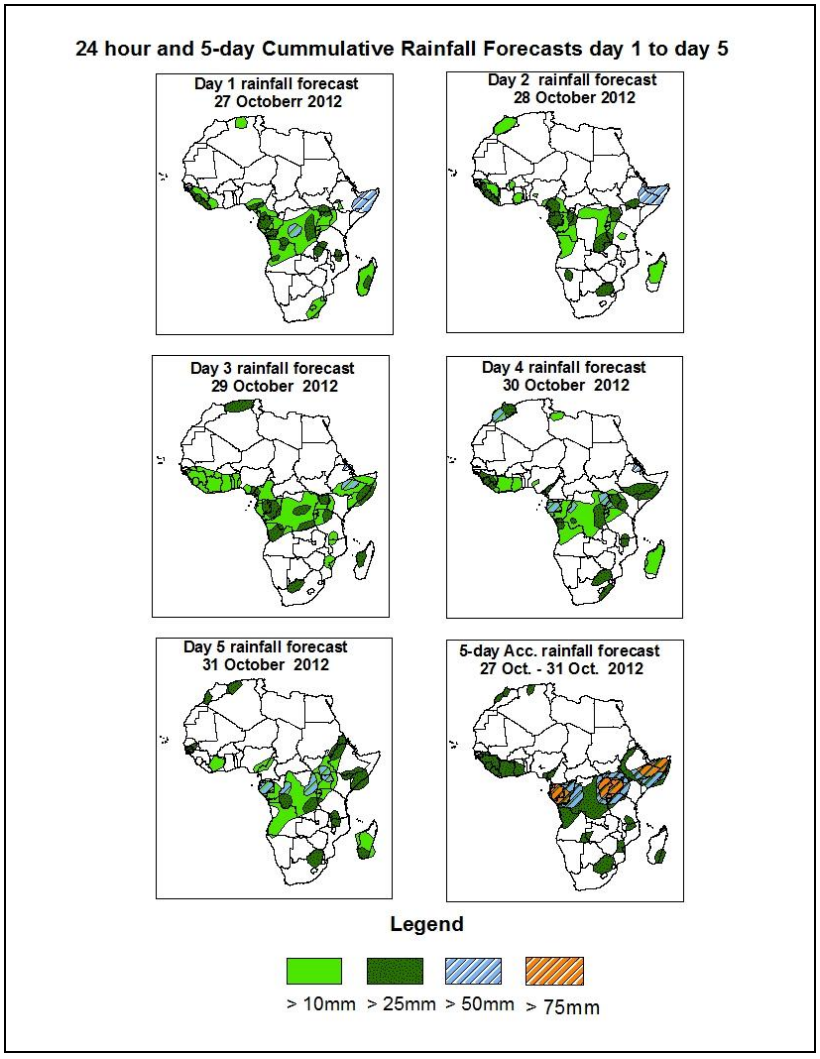
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 27 October – 06Z of 31 October 2012. (Issued at 13:00Z of 26 October 2012)

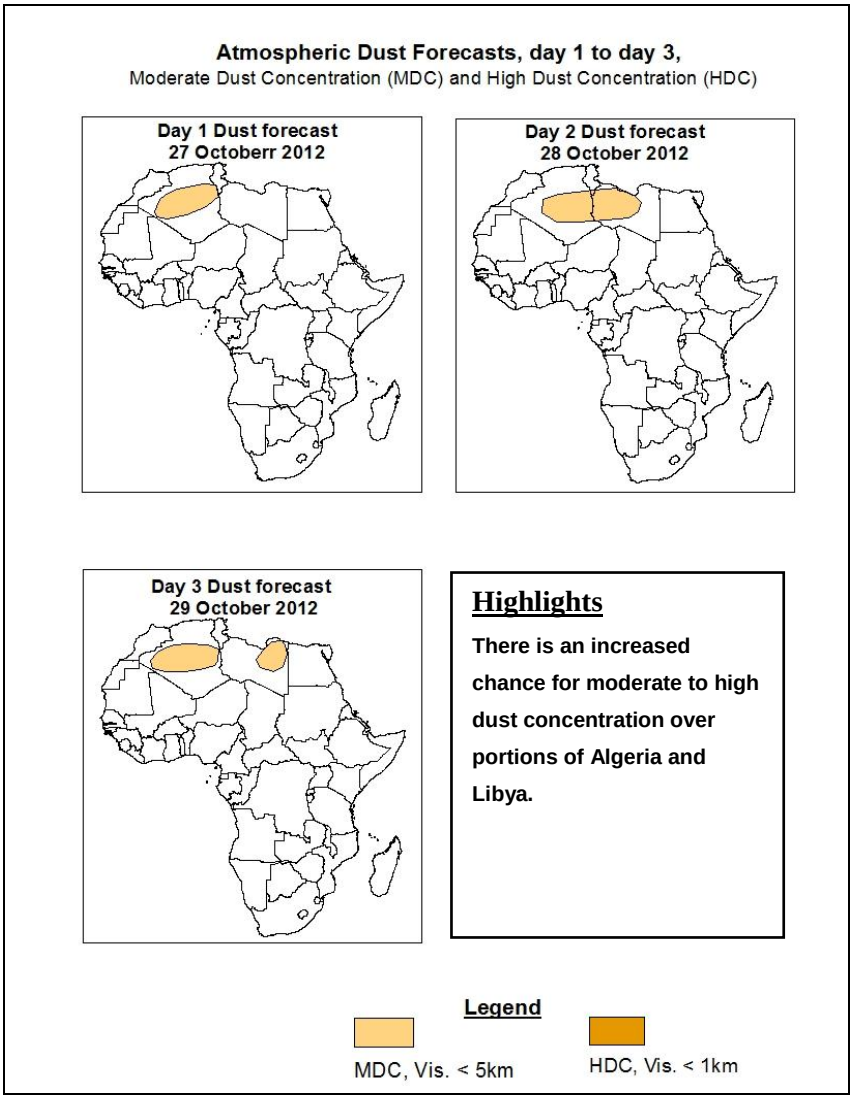
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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, the remnants of tropical storm Murjan across the Horn of Africa, the seasonal low level wind convergences near the Lake Victoria region and lower level wind convergences over western Equatorial Africa are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for heavy rainfall over Gabon, portions of Congo, eastern DRC, Uganda, South Sudan, portions of northern Tanzania, western Kenya, portions of Ethiopia and Somalia.



1.2. Model Discussion: Valid from 00Z of 26 October 2012

Model comparison (Valid from 00Z; 26 October 2012) shows all the three models are in general agreement in terms of positioning of synoptic scale features, such as, seasonal lows across Central and Southern Africa countries and the eastward shift of the southern hemisphere sub-tropical high pressure systems (St. Helena and Mascarene). However, the models show differences in terms of central pressure values.

The St. Helena High pressure system over southeast Atlantic Ocean is expected to shift towards Indian Ocean to become the Mascarene high pressure system through 24 to 48 hours according to the ECMWF, UKMET and GFS models. A new St Helena high pressure system is expected to develop in the Atlantic Ocean, with its central pressure value increasing from 1023hpa to 1035hpa according to the ECMWF model, from

1024hpa to 1034hpa according to the UKMET and GFS models through 48 to 120 hours.

The Mascarene high pressure system over southwestern Indian Ocean is expected to maintain central pressure value of 1035hpa according to all the three models through 24 hours, and it is expected to shift eastwards and its position will be taken by a high pressure system that will shift from the Atlantic Ocean. The new Mascarene high pressure system is expected to intensify gradually, with its central pressure value increasing from 1026hpa to 1032hpa according to the ECMWF model, from 1026hpa to 1035hpa according to the UKMET model and from 1025hpa to 1034hpa according to the GFS model through 48 to 120 hours.

The seasonal lows across the southern African countries is expected to deepen gradually, with their mean sea level pressure values decreasing from about 1010hpa to 1006hpa according to the ECMWF model, and from about 1009hpa to 1003hpa according to the UKMET and the GFS models.

At the 850hpa level, a cyclonic circulation, associated with tropical cyclone Murjan, is expected to continue dominating the flow over the Horn of Africa through 24 hours and tends to weaken gradually during the rest of the forecast period. The seasonal low level wind convergence in the CAB region is expected to remain active near the Lake Victoria region through 24 to 96 hours and it tends to weaken slightly towards end of the forecast period. Wind convergences are also expected to remain active across western parts of Equatorial Africa through 48 to 96 hours.

At 500hpa, a trough in the mid-latitude westerlies is expected to propagate across the Mediterranean Sea and the Neighboring areas of North Africa and South Europe during the forecast period. A trough associated with mid-latitude frontal system is also expected to deepen gradually across Southeast Africa and the neighboring areas of the Mozambique Channel through the second half of the forecast period.

At 200hpa, the northern and southern hemisphere sub-tropical westerly jets are expected to remain weak within the extent of the African domain during the forecast period..

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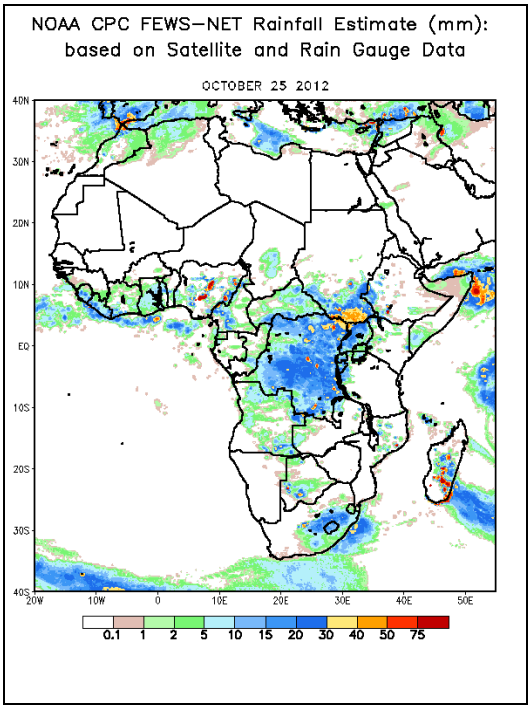
2.0. Previous and Current Day Weather Discussion over Africa (25 October 2012 – 26 October 2012)

2.1. Weather assessment for the previous day (25 October 2012)

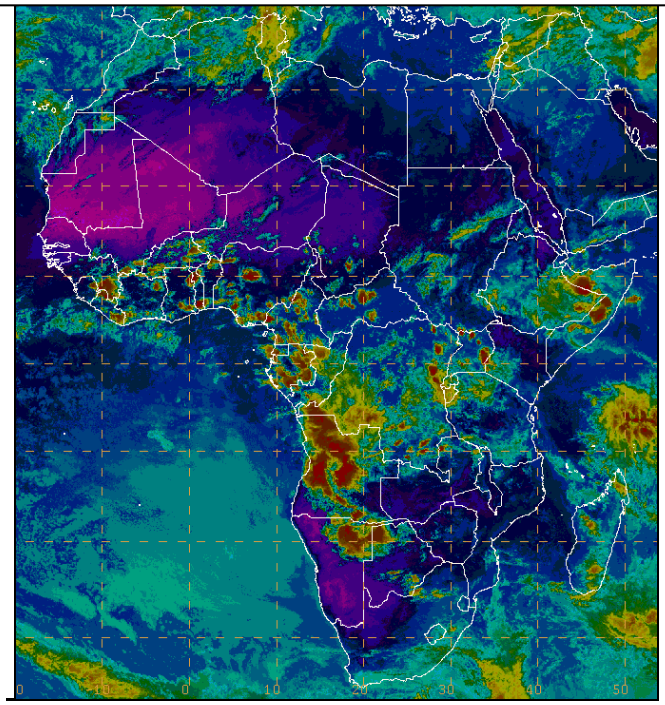
During the previous day, light rains were observed over parts of Mauritania; Mali; Morocco; Algeria; Chad; Egypt and South Africa with moderate to heavy rainfall over parts of Togo; Sierra Leone; Nigeria; Gabon; Cameroon; Congo Brazzaville; Democratic Republic of Congo; Central African Republic; South Sudan Republic; Ethiopia; Ghana and Angola.

2.2. Weather assessment for the current day (26 October 2012)

Convective clouds are observed across parts of Algeria; Libya; Mauritania; Nigeria; Chad; Democratic Republic of Congo; Cameroon; Sudan; Congo Brazzaville; South Sudan Republic; Ethiopia; Uganda; Somalia; Malawi; Zimbabwe; Algeria; Libya; Egypt; Sudan; Guinea-Conakry; Sierra Leone; Gambia; Togo; Kenya; Gabon; Angola; South Africa and Central African Republic.



ITD Position and IR Satellite Image (valid 1500Z of 26 October 2012)



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

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