

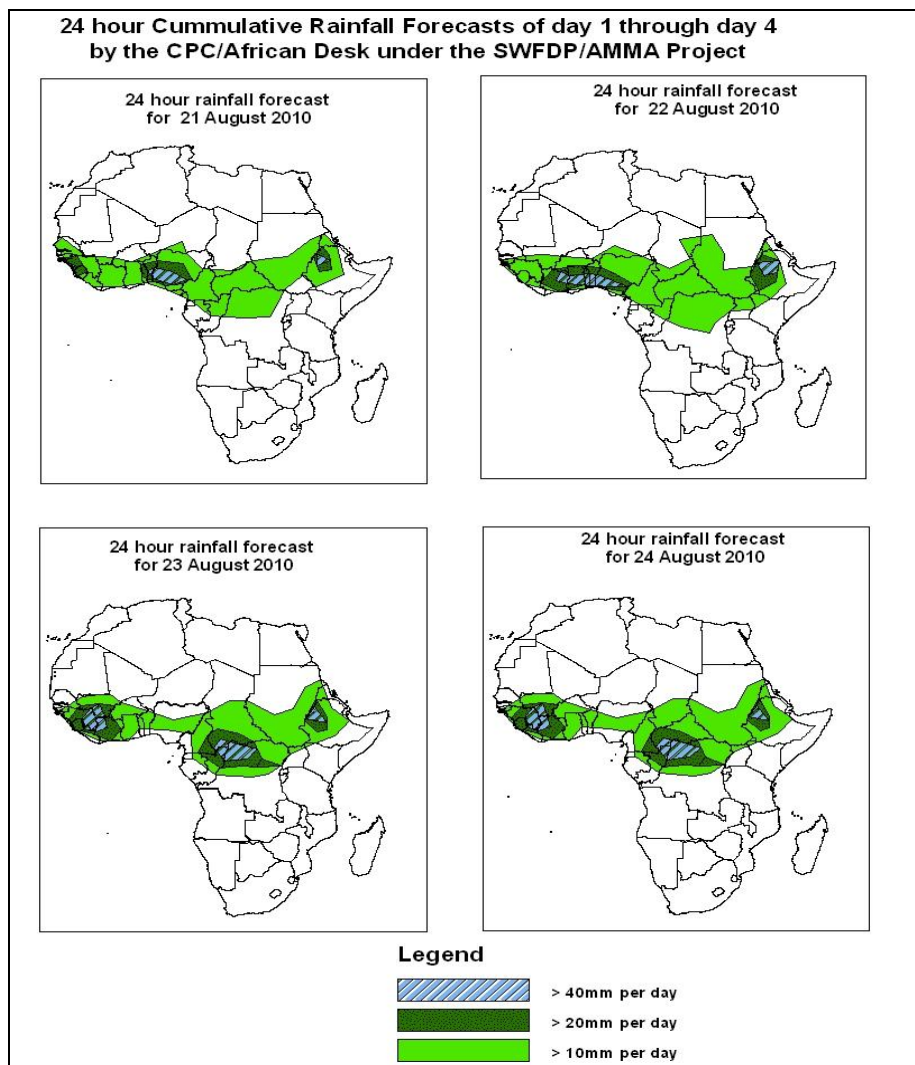


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 21 SEPTEMBER – 06Z of 24 SEPTEMBER 2010, (Issued at 14:00EST of 20 SEPTEMBER 2010)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

The forecasts are expressed in terms of 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 coming four days, there is an increased chance for the rainfall to exceed 20mm per day in parts of southern Senegal, Mali, Guinea, Cote-d'Ivoire, Ghana, Togo, Benin and Nigeria. Western and central parts of Ethiopia, DRC, parts of Cameroon, CAR southern Sudan and southern Chad are also expected to receive moderate to heavy rainfall due to localized and seasonal convergence areas in the vicinity of the respective regions.

1.2. Models Comparison and Discussion-Valid from 00Z of 20 September 2010

A low pressure system situated over eastern Mali is expected to shift towards western Mauritania. Its central pressure value is expected to change from 1005 to 1008hPa through 24 to 96hours on the GFS model, 1007 to 1009hPa according to the ECMWF model and 1004 to 1007hPa on the UKMET model. A low pressure system located over eastern Niger is expected to move towards eastern Mali. Its central pressure value is expected to change from 1006 to 1008hPa through 24 to 96hours according to the GFS model. Another low pressure system located over central Chad is expected to move towards western Chad. Its central pressure value is expected to change between 1008 to 1009hPa through 24 to 96hours according to the ECMWF model, 1005 to 1006hPa on the UKMET model and maintain its central pressure value of 1007hPa trough 24 to 96hours according to the GFS model. A low pressure system located over eastern Sudan is expected to maintain its position. Its central pressure value is expected to change from 1005 to 1007hPa on the ECMWF model through 48 to 96hours, 1003 to 1004hPa according to the UKMET model trough 48 to 96hours and maintain its pressure value of 1005hPa on the GFS model. A high pressure system situated over Central Europa is expected to intensify, while extending its ridge across northern African countries. The seasonal low pressure system located over southern DRC is expected to change from central pressure value of 1006 to 1010hPa according to the ECMWF model, 1004 to 1007hPa according to the UKMET model and maintain its central pressure value of 1008hPa according to the GFS model. A weak high pressure system situated in the area bordering Cote-d'Ivoire is expected to maintain its position and its central pressure value of 1014hpa through 48 to 72hours.

In general, the Inter-Tropical Front (ITF) is expected to remain between 17°N and 20°N latitudes across West African countries (west of the Prime Meridian) through 24 to 48, while it is expected to stay between 16°N and 19°N latitudes east of the Prime Meridian. The Azores high-pressure system is expected to relax from central pressure value of 1021 to 1019hPa through 24 to 72hours. The St. Helena high, situated over southern Atlantic Ocean is expected to intensify slightly from central pressure values of 1035 to 1036hPa through 24 to 96hours. On the other hand, the Mascarene high pressure system is expected to relax from central pressure value of 1037 to 1027hPa through 24 to 96hours.

At 850hpa, a cyclonic circulation situated over eastern Mali is expected to shift towards western Mauritania through 24 to 72hours. Another cyclonic circulation located over eastern Niger is expected to move towards eastern Mali through 24 to 72hours. A cyclonic circulation situated over central Chad is expected to shift towards western Niger through 24 to 96hours. Another cyclonic circulation over eastern Sudan is expected to move towards eastern Chad, while slightly weakening through 48 to 96hours. Another cyclonic circulation located over southern Sudan is expected to move towards central CAR through 72 to 96hours. The convergence associated with the CAB is expected to remain active across eastern Namibia, Angola, Zambia, DRC, southwest Sudan, Kenya and southwest Ethiopia through 24 to 96 hours.

At 700Hpa, a weak trough associated with the African Easterly wave is expected to propagate across the longitudes of Niger/Algeria through 24 to 48hours. This trough is expected to further move across the longitudes of Mali/Algeria through 48hours and continue to move towards the longitudes of Mauritania through 72 to 96hours. Another weak wave situated over Cameroun/CRA/southern Sudan is expected to propagate across Cameroun/CRA/southern Chad through 72 to 96hours.

At 500hpa, higher wind speeds associated with the African Easterly Jet are expected to weaken and remain below 25Kts in the vicinity of southern Niger, Burkina Faso and southern Mali

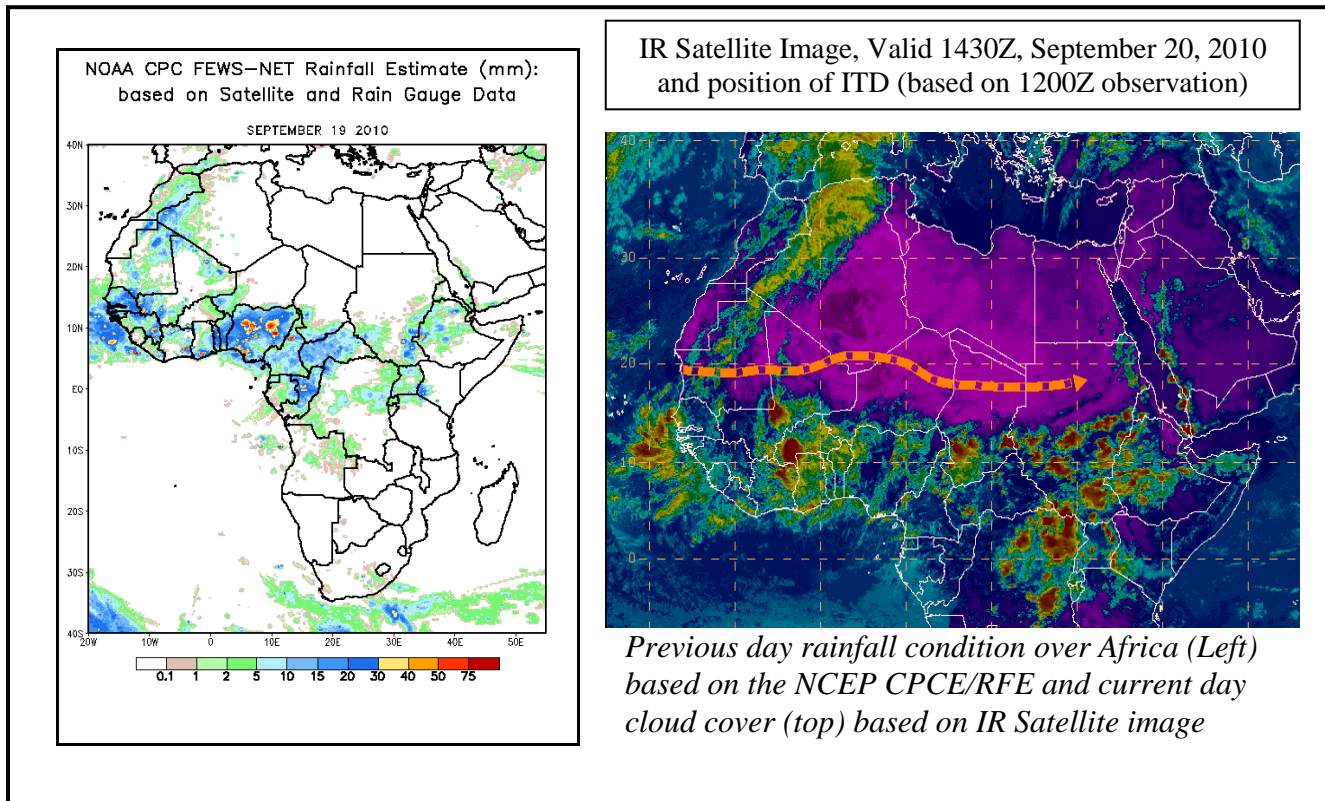
At 200hPa, zone of strong wind (>50Kts) is expected to dominate the flow in the vicinity of Morocco, northern Algeria and eastern Mediterranean Sea. Meanwhile, strong upper level easterly flow associated with the Tropical Easterly Jet (>35Kts) is expected to dominate the flow across southern Ethiopia through 24 to 48hours.

In the coming four days, there is an increased chance for the rainfall to exceed 20mm per day in parts of southern Senegal, Mali, Guinea, Cote-d'Ivoire, Ghana, Togo, Benin and Nigeria. Western and central parts of Ethiopia, DRC, parts of Cameroon, CAR southern Sudan and southern Chad are also expected to receive moderate to heavy rainfall due to localized and seasonal convergence areas in the vicinity of the respective regions.

2.0. Previous and Current Day Weather Discussion over Africa (19 - 20 September 2010)

2.1. Weather assessment for the previous day (19 September 2010): During the previous day, moderate to heavy rainfall was observed over parts of Senegal, western Mali, Guinea, Togo, Benin, much of Nigeria, parts of Cameroon, Congo, CAR, southeast Sudan and parts of Ethiopia.

2.2. Weather assessment for the current day (20 September 2010): Intense clouds are observed over western and central Mali, Cote-d'Ivoire, and Burkina Faso, southern Chad, southern Sudan, eastern DRC, parts of Uganda, southern Sudan, western Kenya and Ethiopia.



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