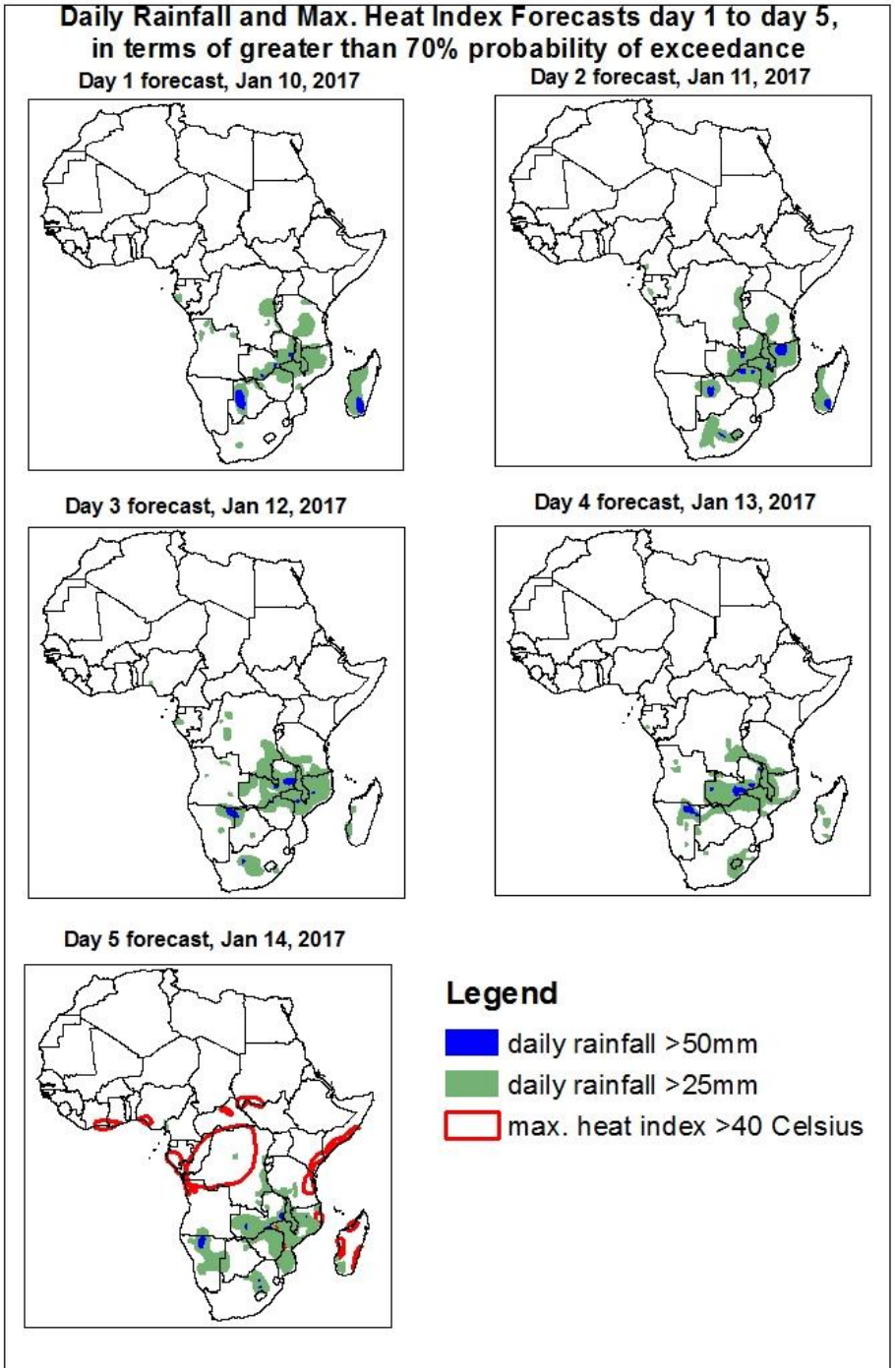
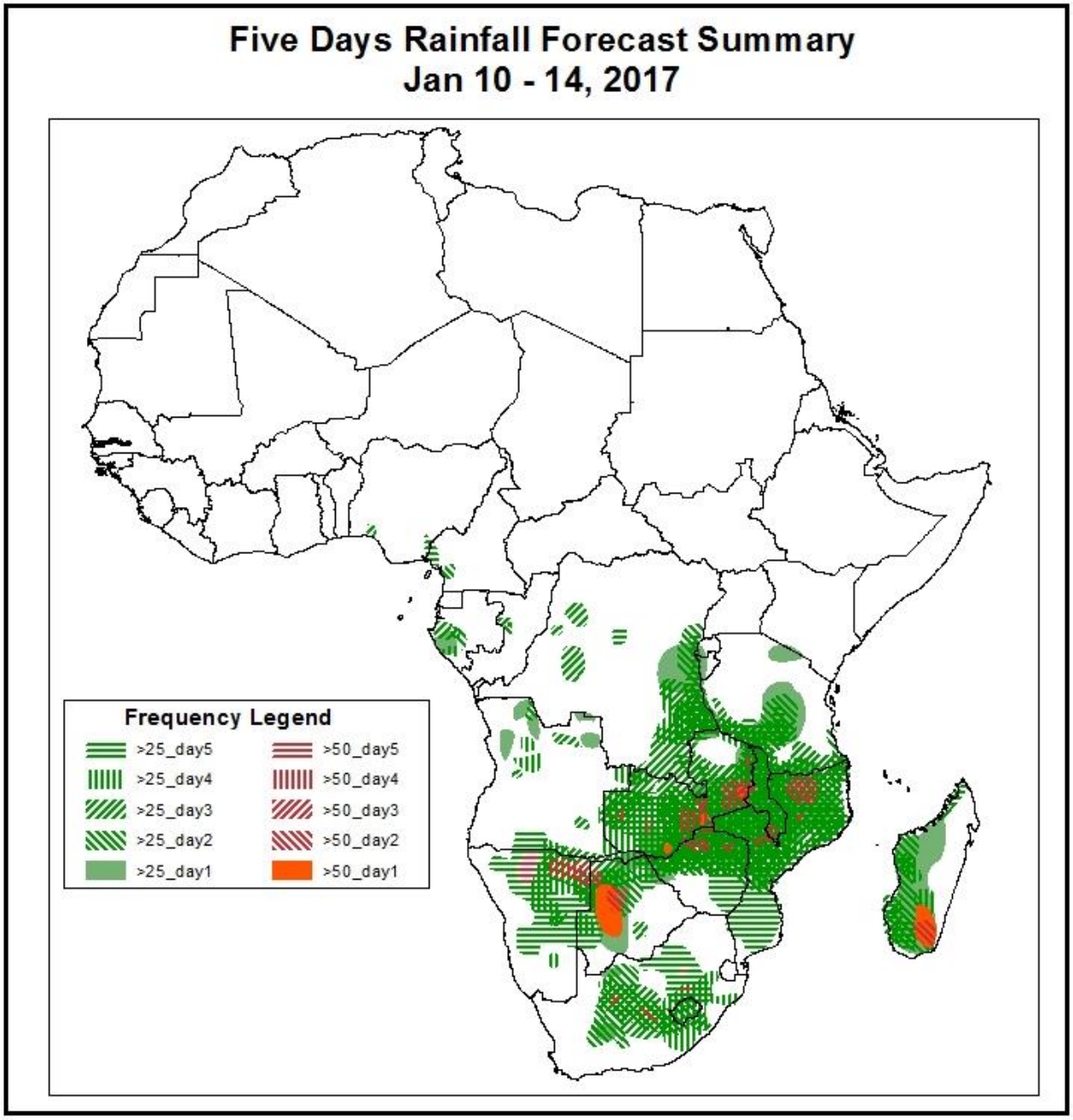
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1. Rainfall, Heat Index and Dust Concentration Forecasts, (Issued on Jan 09, 2017)

1.1. Daily Rainfall and Maximum Heat Index Forecasts (valid: Jan 10 –14, 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.



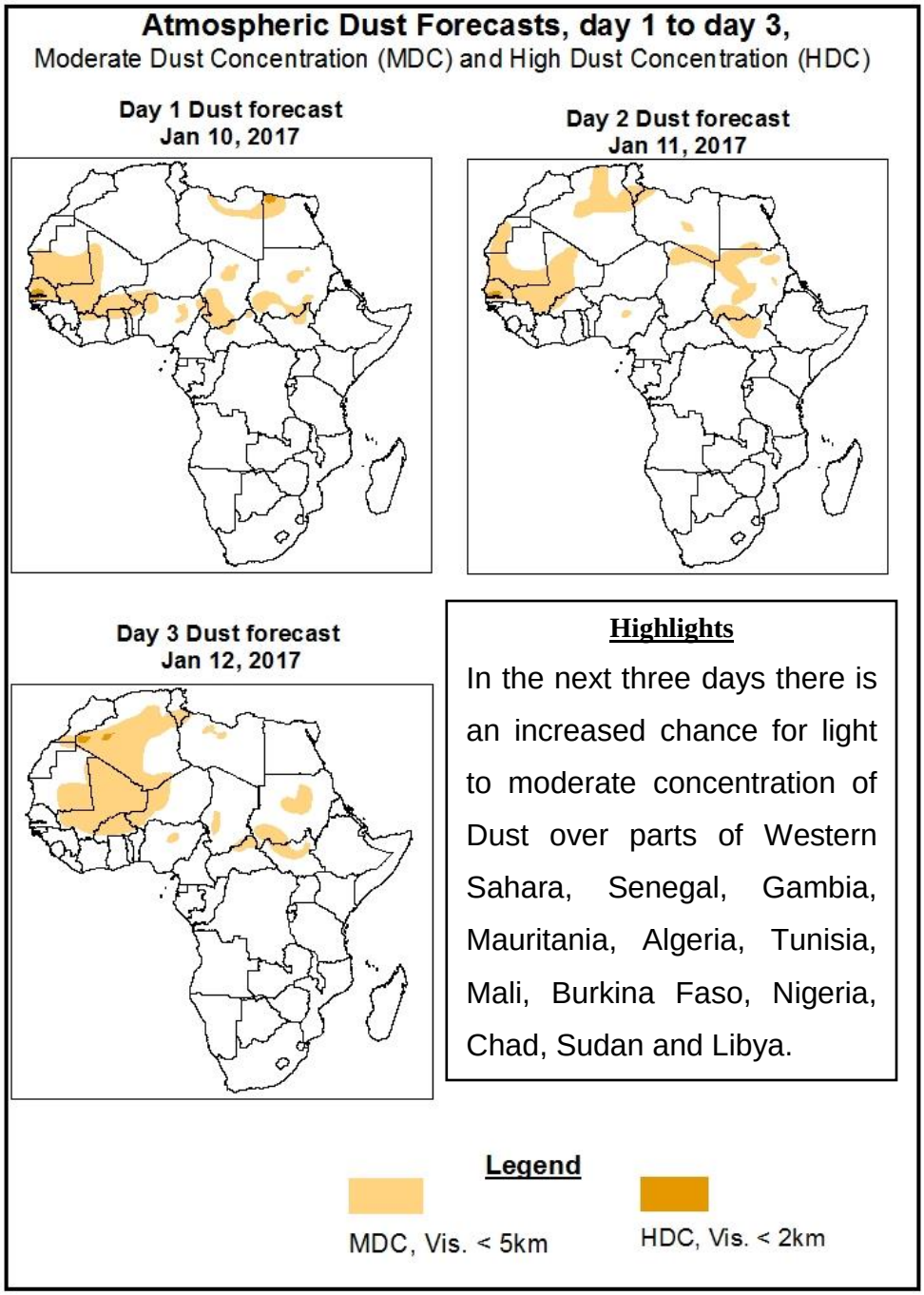


Highlights

In the next five days, lower level wind convergences across the Northern 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 Zambia, Malawi and Mozambique, local areas of Gabon, DRC, Tanzania, Namibia, Botswana, Zimbabwe, South Africa, Lesotho and Madagascar.

*1.2. Atmospheric Dust Concentration Forecasts (*valid: Jan 10–12, 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 10 – 14, 2017*

The Azores High Pressure system over the North Atlantic Ocean is expected to weaken, with its value of the central pressure decreasing from 1037hPa to 1035hPa in the next 48 hours, intensify to 1041hPa in the next 72 hours, and later weaken to 1032hPa during the remaining forecast period.

The St. Helena High Pressure system over the Southeast of the Atlantic Ocean is expected to weaken, with its value of the central pressure decreasing from 1023hPa to 1022hPa in the next 48 hours, intensify to 1026hPa in the next 96 hours, and later 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 1022hPa to 1030hPa in the next 72 hours, weaken to 1025hPa in the next 96 hours, and later intensify to 1026hPa during the remaining forecast period.

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

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

In the next five days, lower level wind convergences across the Northern 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 Zambia, Malawi and Mozambique, local areas of Gabon, DRC, Tanzania, Namibia, Botswana, Zimbabwe, South Africa, Lesotho and Madagascar.

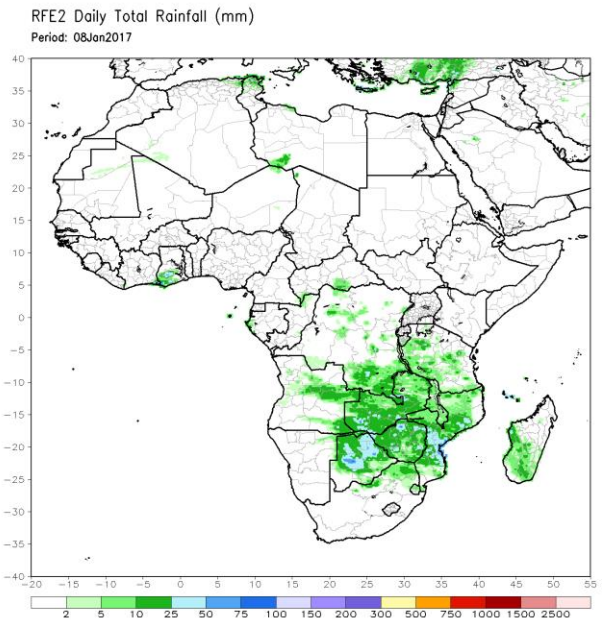
2.0. Previous and Current Day Weather over Africa

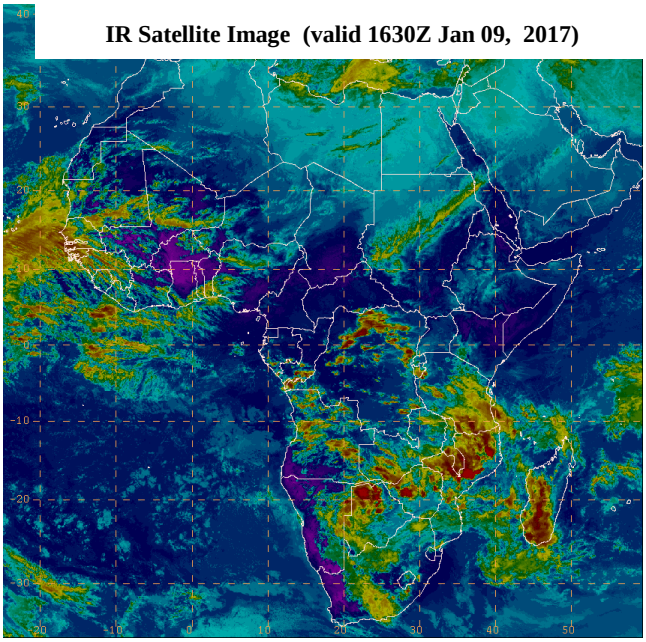
2.1. Weather assessment for the previous day (Jan 08, 2017)

Light to moderate rainfall was observed over portions of Tunisia, Cote D'Ivoire, DRC, Tanzania, Angola, Zambia, Mozambique, Botswana, Zimbabwe and Madagascar.

2.2. Weather assessment for the current day (Jan 09, 2017)

Intense convective clouds are observed over portions of Gabon, Congo, DRC, Burundi, Tanzania, Angola, Zambia, Malawi, Mozambique, Namibia, Botswana, Zimbabwe, South Africa 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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