

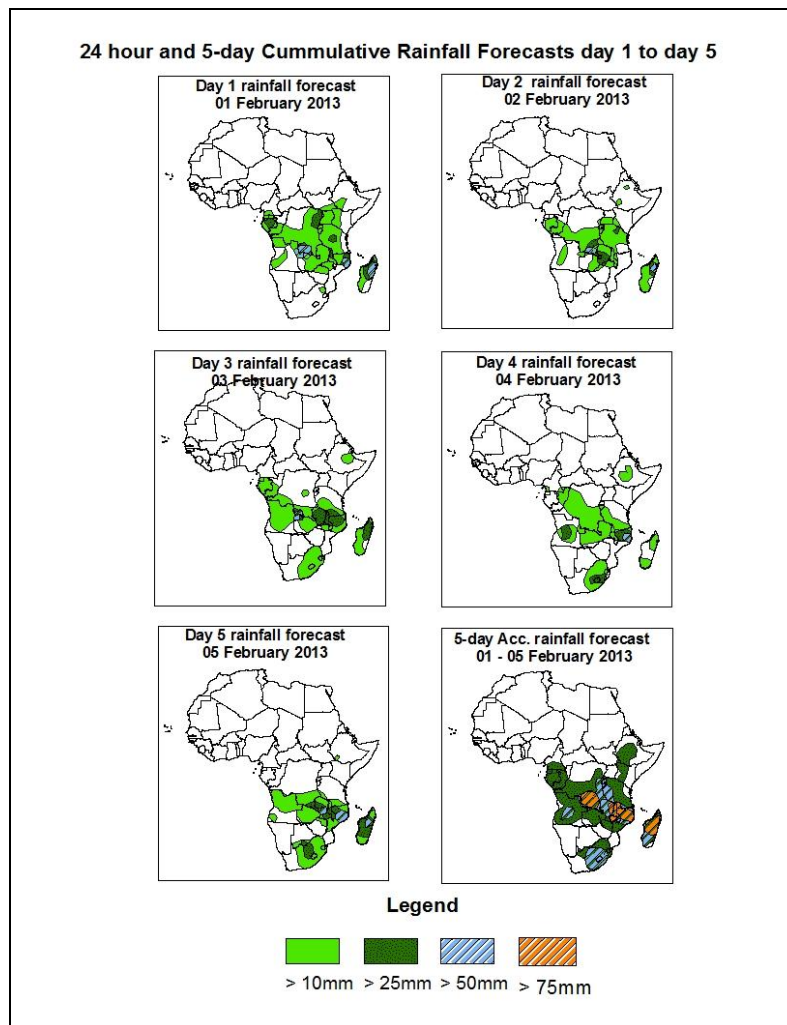


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 01 February – 06Z of 05 February 2013. (Issued at 19:30Z of 31 January 2013)

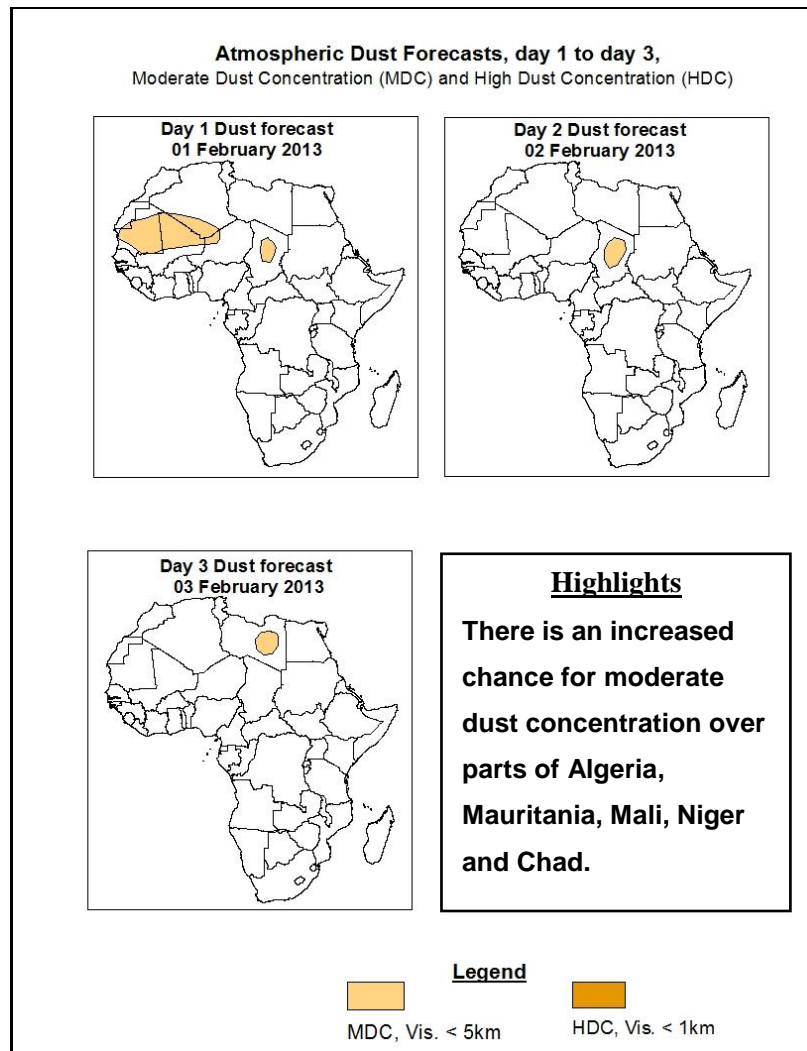
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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, moderate low level convergence over DRC, Angola, Malawi, Kenya, Zambia, northern region of Mozambique, a southerly flow over South Africa and neighboring countries and a low system over Mozambique Channel 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 DRC, Zambia, eastern region of South Africa and northern region of Mozambique, Malawi, and parts of the central region of Angola, portions of Ethiopia, Madagascar and Congo.



1.2. Model Discussion: Valid from 00Z of 31 January 2013

Model comparison (Valid from 00Z; 31 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 next five days the St. Helena High Pressure System over southeast Atlantic Ocean is expected to remain high and increasing slightly through 24 to 96 hours. The central pressure value is expected to increase from about 1025hpa to 1031hpa according to the GFS in total agreement with the three models, GFS, ECMWF and UKMET. The central pressure values will tend to decrease towards end of the forecast period.

The Mascarene high pressure system over southwestern Indian Ocean is also expected to remain with high pressure values through 24 to 72 hours, while shifting smoothly eastwards. Its central pressure value is expected to swing from about 1030hpa to 1031hpa, according to the GFS model, from about 1029hpa to 1031hpa according to ECMWF model and from about 1030hpa to 1032hpa according to the UKMET model. A new Mascarene High Pressure is expected to form over southwest Indian Ocean after cutting itself from the St. Helene High System towards end of the forecast period.

The seasonal lows across DRC, South Sudan and the neighboring areas is expected to deepen slightly through 24 to 72 hours, with the central pressure values decreasing from about 1008hpa to 1003hpa according to the GFS, from about 1009hpa to 1006hpa according to the ECMWF and from about 1007hpa to 1004hpa according to the UKMET model. A low system over Mozambique Channel is expected to prevail throughout the forecast period; the central pressure value is expected to swing along the forecast period from about 1004hpa to 1008hpa according to the GFS, from about 1007hpa to 1008hpa according to the ECMWF model and from about 1004hpa to 1007hpa according to the UKMET model.

At the 850hpa level, the seasonal lower level wind convergence near the CAB region is expected to remain with moderate convergence conditions through 48 to 96 hours. Moderate low level convergence is also expected to prevail active over parts of Angola, DRC, Malawi, Zambia, South Africa and portions of Ethiopia and northern region of Mozambique throughout the forecast period.

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 and an eastward propagation is expected to dominate the flow over the previously mentioned areas towards end of the forecast period. A southerly 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 150kts over Libya, Egypt and Mediterranean Sea.

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2.0. Previous and Current Day Weather Discussion over Africa

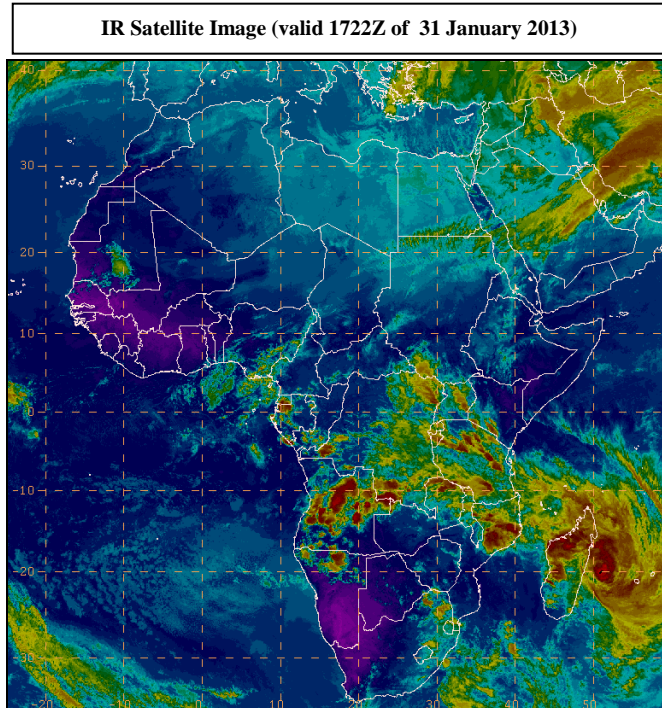
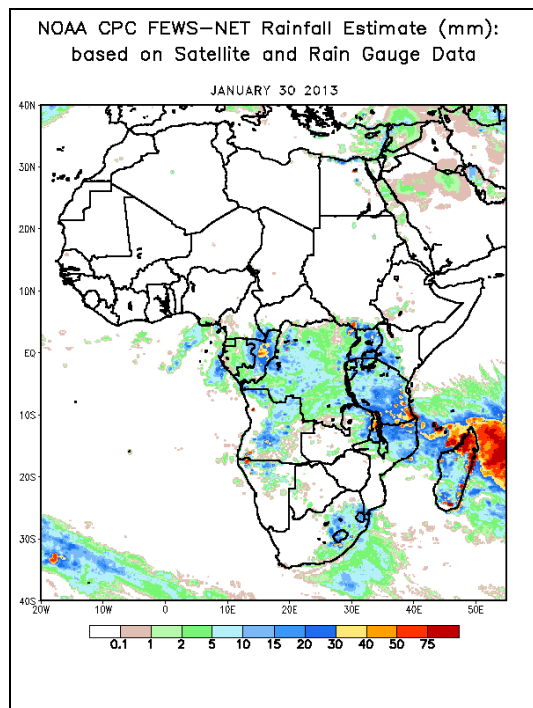
(30 January 2013 – 31 January 2013)

2.1. Weather assessment for the previous day (30 January 2013)

During the previous day, moderate to locally heavy rainfall was observed over much of Madagascar, parts of Tanzania, Congo, Gabon, Uganda, Ruanda, Burundi, DRC, Malawi and northern region of Mozambique and the eastern region of South Africa.

2.2. Weather assessment for the current day (31 January 2013)

Intense clouds are observed over northern region of Mozambique, Tanzania, Angola, DRC 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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