

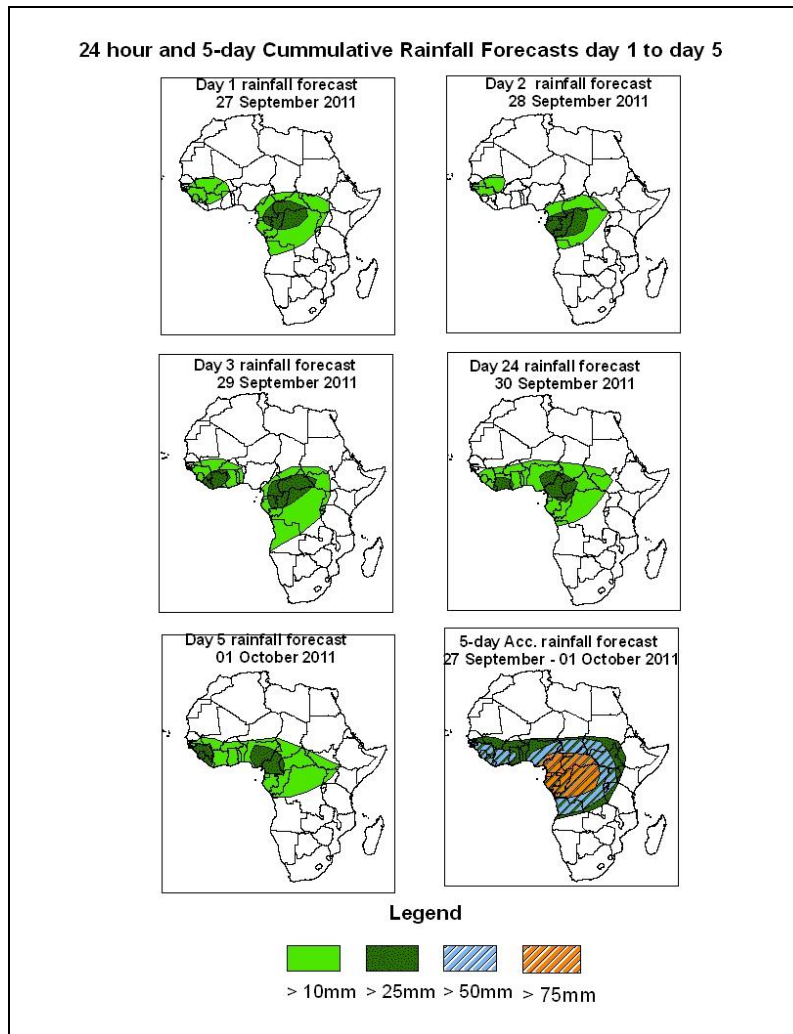


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 27 September – 06Z of 1 October 2011, (Issued at 10:15Z of 26 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, easterly wave 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, southern Niger, Liberia, Sierra Leone, Cote d'Ivoire, Burkina Faso, Ghana, Togo, Benin, southern Chad, Uganda, western Tanzania, western Kenya, Nigeria, Cameroon, Gabon, Congo, CAR, South Sudan, southern Sudan, western Ethiopia, Burundi, Rwanda and DRC and parts of northern Angola.

1.2. Models Comparison and Discussion-Valid from 00Z of 26 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 fill up, with its central pressure value increasing from 1009mb to 1011mb, according to the ECMWF model during the forecast period. In contrast, this same low is expected to deepen from MSLP of 1009mb to 1007mb, according to the GFS model and from 1009mb to 1008mb, according to the UKMET model through 24 to 72 hours and it tends to fill up to MSLP value of 1009mb, according to GFS and UKMET models. The heat low over central Africa region tends to deepen from MSLP of 1010mb to 1009mb, according to the ECMWF model through 24 to 72 hours and it tends to fill up to MSLP value of 1010mb towards end of forecast period. This same low is expected to deepen from 1008mb to 1007mb, according to the GFS model through 24 to 96 hours and it tends to fill up to MSLP of 1009mb by 120 hours. This same heat low is expected to deepen, with its central pressure value decreasing from 1008mb to 1007mb, according to the UKMET model during the forecast period. On the other hand, the heat low over eastern Arabian Peninsula is expected to deepen from MSLP of 1006mb to 1004mb, according to the ECMWF model through 24 to 48 hours, of 1005mb to 1003mb, according to the GFS model through 24 to 48 hours, and of 1005 to 1004mb through 24 to 72 hours. This same low tends to fill up from MSLP of 1006mb, according to the ECMWF model by 96 hours, of 1006mb by 120 hours, of 1005mb by 96 hours and it tends to deepen to MSLP value of 1005mb, according to the ECMWF model towards end of forecast period, and of 1004mb, according to the UKMET model by 120 hours. The East African ridge across southeast and East Africa is expected to weaken during the forecast period.

The St. Helena High pressure system over southeast Atlantic Ocean is expected to intensify from 1025mb to 1027mb through 24 to 48 hours, then it tends to weaken to MSLP value of 1023mb by 96 hours and it tends again to intensify to MSLP value of 1028mb towards end of forecast period. On the other hand, the Mascarene high pressure system over southwest Indian Ocean is expected to weaken from 1032mb to 1020mb through 24 to 72 hours, then it tends to intensify to MSLP value of 1024mb by 96 hours, and it tends to weaken to MSLP value of 1022mb by 120 hours.

At the 850hpa level, a cyclonic circulation is expected to prevail across Mali and Mauritania through 24 to 48 hours. Another cyclonic circulation is expected to dominate the flow over northern DRC and CAR during the beginning of the forecast period. A third circulation is expected to prevail over Cote d'Ivoire towards end of period forecast. Localized wind convergences are expected to prevail over Gabon, Congo and DRC, through 24 to 120 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 GHA region.

At 700mb level, a wave in the easterlies is expected to propagate between Cote d'Ivoire and Guinea through 24 to 48 hours. Another easterly wave is expected to dominate the flow between CAR and Nigeria 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.

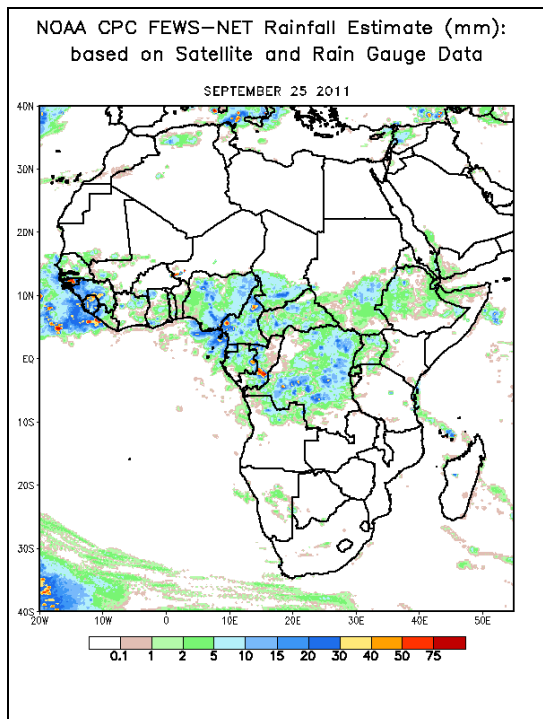
At 150mb, Tropical Easterly Jet (TEJ) is expected to remain weak through 24 to 120 hours.

In the next five days, easterly wave 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, southern Niger, Liberia, Sierra Leone, Cote d'Ivoire, Burkina Faso, Ghana, Togo, Benin, southern Chad, Uganda, western Tanzania, western Kenya, Nigeria, Cameroon, Gabon, Congo, CAR, South Sudan, southern Sudan, western Ethiopia, Burundi, Rwanda and DRC and parts of northern Angola.

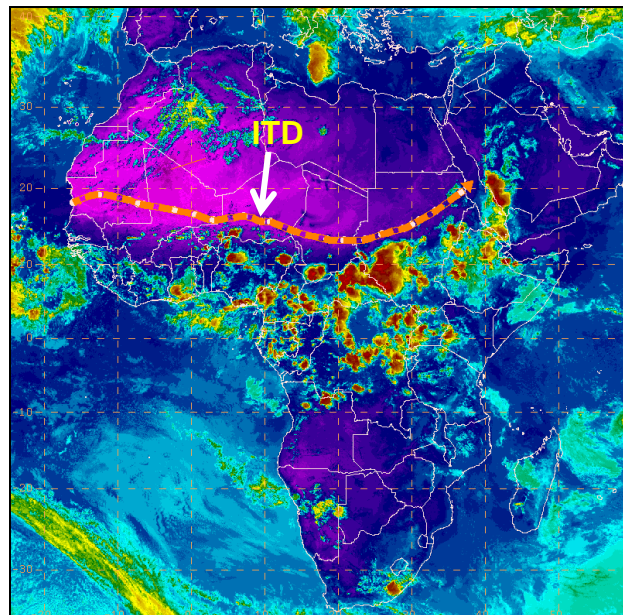
2.0. Previous and Current Day Weather Discussion over Africa (25 September – 26 September 2011)

2.1. Weather assessment for the previous day (25 September 2011): During the previous day, locally moderate to heavy rainfall was observed over Guinea Bissau, Guinea, Sierra Leone, Cameroon, parts of Congo, and DRC.

2.2. Weather assessment for the current day (26 September 2011): Intense clouds are observed over southern Niger, Nigeria, southern Cote d'Ivoire, Nigeria, southern Chad, Congo, Gabon, Cameroon, CAR, DRC, South Sudan, western Ethiopia, Uganda, western Kenya and northern Angola.



IR Satellite Image (valid 1545Z) and position of ITD,
based on 1200Z Surface Analysis; 26 September 2011



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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