



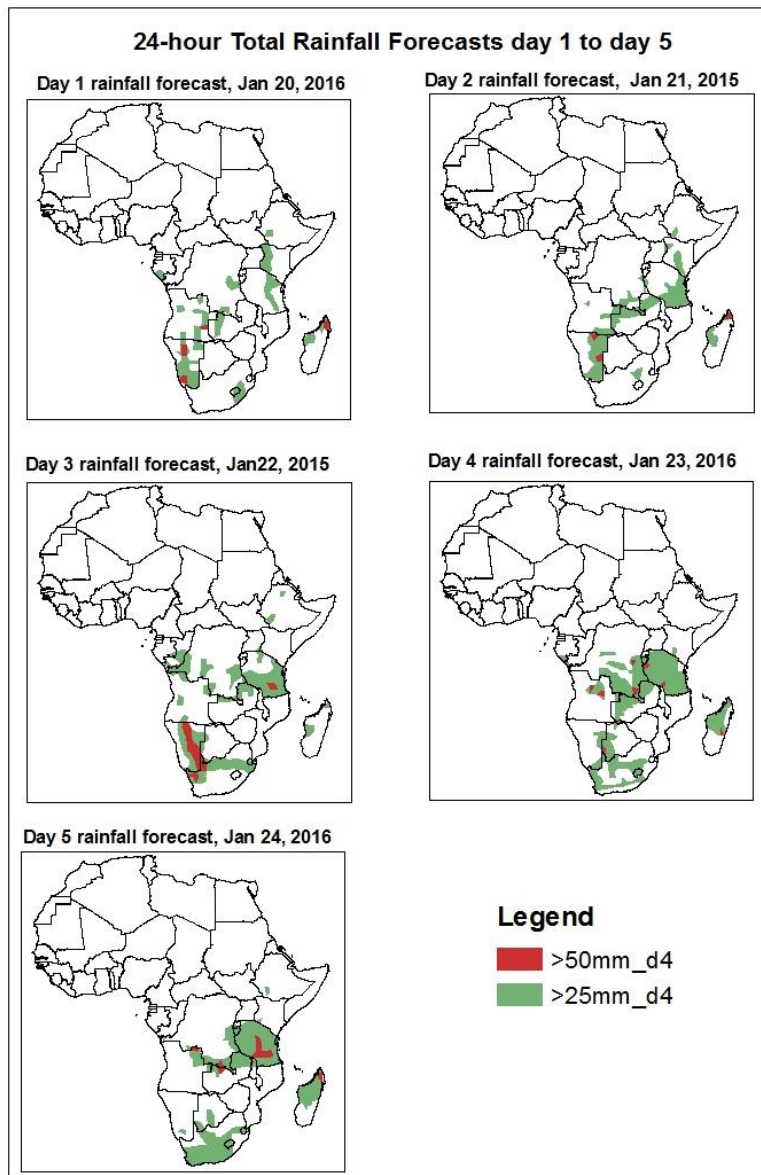
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall and Dust Concentration Forecasts

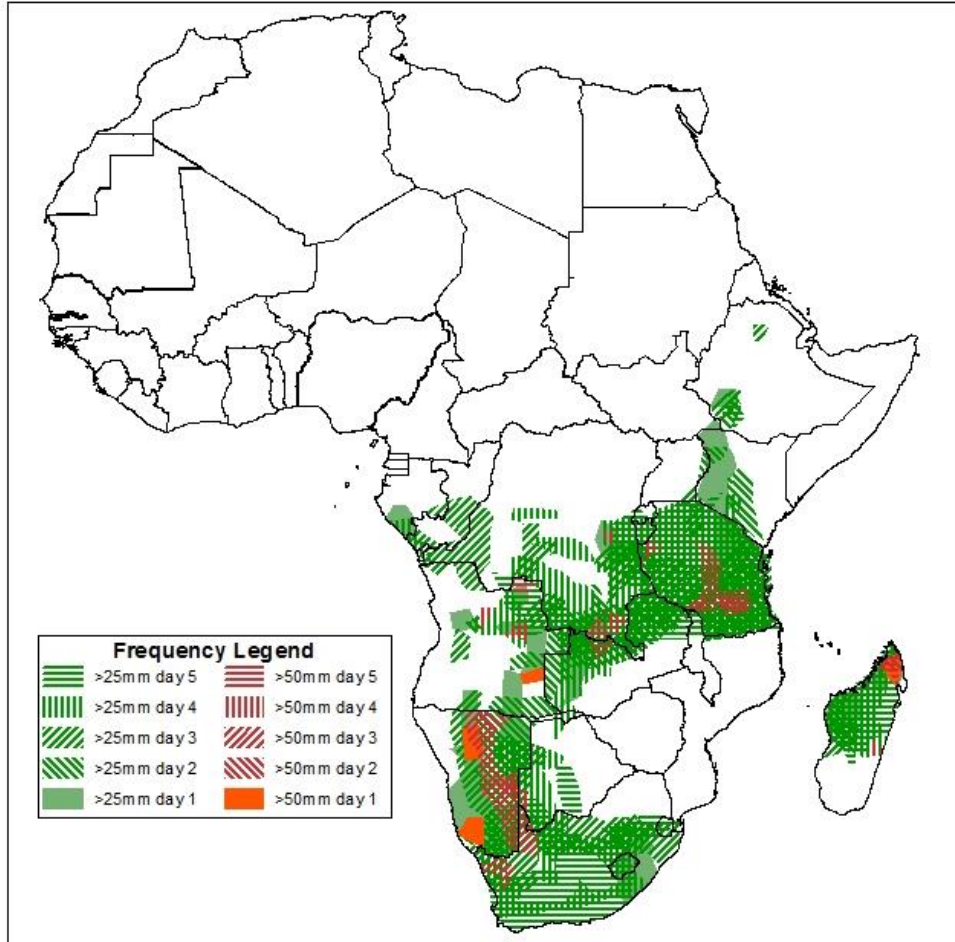
Valid: 06Z of Jan 20 - 06Z of Jan 24, 2016. (Issued on January 19, 2016)

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
20 - 24 January, 2016**

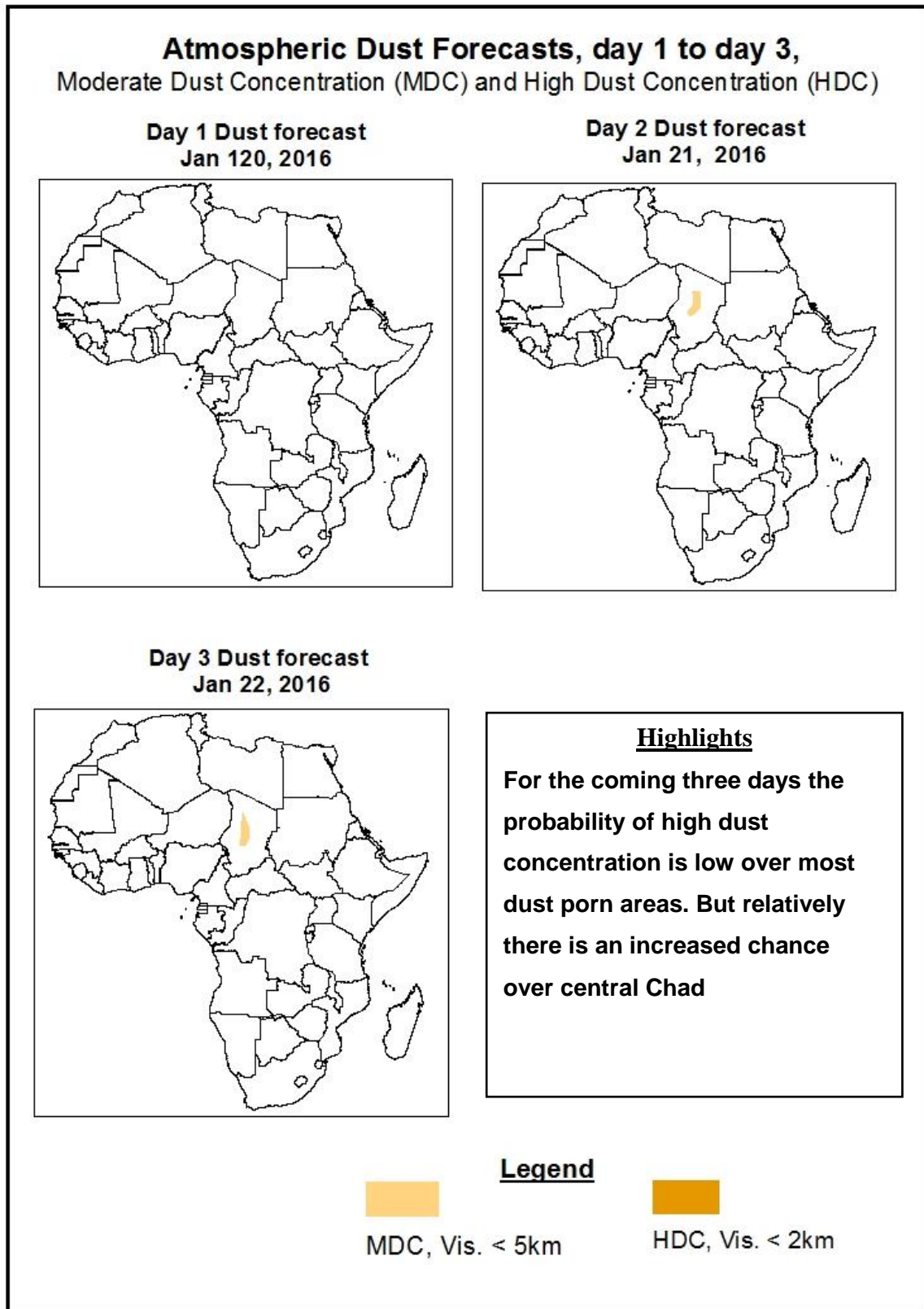


In the coming five days, there is an increased chance for two or more days of moderate to heavy rainfall over most parts of Tanzania, northern Madagascar, eastern Angola, most parts of Namibia, western Botswana, southern DRC, Lesotho, Swaziland and most parts of south Africa with high probability of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

1.2. Atmospheric Dust Concentration Forecasts

Valid: 12Z of Jan 20 – 12Z of Jan 22, 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: 20 - 24 January, 2016

Extension of the Azores high pressure system over Sahara is expected to intensify in to 1024mb in 24 hours' time from its central value 1022mb and weaken back in to 1023mb in 48 hours' time. This high pressure system is also expected to intensify in to 1028mb and in to in to 1034mb in 72 and 96 hours' time. By the end of the forecast period, this high pressure system is expected to attain the relatively maximum amount of 1034mb. During the first three day of the forecast period this high pressure system is also expected to attain an average minimum value of 1023mb. As a result of this the dust concentration that had been prevailed over Algeria, Libya, eastern Mauritania and Northern Mali are expected to weaken significantly. But after 96 hours' time, this high pressure system is expected to intensify strongly; following this intensification dust concentration is expected to spread over northern Africa. 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 1025mb and in to 1026mb in 24 and 48 hours' time from its central value of 1023mb respectively and weaken back to 1023mb in 72 hours' time. This high pressure system is expected to attain its central value 1023mb for about 24 hours and weaken in to the relatively minimum value of 1022mb. During the forecast period the average value of this high pressure system is expected to be about 1023mb which is weak to intensify the north easterly wind. Following this weak pressure system the amount of moist air supposed to incur from northern Indian Ocean in to east Africa will be depressed.

The St Helena high pressure system over South East Atlantic Ocean is expected to weaken in to 1023mb in 24 hours' time from the central value of 1024mb and intensify n back to 1024mb in 48 hours' time. This high pressure system is also expected to intensify in to 1025mb in 72 hours' time and weaken in to 1023mb and in to 1022mb in 96 and 120 hours' time respectively. 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 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 and in to 1022mb in 24 and 48 hours' time respectively from its central value of 1019mb. This high pressure system is also expected to weaken in to 1021 and in to 1020mb in 72 and 96 hours' time respectively and intensify back into 1021mb in 120 hours' time.

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.

As both high pressure systems (Extension of the Azores and Arabian) are expected not to make significant change in terms of intensity and position, By the coming three days low probability of dust concentration is expected over northern Africa.

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, most parts of Namibia, western Botswana, southern DRC, Lesotho, Swaziland and most parts of south Africa with high probability of heavy rainfall over parts of southern Tanzania, central Namibia, northern Madagascar and most parts of south Africa.

2.0. Previous and Current Day Weather over Africa

2.1. Weather assessment for the previous day (January 18, 2016)

Moderate to heavy rainfall was observed over local areas in eastern Angola, south western DRC, northern Madagascar, southern Tanzanian, eastern Namibia, southern Kenya, and northern Zambia.

2.2. Weather assessment for the current day (January 19, 2015)

Intense convective clouds are observed across many places over northern Madagascar, southern Angola, western Namibia, most parts of Tanzania and southern Nigeria.

