WEEKLY MENINGITIS VIGILANCE FOR AFRICA

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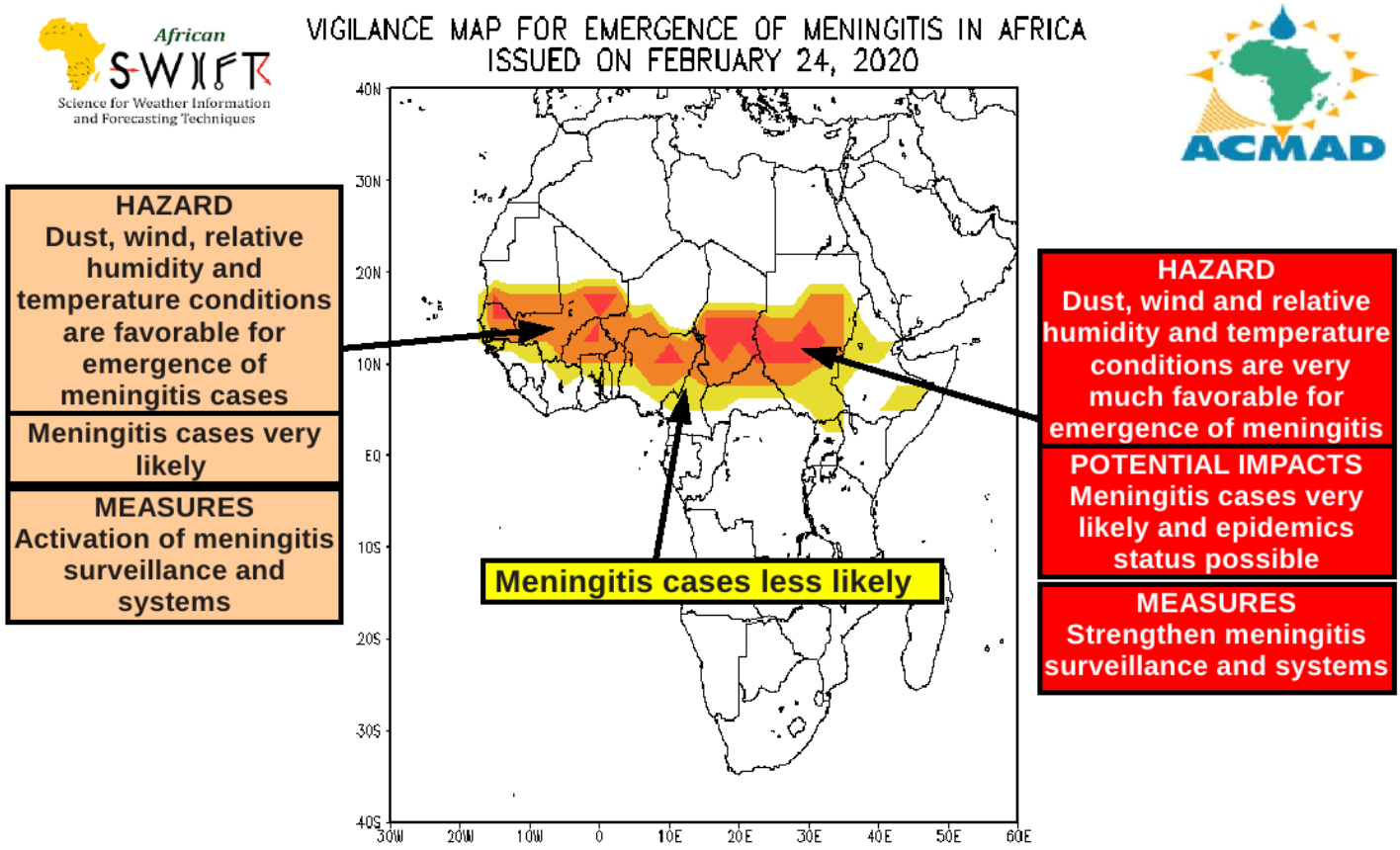
1 Vigilance

- High vigilance is needed for meningitis cases over central and eastern Mali, northeastern Senegal, southwestern Mauritania, northern Burkina Faso, northern and eastern Nigeria, southeastern Chad, and central Sudan.

- Meningitis cases are very likely over central and southeastern Senegal, southern Mauritania, southern Mali, parts of Burkina Faso, northern Ivory coast, northern Guinea, Ghana, Togo, Cameroon, CAR, and Benin, central Nigeria, extreme southern Chad, northern South Sudan, and southern Sudan.

- Low to no vigilance is needed over the remaining parts of the meningitis belt.



2 Atmospheric conditions

2.1 Relative humidity

Figure 1 shows the mean relative humidity (RH) at 1000 hPa estimated from NCEP reanalysis during 15 – 21 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, central 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, much parts of Algeria, much parts of Sudan, northern Chad and Niger, 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 .

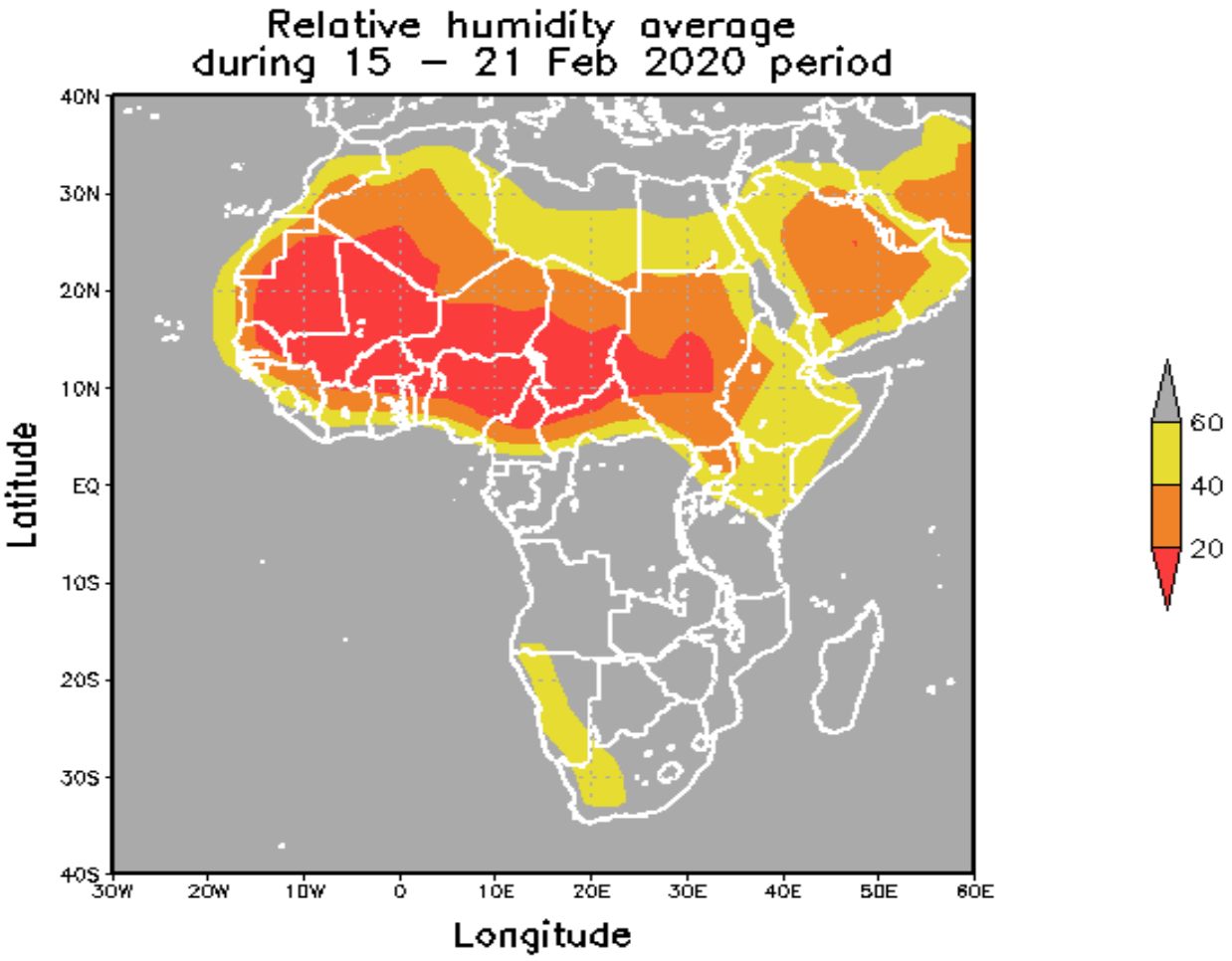


FIGURE 1 – Mean relative humidity (%) for the period 15 – 21 February 2020 estimated from NCEP reanalysis at 1000 hPa.

2.2 Surface dust concentrations

Figure 2 presents the mean surface dust concentrations prospected using ECMWF forecast during 17 –23 February 2020 period. It indicates that very dusty atmospheric conditions were prospected over much parts of the Sahel and Sahara. Azores High pressure position (Figure not shown) allowed the triggering of dust and advection of moistened air over western part of West Africa (Senegal, Mauritania, parts of Algeria, and Western Morocco). Libya High pressure (Figure not shown) allowed favorable conditions for a very large uplift of surface dust over Sahara and central and western Sahel. These dusts are advected southward up to northern Golf of Guinea countries. Moderate dust concentrations were prospected over Somalia and Ethiopia.

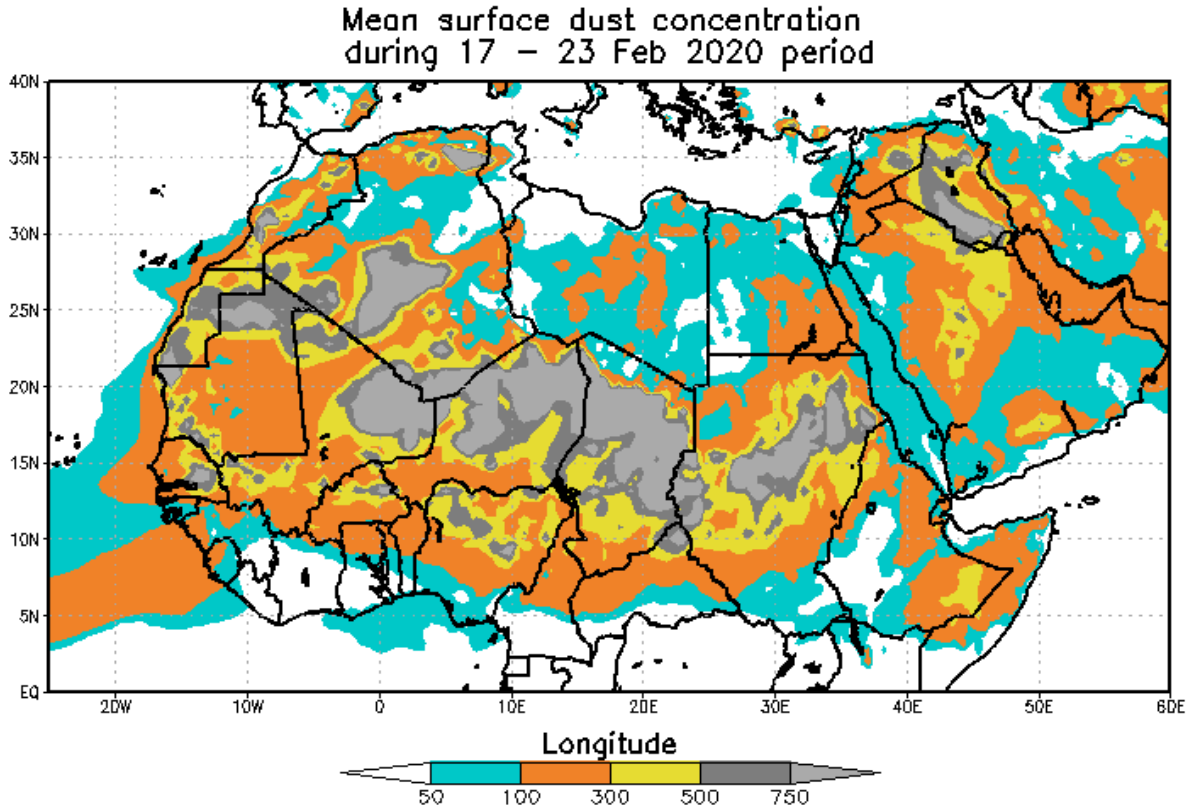


FIGURE 2 – Mean surface dust concentration (μg m^{-3}) forecasted from ECMWF during 17 - 23 February 2020 period .

2.3 Temperature

Figure 3 shows the mean temperature at 1000 hPa during 15 – 21 February 2020 period. It indicates that coldest atmosphere with temperature lower than 18 ^{o}C remained over northern Morocco and Algeria, Tunisia, Libya, Egypt, northwestern Sudan, northern Chad and Niger. The warmest temperatures more than 33 ^{o}C prevailed over southern Chad, northeastern CAR, South Sudan, southern Sudan, western Ethiopia, northern Uganda, and northwestern Kenya. During this period, an increase of the heating were observed over west Africa with temperature between 30 and 33 ^{o}C over southeastern Senegal, southern Mali, Guinea, northern Sierra Leona, Liberia, Ivory Coast, Ghana, Benin, Togo, and central Nigeria. The peak of heating over northern South Africa, western Namibia, southern Angola, and western Botswana remained during the last 7 days.

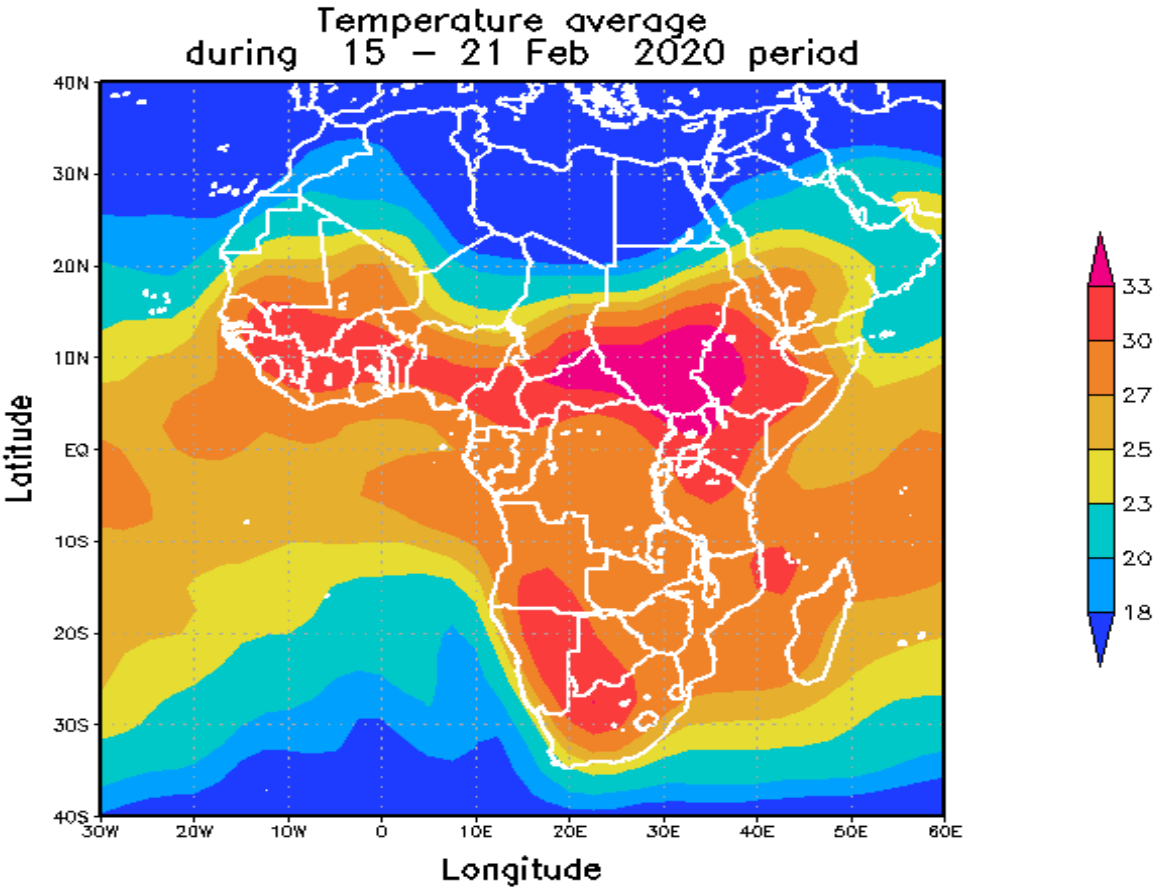


FIGURE 3 – Mean temperature (°C) for the period from 15 – 21 February 2020 estimated from NCEP reanalysis at 1000 hPa.

2.4 Meridional wind speed

Figure 4 shows the mean meridional wind speed at 1000 hPa during 15 – 21 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 central Ivory Coast and Ghana, central Togo and Benin, southern Nigeria, southern Cameroon and CAR. Southerly wind prevailed of central and Eastern Africa. 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 24 February to 2 March 2020.

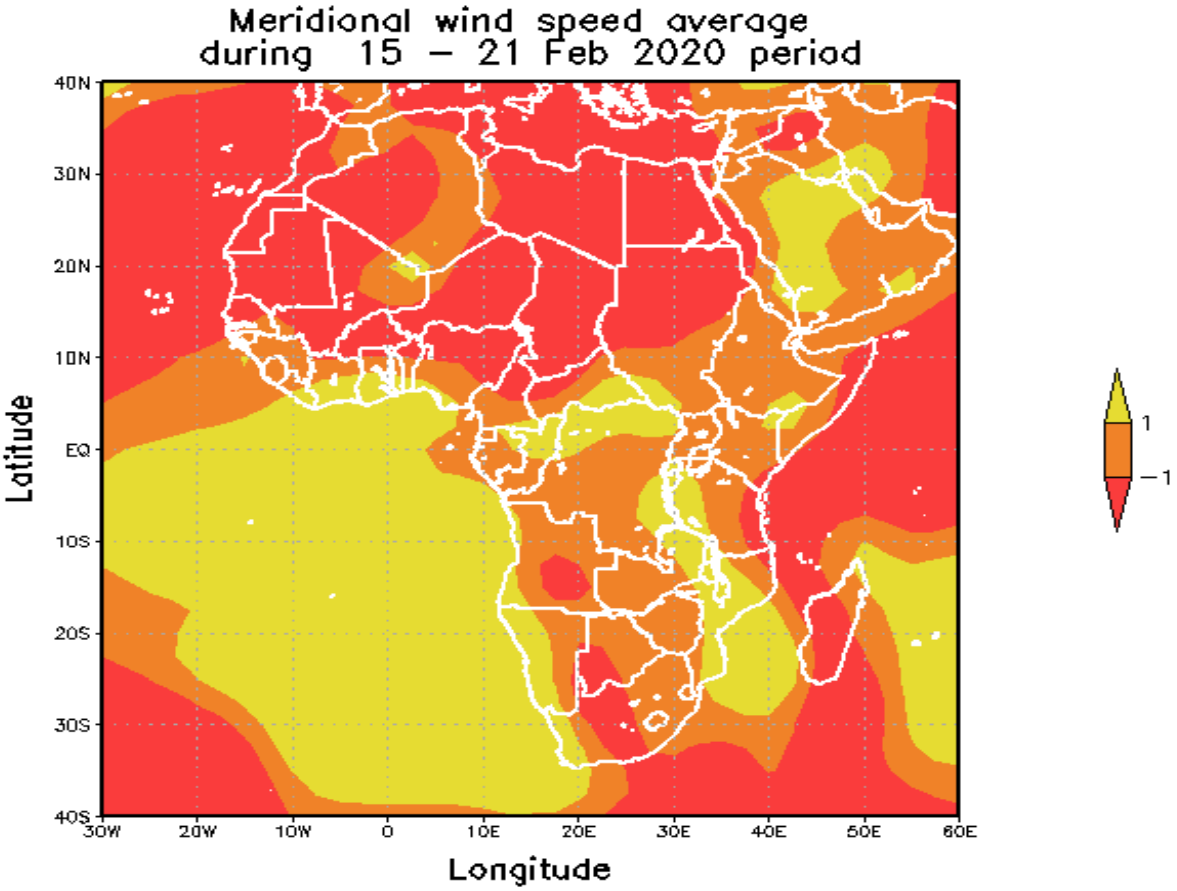


FIGURE 4 – Mean meridional wind speed (m s^{-1}) during 15 – 21 February 2020 period, estimated from NCEP reanalysis at 1000 hPa.