

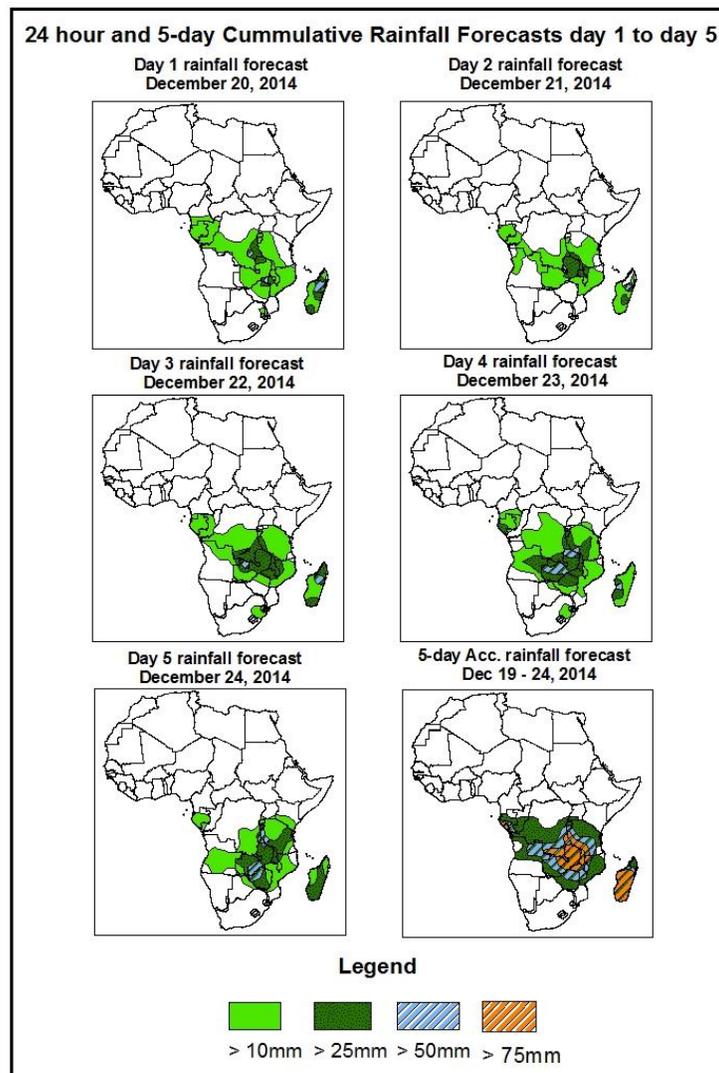


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall Forecast: Valid 06Z of December 20 – 06Z of December 24, 2014. (Issued at 1700Z of December 19, 2014)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP/GFS and the NCEP global ensemble forecasts system (GEFS) and expert assessment.

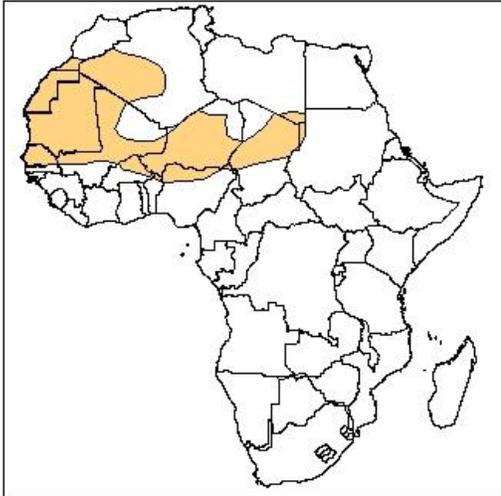


Summary

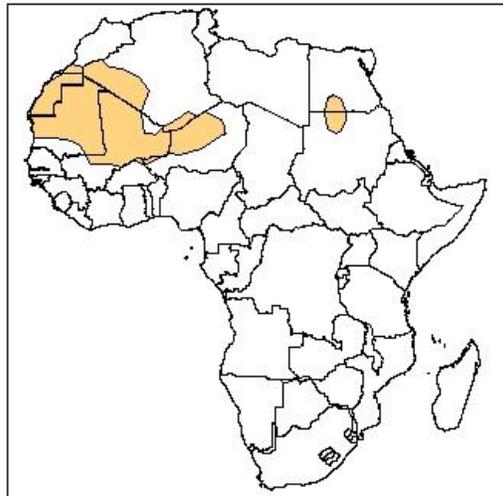
In the next five days, westward propagating convective systems across the Equatorial Africa region, low-level wind convergence over some portions of DRC, central Angola and also regions to the south of Lake Victoria and over Zambia are expected to enhance rainfall in these regions. As a result of this, heavy rainfall is likely over DRC, Burundi, Angola, Malawi, Rwanda, and Uganda, some parts of Tanzania, Zimbabwe, Zambia, Malawi, central Mozambique, and Madagascar.

Atmospheric Dust Forecasts, day 1 to day 3,
Moderate Dust Concentration (MDC) and High Dust Concentration (HDC)

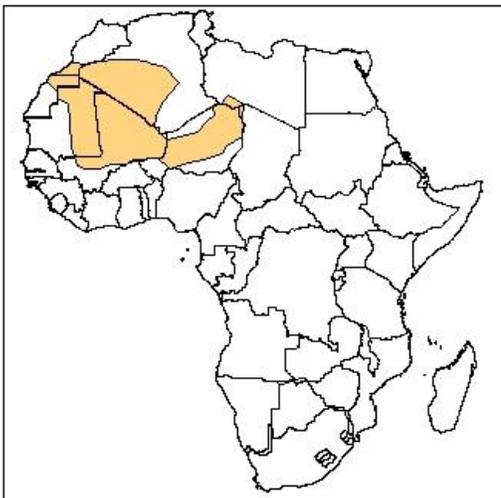
Day 1 Dust forecast
December 20, 2014



Day 2 Dust forecast
December 21, 2014



Day 3 Dust forecast
December 22, 2014



Highlights

There is an increased chance for moderate dust concentration over portions of Mauritania, Algeria, Mali, Chad, Egypt, Sudan, Senegal, Western Sahara, Burkina Faso and Niger

Legend



MDC, Vis. < 5km



HDC, Vis. < 1km

1.2. Model Discussion: Valid from 00Z of December 19, 2014

The Azores high pressure system over the Northeast Atlantic Ocean is expected to weaken from a central pressure value of 1037hpa to a central pressure value of 1032 in 120 hours, according to the GFS model.

The Arabian High Pressure system is expected to weaken from a central pressure value of 1024hpa in 24 hours to 1020hpa in 120 hours, according to the GFS model.

The central pressure value of the Mascarene high pressure system over the southwestern Indian Ocean is expected to increase from 1027hpa in 24 hours to 1031hpa in 120 hours, according to the GFS model.

The St Helena high pressure system over the Southeast Atlantic Ocean, is expected to weaken from a central pressure value of 1025hpa in 24 hours to 1022hpa at the end of the forecast period, according to the GFS model.

At 925Hpa level, dry northeasterly wind (>25kts) is expected to prevail across portions of Mauritania, Algeria, Mali, Chad, Egypt, Sudan, Senegal, Western Sahara, Burkina Faso and Niger, through 24 to 120 hours.

At 850Hpa level, seasonal wind convergences are expected to remain active over portions of DRC, Rwanda, Burundi, Uganda and Tanzania. Another area of wind convergence is expected to prevail over Zambia, Angola, Botswana, Zimbabwe, Mozambique, Madagascar and east of South Africa during the forecast period, according to the GFS model.

At 700hpa level, an anticyclonic circulation is expected over southern Africa while, northeasterly to easterly flow is expected to prevail over much of East Africa.

At 500Hpa, a trough is expected to propagate across Southern Africa region during the beginning and end of the forecast period, according to the GFS model.

In the next five days, westward propagating convective systems across the Equatorial Africa region, low-level wind convergence over some portions of DRC, central Angola and also regions to the south of Lake Victoria and over Zambia are expected to enhance rainfall in these regions. As a result of this, heavy rainfall is likely over DRC, Burundi, Angola, Malawi, Rwanda, and Uganda, some parts of Tanzania, Zimbabwe, Zambia, Malawi, central Mozambique, and Madagascar.

2.0. Previous and Current Day Weather Discussion over Africa

(December 18, 2014 – December 19, 2014)

2.1. Weather assessment for the previous day (December 18, 2014)

During the previous day, moderate to locally heavy rainfall was observed over portions of DRC, Zambia, Botswana, Western Tanzania, Zimbabwe, central and southern Mozambique, eastern South Africa, and Madagascar.

2.2. Weather assessment for the current day (December 19, 2014)

Intense convective deep clouds are observed across portions of DRC, Angola, Burundi, and Rwanda, some parts of Tanzania, Uganda, Gabon, Zambia, Botswana, Malawi Zimbabwe, northern and central Mozambique and Madagascar.

