

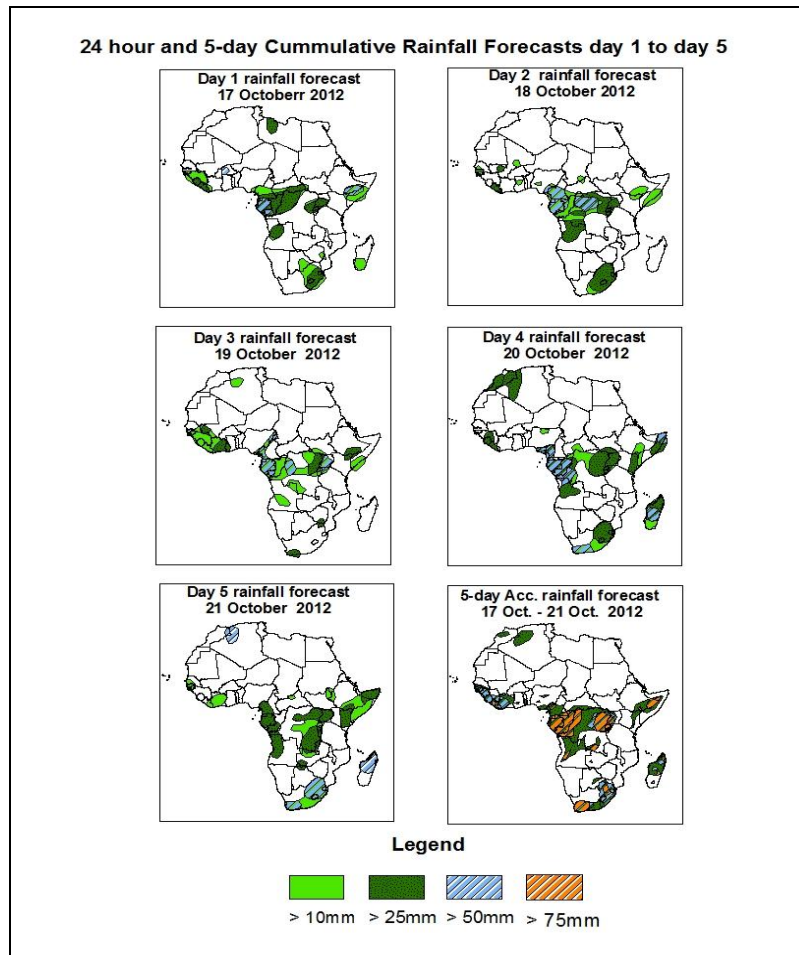


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of October 17th – 06Z of October, 21st 2012. (Issued at 13:00Z of October, 16th 2012)

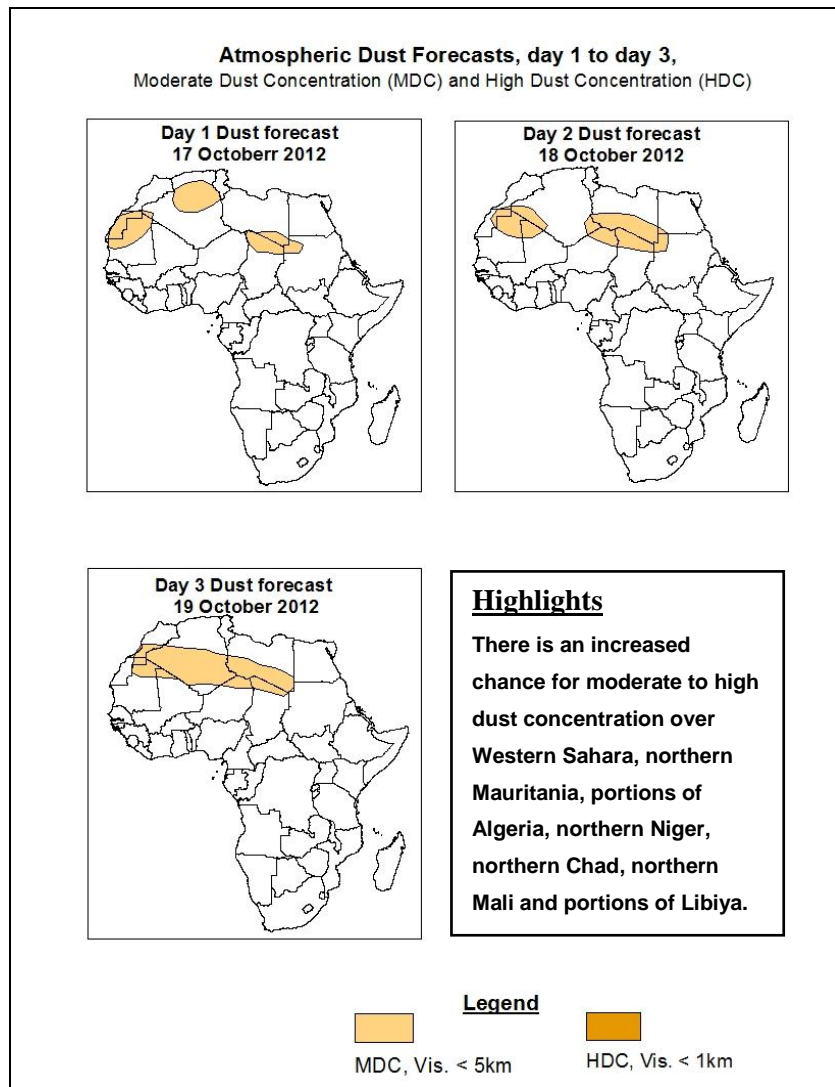
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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, persistent lower level wind convergences associated with the monsoon flow over western Equatorial Africa, lower level moist easterly flow from northern Indian Ocean and its associated convergence over the Horn of Africa, the eastward propagating mid-latitude frontal systems across South Africa and the track of tropical storm Anais towards Madagascar are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for heavy rainfall over southern Cameroon, Gabon, portions of DRC, Uganda, Kenya, southeastern Ethiopia, southern Somalia, northeastern South Africa and portions of Madagascar.



1.2. Model Discussion: Valid from 00Z of October, 16th 2012.

Model comparison (Valid from 00Z; October, 16th 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 anticyclone and the tropical storm east of Madagascar. However, the models show differences in terms of central pressure values.

According to the ECMWF model the St. Helena High pressure system over southeast Atlantic Ocean is expected to intensify, with its MSLP value increasing from 1028hpa to 1037hpa in 96 hours, and to weaken slightly towards end of the forecast period. According to the UKMET model, this same high pressure system is expected to increase its central pressure value of 1028hpa to 1039hpa in 72 hours and then tends to

decrease to pressure value of 1034 towards end of the forecast period. According to the GFS model, the high pressure system is expected to intensify, with its central pressure value increasing from about 1020hpa in 24 hours to 1037hpa in 96 hours, and tends to weaken slightly to pressure values of 1034hpa towards end of the forecast period.

The Mascarene high pressure system over southwestern Indian Ocean is expected to weaken gradually, from central pressure value of 1032hpa in 24 hours to 1021hpa in 120 hours while shifting eastwards, according to the UKMET model. This high pressure system is expected to intensify slightly, with its central pressure value increasing from 1025hpa to 1032hpa through 24 to 72 hours, and it tends to weaken, while moving eastward towards end of the forecast hour according to the UKMET and GFS models.

The seasonal lows across Angola and DRC tend to deepen, with their pressure values decreasing from about 1008mb to 1002mb through 24 to 72 hours, and they tend to fill up gradually towards end of the forecast period according to all the three models. A low associated with tropical storm Anais is expected to shift towards Madagascar coast while filling up, through 24 to 72 hours. The East African ridge across Southeast and East Africa is expected to remain weak due to eastward shift of the Mascarene high pressure system.

At the 850hpa level, a lower level wind convergence is expected to remain more or less active across western parts of Equatorial Africa, near southern Cameroon, Gabon, Congo and northwestern DRC. The seasonal wind convergence over the CAB region is expected to through 48 to 120hours near the Lake Victoria region. The lower level wind convergence over the Horn of Africa, near Somalia is expected to weaken slightly through 24 to 72 hours and to re-strengthen towards end of the forecast period. A cyclonic circulation associated with tropical storm Anais is expected to shift towards Madagascar while weakening gradually through 24 to 96 hours.

At 500hpa, a trough associated with the Northern Hemisphere mid-latitude system is expected to remain more or less stationary across eastern Mediterranean Sea and the neighboring areas of Northeast Africa while deepening through 24 to 96 hours. A feeble

mid latitude trough is expected to propagate eastwards across South Africa within 24 to 48 hours.

At 200hpa, zone of strong winds (>70kts), associated with the northern Hemisphere sub-tropical westerly jet is expected to propagate between northeastern Niger/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.

In the next five days, the seasonal low level wind convergences near the Congo Air Boundary (CAB) region, persistent lower level wind convergences associated with the monsoon flow over western Equatorial Africa, lower level moist easterly flow from northern Indian Ocean and its associated convergence over the Horn of Africa, the eastward propagating mid-latitude frontal systems across South Africa and the track of tropical storm Anais towards Madagascar are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for heavy rainfall over southern Cameroon, Gabon, portions of DRC, Uganda, Kenya, southeastern Ethiopia, southern Somalia, northeastern South Africa and portions of Madagascar.

2.0. Previous and Current Day Weather Discussion over Africa

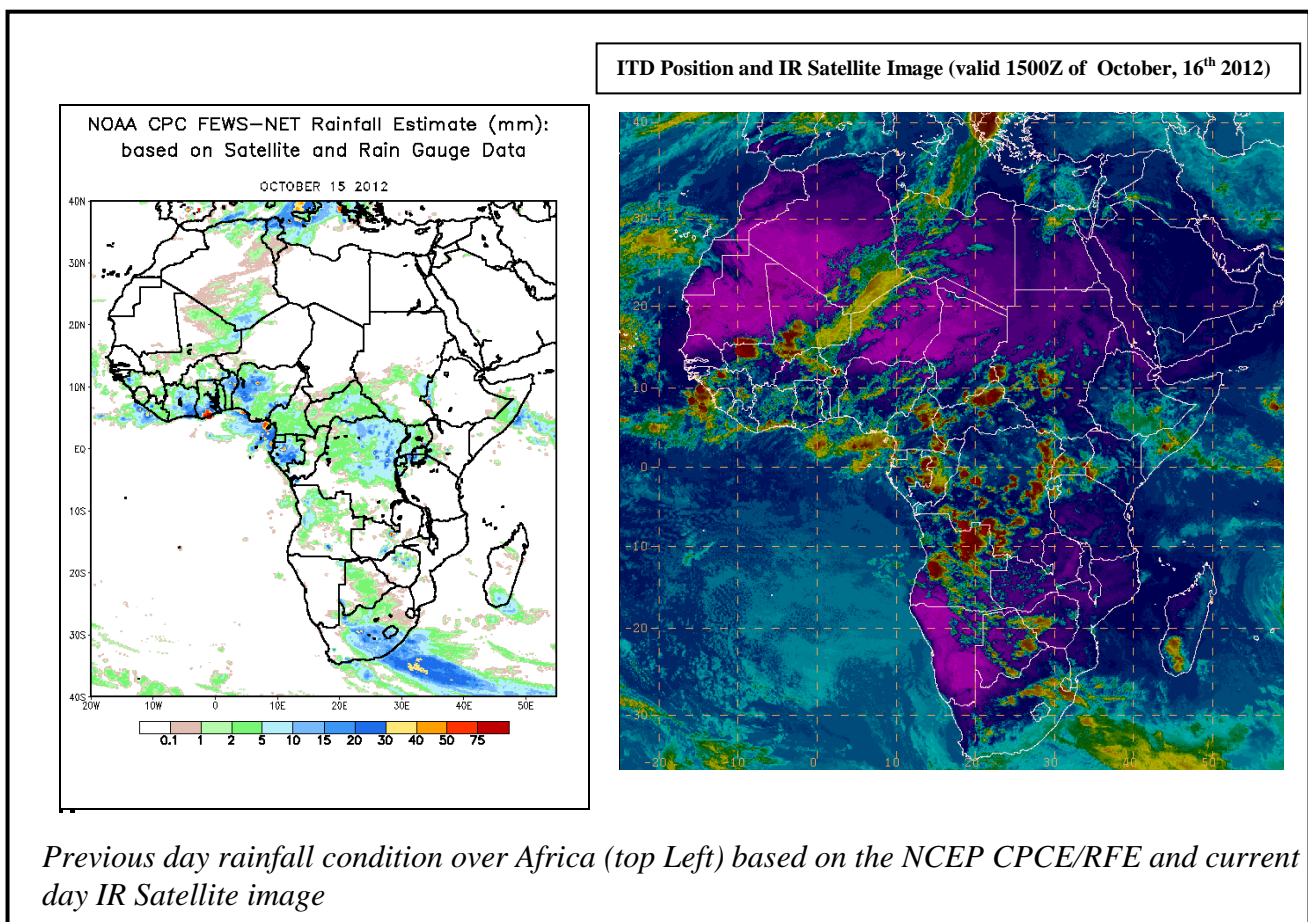
(October, 15th 2012 – October, 16th 2012)

2.1. Weather assessment for the previous day (October, 15th 2012)

During the previous day, portions of Liberia and Cote d'Ivoire, southern Ghana, portions of Nigeria, Gabon, northern DRC and portions of South Africa received moderate to locally heavy rainfall.

2.2. Weather assessment for the current day (October, 16th 2012)

Intense convective clouds are observed across portions of Mali, Burkina Faso, Guinea, Cameroon, Gabon, Congo, CAR, Sudan South Sudan, DRC, Uganda, western Kenya, southern Somalia, Angola, eastern Botswana, western Zimbabwe, eastern South Africa and southern Madagascar.



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