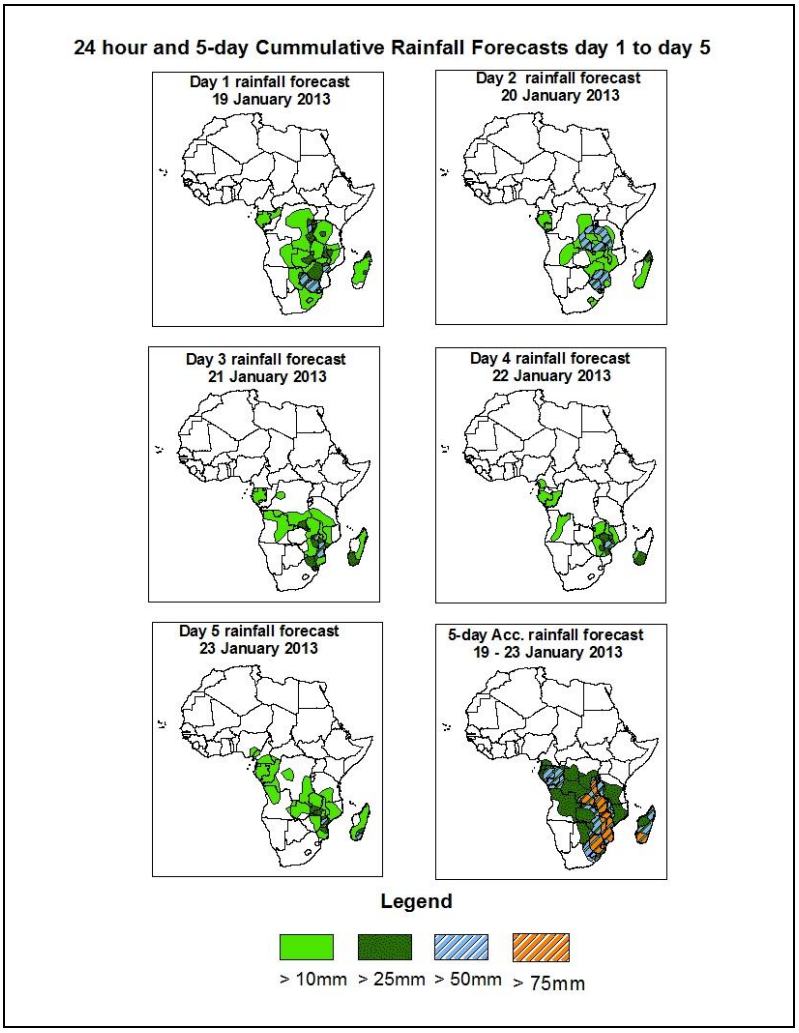
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 19 January – 06Z of 23 January 2013. (Issued at 17:00Z of 18 January 2013)

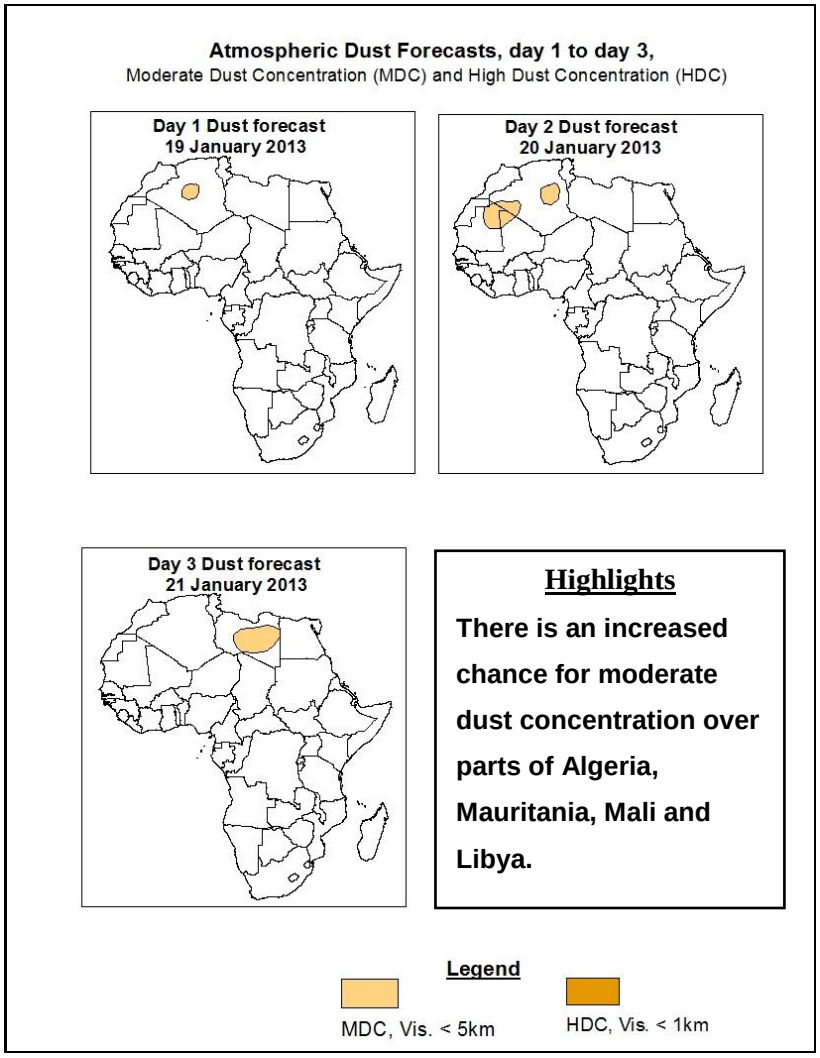
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

The forecasts are expressed in terms of 75% probability of precipitation (POP) exceeded, based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.



Summary

In the next five days, an active easterly low over eastern region of Botswana and moderate to strong low level convergence over Z DRC, Zambia, Zimbabwe, Malawi, Kenya and Tanzania is expected to enhance rainfall in their respective regions. Thus, there is an increased chance for moderate to heavy rainfall over local areas over parts of Botswana, southern and central regions of Mozambique, eastern region of South Africa, parts of DRC, Tanzania, Zambia, Malawi and Madagascar.



1.2. Model Discussion: Valid from 00Z of 18 January 2013

Model comparison (Valid from 00Z; 18 January 2013) shows all the three models are in general agreement in terms of depicting eastward movement of the Mascarene and St Helena high pressure systems during the forecast period. However, the models show slight differences in terms of central pressure values.

In the coming five days the St. Helena High Pressure System over southeast Atlantic Ocean is expected to swing slightly throughout the forecast period, according to the GFS and the UKMET models. According to these two previously mentioned models, the central pressure values will vary from about 1019hpa to 1024hpa and from 1021hpa to 1024hpa, respectively. According to the ECMWF model, the St Helena High pressure will deepen slightly throughout the forecast period, from about 1024hpa to 1019hpa.

The Mascarene High Pressure System over southwestern Indian Ocean is expected to remain with high pressure values, through 24 to 48 hours (1026hpa, in total agreement with the GFS, ECMWF and UKMET models). A new Mascarene High Pressure System is expected to form over Southwest Indian Ocean, after cutting itself from the St. Helena High Pressure System through 24 to 48 hours. The central pressure value of the newly formed high is expected to re-strengthen progressively through 48 to 120 hours, with its central pressure value increasing from about 1016hpa to 1024hpa according to the GFS model, and from about 1016hpa to 1023hpa, according to the UKMET model. According to the ECMWF model, the central pressure value will swing slightly from about 1016hpa to 1022hpa through 48 to 120 hours.

The seasonal lows across DRC, South Sudan and the neighboring areas is expected to prevail with the central pressure value of about 1008hpa throughout the forecast period according to the GFS model. According to the ECMWF and the UKMET models the central pressure value will deepen gradually, from about 1008hpa to 1006hpa, and from 1008hpa to 1005hpa, respectively. An easterly low over eastern region of Botswana is expected to remain active and deepening gradually through 24 to 96 hours; the central pressure value is expected to decrease from about 1004hpa to 1000hpa according to the GFS model, from about 1007hpa to 1005hpa according to the ECMWF model and from about 1003hpa to 1000hpa according to the UKMET model.

At the 850hpa level, the seasonal lower level wind convergence near the CAB region is expected to remain poor to moderate through 24 to 120 hours. Moderate to strong low level convergence is expected to prevail active over parts of DRC, Zambia, Zimbabwe, Malawi, Kenya and Tanzania through 24 to 96 hours.

At 500hpa, a trough in the mid-latitude westerly is expected dominate the flow over northern countries of Africa and Mediterranean Sea through 24 to 96 hours. An anti-cyclonic flow over South Africa region is expected to prevail active through 24 to 72 hours.

At 200hpa, the northern hemisphere sub-tropical westerly jet is expected to remain active through the forecast period; the core wind speed occasionally will exceed 110kts over northern countries of Africa.

In the next five days, an active easterly low over eastern region of Botswana and moderate to strong low level convergence over Z DRC, Zambia, Zimbabwe, Malawi, Kenya and Tanzania is expected to enhance rainfall in their respective regions. Thus, there is an increased chance for moderate to heavy rainfall over local areas over parts of Botswana, southern and central regions of Mozambique, eastern region of South Africa, parts of DRC, Tanzania, Zambia and Malawi and Madagascar.

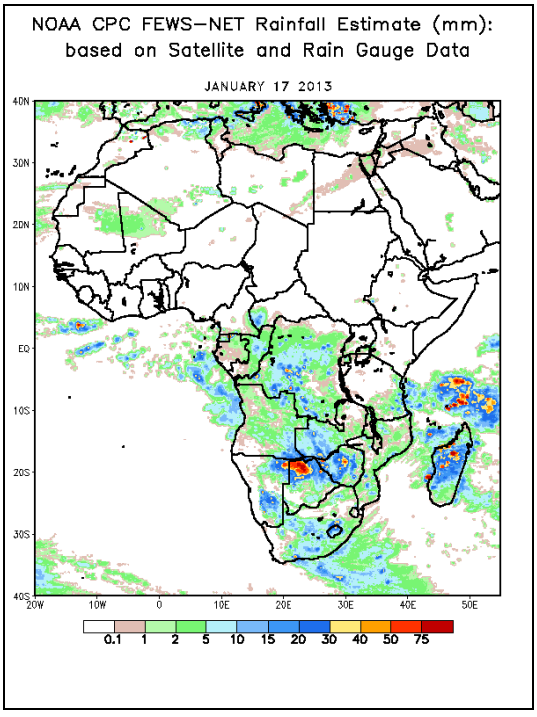
2.0. Previous and Current Day Weather Discussion over Africa (17 January 2013 – 18 January 2013)

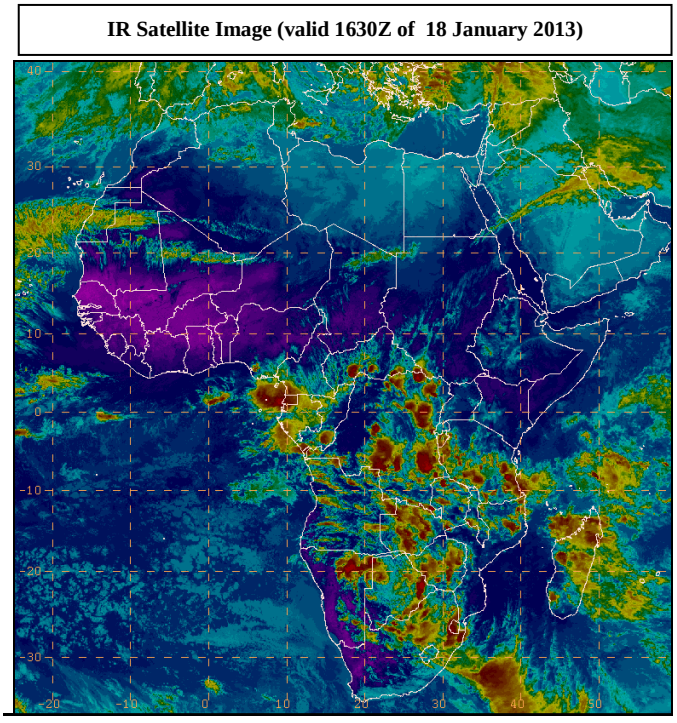
2.1. Weather assessment for the previous day (17 January 2013)

During the previous day, moderate to locally heavy rainfall was observed over parts of Botswana, Namibia, Zimbabwe, South Africa, Madagascar and DRC.

2.2. Weather assessment for the current day (18 January 2013)

Intense clouds are observed over DRC, Gabon, Zambia, Zimbabwe, Namibia, Tanzania and Madagascar.





Previous day rainfall condition over Africa (top Left) based on the NCEP CPCE/RFE and current day cloud cover (top right) based on IR Satellite image

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