



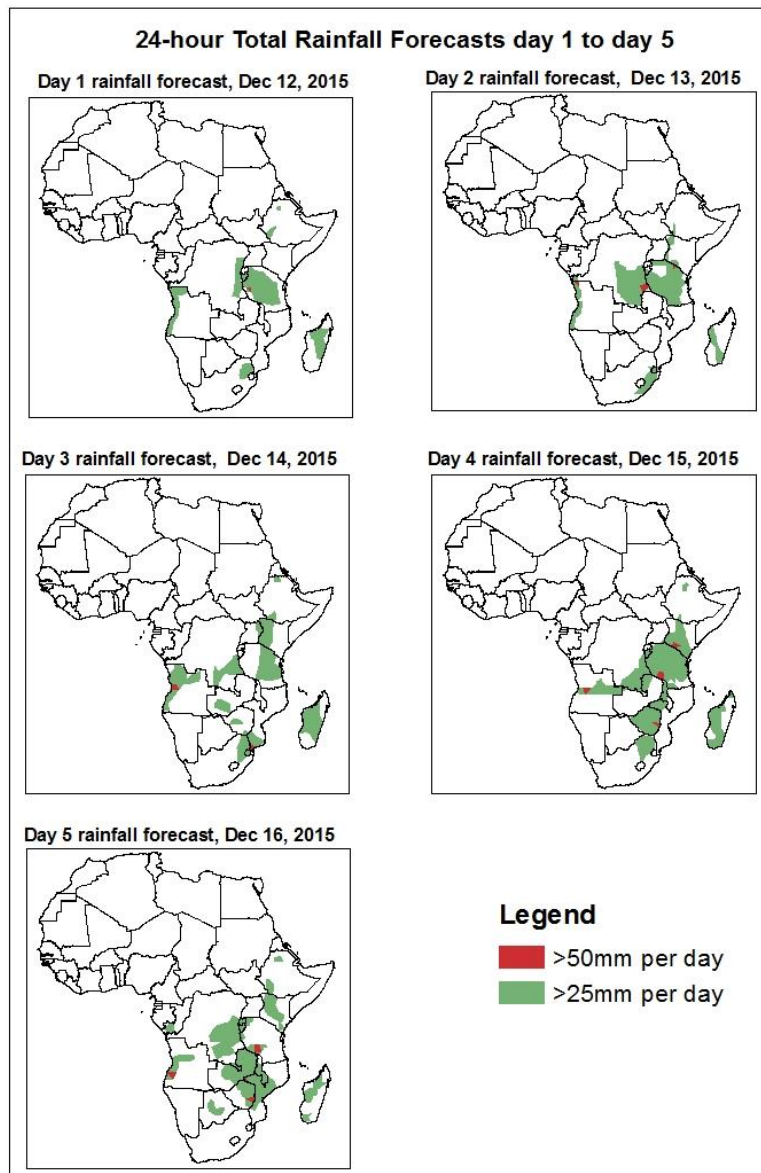
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall and Dust Concentration Forecasts

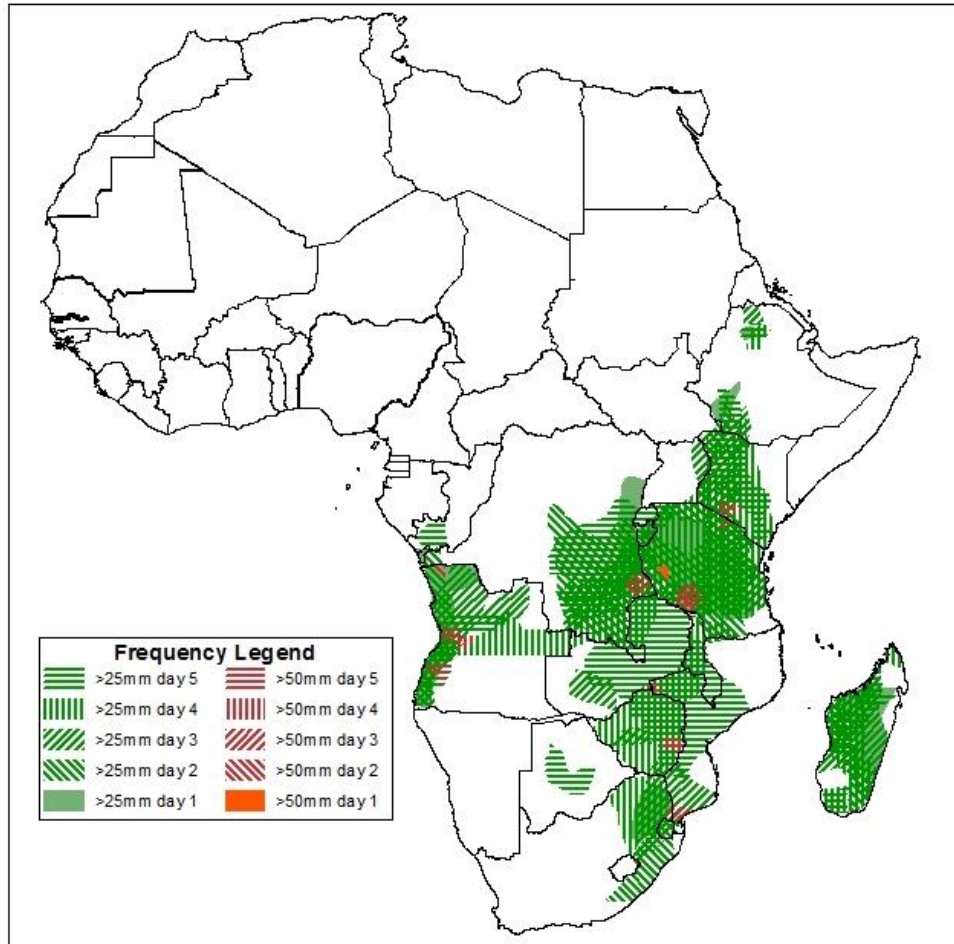
Valid: 06Z of Dec 12 – 06Z of Dec 15, 2016. (Issued on December 11, 2015)

1.1. 24-hour Cumulative Rainfall Forecasts

The forecasts are expressed in terms of high probability of precipitation (POP), based on the NCEP/GFS, ECMWF and the NCEP Global Ensemble Forecasts System (GEFS) and expert assessment.



**Five Days Rainfall Forecast Summary
12 - 16 December, 2015**

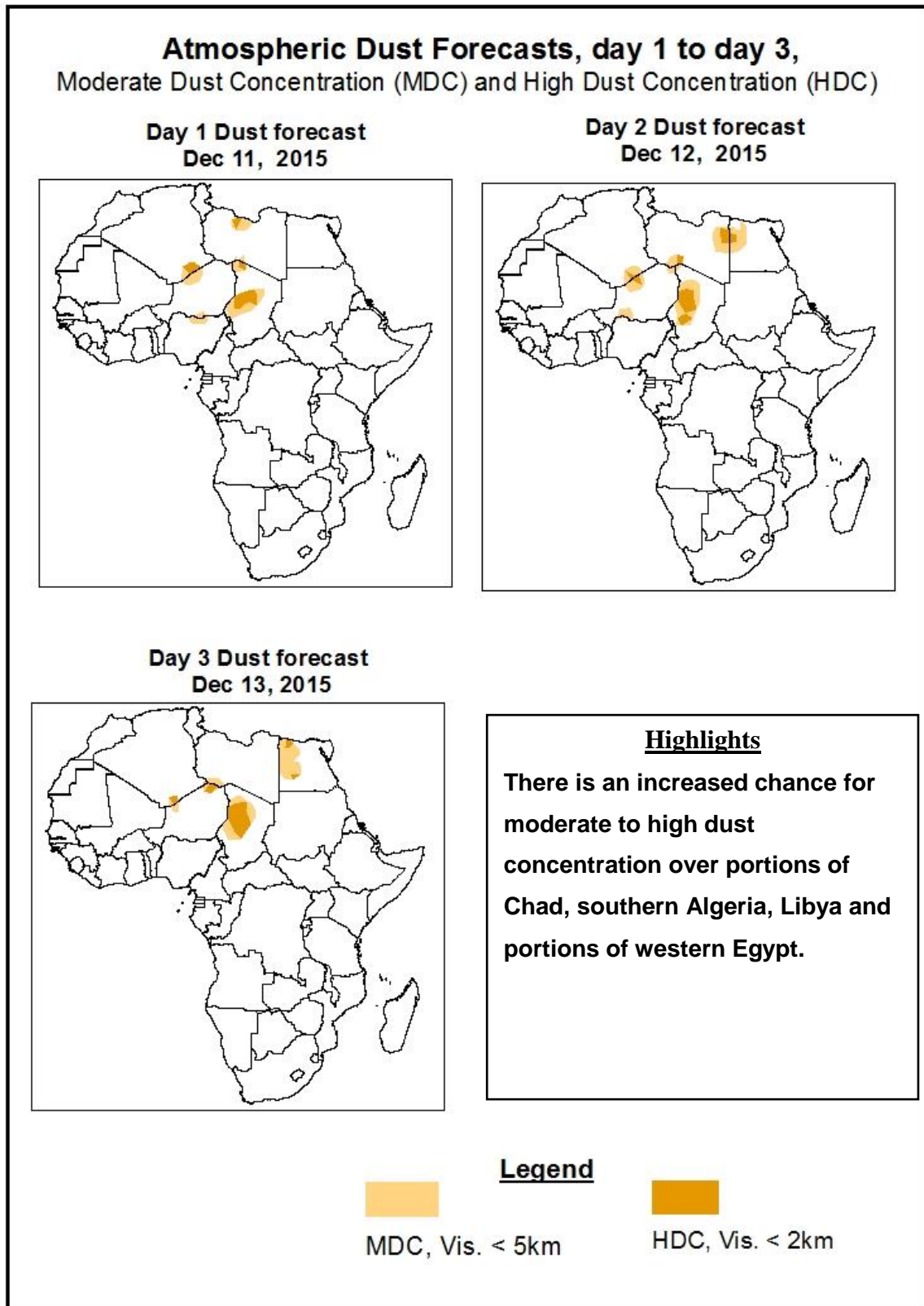


In the coming five days, there is an increased chance for two or more days of moderate to heavy rainfall over western Angola, southern and eastern DRC, parts of East and Southeastern Africa, with heavier rainfall events expected over local areas in western Angola, southeastern DRC, Tanzania, and southern Mozambique.

1.2. Atmospheric Dust Concentration Forecasts

Valid: 12Z of Dec 12– 12Z of Dec 16, 2015

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: 12 – 16 December, 2015

The Azores high pressure system is expected to weaken with its central pressure value decreasing from about 1035mb to 1030mb through 24 to 120 hours.

The Siberian high pressure system is expected to weaken, while shifting eastwards. Its central pressure value is expected to decrease from about 1044mb in 24 hours to about 1038mb in 20 hours.

The St Helena high pressure system over Southeast Atlantic Ocean is expected to maintain an average central pressure value of 1024 while shifting eastwards during the forecast period.

The Mascarene high pressure system over Southwest Atlantic Ocean is expected to intensify slightly during the first half of the forecast period, with its central pressure value increasing from about 1020mb to 1026mb, and then expected to weaken towards end of the forecast period while shifting eastwards.

At 925mb level, dry northerly to northeasterly flow is expected to prevail over much of Northern and West Africa countries, with stronger wind (>20kts) to prevail over the Sahel region. The northerly and northeasterly winds are expected to sustain dry condition over North and much of West Africa, while the stronger winds are expected to enhance dust activities over portions of the Sahel region.

At 850mb level, strong low-level wind convergence over Angola and the neighboring areas is expected to enhance rainfall in the region, with increased chances of heavy rainfall over western Angola. The seasonal north-south oriented (meridional component of the ITCZ), extending between Southwest Ethiopia and Tanzania, is expected to enhance rainfall in the region, with an increased chance for heavy rainfall over Tanzania and portions of eastern DRC. Lower-level wind convergence over eastern South Africa is also expected to enhance rainfall in the region.

At 500mb level, westerly winds associated mid-latitude frontal systems is expected to expand southwards into Northeastern Africa, down to the latitudes of northern Ethiopia during the forecast period. This condition may lead to increase in cloudiness over Ethiopia with chances of isolated to scattered rainfall across the highland areas.

In the coming five days, there is an increased chance for two or more days of moderate to heavy rainfall over western Angola, southern and eastern DRC, parts of East and Southeastern Africa, with heavier rainfall events expected over local areas in western Angola, southeastern DRC, Tanzania, and southern Mozambique.

2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (December 10, 2015)

Moderate to heavy rainfall was observed over local areas in Gabon, central and eastern DRC, portions of Tanzania, and local areas in Zimbabwe and Madagascar.

2.2. Weather assessment for the current day (December 11, 2015)

Intense convective clouds are observed across many places in Equatorial and Southern Africa countries.

