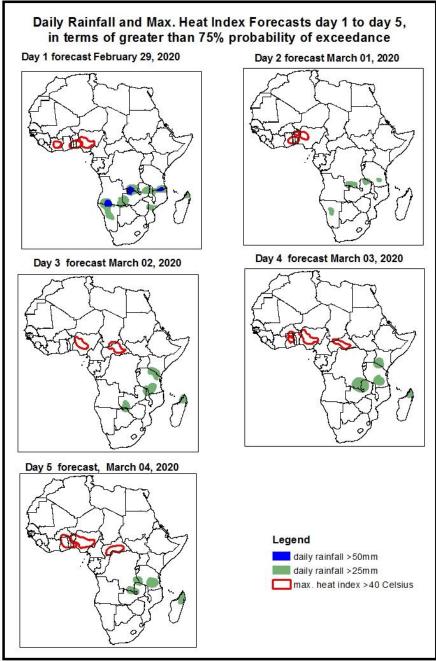
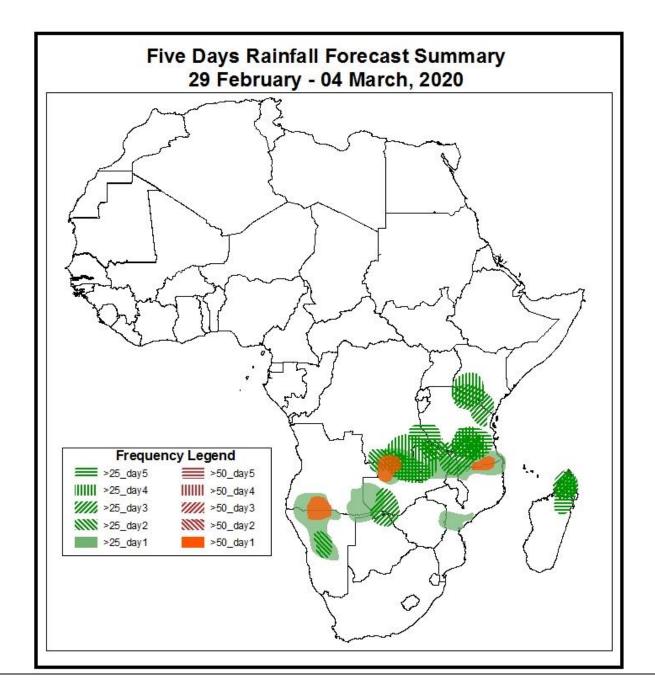
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on February 28, 2020)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: 29 Feb – 04 March, 2020)

The forecasts are expressed in terms of high probability of precipitation (POP), valid 06Z to 06Z, and exceedance probability of maximum heat index (>40°C), based on the NCEP/GFS and the NCEP Global Ensemble Forecasts System (GEFS) and expert assessment.

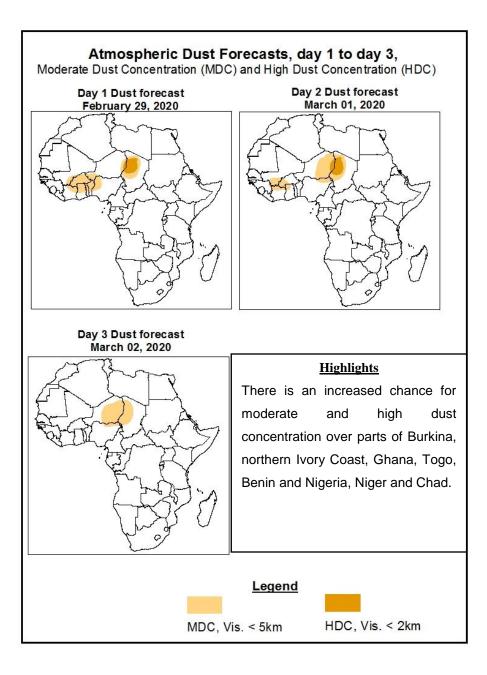




<u>Highlights</u>

- Cyclonic through and wind convergences over southern Africa and in portions of eastern Africa are expected to enhance rainfall over these areas.
- At least 25mm for two or more days is likely over Angola, Namibia, D R Congo, Zambia, Botswana, Kenya, Tanzania, Malawi and Madagascar, with an increased chance for rainfall to exceed 50mm over southern Angola, northern Namibia, southern D R Congo, northern Zambia, southern Tanzania and northern Mozambique.
- There is an increased chance for daily maximum heat index to exceed 40°C over local areas in the Gulf of Guinea region and Central Africa.

1.2. Atmospheric Dust Concentration Forecasts (valid: 29 Feb – 02 March, 2020) The forecasts are expressed in terms of high probability of dust concentration, based on the Navy Aerosol Analysis and Prediction System, NCEP/GFS lower-level wind forecasts and expert assessment.



1.3. Model Discussion, Valid: 29 February – 04 March 2020

The Azores High Pressure system over Northeast Atlantic and neighboring areas (West Europe and Maghreb) is expected to maintain a central pressure average value around 1024hPa during the forecast period.

The St. Helena High Pressure system over the South Atlantic Ocean is expected to maintain a central pressure average value around 1022hPa during the forecast period.

The Mascarene High Pressure system over Southwest of Indian Ocean is expected to maintain a central pressure average value around 1025hPa during the forecast period.

At 925-hPa level, an area of strong dry northerly to northeasterly flow is expected to enhance atmospheric dust concentration over the Sahel and Sahara region. Zonal wind convergences and cyclonic through are expected to remain active along 5°N and in some parts of central, eastern and southern Africa.

At 850-hPa level, lower level-wind convergences and cyclonic trough are expected to remain active along 5°N and over southern and eastern Africa.

At 700-hPa level, cyclonic circulation and mid-level wind convergences are expected to remain active over southern and eastern Africa. A trough associated with mid-latitude frontal system is expected to propagate eastward across the eastern Mediterranean region, and is likely to cause increased cloudiness over parts of the Greater Horn of Africa during the forecast period.

Cyclonic through and wind convergences over southern Africa and in portions of eastern Africa are expected to enhance rainfall over these areas. At least 25mm for two or more days is likely over Angola, Namibia, D R Congo, Zambia, Botswana, Kenya, Tanzania, Malawi and Madagascar, with an increased chance for rainfall to exceed 50mm over southern Angola, northern Namibia, southern D R Congo, northern Zambia, southern Tanzania and northern Mozambique. There is an increased chance for daily maximum heat index to exceed 40oC over local areas in the Gulf of Guinea region and Central Africa.

2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (February 27, 2020)

Daily rainfall amount exceeded 25 mm over local areas in D R Congo, northern Zambia, with rainfall amount in excess of 50 mm observed over local areas in Tanzania and northern Madagascar.

2.2. Weather assessment for the current day (February 28, 2020)

Convective clouds are observed across southern, central and eastern Africa.

