

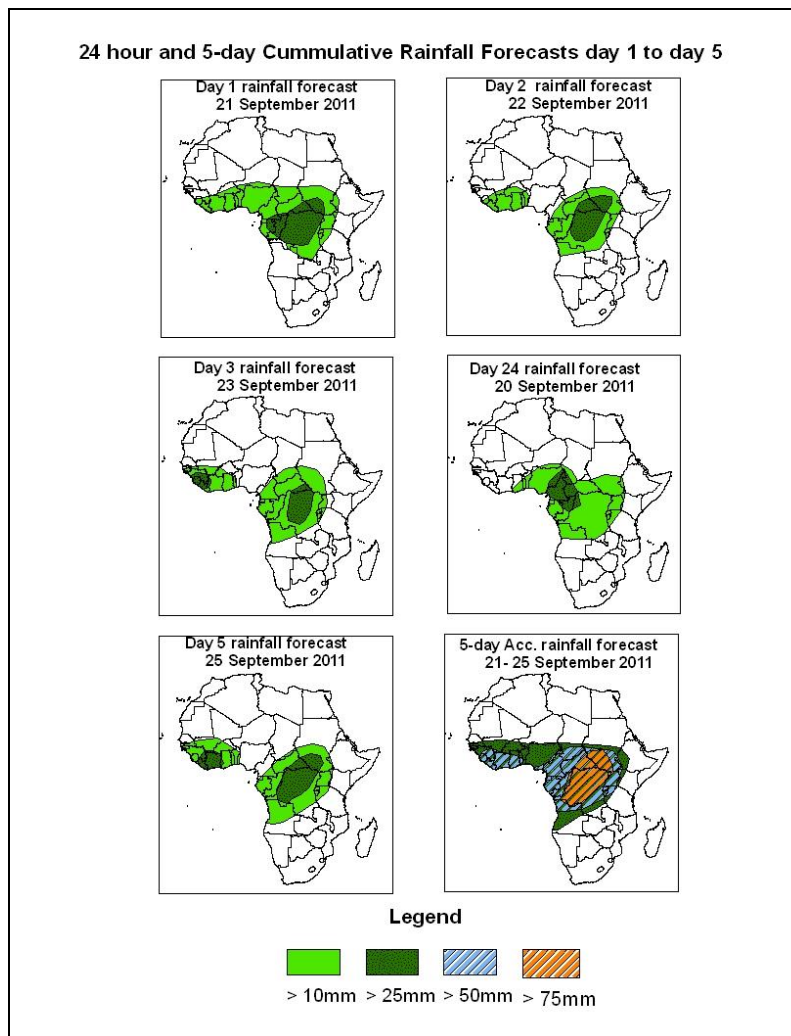


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 21 September – 06Z of 25 September 2011, (Issued at 10:15Z of 20 September 2011)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

The forecasts are expressed in terms of high 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, localized cyclonic circulations and seasonal wind convergences with their associated convective activities are expected to enhance rainfall over portions of central and western African countries. In general, there is an increased chance for moderate to heavy rainfall over southern Senegal, Guinea, southern Mali, Liberia, Sierra Leone, Cote d'Ivoire, Burkina Faso, Ghana, Benin, Togo, southern Niger, Nigeria, Cameroon, Gabon, Congo, CAR, South Sudan, southern Chad, western Ethiopia, Burundi, Rwanda and DRC and parts of western Tanzania, northern Angola.

1.2. Models Comparison and Discussion-Valid from 00Z of 20 September 2011

According to the NCEP/WRF, GFS, ECMWF and UKMET models, the monsoon trough with its associated heat lows across the Sahel region is expected to maintain its east-west orientation during the forecast period. The heat low along its western end (near Mali) tends to deepen, with its central pressure value decreasing from 1011mb to 1007mb, according to the ECMWF model, from 1010mb to 1006mb, according to the GFS model and from 1011mb to 1007mb, according to the UKMET model during the forecast period. The heat low over central Africa region tends to deepen from MSLP of 1011mb to 1007mb, according to the ECMWF model, from 1009mb to 1006mb, according to the GFS model and from 1009mb to 1007mb, according to the UKMET model through 24 to 96 hours. This same low is expected to fill up to MSLP value of 1008mb, according to according to the ECMWF model, of 1007mb, according to the GFS model and of 1008mb, according to the UKMET model towards end of forecast period. On the other hand, the heat low over eastern Arabian Peninsula is expected to deepen from 1004mb to 1002mb, according to the ECMWF model and from 1004mb to 1001mb, according to the UKMET model through 24 to 96 hours and from 1004mb to 1003mb, according to the GFS model through 24 to 72 hours. This same heat low is expected to fill up to MSLP value of 1005mb, 1004mb and 1005mb, according to ECMWF, UKMET and GFS models by 120 hours. The East African ridge across southeast and East Africa is expected to slightly strengthen during the forecast period.

The St. Helena High pressure system over southeast Atlantic Ocean is expected to weaken from 1032mb to 1025mb during the forecast period. In contrast, the Mascarene high pressure system over southwest Indian Ocean is expected to intensify from 1024mb to 1028mb during the forecast period.

At the 850hpa level, a cyclonic circulation is expected to dominate the flow over Sudan through 24 to 48 hours. Localized wind convergences are expected to prevail over DRC, South Sudan, Cameroon and Gabon through 24 to 96 hours. The monsoon flow from the Atlantic Ocean and the moist equatorial flow from the Indian Ocean are expected to continue providing abundant moisture to the lower tropospheric convergences in western and central African region and the northern parts of the GHA region.

At 700mb level, a wave in the easterlies is expected to propagate between the Nigeria/Togo border and the west coast of West Africa through 24 to 72 hours. West-East oriented wind convergences are expected to prevail across Cameroon, Nigeria and Cote d'Ivoire through 96 to 120 hours.

At 500hpa, easterly winds associated with the African Easterly Jet (AEJ), are expected to remain weak during the forecast period.

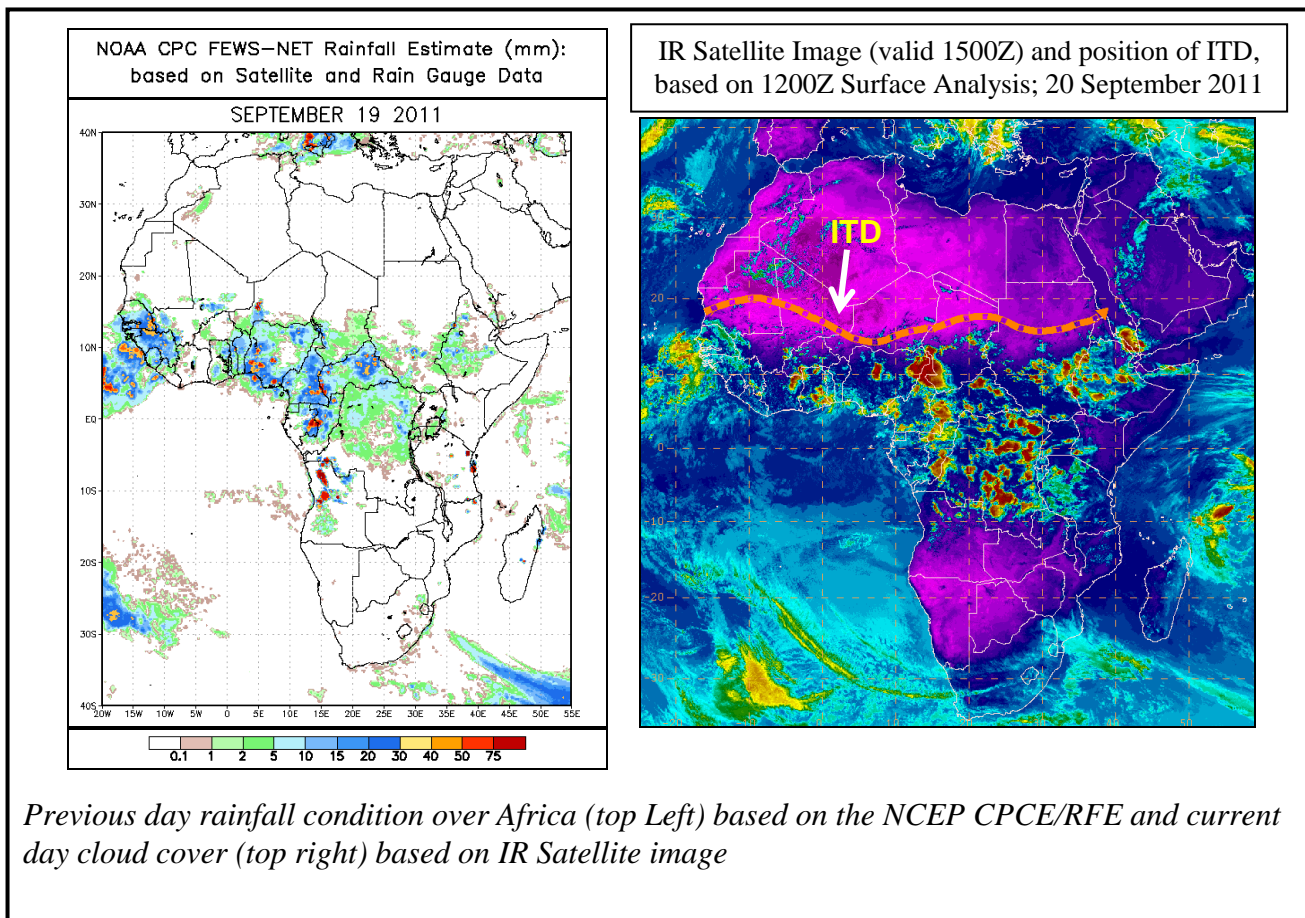
At 150mb, strong winds associated with Tropical Easterly Jet (TEJ) are expected to remain weak through 24 to 120 hours.

In the next five days, localized cyclonic circulations and seasonal wind convergences with their associated convective activities are expected to enhance rainfall over portions of central and western African countries. In general, there is an increased chance for moderate to heavy rainfall over southern Senegal, Guinea, southern Mali, Liberia, Sierra Leone, Cote d'Ivoire, Burkina Faso, Ghana, Benin, Togo, southern Niger, Nigeria, Cameroon, Gabon, Congo, CAR, South Sudan, southern Chad, western Ethiopia, Burundi, Rwanda and DRC and parts of western Tanzania, northern Angola.

2.0. Previous and Current Day Weather Discussion over Africa (19 September – 20 September 2011)

2.1. Weather assessment for the previous day (19 September 2011): During the previous day, locally moderate to heavy rainfall was observed over Guinea, southern Senegal, southern Mali, Togo, Niger, Nigeria, CAR, Cameroon and DRC.

2.2. Weather assessment for the current day (20 September 2011): Intense clouds are observed over Nigeria and Chad borders, parts of Cote d'Ivoire, Burkina Faso and Ghana, CAR, South Sudan, Niger, Cameroon, CAR, Gabon, Congo and parts of Angola, DRC, and Ethiopia.



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