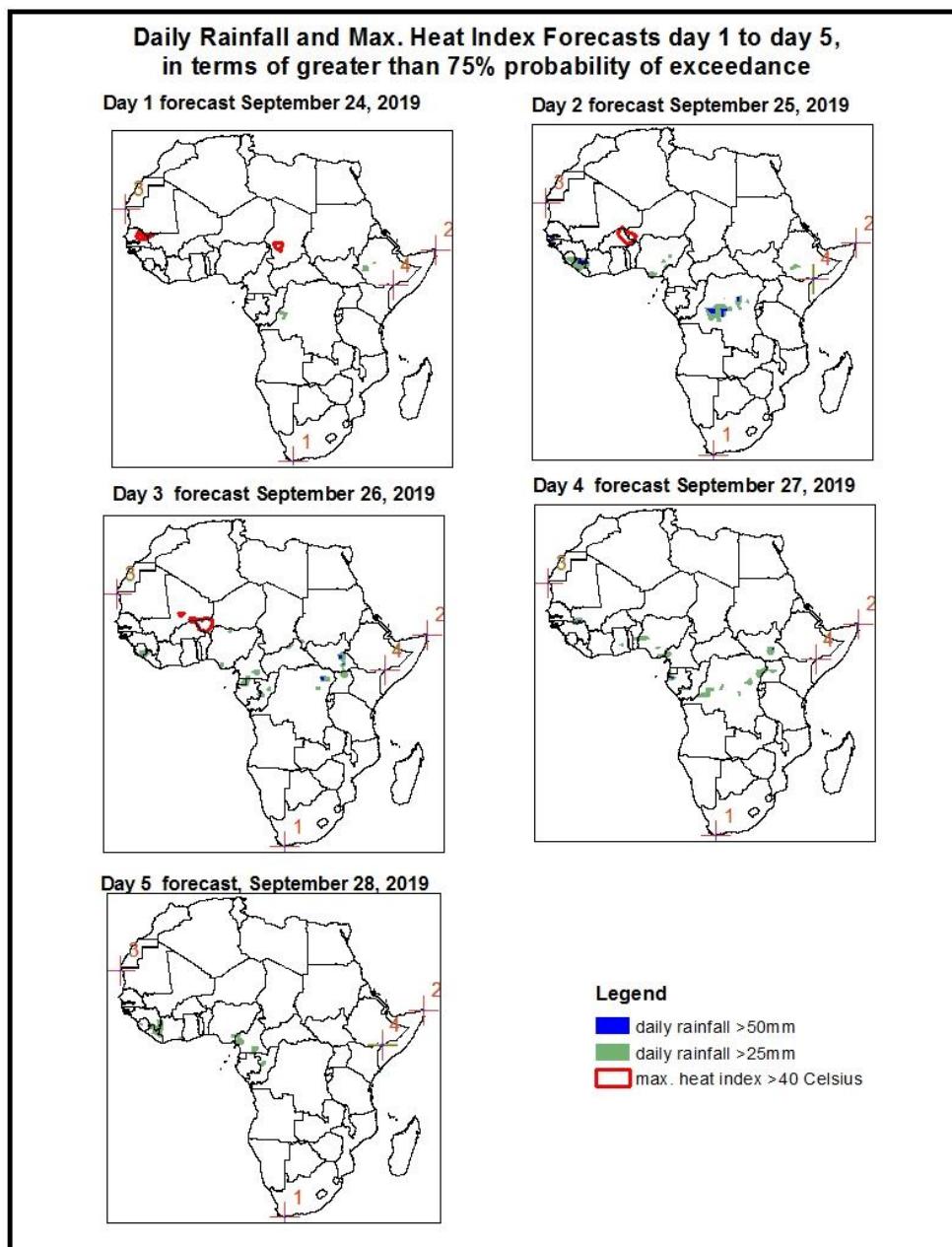


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

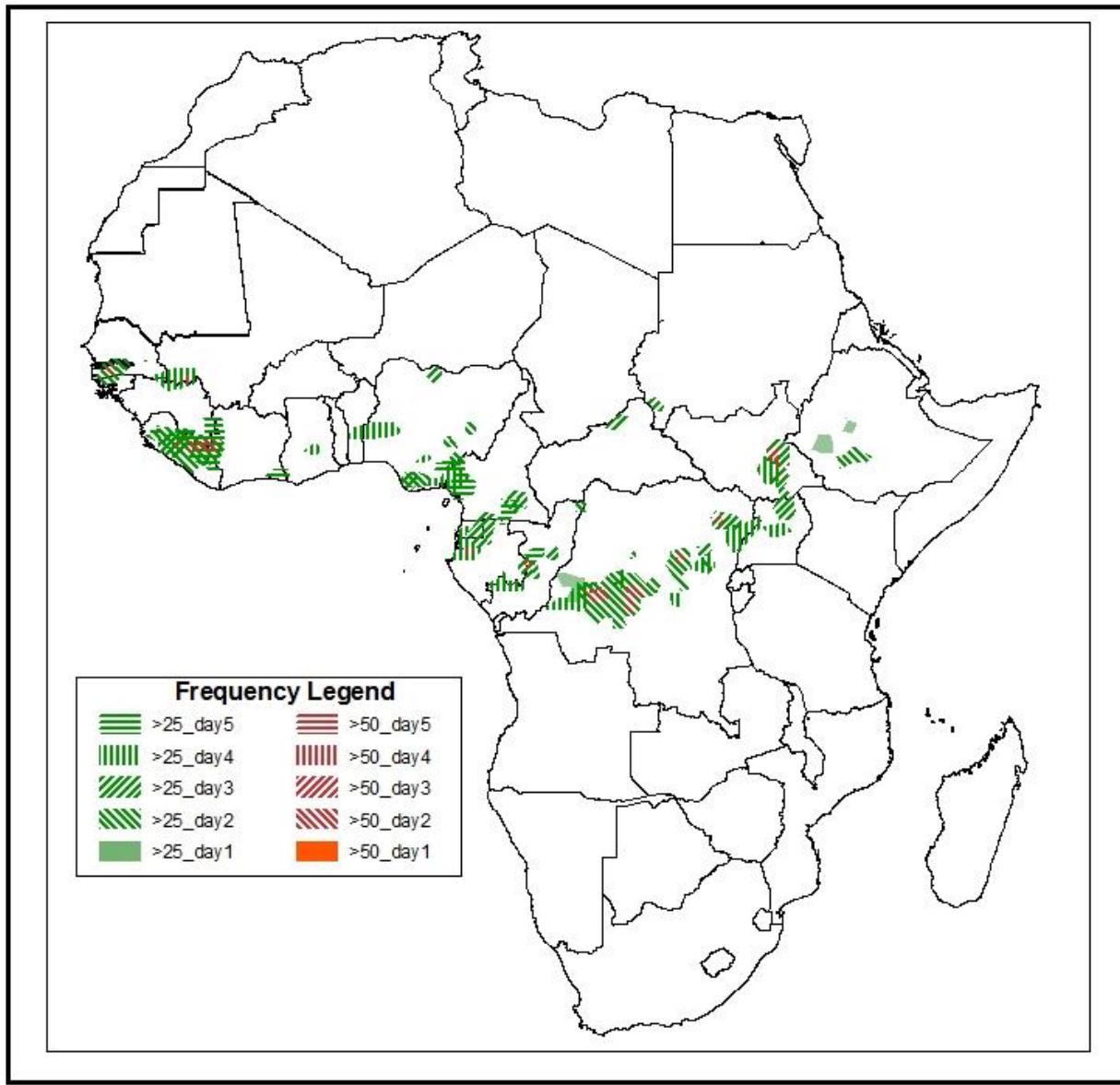
1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on September 23, 2019)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (*valid: 24 – 28 September, 2019*)

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.



Five Days Rainfall Forecast Summary September 24 - September 28, 2019

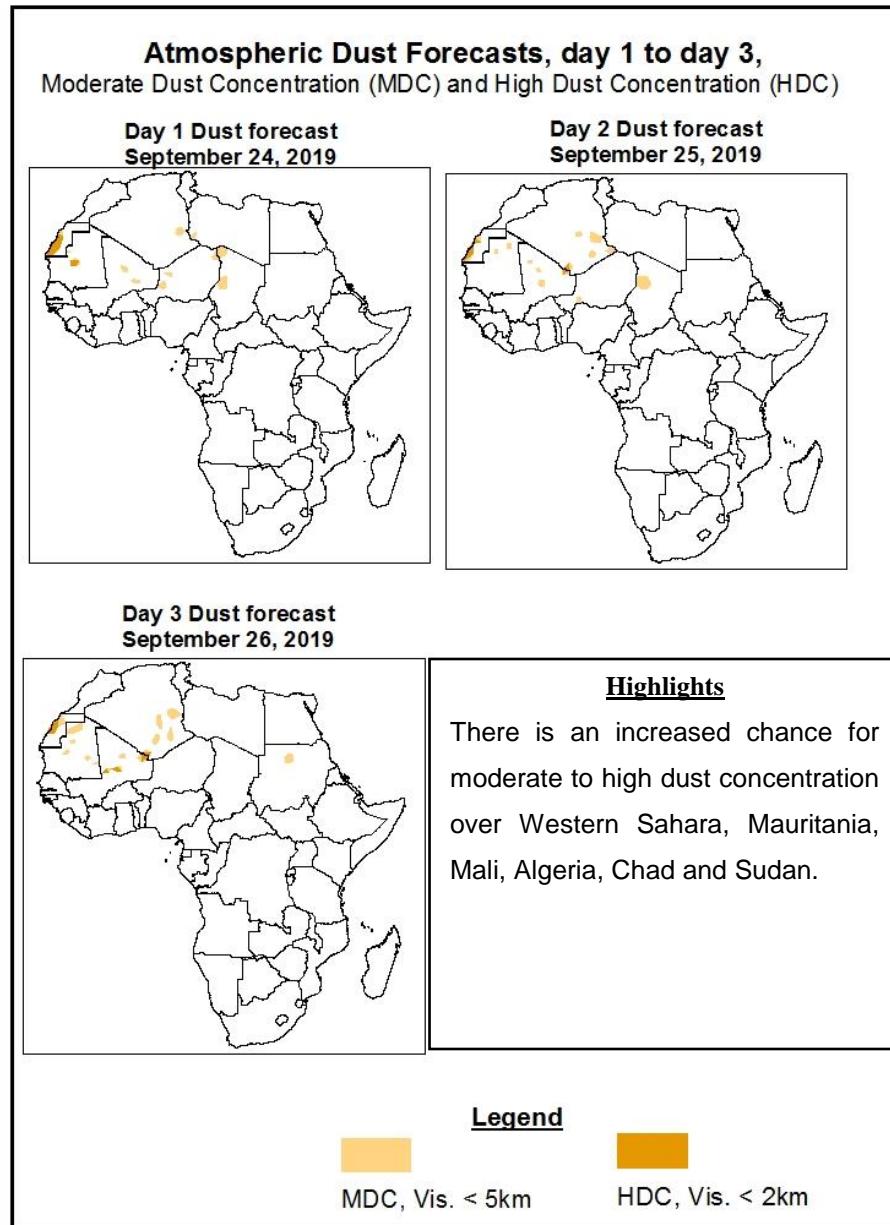


Highlights

- The monsoon flow from the Atlantic Ocean with its associated lower-level convergence, and westward propagating meso-scale convective systems are expected to enhance rainfall over portions of West and Central Africa. Seasonal wind convergences are expected to enhance rainfall over parts of the Lake Victoria region.
- At least 25mm for two or more days is likely over Sierra Leone, portions of South Guinea, Liberia, Nigeria, Cameroon, RC, DRC, South Sudan, Uganda and Ethiopia.
- There is an increased chance for daily rainfall to exceed 50mm over Senegal, Mali, Liberia, RC, DRC and South Sudan.
- There is an increased chance for daily maximum heat index to exceed 40°C over Western Sahara, Senegal, Mali, Burkina Faso, Niger, and Chad.

1.2. Atmospheric Dust Concentration Forecasts (valid: 24 Sept – 26 Sept 2019)

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: 24 September – 28 September 2019

The Azores High Pressure system over the Northeast Atlantic is expected to strengthen, with its central pressure value increasing from 1023hPa to 1026hPa during the forecast period.

The St. Helena High Pressure system over Southeast Atlantic Ocean is expected to weaken while shifting eastward with its central pressure value decreasing from 1037hPa to 1028hPa during the forecast period.

The Mascarene High Pressure system over Southwest Indian Ocean is expected to weaken while shifting eastward, with its central pressure value decreases from 1029hPa to 1026hPa during the forecast period.

Thermal low across the Sahel region is expected to deepen with its central pressure value decreasing from 1010hPa to 1007hPa during the forecast period.

At 925-hPa level, strong dry northerly flow is expected to prevail across Northwest Africa. In other hand, moist southwesterly flow from the Atlantic Ocean is expected to prevail across the Gulf of Guinea and the Sahel regions, and the neighboring areas of Central Africa.

At 850-hPa, meridional wind convergence is expected to remain active in the Lake Victoria region and neighboring areas during the forecast period.

At 700-hPa, a broad area of anticyclonic circulation is expect to remain over North Africa, and mainly easterly wind pattern is expected to be maintained, converging over Nigeria, southern Cameroon, northern Ghana, Togo and Cote d'Ivoire, southern Guinea, Sierra Leone, Liberia and others local countries of Sahel.

At 500-hpa, wind speed associated with easterly flow is expected to exceed 30kts over Cabo Verde and local areas in central Africa during the forecast period.

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portions of West and Central Africa. Seasonal wind convergences are expected to enhance rainfall over parts of the Lake Victoria region. At least 25mm for two or more days is likely over Sierra Leone, portions of South Guinea, Liberia, Nigeria, Cameroon, RC, DRC, South Sudan, Uganda and Ethiopia. There is an increased chance for daily rainfall to exceed 50mm over Senegal, Mali, Liberia, RC, DRC and South Sudan. There is an increased chance for daily maximum heat index to exceed 40°C over Western Sahara, Senegal, Mali, Burkina Faso, Niger, and Chad.

2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (Sept 22, 2019)

Daily rainfall amount exceeded 25mm over, Guinea, Sierra Leone, Liberia, Cote d'Ivoire and Angola and exceeded 50mm over Guinea, Sierra Leone, Liberia and Cote d'Ivoire.

2.2. Weather assessment for the current day (Sept 23, 2019)

Deep convective clouds are observed over far West Africa region, Central Africa countries and local areas in the Greater Horn of Africa.

