitis cases
<b>POTENTIAL IMPACTS</b> Meningitis cases very likely
<b>MEASURES</b> Activation of meningitis surveillance and systems



<b>HAZARD</b> Dust, wind and relative humidity conditions are very much favorable for emergence of meningitis cases
<b>POTENTIAL IMPACTS</b> Meningitis cases very likely and epidemics status possible
<b>MEASURES</b> Strengthen meningitis surveillance and systems

**Meningitis cases less likely**