

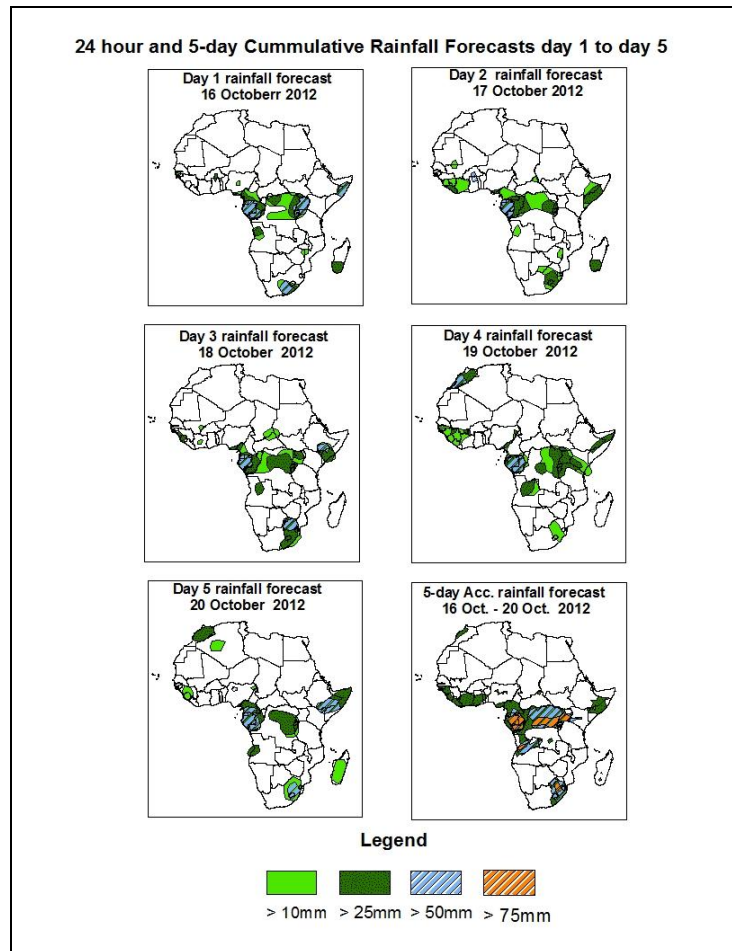


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of October 16th – 06Z of October, 20th 2012. (Issued at 13:00Z of October, 15th 2012)

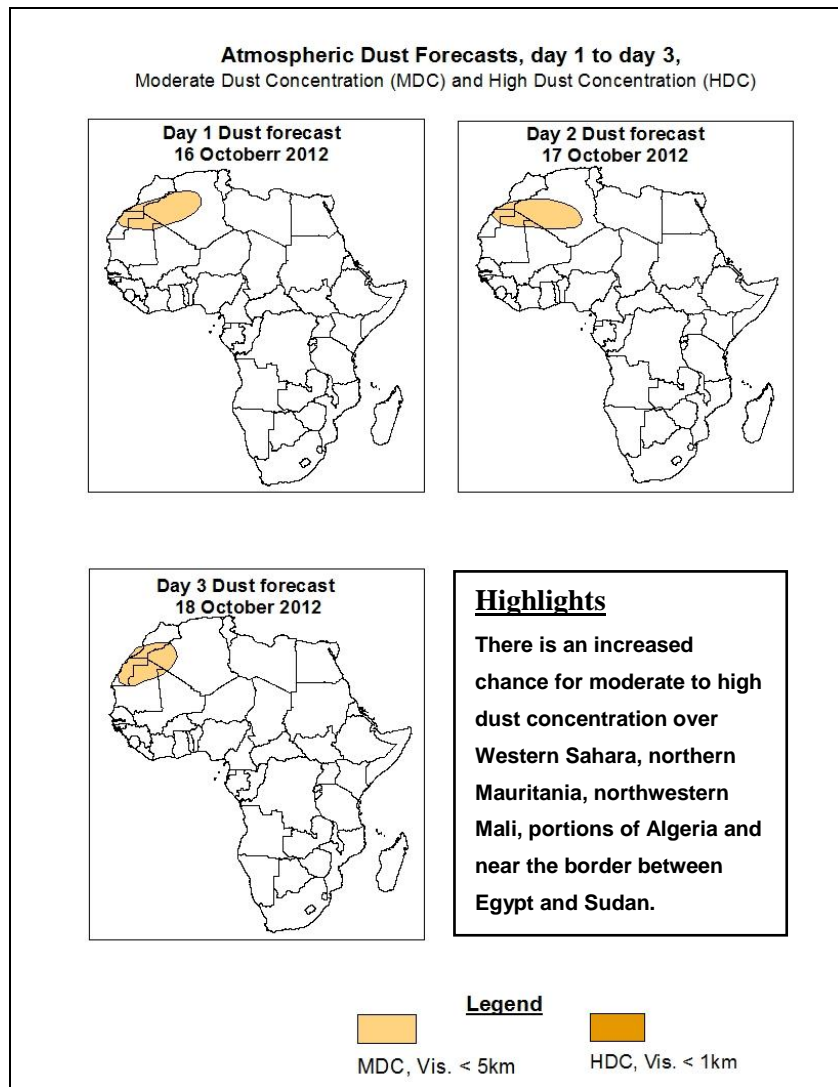
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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 seasonal low level wind convergences near the Congo Air Boundary (CAB) region, wind convergences associated with the monsoon flow western Equatorial Africa, the persistent lower level wind convergences across the Horn of Africa, and the eastward propagating mid-latitude frontal systems across South Africa are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for heavy rainfall over southern Cameroon, Gabon, and northern DRC, portions of Uganda, southeastern Ethiopia, southern Somalia, and northeastern South Africa.



1.2. Model Discussion: Valid from 00Z of October, 15th 2012.

Model comparison (Valid from 00Z; October, 15th 2012) shows all the three models are in general agreement with respect to positioning of synoptic scale features, such as, seasonal lows across Angola and DRC, the eastward propagating frontal systems across Libya and Egypt, and also across southeastern Africa, and the building up of the St. Helena anticyclones. However, the models show differences in terms of central pressure values.

According to the ECMWF and UKMET models St. Helena High pressure system over southeast Atlantic Ocean is expected to intensify, with its MSLP value decreasing from 1028hpa to 1036hpa in 96 hours. According to the GFS model, this same high pressure system is expected to increase its central pressure value of 1028hpa to 1036hpa in 72

hours and then tends to decrease to pressure value of 1032 towards end of the forecast period.

All the three models indicate that the Mascarene high pressure system over southwest Indian Ocean is expected to remain east of the 55E longitude during the forecast period.

The seasonal lows across Angola and DRC tend to deepen, with their pressure values decreasing from about 1009mb to 1003mb during the forecast period according to the ECMWF model, while the lows are expected to become more deeper (1002mb) according to the UKMET and GFS models. The East African ridge across Southeast and East Africa is expected to remain weak due to weak Mascarene high pressure system.

At the 850hpa level, northeast-southwest oriented wind convergence is expected to remain active between eastern Angola and the Lake Victoria region, across DRC through 24 hours. This seasonal wind convergence is expected to remain active across its southern end, and remain slightly shift westward across its northern end (eastern DRC and, Uganda) during 48 to 120 hours. Active lower level wind convergence is also expected to dominate the flow across eastern Gulf of Guinea and western parts of Equatorial Africa. Cyclonic shear associated with mid latitude frontal system is expected to prevail across southeastern South Africa through 24 to 72 hours, and it is expected to move eastwards while weakening towards end of the forecast period. Lower level wind convergences are expected to remain active across the Horn of Africa during the forecast period.

At 500hpa, a trough associated with the Northern Hemisphere mid-latitude system is expected to propagate across northern Libya and Egypt during the forecast period, while deepening towards end of the forecast period. A mid latitude frontal system is also expected to propagate eastwards across South Africa within 24 to 72 hours.

At 200hpa, zone of strong winds (>70kts), associated with the northern Hemisphere sub-tropical westerly jet is expected to propagate between Libya and the Persian Gulf. In the southern hemisphere, the subtropical system is expected to remain active, with

the core of strong winds (>90kts), propagating between the Atlantic and Indian Oceans across southern Africa during the forecast period.

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2.0. Previous and Current Day Weather Discussion over Africa

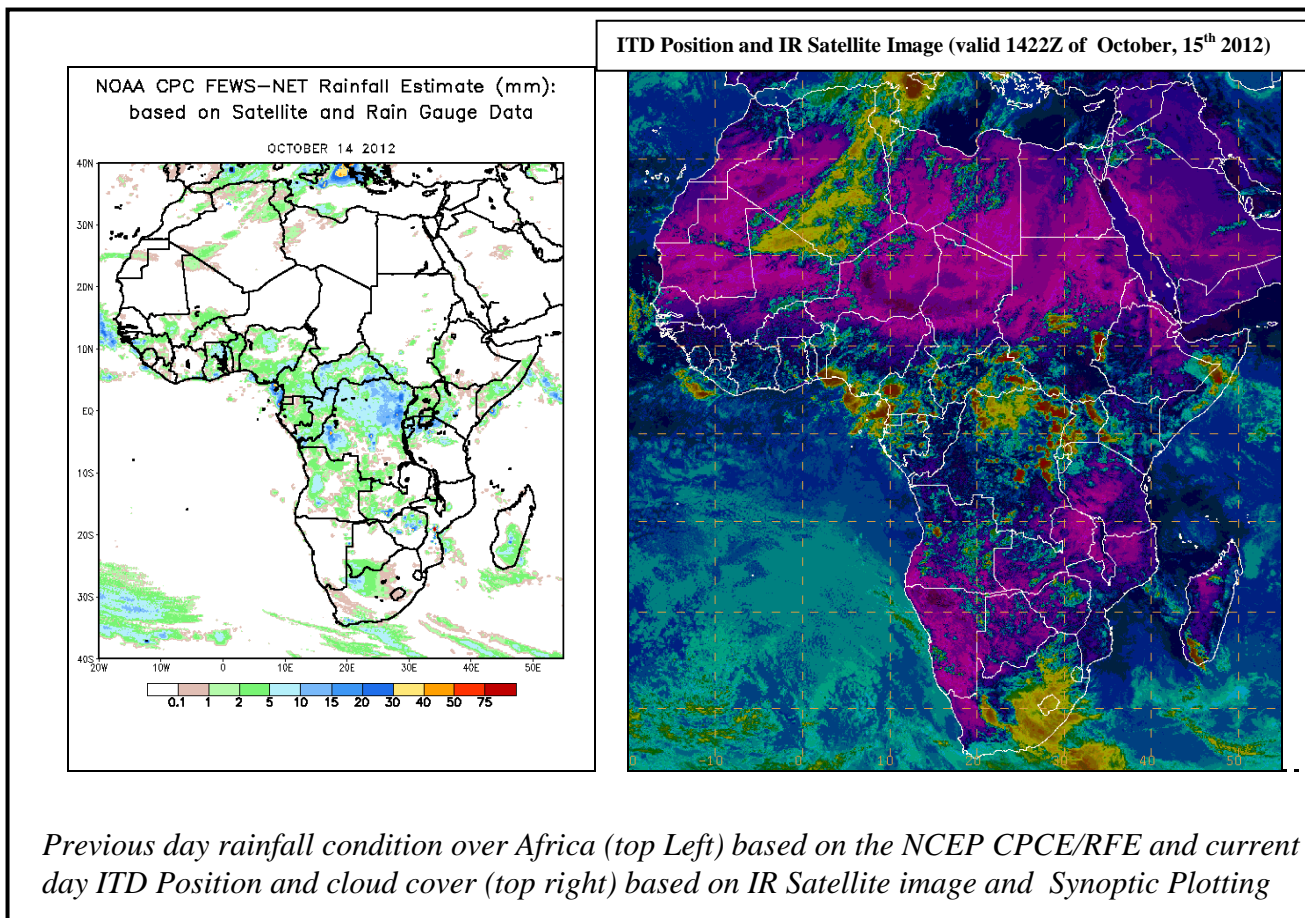
(October, 14th 2012 – October, 15th 2012)

2.1. Weather assessment for the previous day (October, 14th 2012)

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

2.2. Weather assessment for the current day (October, 15th 2012)

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



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