



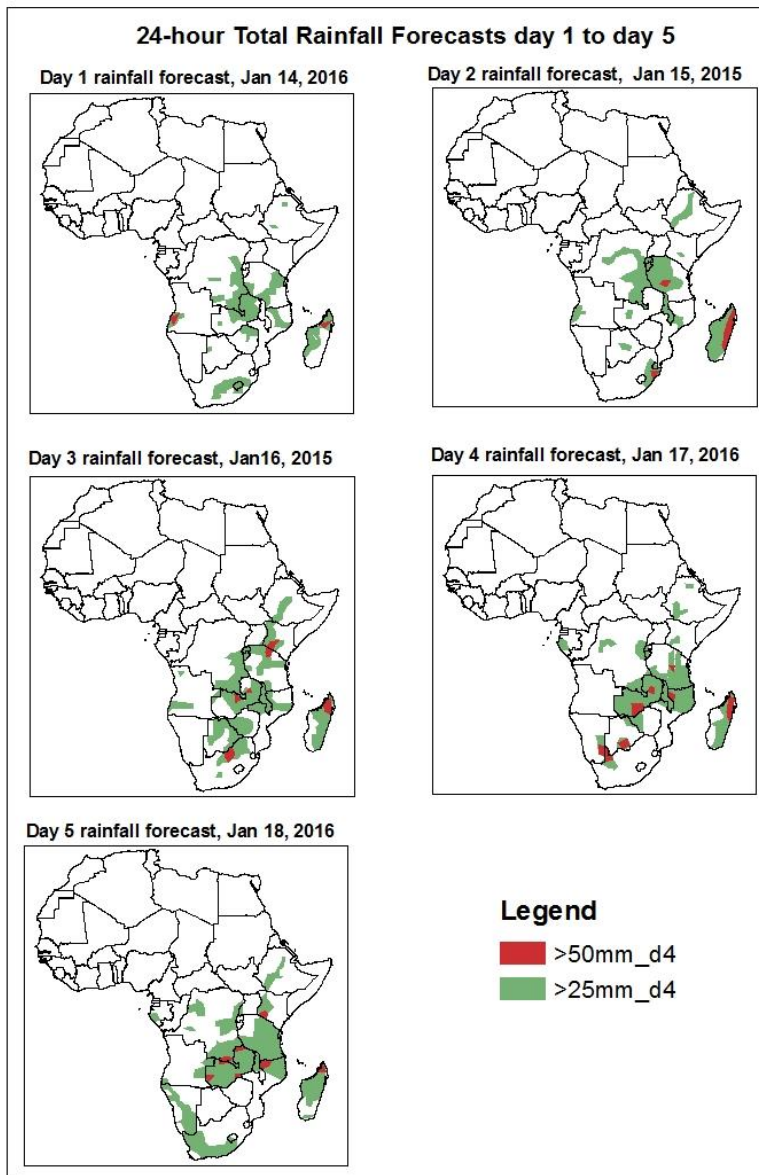
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall and Dust Concentration Forecasts

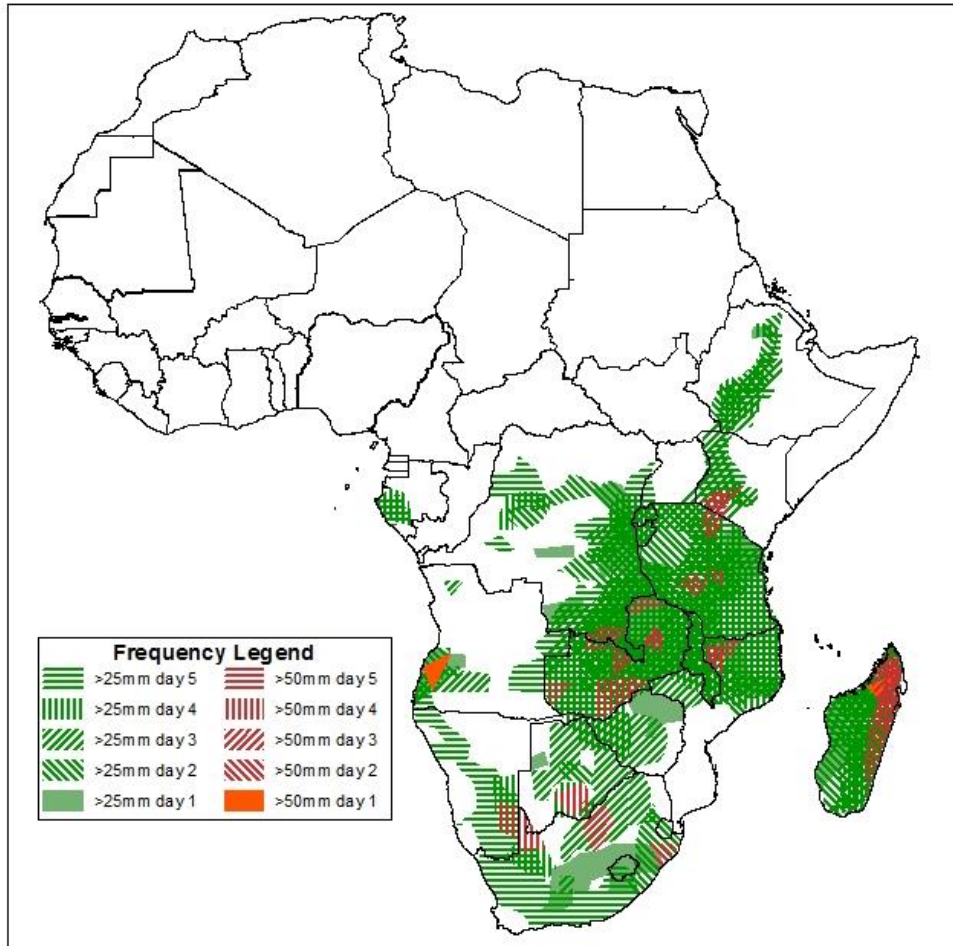
Valid: 06Z of Jan 14 - 06Z of Jan 18, 2016. (Issued on January 13, 2016)

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.



**Five Days Rainfall Forecast Summary
14 - 18 January, 2016**

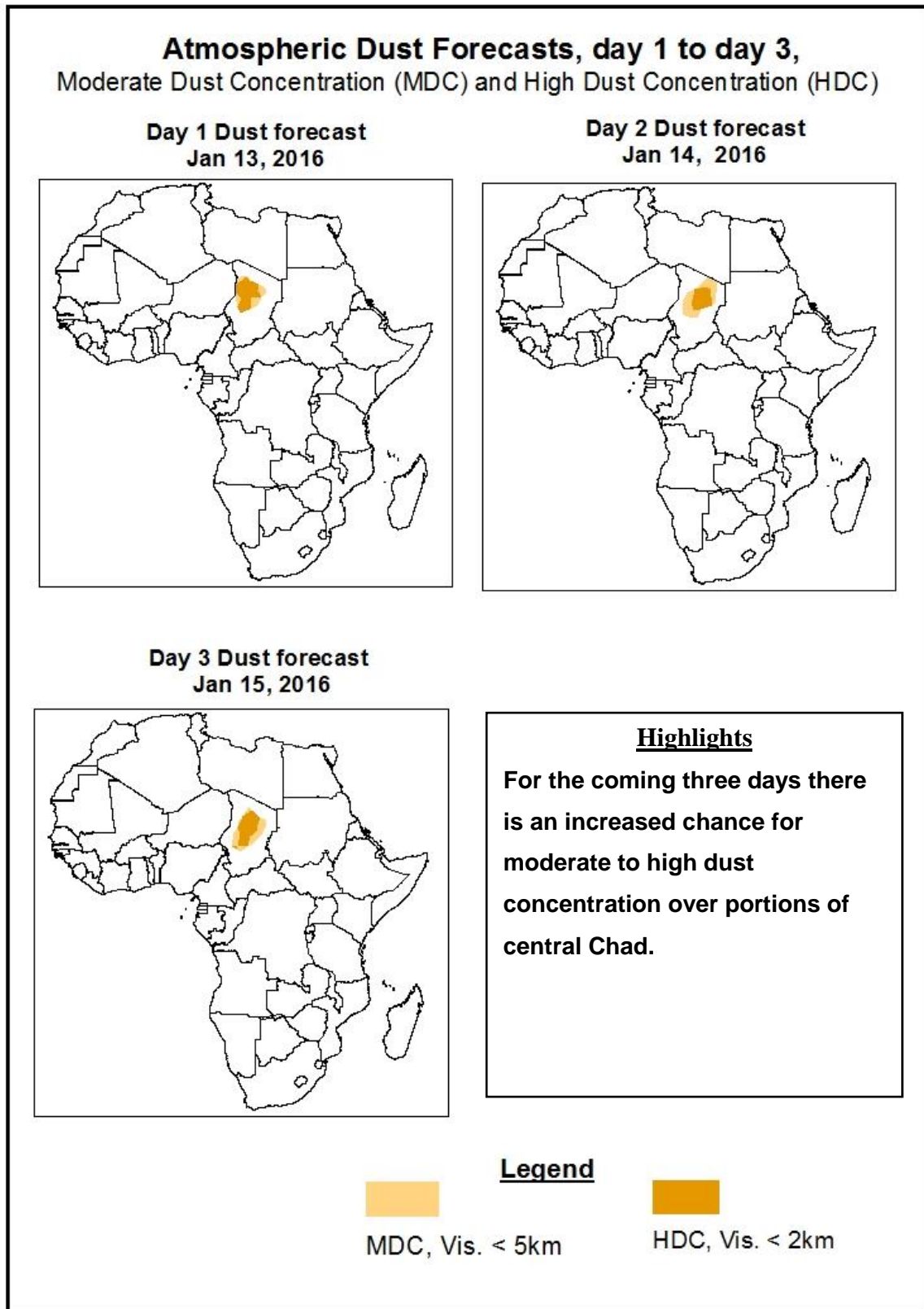


In the coming five days, there is an increased chance for two or more days of moderate to heavy rainfall over parts of south western Ethiopia, North eastern Mozambique, most parts of Madagascar, parts of south western Angola, southern DRC, most parts of Zambia, most parts of Tanzania, southern Namibia, western Kenya, Malawi and north eastern south Africa with high probability of heavy rainfall over parts of central Tanzania, south western Angola, southern Namibia, eastern Madagascar and north eastern south Africa.

1.2. Atmospheric Dust Concentration Forecasts

Valid: 12Z of Jan 14 – 12Z of Jan 16, 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: 14 - 18 January, 2016

The Extension of Azores high pressure system over Sahara is expected to attain central value of 1029mb for about 24 hours and weaken in to 1023mb in 24 hours' time. This pressure system attains again this value for about 24 hours and weakens in to 1030mb in 96 hours and into 1028mb in 120 hours' time. The stability of this high pressure system restricts the widespread of dust concentration to be over central Chad with high probability of visibility less than 2km.

Significant interaction of the subtropical low presser system in to the tropics is observed, and this interaction is favorable condition to start pulling ITCZ to wards to north.

The Arabian high pressure system is expected to weaken in to 1022mb from the central value of 1024mb and weaken in to 1021mb in 48 hours' time and attain this value for about 24 hours. This high pressure system is also expected to intensify in to 1026mb in 96 hours' time and weaken in to 1025mb in 120 hours' time.

This high pressure system is observed not to make significant change during the forecast period (in terms of intensity). The interaction of the sub-tropical low pressure system with tropical systems along with the slight shift of the Arabian high pressure system towards the water body, are expected to bring rainfall over southern Kenya and parts of south western, central and northern Ethiopia. In association to the development of cloud daily minimum temperature is expected to increase from the normally expected amount over the high lands of Ethiopia.

The St Helena high pressure system over South East Atlantic Ocean is expected to weaken in to 1024mb in 24 hours' time from its central value of 1025mb and attain this value for about 72 hours. This high pressure system is also expected to intensify in to 1026mb in 96 hours' time and attain this value up to the end of the forecast period. During the forecast period, this system is expected not to make significant change in terms of intensity and position.

Following the relative stability and the development of low pressure system over central Atlantic Ocean, the amount of moist air that has been incurring from south western Atlantic Ocean in to south western Africa will decrease and following this interaction the amount of cumulative rainfall expected over the region will be normal to below normal.

The Mascarene high pressure system over Southwest Indian Ocean is expected to attain the central value 1027mb for about 24 hours and intensify in to 1031mb in 48 hours' time. This high pressure system is also expected to weaken in to 1027mb in 72 hours' time and attain this value for about 24 hours and weaken back to 1025mb by end of the forecast period.

The intensification of low pressure system over southern South Africa, intensify the south westerly moist wind coming from southern Indian ocean towards south eastern Africa and Madagascar.

North-South oriented meridional component of ITCZ is expected to extend from southern Kenya up to northern Mozambique and isolated low level convergences are also observed over central Madagascar and central Ethiopia. Hence north easterly wind coming from Indian Ocean is expected to bring isolated rainfall over eastern Africa and the strong south westerly coming from southern Indian Ocean(which is seasonally expected) will bring enhance rainfall over south eastern Africa and Madagascar.

In the coming five days, there is an increased chance for two or more days of moderate to heavy rainfall over parts of south western Ethiopia, North eastern Mozambique, most parts of Madagascar, parts of south western Angola, southern DRC, most parts of Zambia, most parts of Tanzania, southern Namibia, western Kenya, Malawi and north eastern south Africa with high probability of heavy rainfall over parts of central Tanzania, south western Angola, southern Namibia, eastern Madagascar and north eastern south Africa.

2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (January 12, 2016)

Moderate to heavy rainfall was observed over local areas in southern Angola, central DRC, north eastern Madagascar, north eastern Mozambique and southern Tanzania.

2.2. Weather assessment for the current day (January 13, 2015)

Intense convective clouds are observed across many places over western Madagascar, northern Mozambique, southern Tanzania, central DRC and southern South Africa.

