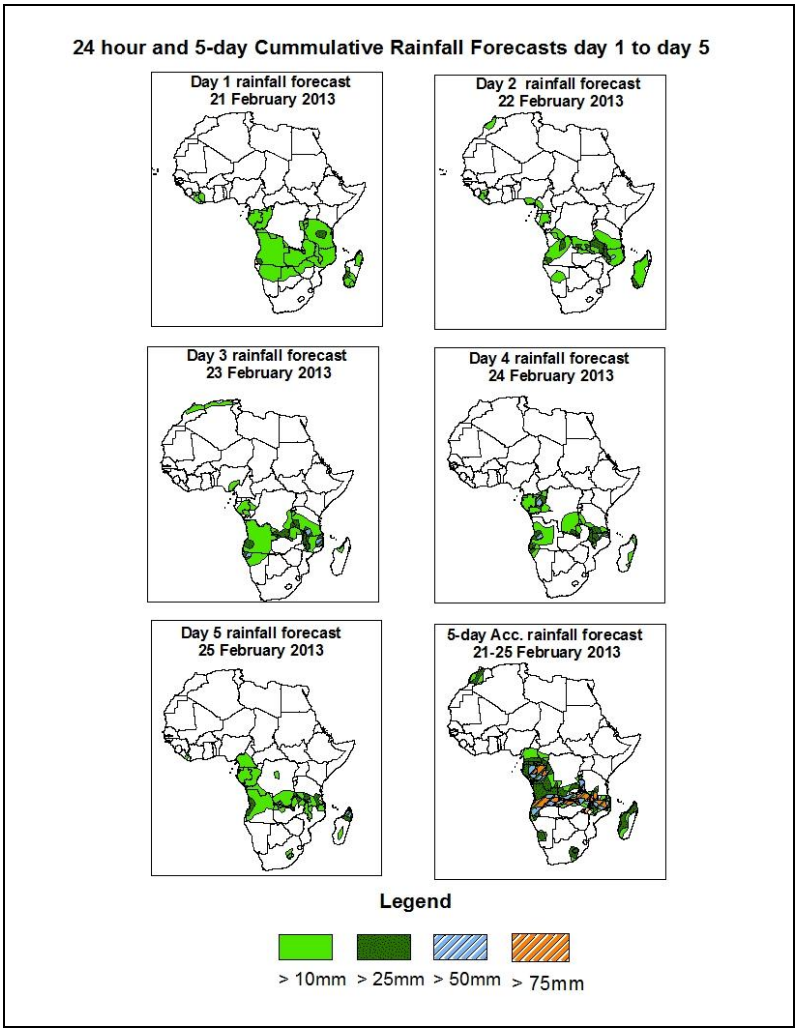
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 21 February – 06Z of 25 February 2013. (Issued at 16:00Z of 20 February 2013)

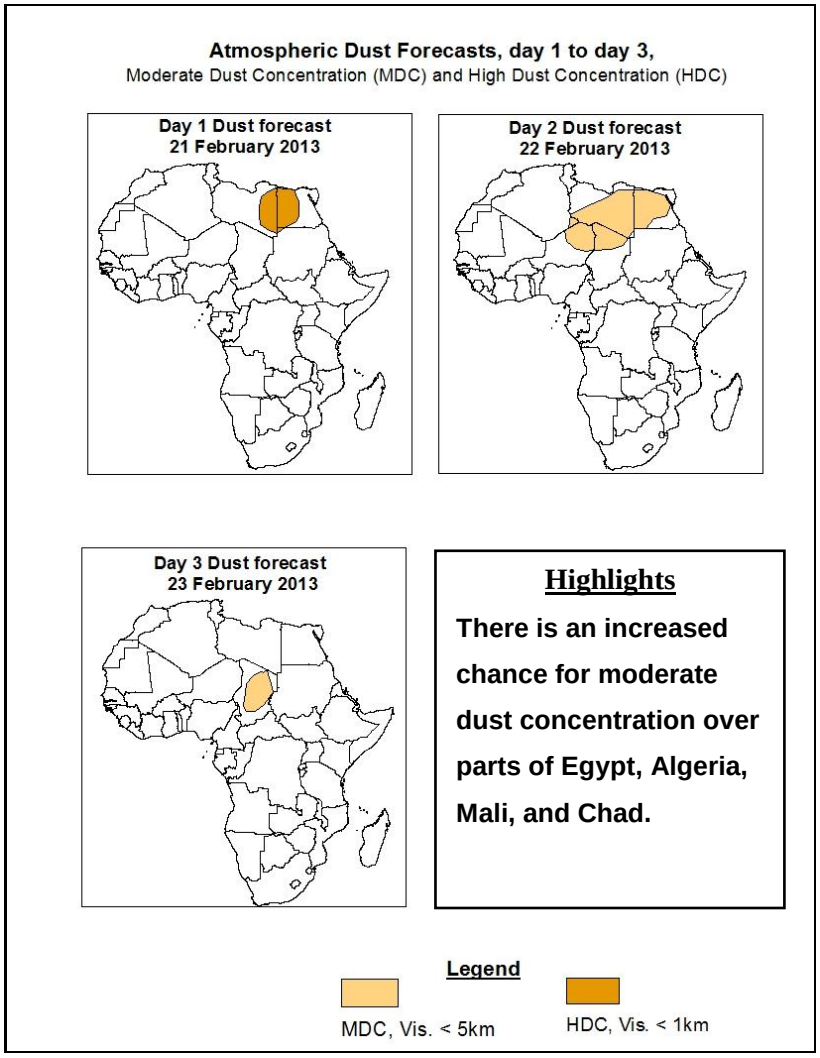
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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, weakening of low level seasonal wind convergences are expected to reduce rainfall activities over parts of central and southern Africa regions. However, deep cyclonic circulation in Mozambique Channel, and localized wind convergences across DRC and neighboring areas are expected to maintain moderate to heavy rainfall over Gabon, Congo, DRC, Angola, Zambia, Malawi, Mozambique and Madagascar.



1.2. Model Discussion: Valid from 00Z of 20 February 2013

Model comparison (Valid from 00Z; 19 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 nearly remain constant through 24 to 72 hours. The central pressure value is expected to be about 1024hpa according to all models (GFS, ECMW and UKMET models).

The Mascarene high pressure system over southwestern Indian Ocean is also expected to slightly strengthen throughout the forecasting period, while shifting smoothly

eastwards. Its central pressure value is expected to increase from about 1027hpa to 1031hpa, according to the GFS model, from about 1027hpa to 1030hpa according to ECMWF and UKMET models.

The seasonal lows across DRC, South Sudan and the neighboring areas is expected to remain slightly the same throughout the forecast period, with the central pressure values decreasing from about 1006hpa to 1004hpa according to the GFS, from about 1005hpa to 1003hpa according to the ECMWF and from about 1005hpa to 1004hpa according to the UKMET model. A low system over Mozambique Channel is expected to form through 48 to 72 hours with its central pressure value between 1005hpa to 1001hpa in total agreement with all the three models.

At the 850hpa level, the seasonal lower level wind convergence near the CAB region is expected to continue remain with weak to moderate convergence conditions through 24 to 120 hours. Weak to Moderate low level convergence is also expected to be experienced over central regions of DRC, Angola, Zambia, Mozambique, Northern Zimbabwe and Malawi.

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 72 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 110kts over northern African countries and Mediterranean Sea.

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2.0. Previous and Current Day Weather Discussion over Africa

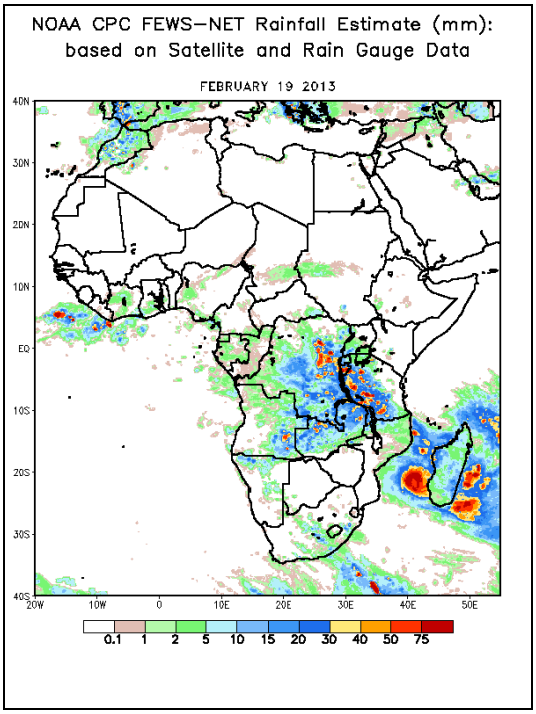
(19 February 2013 – 20 February 2013)

2.1. Weather assessment for the previous day (19 February 2013)

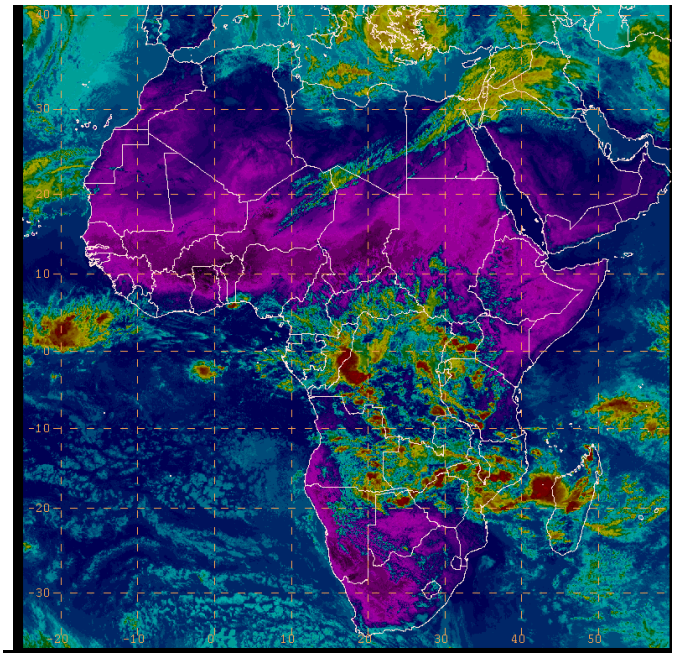
During the previous day, moderate to locally heavy rainfall was observed over DRC, eastern Angola, Zambia, Malawi, Tanzania and coastal areas of Madagascar.

2.2. Weather assessment for the current day (20 February 2013)

Intense clouds are observed over parts of DRC, eastern Angola, Zambia, Malawi, parts of Tanzania, Mozambique, Zimbabwe and Madagascar.



IR Satellite Image (valid 1722Z of 20 February 2013)



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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