



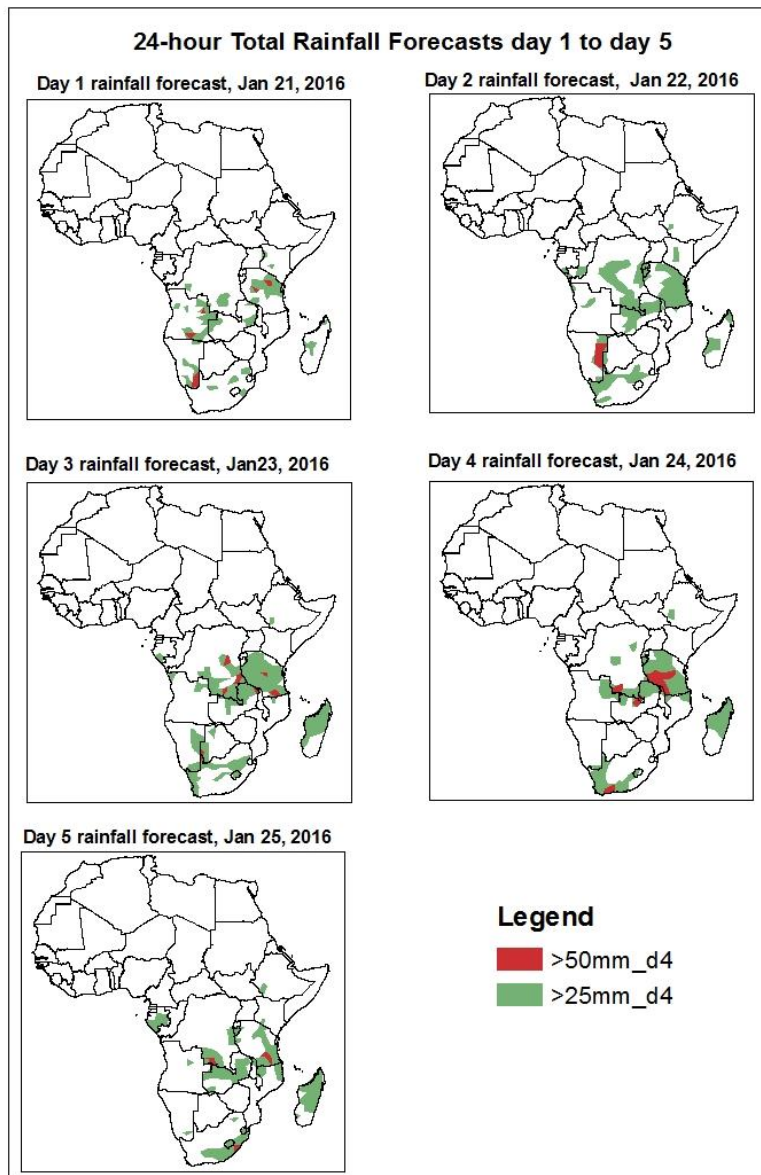
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall and Dust Concentration Forecasts

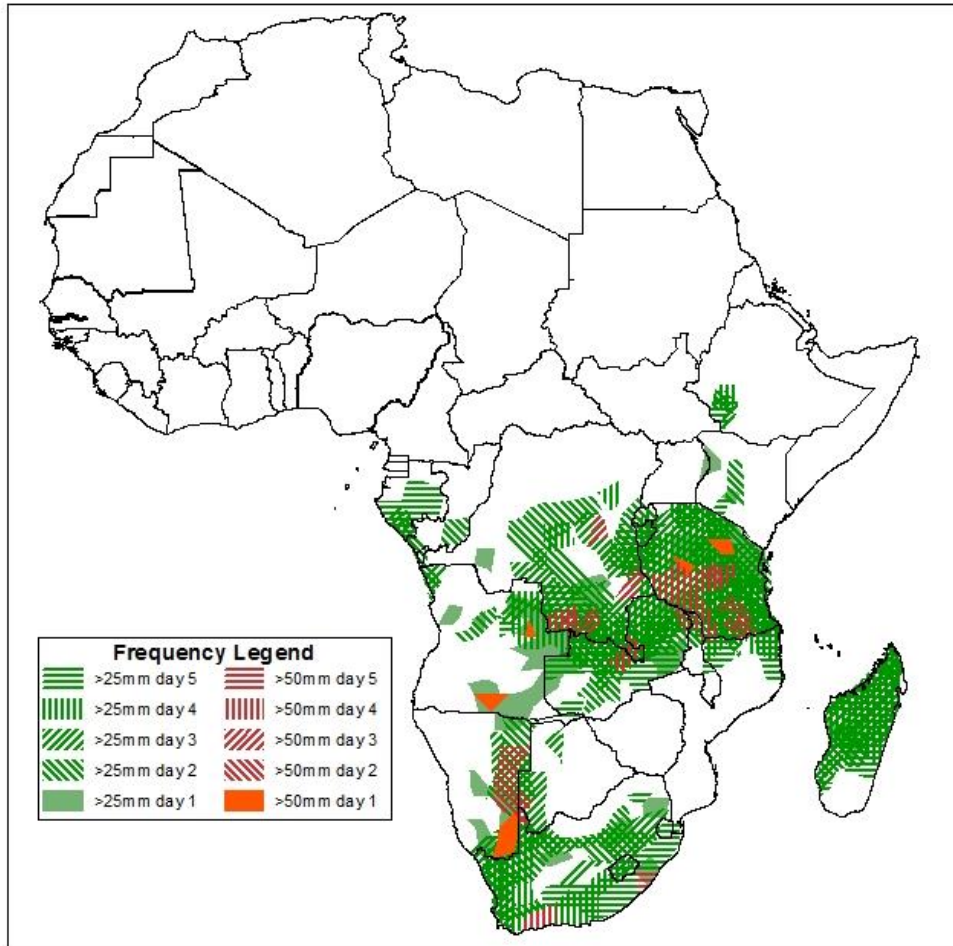
Valid: 06Z of Jan 21 - 06Z of Jan 25, 2016. (Issued on January 20, 2016)

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
21 - 25 January, 2016**

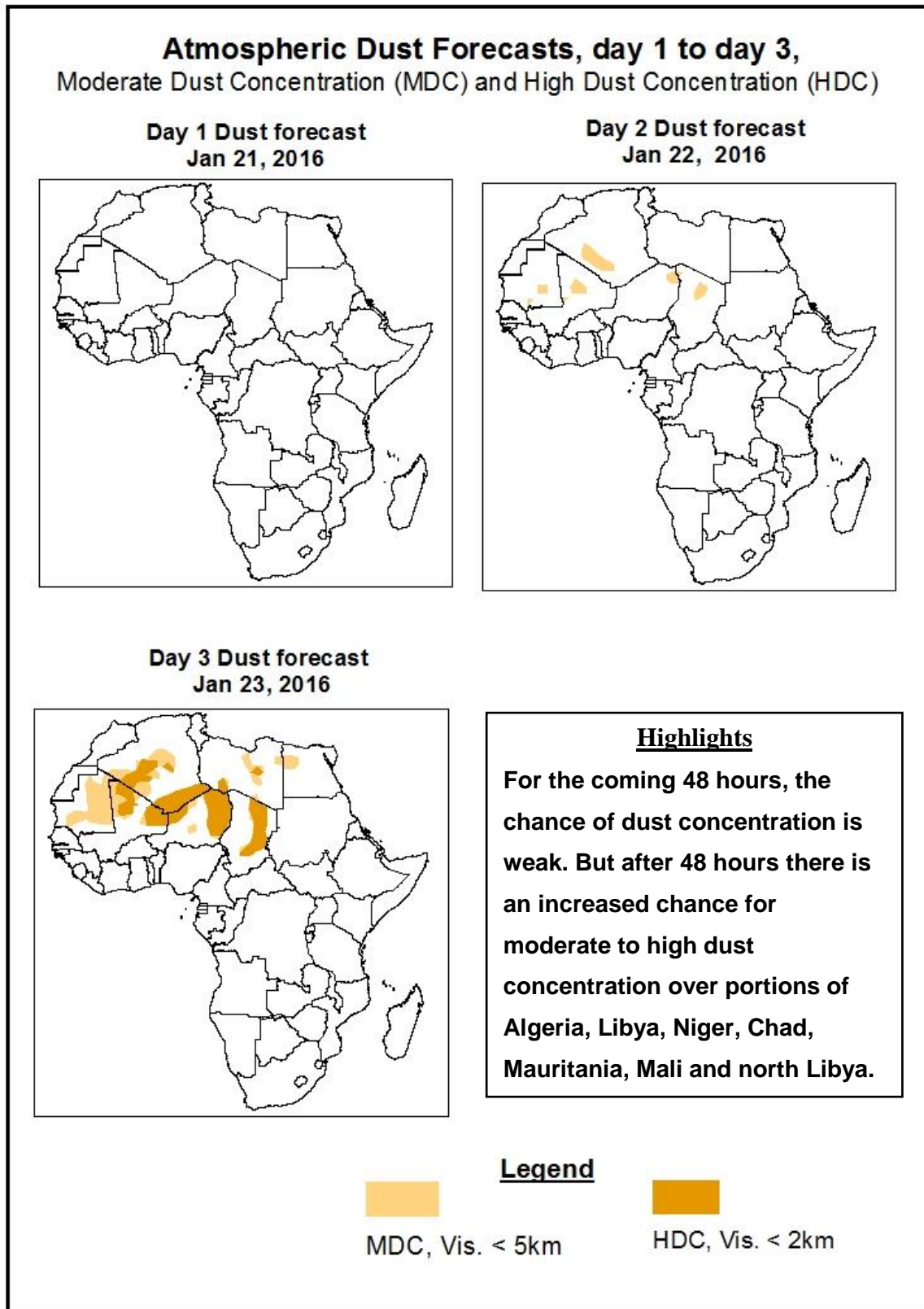


In the coming five days, there is an increased chance for two or more days of moderate to heavy rainfall over most parts of Tanzania, northern Madagascar, eastern Angola, eastern Namibia, southern DRC, Lesotho, western Gabon, and western South Africa with high probability of heavy rainfall over parts of central Tanzania, eastern Namibia and southern DRC.

1.2. Atmospheric Dust Concentration Forecasts

Valid: 12Z of Jan 21 – 12Z of Jan 23, 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: 21 - 25 January, 2016

Extension of the Azores high pressure system over Sahara is expected to weaken in to 1022mb in 24 hours' time from its central value 1024mb and intensify into 1035mb and into 1038mb in 48 and 72 hours' time respectively. This high pressure system is also expected to weaken in to 1036mb and in to 1032mb in 96 and 120 hours' time respectively.

This high pressure system is expected to intensify in to 1038mb from 1024mb in 72 hours' time (which is 14mb difference in 72 hours). As a result of this critical intensification, the dust concentration that had been prevailed over few areas will expand to cover portions of Algeria, Libya, Niger, Chad, Mauritania, Mali and northern Libya with high probability of visibility less than 2km over northern Mali, southern Algeria, eastern Niger and northern Mali.

Like previous days subtropical low pressure systems is expected to interact with the tropical systems, to continue pulling ITCZ to north direction.

The Arabian high pressure system is expected to intensify in to 1031mb in 24 hours' time from its central value of 1029mb and weaken into 1028mb, in to 1024mb, in to 1023mb and in to 1020mb in 48, 72, 96 and 120 hours' time respectively.

During the forecast period, this high pressure system is expected to make continuous weakening (up to the relative minimum value of 1020mb).

Following this weak pressure system the amount of moist air supposed to incur from northern Indian Ocean in to east Africa will be depressed. As a result of this system below normal up to normal rainfall is expected over the region.

The St Helena high pressure system over South East Atlantic Ocean is expected to intensify in to 1024mb and in to 1025mb in 24 and 48 hours' time respectively from the central value of 1023mb. This high pressure system is also expected to weaken back in to 1022mb in 72 hours' time and attain this value for about 24 hours before intensifying in to 1024mb by the end of the forecast period.

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 is expected to decrease from what is climatically expected.

The Mascarene high pressure system over Southwest Indian Ocean is expected to intensify in to 1021mb in 24 hours' time from its central value of 1020mb and attain this value up to the end of the forecast period.

Like St Helena high pressure system, this high pressure system is also 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 Indian Ocean, the amount of moist air that has been incurring from south eastern Indian Ocean in to south eastern Africa and Madagascar is expected to decrease from what is climatically expected.

The development of anti-cyclonic flow over the coastal areas of south eastern Africa is also expected to depress the seasonally expected cumulative rainfall over Mozambique, Zimbabwe, eastern Botswana and southern Madagascar.

North-South oriented meridional component of ITCZ is expected to make a slight shift towards north. Following this shifting moist air is supposed to incur in to the coastal area of West Africa, following this isolated rainfall is expected over parts of the coastal area.

In the coming five days, there is an increased chance for two or more days of moderate to heavy rainfall over most parts of Tanzania, northern Madagascar, eastern Angola, eastern Namibia, southern DRC, Lesotho, western Gabon, and western South Africa with high probability of heavy rainfall over parts of central Tanzania, eastern Namibia and southern DRC.

2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (January 19, 2016)

Moderate to heavy rainfall was observed over local areas in eastern Angola, central DRC, northern Madagascar, most parts of Tanzanian, eastern Namibia, central Gabon, northern Zambia and northern South Africa.

2.2. Weather assessment for the current day (January 20, 2015)

Intense convective clouds are observed across many places over central Madagascar, southern Angola, eastern Namibia, western Zambia, central Tanzania, central DRC, and central South Africa.

