

**CENTRE AFRICAIN POUR LES APPLICATIONS
DE LA METEOROLOGIE AU DEVELOPPEMENT**

Institution Africaine parrainée par la CEA et l'OMM



**AFRICAN CENTRE OF METEOROLOGICAL
APPLICATIONS FOR DEVELOPMENT**

African Institution under the aegis of UNECA and WMO

WEEKLY MENINGITIS VIGILANCE FOR AFRICA

Bulletin No. 11

Issued on March 24, 2022

Valid until April 07, 2022

Produced at ACMAD/CDD



1. Vigilance

Week 1: from 25th to 31th March 2022

- Meningitis outbreaks are likely over northern Niger, northeastern Mali, Southern Algeria, Central Eastern part of Senegal.**

- Meningitis cases are very likely over much parts in Chad, northern and southern Sudan, extreme southern Algeria, central and northern Mali, Niger, northeastern Nigeria, northern Burkina Faso, extreme northern Cameroon, northern and western Mauritania, and eastern Senegal.**

- Meningitis cases are less likely over the rest of the African meningitis belt.**

Week 2: from 01st to 07th April 2022

- Meningitis outbreaks are likely over northern Niger, northeastern Mali, Chad and central Soudan and Senegal.**

- Meningitis cases are very likely over much parts in Chad, northern and western Sudan, southern Algeria, southern and northern Mali, northern Niger, northeastern Nigeria, northern Burkina Faso, northern Cameroon, northern and western Mauritania, and Senegal.**

- Meningitis cases are less likely over the rest of the African meningitis belt.**

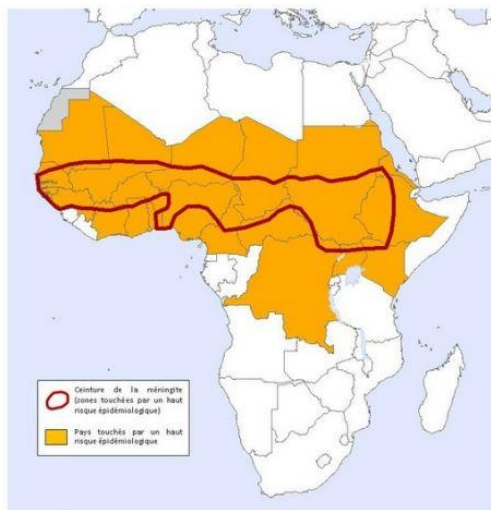


Figure 1 – African Meningitis Belt.

2. Atmospheric conditions

2.1 Relative humidity

Figure 2 shows the weekly mean relative humidity (RH) at 1000 hPa predicted by ECMWF Model for the periods from 25th to 31th March 2022 and from 01st to 07th April 2022 issued on 25th March 2022. It indicates that during the next two weeks, very dry atmospheric conditions with RH below 20 % will remain over the meningitis belt (Chad, southern Sudan, northern South Sudan, Mali, Mauritania, Niger, extreme northern Cameroon, northern Nigeria, extreme northern Benin and Burkina Faso). Moistening atmospheric conditions (RH between 20 and 40 %) are prospected over much parts of the northern Sahelian zone, Ethiopia, extreme northern Gulf of Guinea countries, Libya, southern Egypt, and central Algeria. Very wet atmospheric conditions (relative humidity more than 60 %) will prevail over much parts in central and southern Gulf of Guinea countries under the monsoon flow, southern part of Nigeria, Central Africa, Madagascar, much parts across eastern Southern Africa, and eastern East Africa. Atmospheric conditions are expected to reduce in northern Nigeria, Algeria and increase over northern Sudan, Egypt and Libya in over the meningitis belt during the week from 01st to 07th April 2022.

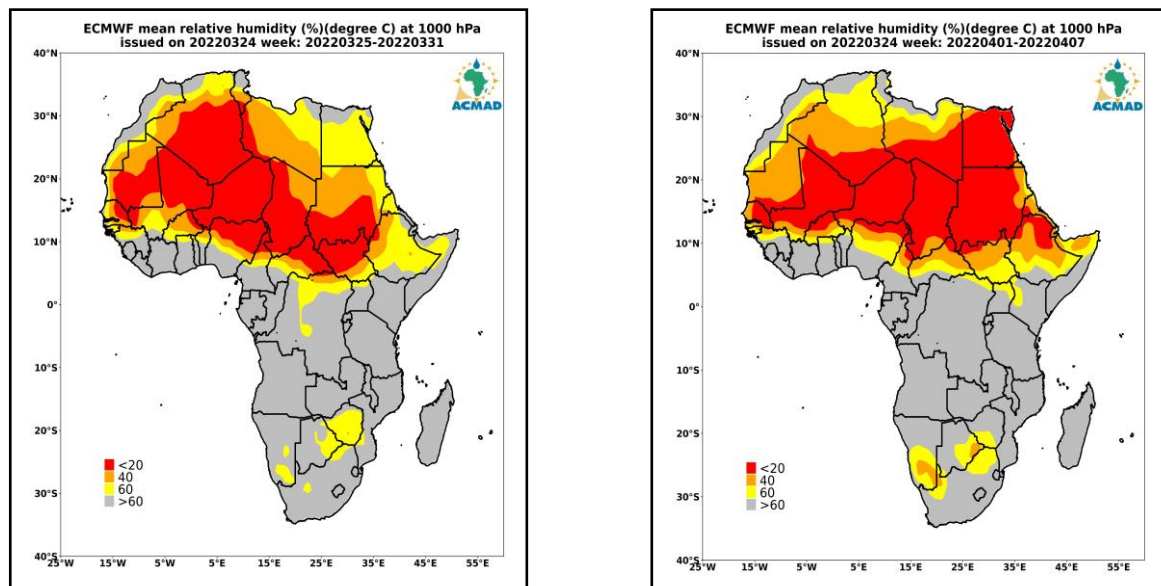


Figure 2 – ECMWF forecast of weekly mean relative humidity (%) at 1000 hPa for the week 25 – 31 March 2022 (left) and week 01 – 07 April 2022 (right). The forecast data are issued on 21th March and the mean is computed using the 50 ensemble members.

2.2 Temperature

Figure 4 shows the weekly mean temperature at 1000 hPa during the weeks from 25th to xx 31th March 2022 and 01st to 07th April 2022 forecasted by ECMWF model issued on 21th March 2022 using the 50 ensemble members. During the first week of the forecasts, warmest temperatures associated with the Saharan Heat Low (SHL) are predicted over southern Sahel with temperature greater than 33 C. Heat waves are expected over extreme northern Ivory Coast, southern Mali, Burkina Faso, northern Guinea, northern Ghana, northern Togo, northern Benin, extreme northern Cameroon, central Nigeria, northern CAR, western Ethiopia, northwestern Kenya, northern Uganda, and South Sudan. Moderate temperatures are expected over southern Central and East Africa, much parts in southern Africa and northern the meningitis belt. The high pressure forecasted over Mediterranean Sea will allow advection of cold air with temperatures below 18 C and dust outbreaks across this region and northeastern Sahel (Algeria, Tunisia, Libya, Egypt). Temperatures are expected to increase over the African meningitis belt during the following week from 01st to 07th April 2022.

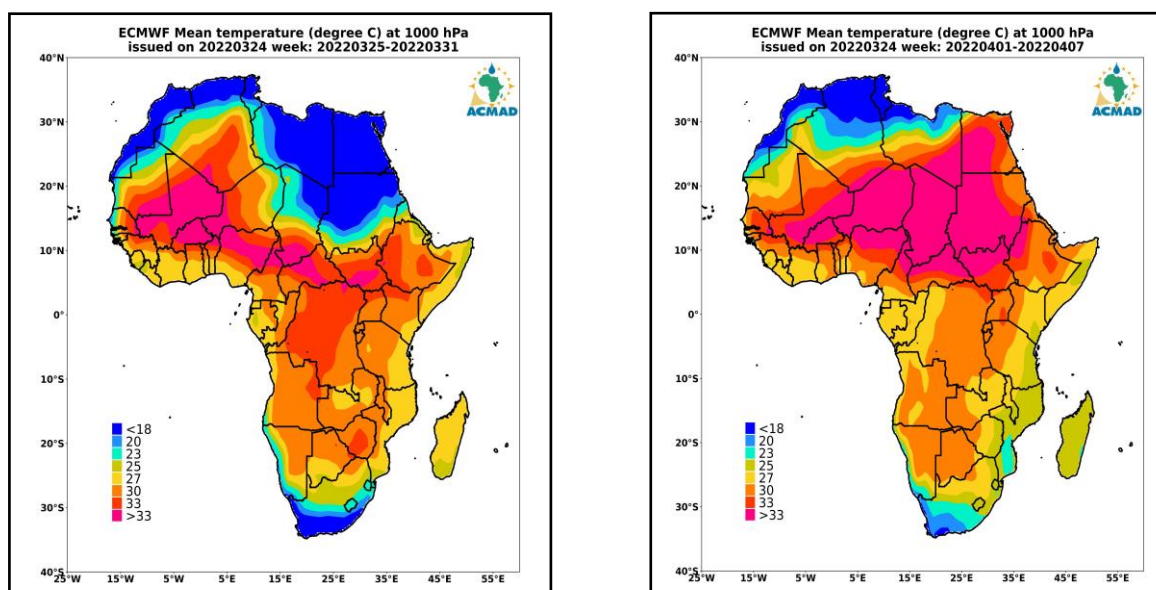
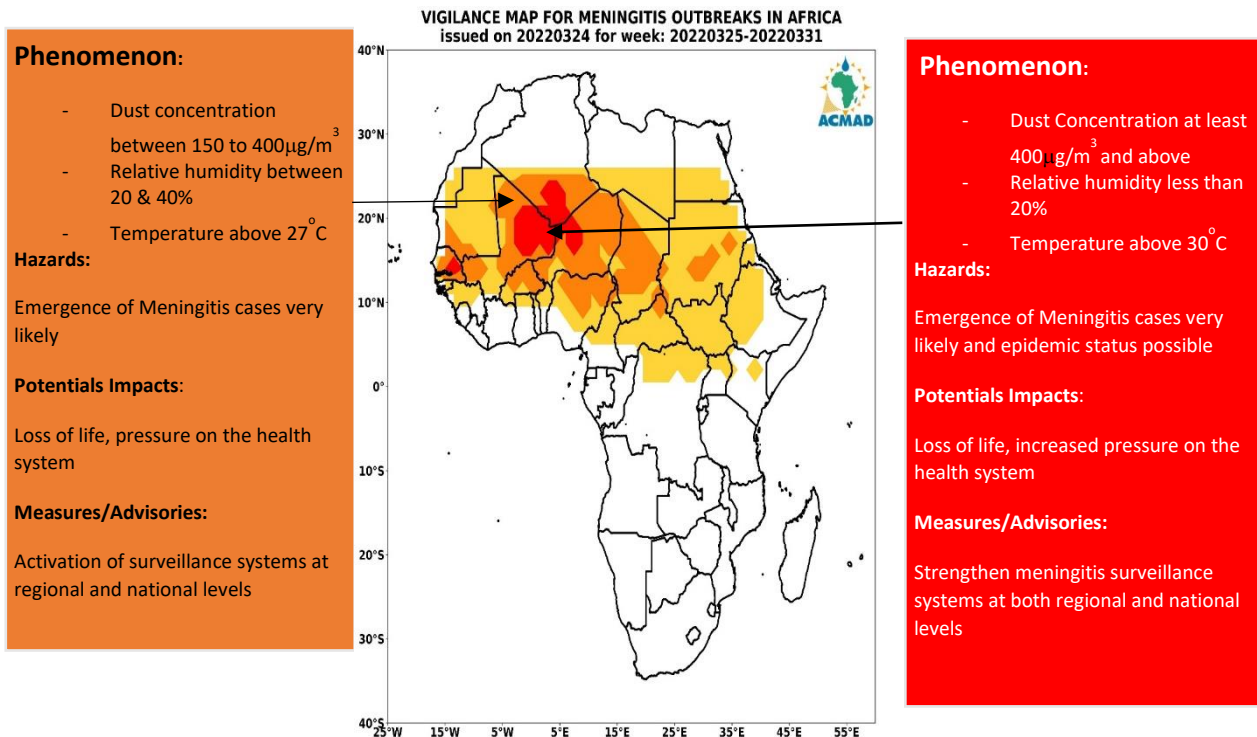


Figure 4 – ECMWF forecast of weekly mean air temperature (C) at 1000 hPa for the week 25 – 31 March 2022 (left) and week 01 – 07 April 2022 (right). The forecast data are issued on 24th March 2022 and the mean is computed using the 50 ensemble members.

3. Vigilance Map for meningitis outbreaks

Valid from 24th to 31th March 2022.



Valid from 01st to 07th April 2022.

Phenomenon:

- Dust concentration between 150 to 400 $\mu\text{g}/\text{m}^3$
- Relative humidity between 20 & 40%
- Temperature above 27°C

Hazards :

Emergence of Meningitis cases very likely

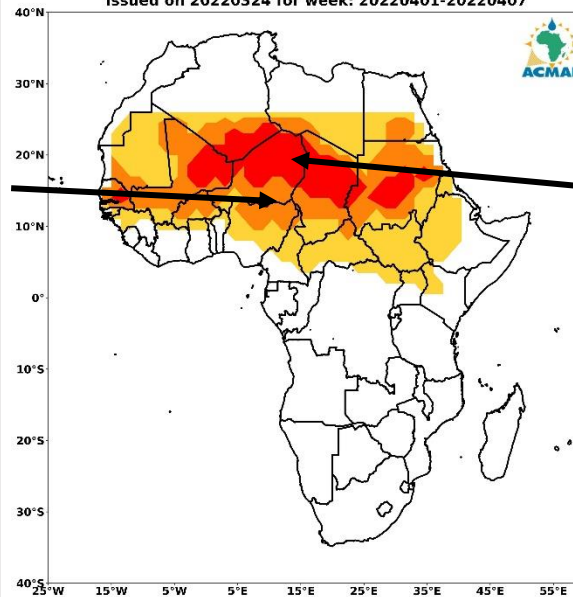
Potentials Impacts:

Loss of life, pressure on the health system

Measures/Advisories:

Activation of surveillance systems at regional and national levels

VIGILANCE MAP FOR MENINGITIS OUTBREAKS IN AFRICA
issued on 20220324 for week: 20220401-20220407



Phenomenon:

- Dust Concentration at least 400 $\mu\text{g}/\text{m}^3$ and above
- Relative humidity less than 20%
- Temperature above 30°C

Hazards :

Emergence of Meningitis cases very likely and epidemic status possible

Potentials Impacts:

Loss of life, increased pressure on the health system

Measures/Advisories:

Strengthen meningitis surveillance systems at both regional and national levels