



MENINGITIS VIGILANCE FOR AFRICA

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SUMMARY

- Moderate vigilance is required for meningitis cases over southern Mauritania, northeastern Senegal, central Mali, central Niger, central 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 27 April – 7 May 2019 period. It indicates that very dry atmospheric conditions (relative humidity below 20 %) remained over the Sahara region, particularly over eastern Mauritania, northern Mali, southern Algeria, northern Niger, northern Chad, northern Sudan, southern Libya, and southern Egypt. A continuous moistening (relative humidity between 20 and 40 %) occurred over Mauritania, eastern Senegal, central Mali, northern Burkina Faso, central Niger, central Chad, and South Sudan. Wet (relative humidity above 40 %) atmospheric conditions were recorded over the Gulf of Guinea countries, Tanzania, Burundi, Somalia, Kenya, Ethiopia, Uganda and Rwanda.

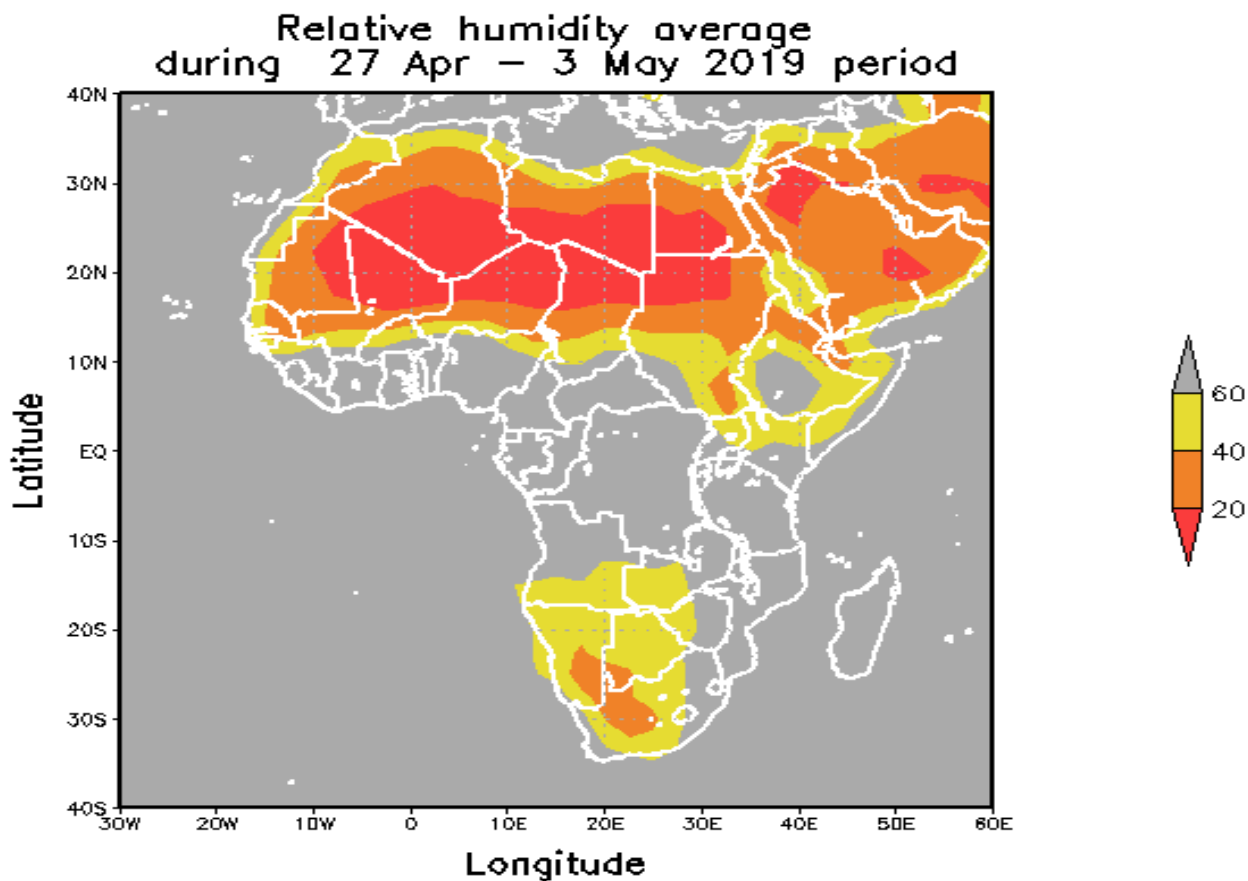


FIGURE 2 – Mean relative humidity (%) for the period 27 April – 7 May 2019 estimated from NCEP reanalysis at 1000 hPa.

Figure 3 shows an example of surface dust concentrations estimated on 4th May 2019 at 00 :00 UTC. Highest values of surface dust concentrations observed over the meningitis belt were inhomogeneous during this night. Dusty atmospheric conditions prevailed over northern Senegal, western and northern Mauritania, Algeria, southern Tunisia, eastern Niger, central Egypt, central Chad, and northern Sudan. Moderate surface dust concentrations were observed over the remaining part of the meningitis.

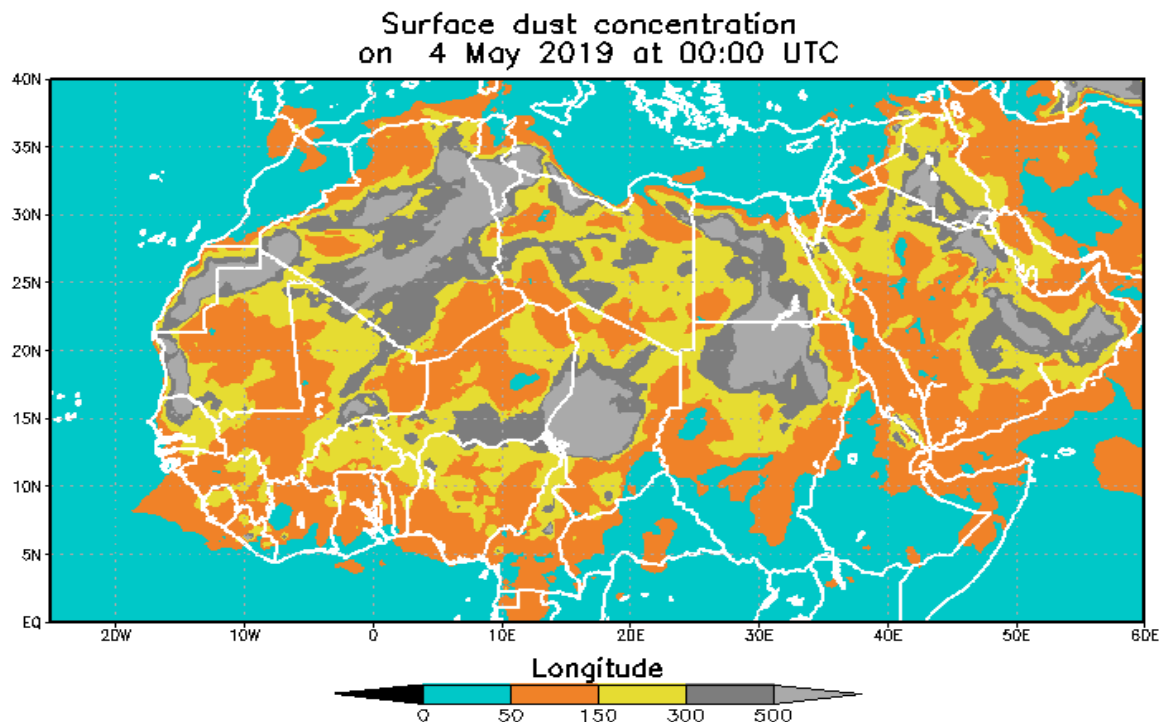


FIGURE 3 – Surface dust concentration ($\mu\text{g m}^3$) estimated on May 7, 2019 at 00 :00 UTC from Goddard Earth Observing Model (GEOS) data.

Figure 4 shows the mean meridional wind speed during the week from 27 April to 7 May 2019. It indicates that the mean synoptic atmospheric circulations were similar to those of the previous week. Figure 4 revealed that all Gulf of Guinea countries was under the influence of the monsoon flow. The ITD continued a slowly northward migration and reached southeastern Senegal, central Mali, Central Niger, central Chad, and central Sudan. The western West Africa was under the influence of the Atlantic Inflow that gave wet atmospheric conditions. The Harmattan flow favoring the increase of meningitis cases prevailed over northern Niger, northern Chad, and northern Sudan.

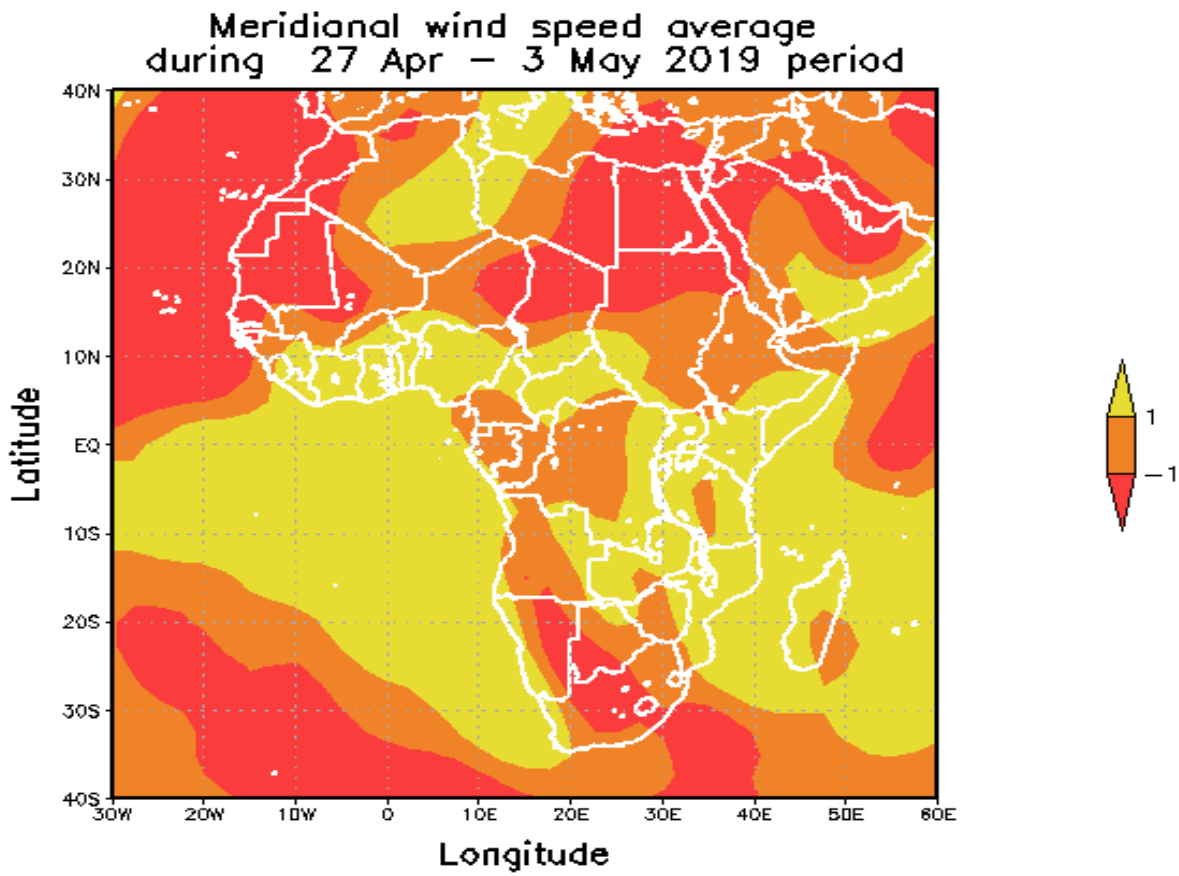


FIGURE 4 – Mean meridional wind speed (m s^{-1}) for the period 27 April – 7 May 2019 estimated from NCEP reanalysis at 1000 hPa.



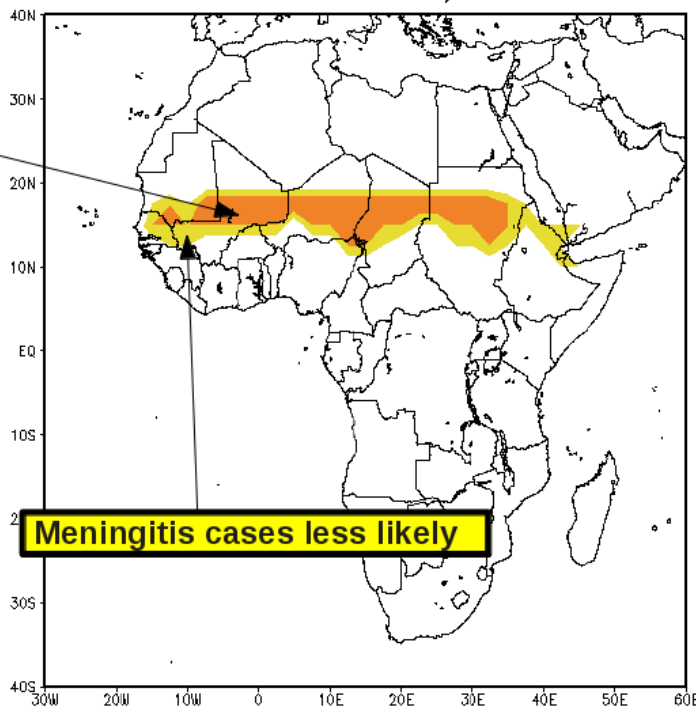
VIGILANCE MAP FOR EMERGENCE OF MENINGITIS IN AFRICA
ISSUED ON MAY 7, 2019



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