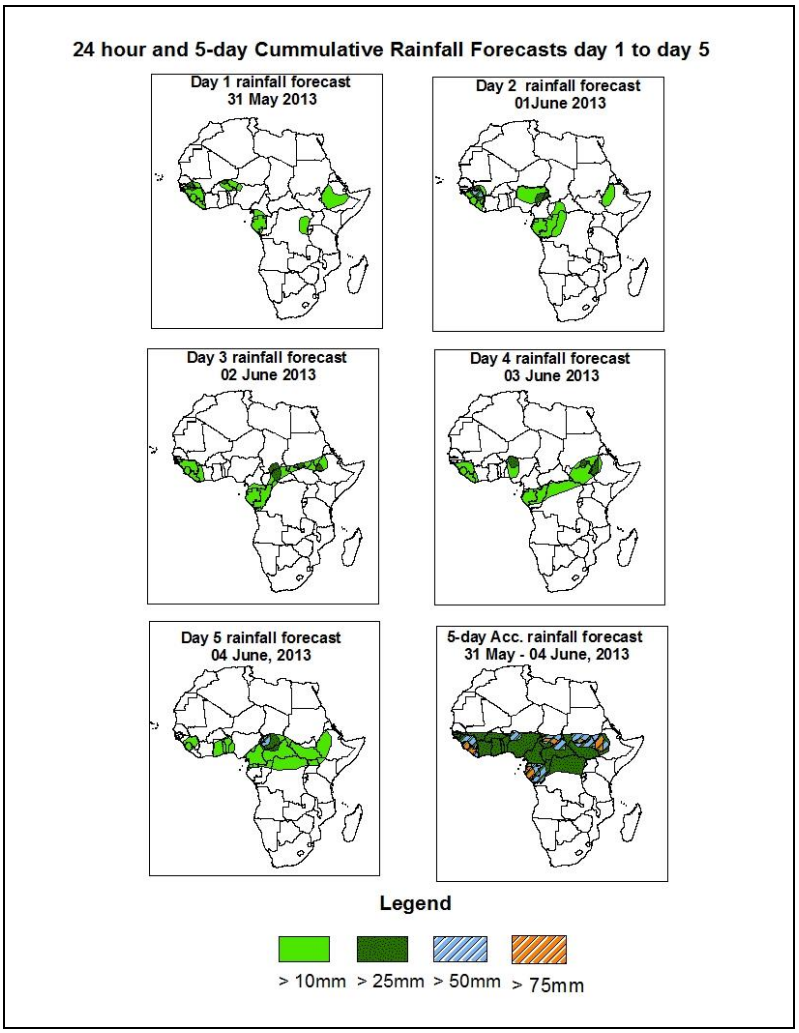
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 31 May – 06Z of 04 June, 2013. (Issued at 1630Z of 30 May 2013)

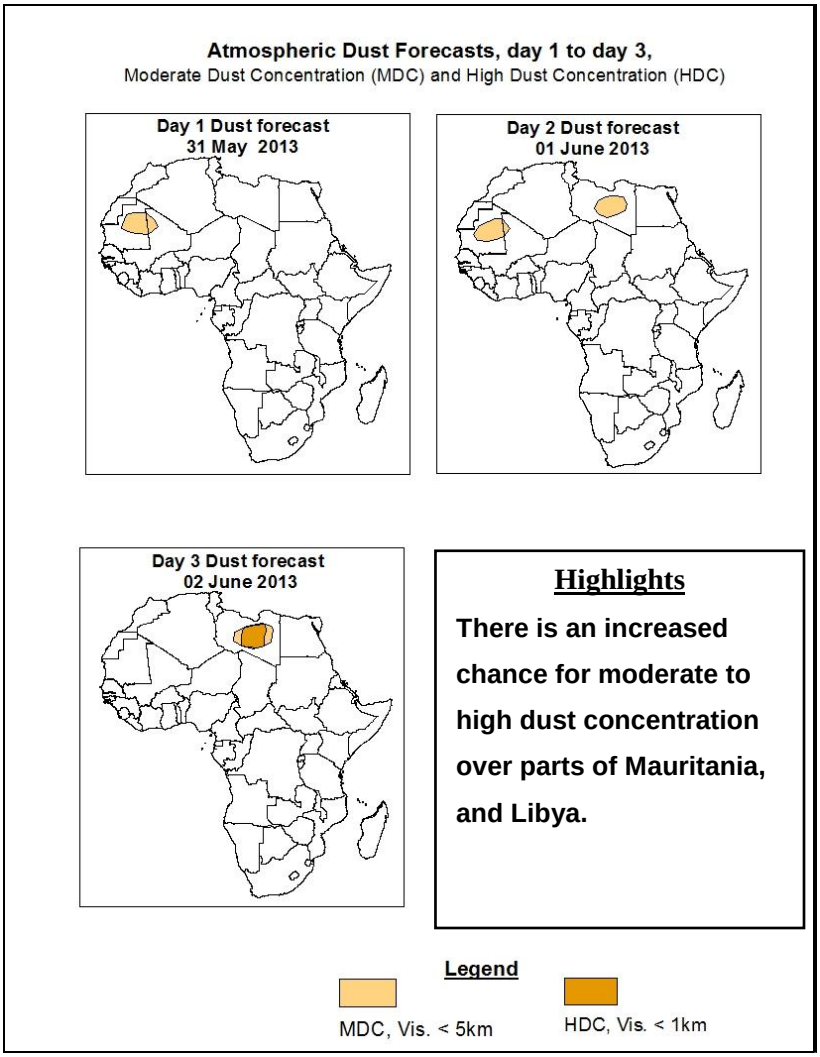
1.1. Twenty Four Hour Cumulative Rainfall Forecasts

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, westward propagating easterly wave across coastal Gulf of Guinea region, seasonal wind convergences over Gabon, central Africa region, Sudan and western Ethiopia are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for moderate to heavy rainfall over Guinea, Sierra Leone, Liberia, local areas in northern Nigeria, southern Chad, CAR, Gabon, Congo, southern Sudan, and western Ethiopia.



1.2. Model Discussion: Valid from 00Z of 30 May 2013

Model comparison (Valid from 00Z;30 May, 2013) shows all the three models are in general agreement in terms of depicting positions of the southern hemisphere sub-tropical highs, while they showed slight differences in depicting their intensity.

The Azores High Pressure System over Northeast Atlantic Ocean is expected to weaken gradually while shifting eastwards. Its central pressure value is expected to decrease from about 1035hpa to 1029hpa through 24 to 120 hours according to the GFS model, from about 1034 to 1030 according to the ECMWF model and from about 1035hpa to 1019hpa according to the UKMET model.

The St. Helena High Pressure System over southeast Atlantic Ocean is also expected to weaken gradually during the first half of the forecast period. Its central pressure value

is expected decrease from 1021hpa to 1029hpa according to the GFS model, from 1030hpa 1029hpa according to the ECMWF model and from 1031 to 1030hpa according to the UKMET model.

The Mascarene high pressure system over southwestern Indian Ocean is also expected to intensify during the first half of the forecast period. Its central pressure value is expected to become as high as 1038 according to the GFS model, and as high as 1040hpa according to the ECMWF and UKMET models.

The heat lows over the central Sahel and neighboring areas are expected to deepen slightly, with their central values decreasing from about 1005hpa to 1002hpa according to the GFS model, from about 1006hpa to 1005hpa according to the ECMWF model and from about 1006hpa to 1003hpa according to the UKMET model. The seasonal lows across South Sudan and the neighboring areas are also expected to deepen with central pressure values becoming as low as 1002hpa according to the GFS model, and as low as 1001hpa according to the UKMET model.

At the 850hpa level, broad zonal wind convergence is expected to dominate the flow across the Gulf of Guinea, central Africa, Sudan and Ethiopia. The wind speed associated with the cross-equatorial flow from the Indian Ocean exceeds 20kts over the GHA region and the adjacent areas of the Indian Ocean, gradually strengthening towards end of the forecast period. A lower-level cyclonic vortex is expected to propagate in the region between the Burkina Faso and the Guinea-Conakry coast during the forecast period.

At 700hpa level, a feeble trough in easterly flow is expected to propagate westwards across southern Burkina Faso/Togo/Benin, Cote D'Ivoire, Sierra Leone and Guinea through 24 to 120 hours.

At 500hpa level, wind speed associated with mid-tropospheric easterly jet exceeds 30kts over many places across the Gulf of Guinea, southern Sahel, central Africa and Sudan, with the stronger winds tending to propagate westwards across the Gulf of Guinea countries..

In the next five days, westward propagating easterly wave across coastal Gulf of Guinea region, seasonal wind convergences over Gabon, central Africa region, Sudan and western Ethiopia are expected to enhance rainfall in their respective regions. Thus, there is an increased chance for moderate to heavy rainfall over Guinea, Sierra Leone, Liberia, local areas in northern Nigeria, southern Chad, CAR, Gabon, Congo, southern Sudan, and western Ethiopia.

2.0. Previous and Current Day Weather Discussion over Africa (29 May 2013 – 30 May 2013)

2.1. Weather assessment for the previous day (29 May 2013)

During the previous day, moderate to localized heavy rainfall was observed over eastern Cote D'Ivoire, southern Ghana, Nigeria, local areas in Chad, CAR, northern DRC, and South Sudan.

2.2. Weather assessment for the current day (30 May, 2013)

Intense patches of clouds are observed over portions of the Gulf of Guinea and Central African countries, South Sudan, and western Ethiopia.

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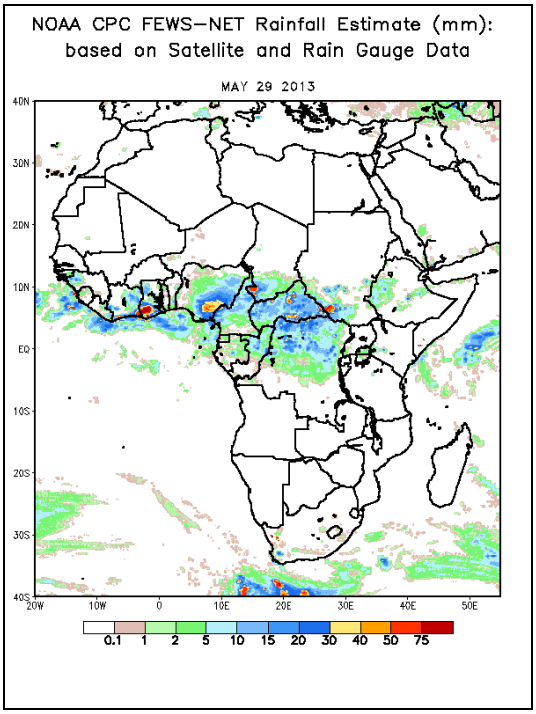

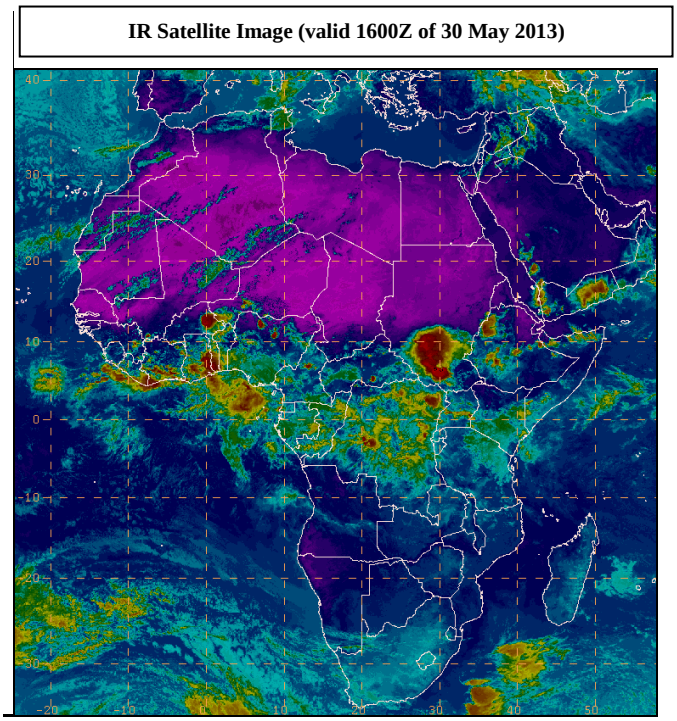

Previous day rainfall condition over Africa (top Left) based on the NCEP CPCE/RFE and current day cloud cover (top right) based on IR Satellite image

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