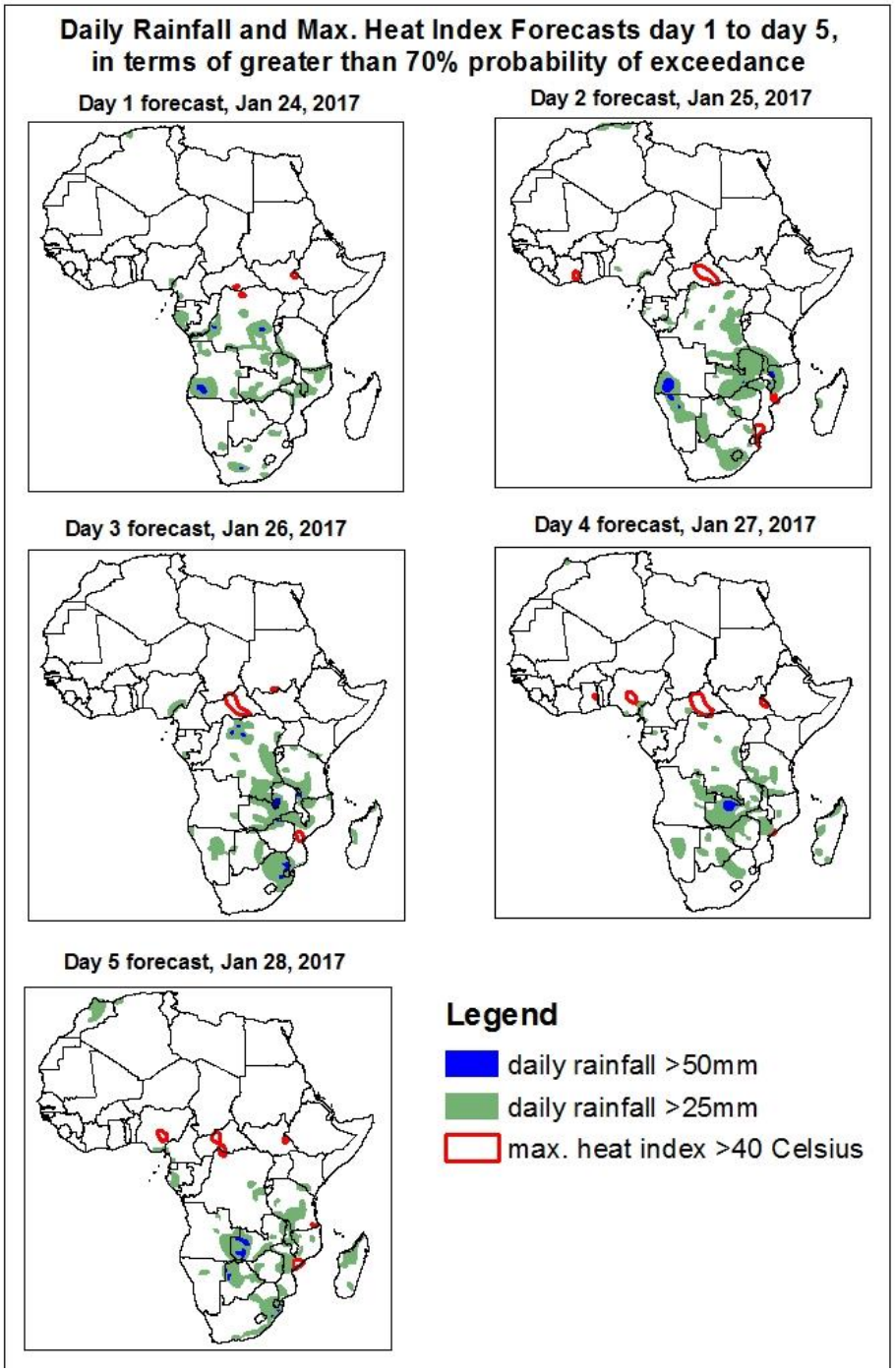
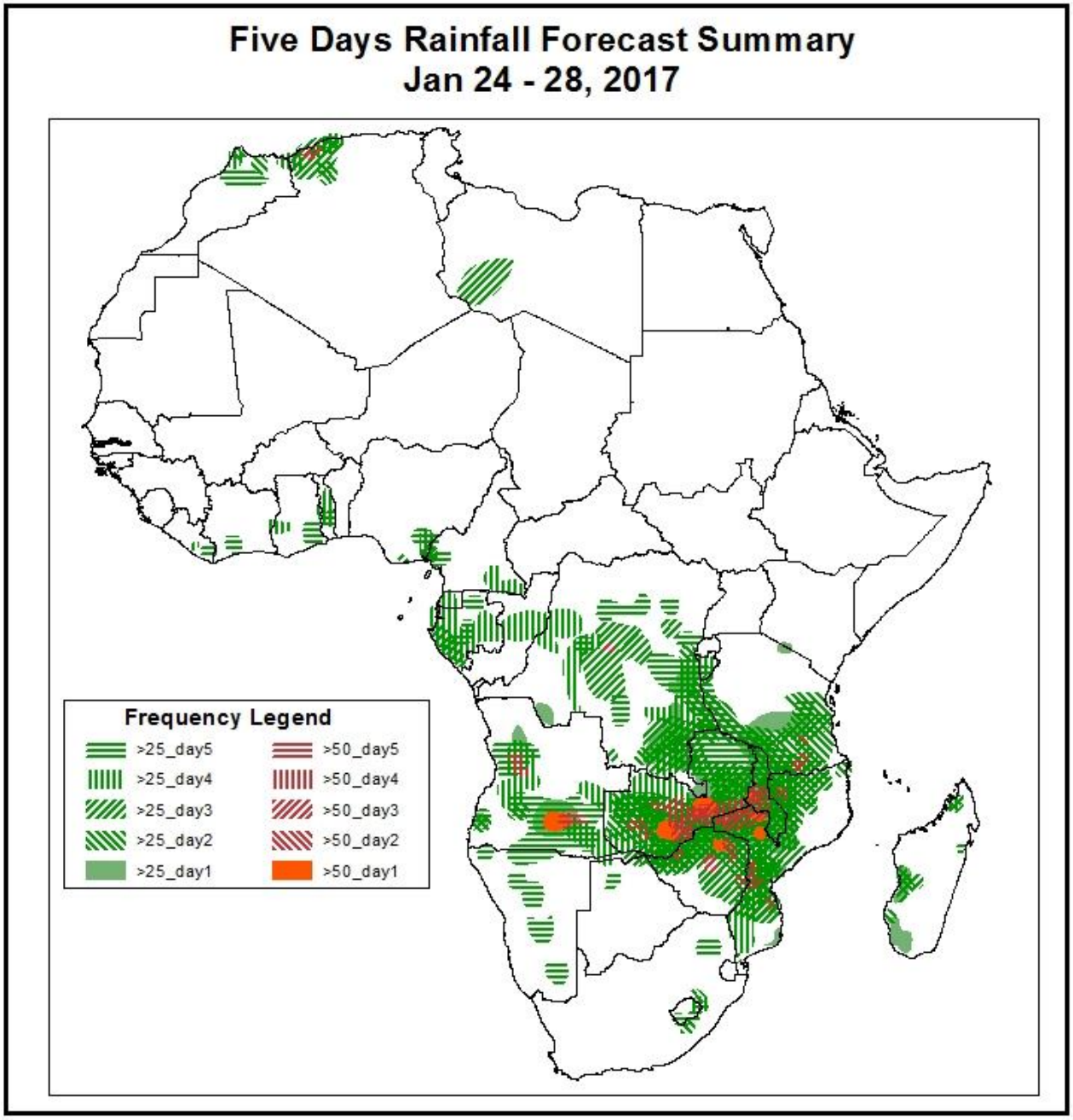
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on Jan 23, 2017)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: Jan 24 –28, 2017)

The forecasts are expressed in terms of high probability of precipitation (POP) and high probability of maximum heat index, based on the NCEP/GFS, ECMWF and the NCEP Global Ensemble Forecasts System (GEFS) and expert assessment.



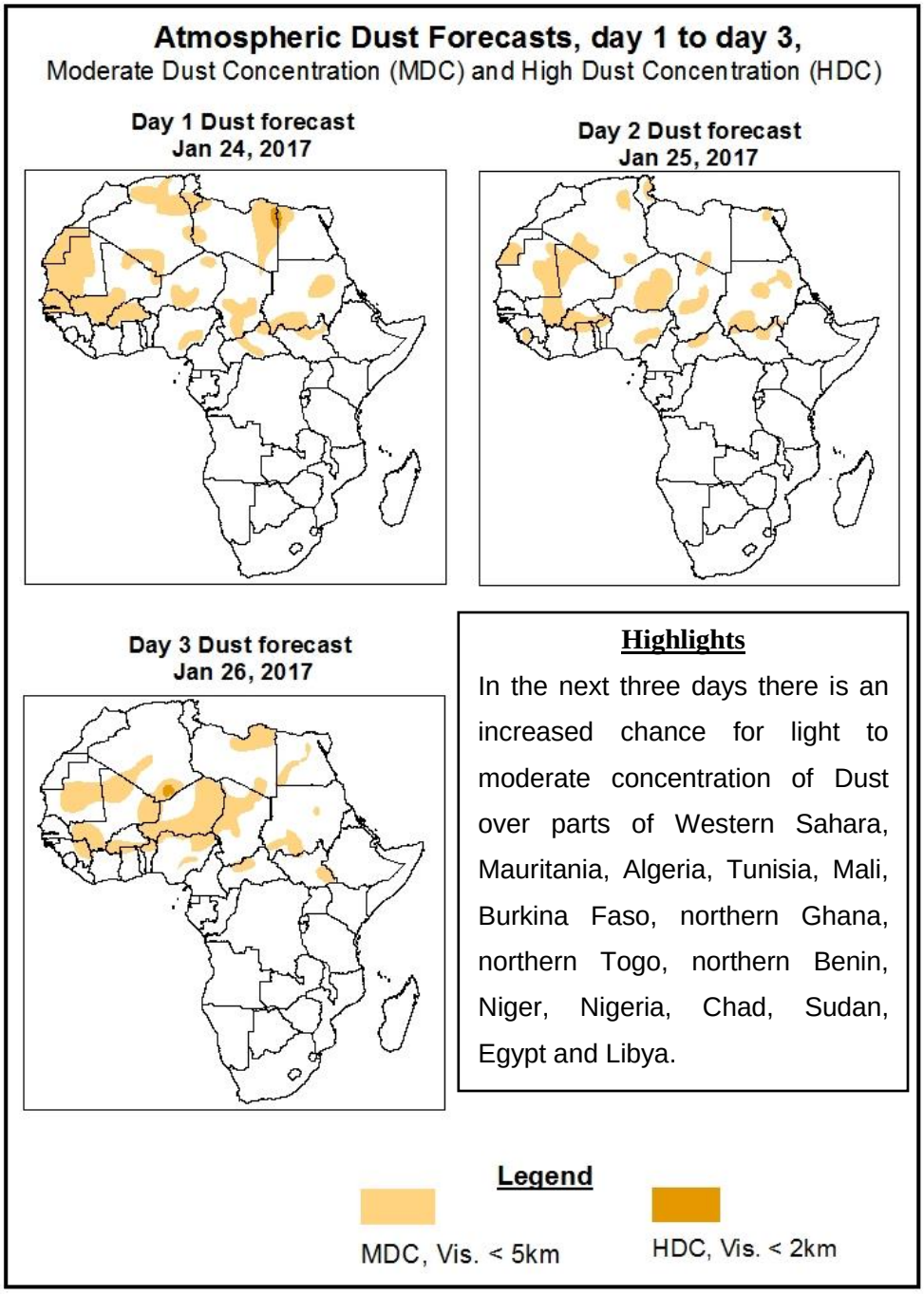


Highlights

In the next five days, lower level wind convergences across the northern and eastern parts of the South African countries are expected to enhance rainfall in their respective regions. Therefore, there is an increased chance for two or more days of light to moderate rainfall over portions of Burundi, Zambia, Malawi and Mozambique, local areas of Algeria, Gabon, DRC, Tanzania, Angola, Zimbabwe and Madagascar.

1.2. Atmospheric Dust Concentration Forecasts (valid: Jan 24–26, 2017)

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: Jan 24 – 28, 2017*

The Azores High Pressure system over the North Atlantic Ocean is expected to weaken with its value of the central pressure decreasing from 1027hPa to 1026hPa in the next 48 hours, intensify to 1027hPa in the next 72 hours, weaken to 1025hPa in the next 96 hours, and later intensify to 1028hPa during the remaining forecast period.

The St. Helena High Pressure system over the Southeast of the Atlantic Ocean is expected to intensify with its value of the central pressure increasing from 1025hPa to 1030hPa in the next 96 hours and weaken to 1023hPa during the remaining forecast period.

The Mascarene High Pressure system over the Southwest Indian Ocean is expected to intensify with its value of the central pressure increasing from 1023hPa to 1027hPa in the next 96 hours and weaken to 1025hPa during the remaining forecast period.

At 925hPa, strong dry Northerly to Easterly winds may lead from light to moderate dust concentration over parts of Western Sahara, Mauritania, Senegal, Gambia, Leone, Algeria, Tunisia, Mali, Burkina Faso, northern Ghana, northern Togo, northern Benin, Niger, Nigeria, Chad, Sudan, Egypt and Libya.

At 850hPa level, lower level wind convergences are expected to prevail over Congo, CAR, DRC, Tanzania, Angola, Zambia, Uganda, Mozambique, Namibia, Botswana and South Africa.

In the next five days, lower level wind convergences across the northern and eastern parts of the South African countries are expected to enhance rainfall in their respective regions. Therefore, there is an increased chance for two or more days of light to moderate rainfall over portions of Burundi, Zambia, Malawi and Mozambique, local areas of Algeria, Gabon, DRC, Tanzania, Angola, Zimbabwe and Madagascar.

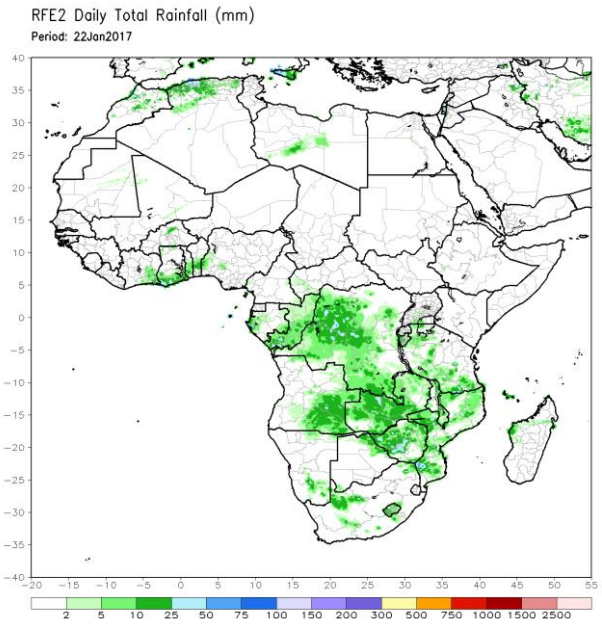
2.0. Previous and Current Day Weather over Africa

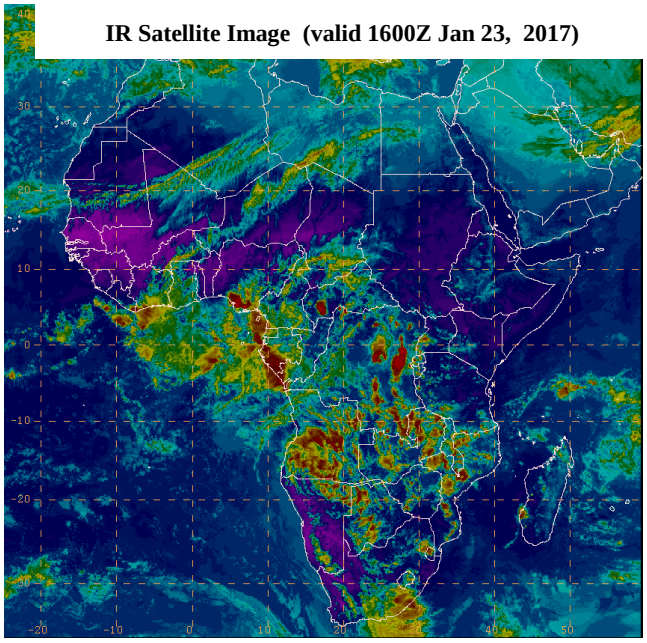
2.1. Weather assessment for the previous day (Jan 22, 2017)

Light to moderate rainfall was observed over portions of Morocco, Algeria, Cote D'Ivoire, Ghana, Gabon, Congo, DRC, Tanzania, Angola, Zambia, Mozambique, Namibia, Botswana, Zimbabwe and South Africa.

2.2. Weather assessment for the current day (Jan 23, 2017)

Intense convective clouds are observed over portions of Liberia, Cote D'Ivoire, Nigeria, Gabon, Congo, CAR, DRC, Uganda, Rwanda, Burundi, Tanzania, Angola, Zambia, Malawi, Mozambique, Namibia, Botswana, Zimbabwe, South Africa, Swaziland and Madagascar.





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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