

WEEKLY MENINGITIS VIGILANCE FOR AFRICA

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1 Vigilance

- High vigilance is needed for meningitis cases over central Mali, northern Burkina Faso, western Niger, northern and eastern Nigeria, southeastern Chad, southern Sudan, northern Cameroon, and northern CAR.
- Meningitis cases are very likely over central and eastern Senegal, southern Mauritania, southern Mali, parts of Burkina Faso, northeastern Ivory coast, northern Guinea, Ghana, Togo and Benin, central Nigeria, extreme southern Chad, central Cameroon, CAR, northern South Sudan, and southern Sudan.
- Low to no vigilance is needed over the remaining parts of the meningitis belt.



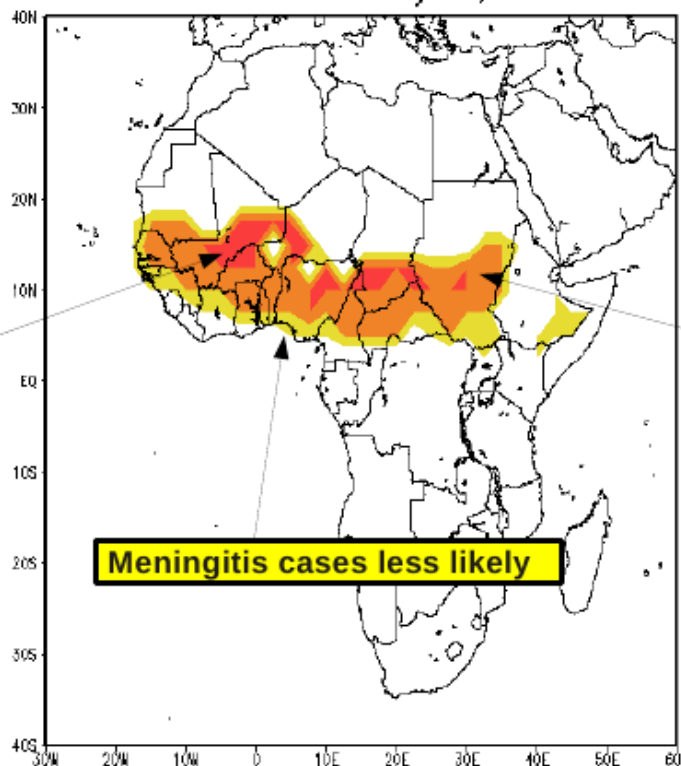
VIGILANCE MAP FOR EMERGENCE OF MENINGITIS IN AFRICA
ISSUED ON February 17, 2020



HAZARD
Dust, wind and relative humidity and temperature conditions are very much favorable for emergence of meningitis

POTENTIAL IMPACTS
Meningitis cases very likely and epidemics status possible

MEASURES
Strengthen meningitis surveillance and systems



HAZARD
Dust, wind, relative humidity and temperature conditions are favorable for emergence of meningitis cases

Meningitis cases very likely

MEASURES
Activation of meningitis surveillance and systems

2 Atmospheric conditions

2.1 Relative humidity

Figure 1 shows the mean relative humidity (RH) at 1000 hPa estimated from NCEP reanalysis during 8 – 16 February 2020 period. It indicates that very dry atmospheric conditions with RH below 20 %) prevailed over the Sahel, central and northern Nigeria, northern CAR, Cameroon, Benin, Togo, Ghana, Ivory Coast and Guinea, southern Chad, central Sudan, and much parts of Algeria. Moistening atmospheric conditions (RH between 20 and 40 %) were observed over southern Nigeria, central Benin, Togo, Ivory Coast, Ghana and Guinea, central Senegal, Cameroon and CAR, Algeria, much parts of Sudan, northern Chad, and much parts of Mauritania. Very wet atmospheric conditions (relative humidity above 60 %) was observed over southern Ivory Coast, Liberia, Sierra Leona, southwestern Ghana, south equatorial countries, Somalia, part of South Africa, Madagascar, Mozambique, Botswana, northern Morocco, Algeria, Tunisia, Libya, and Egypt .

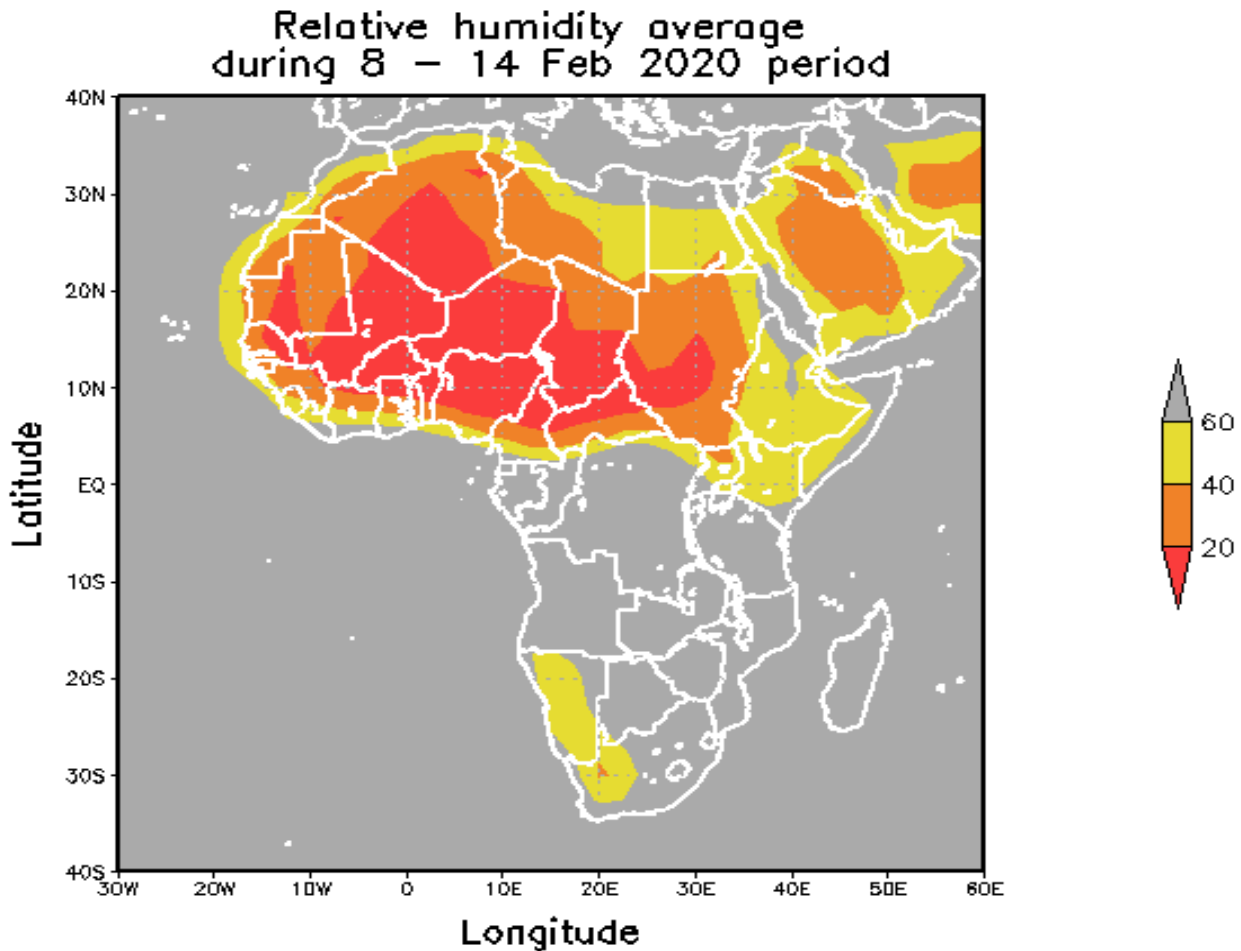


FIGURE 1 – Mean relative humidity (%) for the period 8 – 16 February 2020 estimated from NCEP reanalysis at 1000 hPa.

2.2 Surface dust concentration

Figure 2 presents the mean surface dust concentrations prospected using ECMWF forecast during 10 – 16 February 2020 period. It indicates that very dusty atmospheric conditions were observed over much parts of the Sahel and parts of northern Africa. Azores High pressure position (Figure not shown) allowed the triggering of dust over western part of West Africa (Senegal, Mauritania, parts of Algeria, and Western Morocco). Libya High pressure (Figure not shown) strengthened during this period and allowed favorable conditions for a very large uplift of surface dust Sahara and Sahel. These dusts are advected southward up to Gulf of Guinea coast. Moderate to high dust concentration were prospected over Somalia and Ethiopia.

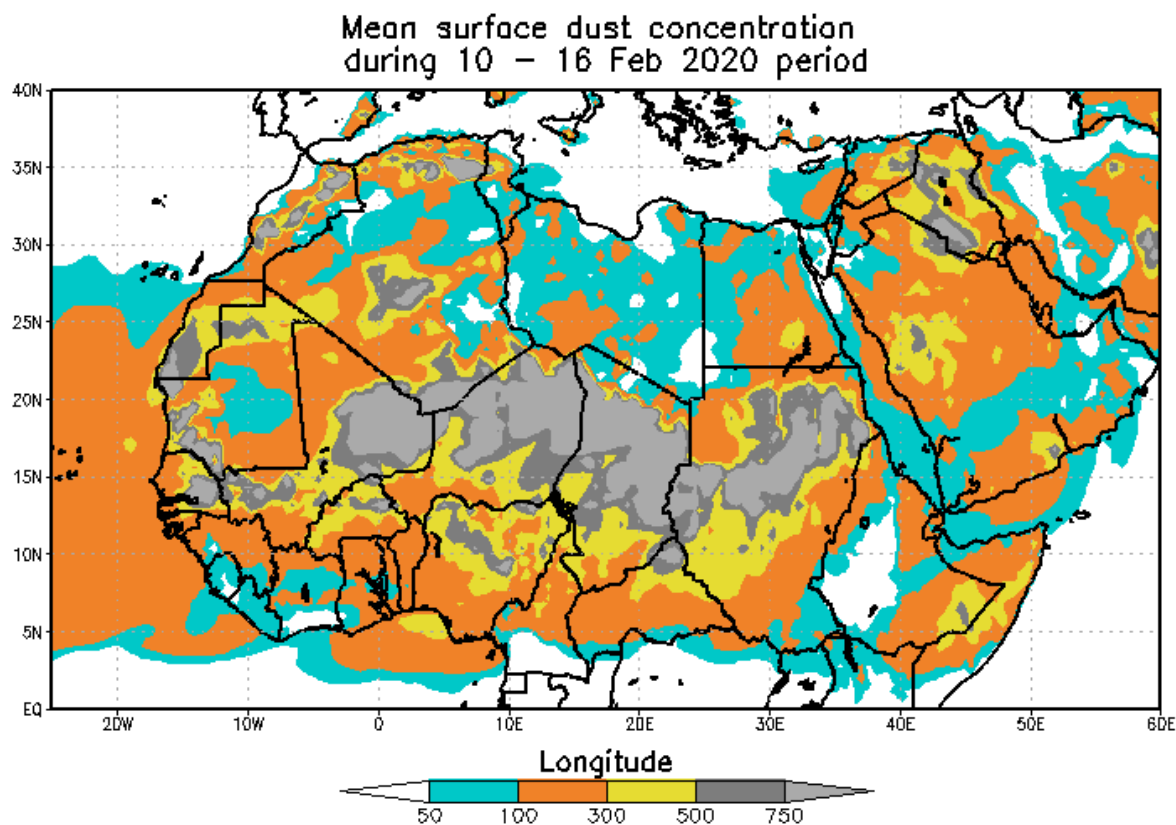


FIGURE 2 – Mean surface dust concentration ($\mu\text{g m}^{-3}$) forecasted from ECMWF during 10 - 16 February 2020 period .

2.3 Temperature

Figure 3 shows the mean temperature at 1000 hPa during 8 – 16 February 2020 period. It indicates that coldest atmosphere with temperature lower than 18 °C prevailed over northern Morocco, Algeria, Tunisia, Libya, Egypt, northern Sudan, Chad, and Niger. The warmest temperatures more than 30 °C prevailed over central part of East Africa, CAR, southern Chad, South Sudan, southern Sudan, parts of South Africa, Namibia, southern Angola, Botswana, northern Ivory Coast, northern Liberia, Sierra Leona, and southern Guinea. The warmest temperatures (more than 33 °C) southern Uganda and southern South Sudan.

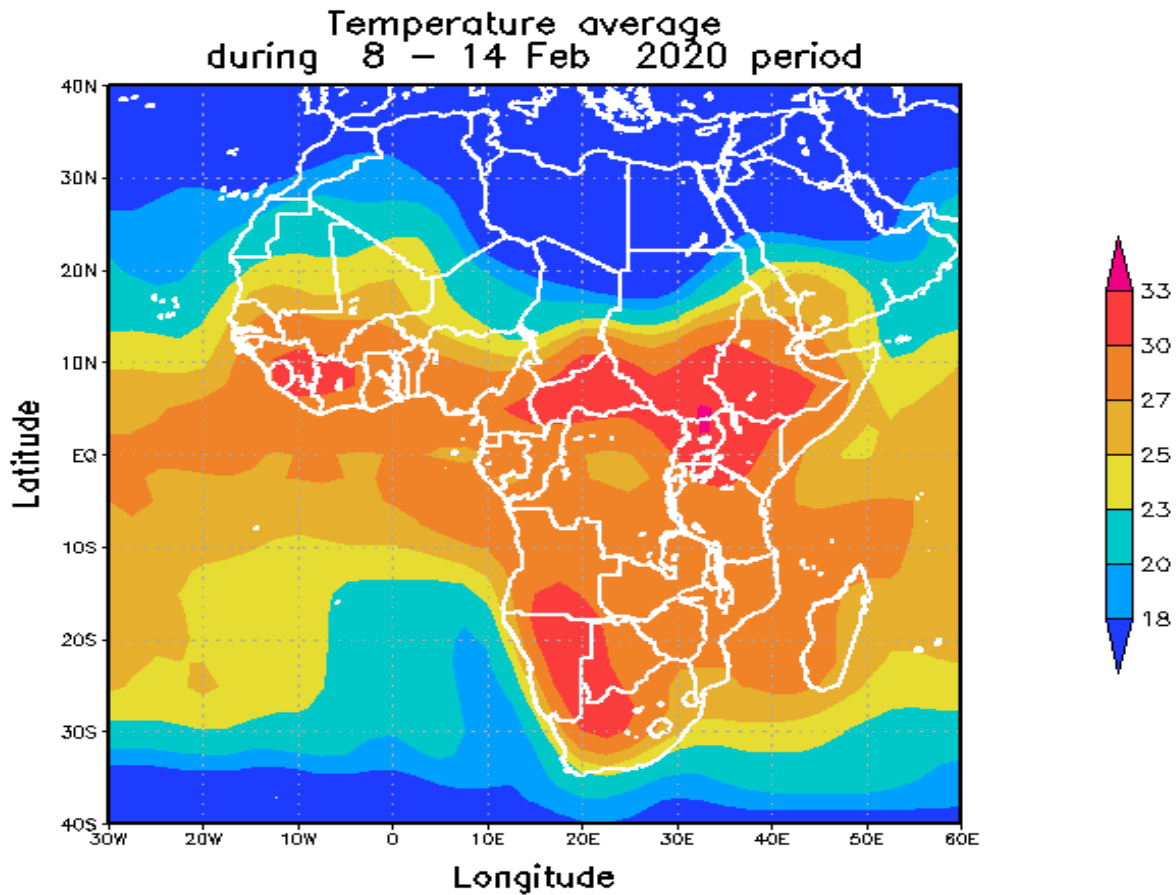


FIGURE 3 – Mean temperature (°C) for the period from 8 – 16 February 2020 estimated from NCEP reanalysis at 1000 hPa.

2.4 Meridional wind speed

[ht!] Figure 4 shows the mean meridional wind speed at 1000 hPa during 8 – 16 February 2020 period. It indicates that the ITD moved slightly northward compare to his position during the previous week. It was located on average over southern Ivory Coast, and Ghana, central Togo and Benin, southern Nigeria, southern Cameroon and CAR. Southerly wind prevailed of central and Eastern Africa where precipitations are observed this period. Harmattan wind associated with dusty atmospheric conditions, and warm temperature prevailed over Mauritania, Senegal, Mali, Bissau Guinea, Burkina Faso, northern Ivory Coast, Ghana, Togo, and Benin, Chad, Niger, central and northern Nigeria, northern Cameroon and CAR, Sudan, South Sudan. The situation allows favorable conditions for meningitis cases over this area during the week from 17 to 23 February 2020.

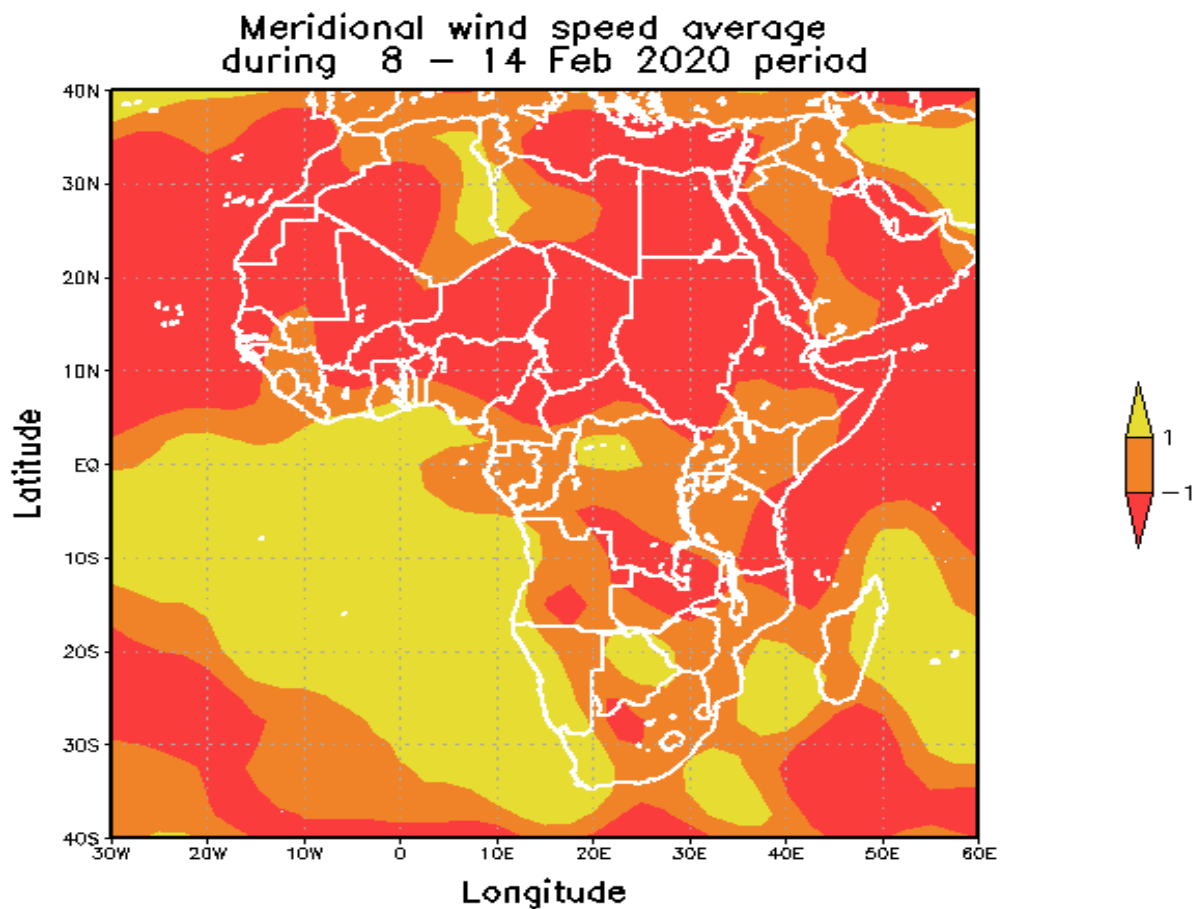


FIGURE 4 – Mean meridional wind speed (m s^{-1}) during 8 – 16 February 2020 period, estimated from NCEP reanalysis at 1000 hPa.