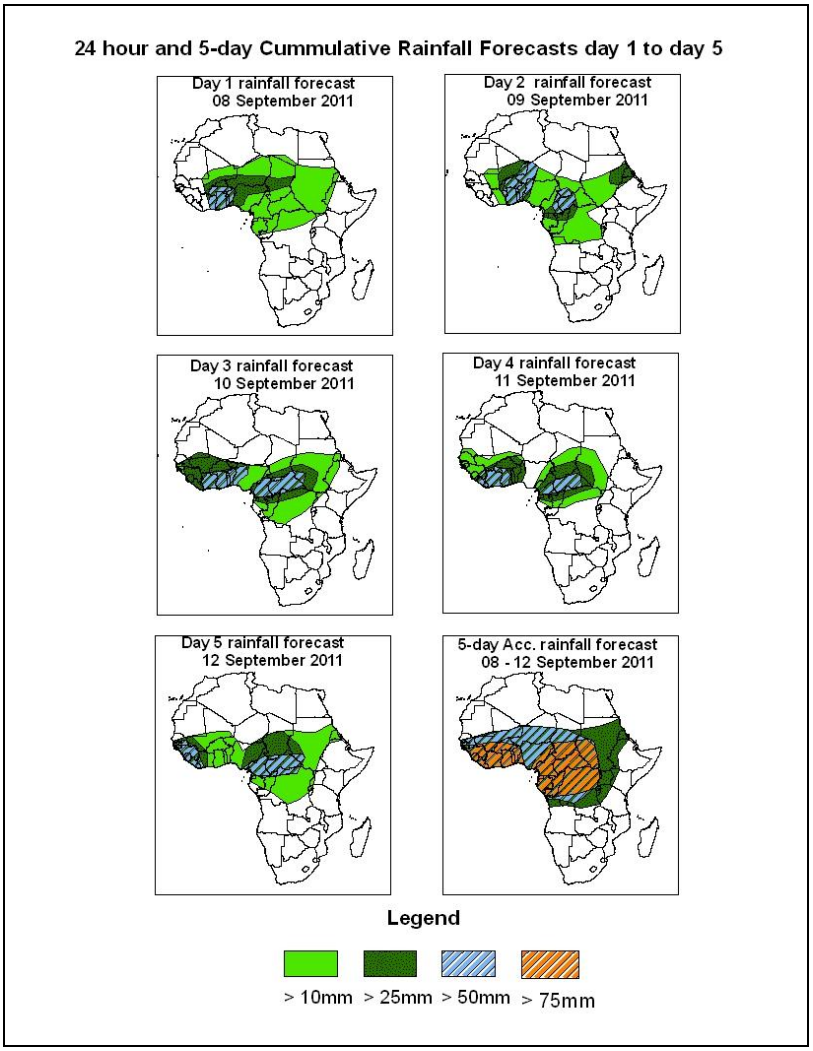
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 08 September – 06Z of 12 September 2011, (Issued at 10:15Z of 07 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, westward propagating thunderstorms, cyclonic circulations and lower tropospheric wind convergences are expected to enhance rainfall across West and central African region. In general, there is an increased chance for heavy rainfall over Senegal, Gambia, Guinea Bissau, Guinea, Liberia, Sierra Leone, southern Mali, Cote D'Ivoire, Burkina Faso Ghana, Togo, Benin, Cameroon, Congo, DRC, CAR and South Sudan.

1.2. Models Comparison and Discussion-Valid from 00Z of 07 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. According to the ECMWF model, a heat low over northern Mali is expected to shift westward to Mauritania, while deepening through 24 hours to 48 hours, with its central pressure value decreasing from 1009mb to 1006mb, filling up through 48 hours to 96 hours with its central pressure value increasing from 1006mb to 1009mb. This same low tends to deepen through 24 hours to 72 hours with its central pressure value decreasing from 1007mb to 1005mb and then filling up through 72 hours to 120 hours with its central pressure value increasing from 1005mb to 1009mb, according to the GFS model. According to the UKMET model, this low tends to deepen through 24 hours to 72 hours with its central pressure value decreasing from 1008mb to 1006mb. Through 72 hours to 96 hours, it is expected to fill up with its central pressure value increasing from 1006mb to 1008mb and then to deepen through 96 hours to 120 hours, with its central pressure value decreasing from 1008mb to 1007mb.

According to the ECMWF model, another low is expected to form over the border between Chad and Niger, and tends to deepen through 24 hours to 48 hours with its central pressure value decreasing from 1009mb to 1008mb. It is expected to fill up with its central pressure value increasing from 1008mb to 1009mb through 48 to 96hours, and then it tends to deepen with its central pressure value decreasing from 1009mb to 1008mb. This low is expected to fill up through 24 hours to 96 hours with its central pressure value increasing from 1008mb to 1010mb and to deepen by the end of the forecast period according to the GFS model. According to the UKMET model, this low is expected to deepen through 24 hours to 72 hours with its central pressure value decreasing from 1008mb to 1007mb, then to fill up through 72 hours to 96 hours with its central pressure value increasing from 1007mb to 1008mb and then to deepen through 96 hours to 120 hours with its central pressure value decreasing from 1008mb to 1006mb.

According to the ECMWF model, a low pressure located over the Arabian Peninsula is expected to fill up with central pressure value increasing from 997mb to 1000mb through 24 to 96 hours, and it tends to deepen through 96 hours to 120 hours with its central pressure value decreasing from 1000mb to 999mb. This low is expected to fill up with central pressure value increasing from 999mb to 1002mb and then to deepen through 72 hours to 120 hours with its central pressure value decreasing from 1002mb to 1000mb according to the GFS model. According to the UKMET model, this heat low is expected to fill up with central pressure value increasing from 996mb to 1000mb through 24 hours to 48 hours with its central pressure value decreasing from 996mb to 1000mb and then to deepen through 24 hours to 120 hours with its central pressure value decreasing from 1000mb to 996mb through 48 hours to 120 hours.

According to the ECMWF model, the St. Helena High pressure system over southeast Atlantic Ocean is expected to intensify with its central pressure value increasing from 1024mb to 1032mb during the forecast period. This high pressure system tends to weaken with its central pressure value decreasing from 1024mb to 1020mb through 24 hours to 48 hours and its central pressure value tends to decrease from 1024mb to 1020mb through 48 hours to 120 hours, according to the GFS model. According to the UKMET model, tends to weaken with its central pressure value decreasing through 24 hours to 48 hours with its central pressure value decreasing from 1023mb to 1022mb and to intensify through 48 hours to 120 hours with its central pressure value increasing from 1022mb to 1032mb.

According to the ECWF model, the Mascarene high tends to weaken with its central with its central pressure value increasing from 1020mb to 1032mb. This high pressure

The East African ridge is expected to weak with the weakening of the Mascarene high pressure system and to strengthen along with the intensifying of the Mascarene high pressure system is expected to intensify with its central pressure value decreasing from 1027mb to 1026mb according to the GFS model. According to the UKMET model, this high pressure tends to weaken with its central pressure value decreasing through 24 hours to 48 hours with its central pressure value increasing from 1024mb to 1020mb and to intensify through 48 hours to 120 hours with its central pressure value increasing

from 1020mb to 1032mb. In general, the East African ridge is expected to remain weak during the forecast period.

At the 850hpa level, a deep cyclonic circulation located across northern Mali, Burkina Faso and Niger is expected to shift westwards the border between Mauritania and Senegal during the forecast period. Another cyclonic circulation is expected to form across the border between Chad and Sudan, and it tends to shift towards the Niger, Nigeria and Chad border through 24 hours to 72 hours. Another deep cyclonic circulation is expected to form across the western CAR, eastern Cameroon and Congo border and it tends to shift southwestward to Nigeria across Cameroon and CAR through 96 hours to 120 hours. West-East oriented wind convergences are expected between Sudan and Eritrea through 24 hours to 72 hours. The seasonal wind convergence is expected to prevail in the vicinity of Lake Victoria during the forecast period.

At 700mb level, an easterly wave is expected to propagate across Nigeria, CAR and Chad through 24 hours to 48 hours.

At 500hpa, easterly winds with moderate intensity (10 to 25knots) are expected to dominate the flow over Mali and eastern Senegal during the forecast period. These zone of Strong easterly winds are expected to weaken gradually during the forecast period.

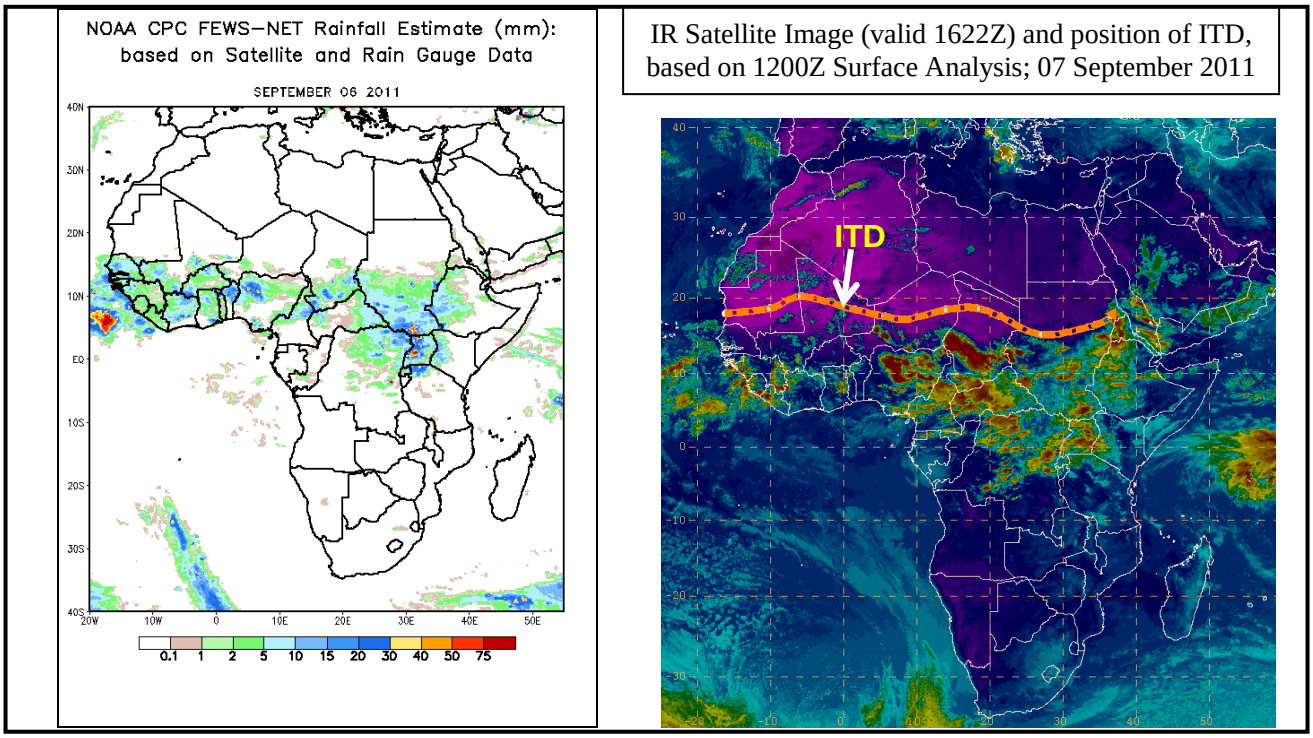
At 150hpa Strong winds, the TEJ is expected to remain weak during the forecast period.

In the next five days, westward propagating thunderstorms, cyclonic circulations and lower tropospheric wind convergences are expected to enhance rainfall across West and central African region. In general, there is an increased chance for heavy rainfall over Senegal, Gambia, Guinea Bissau, Guinea, Liberia, Sierra Leone, southern Mali, Cote D'Ivoire, Burkina Faso Ghana, Togo, Benin, Cameroon, Congo, DRC, CAR and South Sudan.

2.0. Previous and Current Day Weather Discussion over Africa (06 – 07 September 2011)

2.1. Weather assessment for the previous day (06 September 2011): During the previous day, moderate to heavy rainfall was observed over Senegal, part of southern Mali, near the border between Cote d'Ivoire and Burkina Faso, northern Benin and northern Togo, northwestern Nigeria, parts of northern Cameroon, parts of southern Sudan and the DRC, Sudan and Uganda border.

2.2. Weather assessment for the current day (07 September 2011): Intense clouds are observed over western and eastern Guinea Conakry, costal Serra Leone and Liberia, northern Nigeria, southern Sudan, CAR, Uganda, northern DRC, parts of southern Sudan, western Ethiopia and western Eritrea.



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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