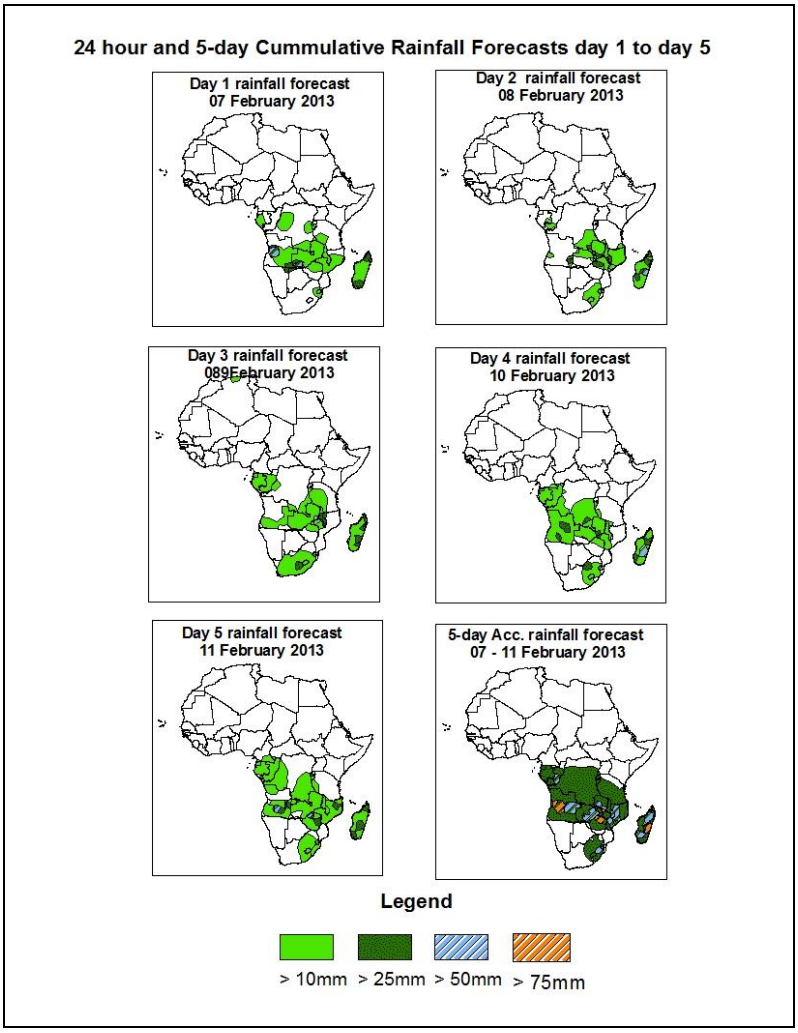
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 07 February – 06Z of 11 February 2013. (Issued at 19:00Z of 06 February 2013)

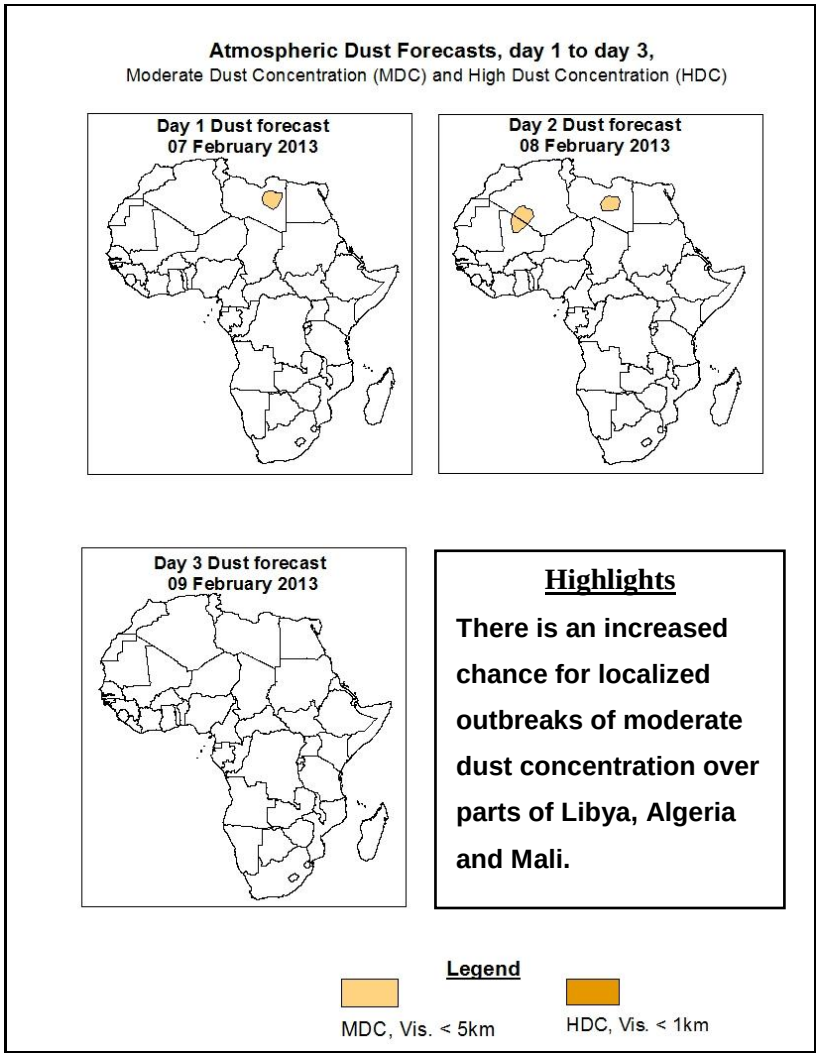
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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, moderate low level convergence line over parts of Angola, Zambia, Zimbabwe, Malawi, Namibia, South Africa and central region of Mozambique, an Eastwards flow over South Africa and the neighboring countries are 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 central region of Mozambique, Zambia, Zimbabwe, Malawi, parts of the central region of Angola, Madagascar and eastern region of South Africa.



1.2. Model Discussion: Valid from 00Z of 06 February 2013

Model comparison (Valid from 00Z; 06 February 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 next five days the St. Helena High Pressure System over southeast Atlantic Ocean is expected to weaken slightly through 24 to 72 hours. The central pressure value is expected to decrease from about 1025hpa to 1016hpa according to the GFS model, from about 1025hpa to 1019hpa according to the ECMWF model, and from about 1025hpa to 1018hpa according to the UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is also expected to weaken slightly throughout 24 to 48 hours, while shifting smoothly eastwards. Its central pressure value is expected to decrease from about 1026hpa to 1012hpa, according to the GFS model, from about 1016hpa to 1012hpa according to UKMET model. According the ECMWF model the High Pressure system will remain constant through 24 t0 48 hours. A new Mascarene High Pressure System is expected to form after cutting itself from the St. Helena High pressure system through 48 to 72 hours. The central pressure of the newly formed Mascarene High Pressure system is expected to intensify from 1016hpa to 1027hpa according to GFS model, from about 1017hpa according to ECMWF model and from 1016hpa to 1026hpa according to UKMET model.

The seasonal lows across DRC, South Sudan and the neighboring areas are expected to remain constant through 24 to 96 hours (1005hpa) according to GFS model. According to ECMWF and UKMET, these lows will deepen from about 1006hpa to 1003hpa and 1005hpa to 1003hpa respectively.

At the 850hpa level, the seasonal lower level wind convergence near the CAB region is expected to remain with moderate to poor convergence conditions throughout the forecast period. Moderate low level convergence line is expected to form and remain active over parts of Angola, Zambia, Zimbabwe, Malawi, Namibia, South Africa and central region of Mozambique, throughout the forecast period.

At 500hpa, a trough in the mid-latitude trough is expected dominate the flow over northern countries of Africa and Mediterranean Sea through 24 to 48 hours and an eastward propagation is expected to dominate the flow over the previously mentioned areas towards end of the forecast period. An Eastward flow is expected to prevail over South Africa and the neighboring countries through most periods of the coming five days.

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 130kts over Libya, Egypt and Mediterranean Sea.

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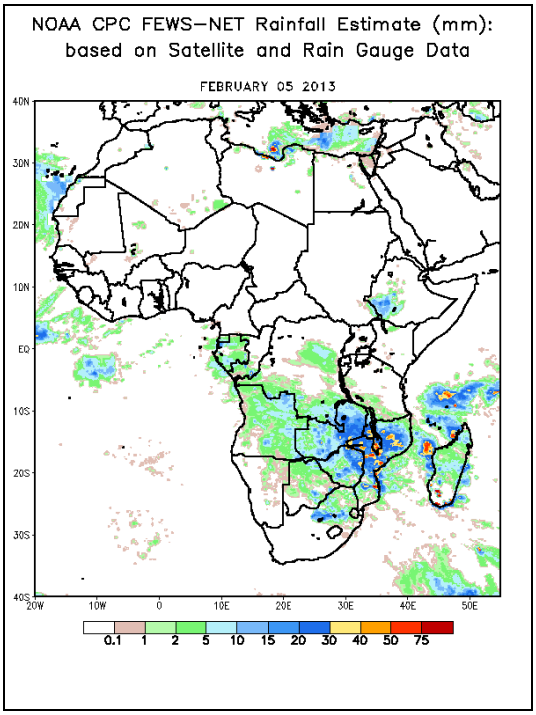
2.0. Previous and Current Day Weather Discussion over Africa (05 February 2013 – 06 February 2013)

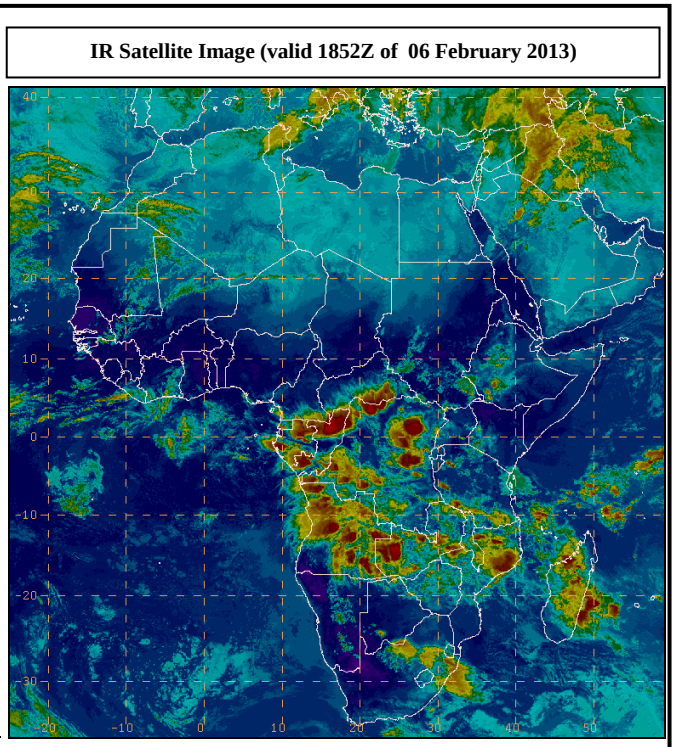
2.1. Weather assessment for the previous day (05 February 2013)

During the previous day, moderate to locally heavy rainfall was observed over parts of Mozambique, parts of eastern Zambia, Malawi, North eastern Zimbabwe and parts of South Africa and Madagascar.

2.2. Weather assessment for the current day (06 February 2013)

Intense clouds are observed over Mozambique, Angola, DRC Congo, Gabon 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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