

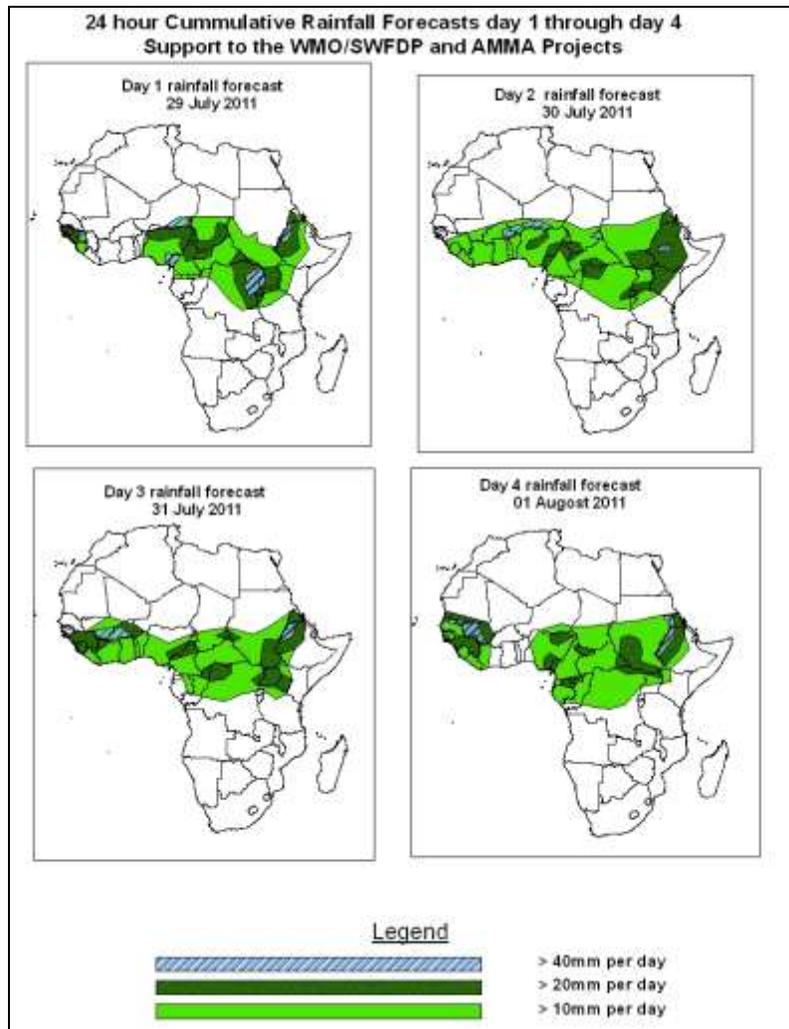


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 29 July– 06Z of 01 August 2011, (Issued at 10:00Z of 28 July 2011)

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 next four days, the westward propagating waves, with their associated convective activity are expected to enhance rainfall over portions of western and central African countries. Hence, there is an increased chance for heavy rainfall over southern Senegal, Gambia, Guinea Bissau, Guinea, Sierra Leone, Liberia, southern Mali, Burkina Faso, northern Nigeria, portions of Cameroon, Chad and CAR. The active meridional convergence in the CAB region and the seasonal monsoon flow is also expected to maintain moderate to heavy rains over parts of northern DRC, Uganda, western Kenya, Sudan and Ethiopia.

1.2. Models Comparison and Discussion-Valid from 00Z of 28 July 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 central pressure value of the heat low near Mali varies between 1001 to 1006mb during the forecast period according GFS, UKMET and ECMWF models. The heat low over Sudan tends to maintain central pressure value of 1002mb during the forecast period according the GFS model. The East African ridge across southeast and East Africa is expected to strengthen gradually during the forecast period.

The St. Helena High pressure system over southeast Atlantic Ocean is expected to maintain central pressure value of 1028 through 24 to 72 hours and tends to intensify to 1032hpa by 96hours. The Mascarene high pressure system over southwest Indian Ocean is also expected to intensify, with its central pressure value expected to increase from 1024hpa in 24 hours to 1032hpa in 72 hours.

At the 850hpa level, a cyclonic circulation over Niger, Mali and Mauritania is expected to move westwards across Burkina-Faso, Senegal, Guinea and Guinea-Bissau through 24 to 72hours. The seasonal convergence in CAB region is expected to remain active during the forecast period. The southwesterly flow across the Gulf of Guinea is expected to dominate the flow over central African countries and parts of the GHA region throughout the forecast period.

At 700mb level, an easterly wave over western parts of West Africa is expected to leave the west African coast in 48 hours, while another wave in the vicinity of Niger/Chad border is expected to propagate westwards across Niger, Mali and Mauritania during the forecast period.

At 500hpa, easterly winds with moderate intensity (10 to 25knots) are expected to dominate the flow over the Gulf of Guinea, southern Sahel region and Sudan, with the stronger winds associated with the African easterly Jet are expected over Senegal, Mauritania, Mali, Burkina Faso, Niger, Nigeria, Mali, Chad and Sudan.

A zone of strong wind (>110Kts) at 200hpa level associated with the Sub Tropical westerly Jet in the southern hemisphere is expected to propagate between southeast

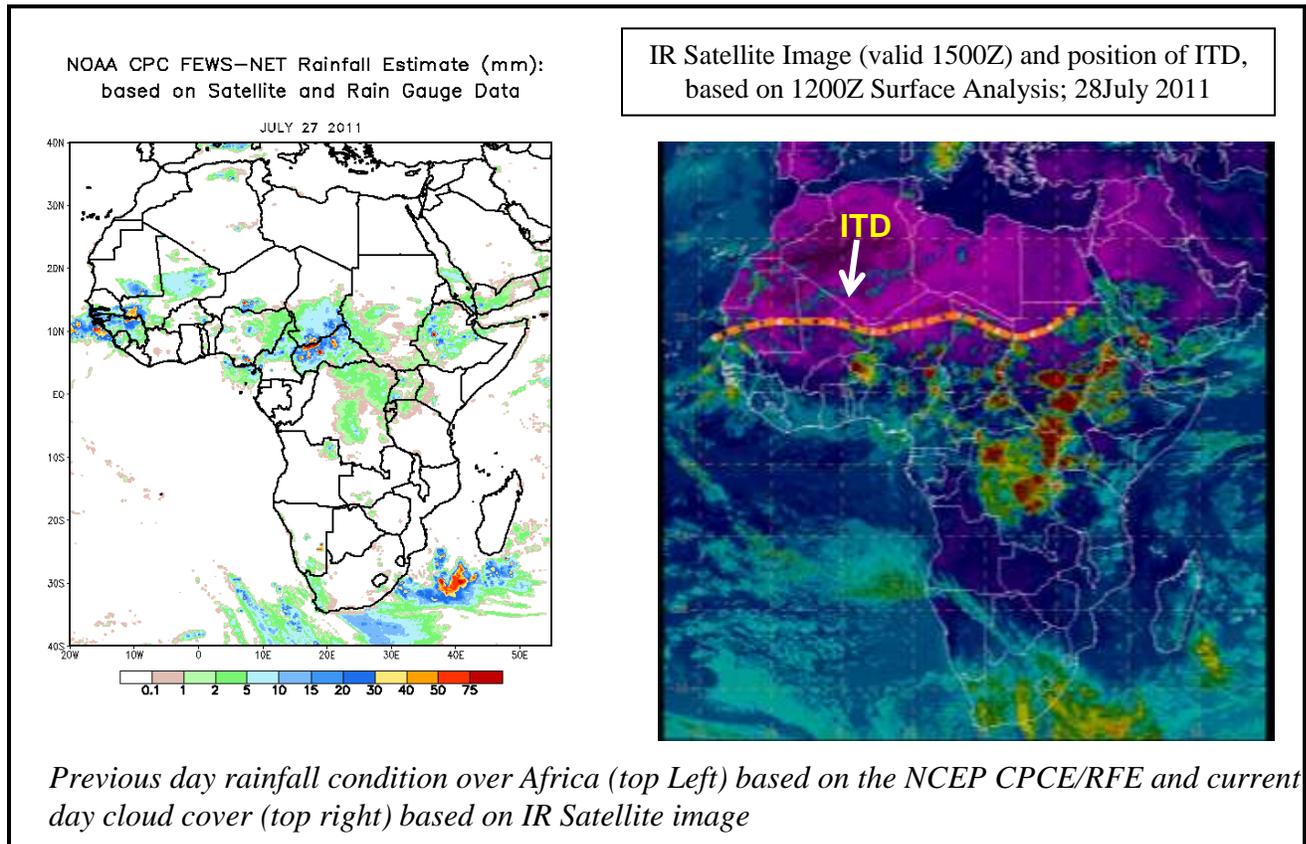
Atlantic Ocean and southwest Indian Ocean across South Africa through 24 to 72 hours and it tends to intensify to (>130Kts) in 96hours.

In the next four days, the westward propagating waves, with their associated convective activity are expected to enhance rainfall over portions of western and central African countries. Hence, there is an increased chance for heavy rainfall over southern Senegal, Gambia, Guinea Bissau, Guinea, Sierra Leone, Liberia, southern Mali, Burkina Faso, northern Nigeria, portions of Cameroon, Chad and CAR. The active meridional convergence in the CAB region and the seasonal monsoon flow is also expected to maintain moderate to heavy rains over parts of northern DRC, Uganda, western Kenya, Sudan and Ethiopia.

2.0. Previous and Current Day Weather Discussion over Africa (27 July - 28 July 2011)

2.1. Weather assessment for the previous day (27 July 2011): During the previous day, moderate to heavy rainfall was observed over Guinea, Guinea-Bissau, southern Mali, southern Chad, CAR, and western Ethiopia.

2.2. Weather assessment for the current day (28 July 2011): Locally intense clouds are observed over northern Niger part of Nigeria and Chad. Northern CAR, Sudan, DRC, part of Uganda and Ethiopia.



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