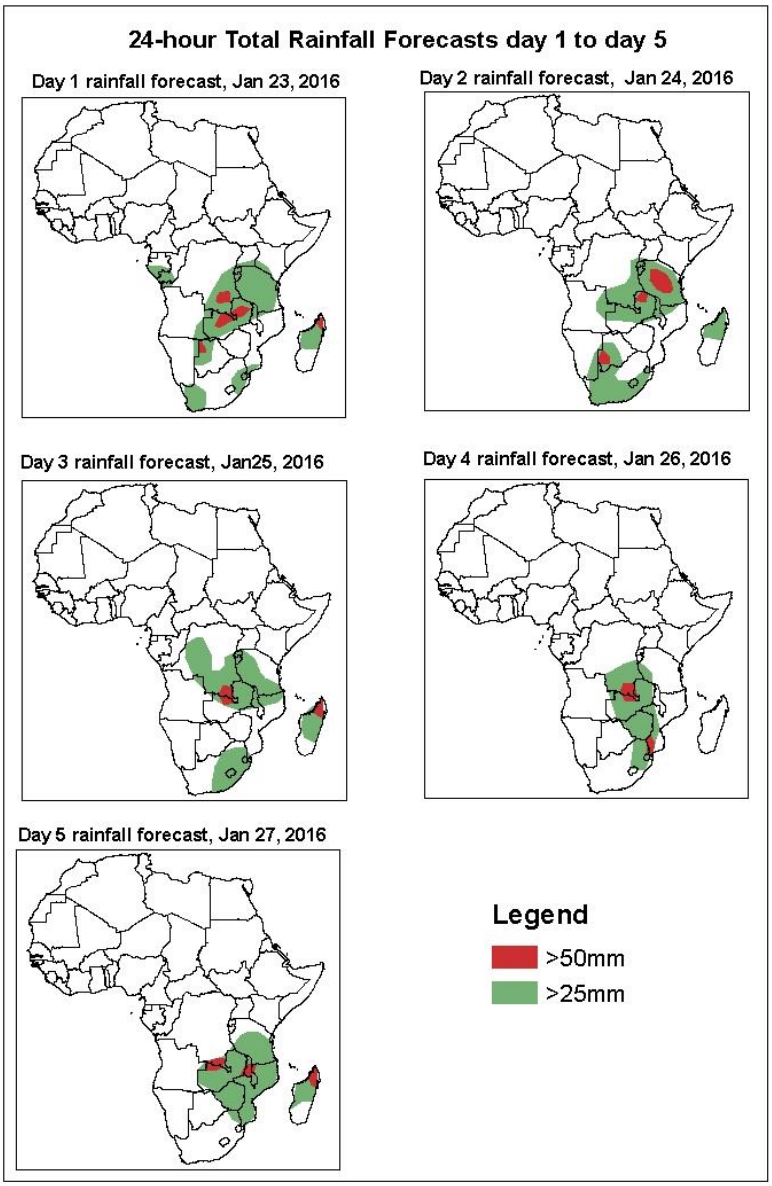
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

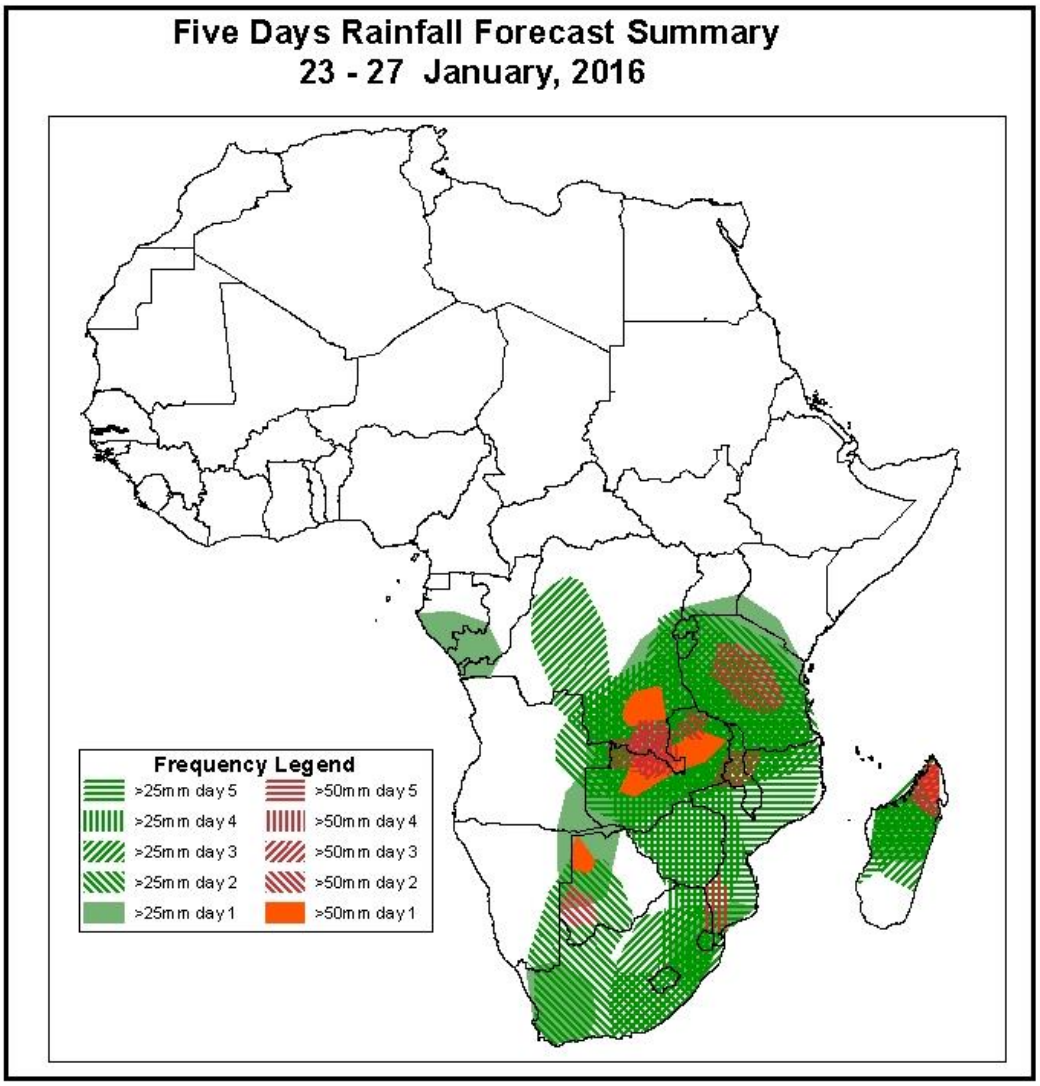
1. Rainfall and Dust Concentration Forecasts

Valid: 06Z of Jan 23 - 06Z of Jan 27, 2016. (Issued on January 22, 2016)

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.





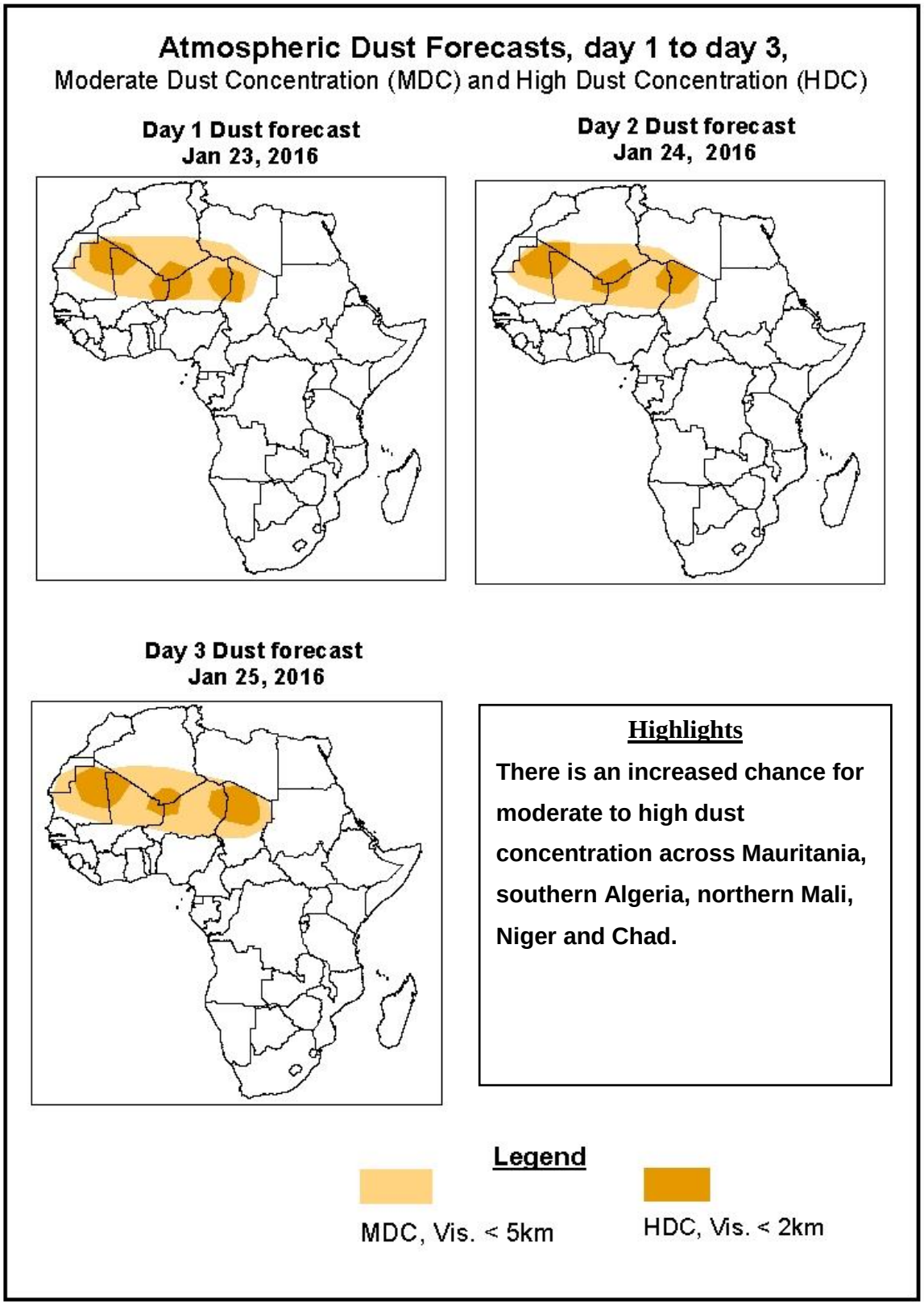
Highlights

In the coming five days, there is an increased chance for two or more days of moderate to heavy rainfall over parts of eastern Namibia, southern and eastern DRC, Rwanda, Burundi, Tanzania, Malawi, Zimbabwe, parts of Botswana, South Africa, portions of Mozambique, and Madagascar.

1.2. Atmospheric Dust Concentration Forecasts

Valid: 12Z of Jan 24 – 12Z of Jan 25, 2016

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: 23 - 27 January, 2016

A high pressure system associated with the Siberian High is expected to intensify while shifting eastwards during the forecast period. Its central pressure value is expected to increase from about 1044 hPa in 24 hours to 1054 hPa in 96 hours.

The St Helena high pressure system over Southeast Atlantic Ocean is expected to weaken gradually, with its central pressure value decreasing from about 1023 hPa to 1021 hPa during the forecast period.

The Mascarene high pressure system over Southwest Indian Ocean is expected to intensify gradually, with its central value increasing from about 1023 hPa to 1029 hPa through 24 to 120 hours.

At 925 hPa level, a broad area of strong dry northerly to northeasterly flow is expected to prevail over northern Africa and the neighboring areas of the Sahel region, leading to an increased chance for widespread atmospheric dust concentration in the region.

At 850 hPa level, a westward propagating frontal system and its interaction with tropical weather systems across southern Africa is expected to enhance rainfall in the region. The zone of moderate to heavy rainfall is expected to shift eastwards along with eastward movement of the frontal system during the forecast period. Seasonal lower-level wind convergences are expected to prevail across southern DRC, the Lake Victoria region and Tanzania. On the other hand, lower-level anti-cyclonic flow is expected to prevail over parts of Southeast Africa resulting in suppressed rainfall in the region during the forecast period.

In the coming five days, there is an increased chance for two or more days of moderate to heavy rainfall over parts of eastern Namibia, southern and eastern DRC, Rwanda, Burundi, Tanzania, Malawi, Zimbabwe, parts of Botswana, South Africa, portions of Mozambique, and Madagascar.

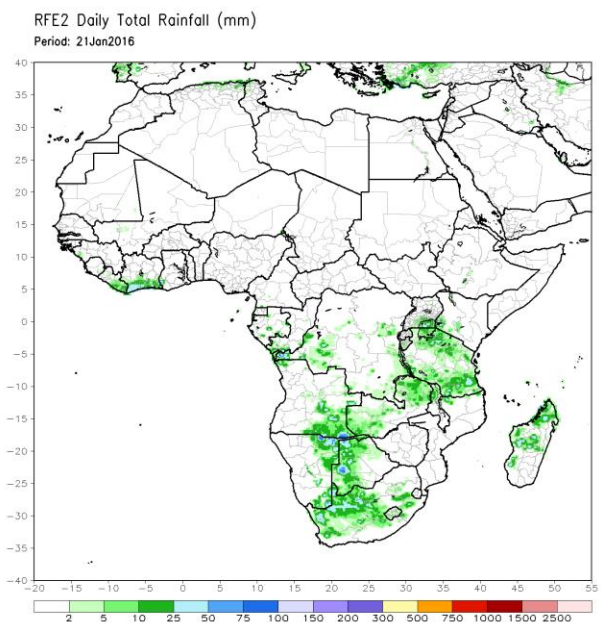
2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (January 21, 2016)

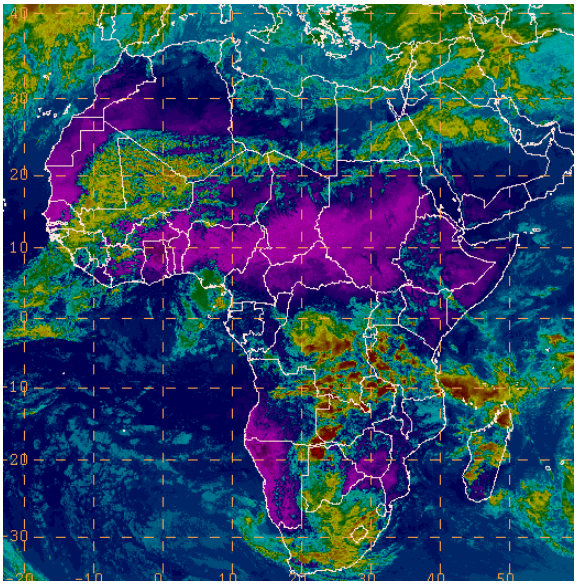
Moderate to heavy rainfall was observed over parts of eastern Liberia, coastal Cote D'Ivoire, local areas in DRC, southeastern Angola, the Lake Victoria region, Tanzania, eastern Namibia, western Botswana, South Africa, and northern Madagascar.

2.2. Weather assessment for the current day (January 22, 2015)

Intense convective clouds are observed across portions of Angola, eastern Namibia, DRC, northern Zambia, Tanzania, portions of South Africa and Madagascar.



IR Satellite Image (valid 1400z January 22, 2016)



Previous day rainfall condition over Africa (Left) based on the NCEP CPCE/RFE and current day cloud cover right) based on IR Satellite image

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