

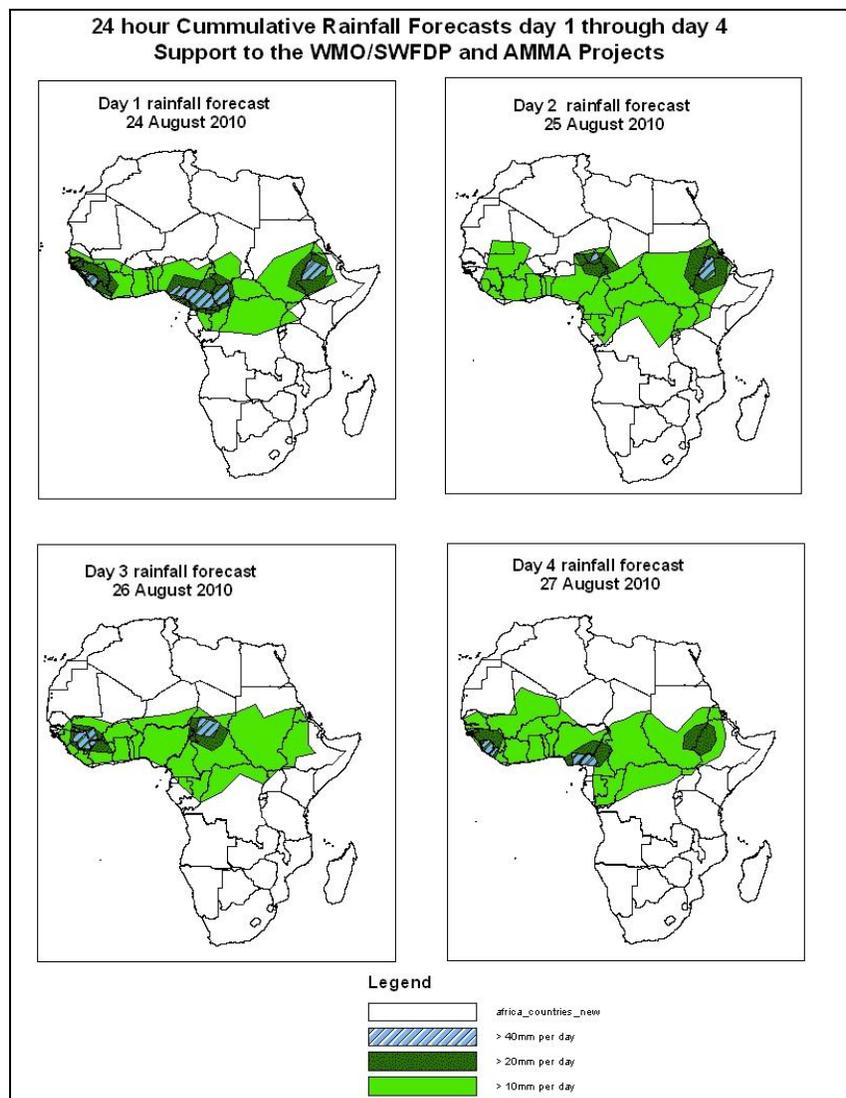


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 24 August – 06Z of 27 August 2010, (Issued at 14:00EST of 23 August 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, the westward propagating cyclonic circulation in the region between Niger and Mali together with the moisture available from the West African monsoon flow is expected to increase rainfall in parts of the Sahel countries. Meanwhile, the strong cross equatorial flow and the active CAB are expected to maintain moderate to heavy rainfall activity in the Horn of Africa countries. Thus, there is an increased chance for rainfall to exceed 20mm per day in many places of Guinea Conakry, Mali, Nigeria, Central African Republic, DRC and parts of Eritrea, Sudan and Ethiopia.

1.2. Models Comparison and Discussion - Valid from 00Z of 23 August 2010

A low pressure system over northern Mali is expected to deepen from central pressure value of 1007 to 1005mb through 24 to 72 hours on the GFS model, 1007 to 1006mb on the ECMWF model, while the UKMET model tends to indicate central pressure values slightly increasing from 1004 to 1005mb. Another low pressure system located over eastern Mali is expected to move towards central Mali in 24 to 72hours, while its central pressure value changing from 1008mb to 1007mb on the GFS. A low pressure system located over eastern Niger is expected to move towards western Niger in 24 to 72hours, while its central pressure value is expected to change from 1007 to 1008mb on the GFS model and 1006 to 1005mb on the UKMET office model, and 1006 to 1007mb on the ECMWF model. Another weak low pressure system located over southern DRC is expected to deepen from central pressure value of 1012mb on both the GFS, 1010mb on the ECMWF, while the central pressure value tends to increase from 1008 to 1009mb on the UKMET model through 24 to 72 hours.

The Azores high pressure system and its associated ridge is expected to retreat from northern African countries while weakening, from central pressure values of 1025 to 1021mb through 24 to 72 hours. The St. Helena high, situated over southern Atlantic Ocean is expected to intensify from central pressure values of 1026 to 1027mb through 24 to 48hours and relaxing from central pressure value of 1026mb though 48 to 72 hours. The Mascarene high pressure system is expected to intensify, while its central pressure values changing from 1032 to 1037mb through 24 to 72 hours.

At 850mb, a lower tropospheric cyclonic circulation situated over eastern Niger is expected to move towards central Mali while deepening through 24 to 72 hours. Another cyclonic circulation located over western Chad is expected to move towards eastern Niger while deepening 24 to 72 hours. Zones of lower tropospheric winds convergence are expected to dominate the flow over Namibia, Angola, DRC and Kenya. The Congo Air Boundary (CAB) is expected to remain active in the region between southwest DRC and Ethiopia through 24 to 72 hours. Another zone of wind convergence is also expected across Somalia and Sudan 24 to 72 hours.

At 700hPa, a weak trough associated with the African Easterly Wave is expected to dominate the flow over southern Nigeria, Niger, central Chad and Sudan, while maintaining its northeast-southwest orientation.

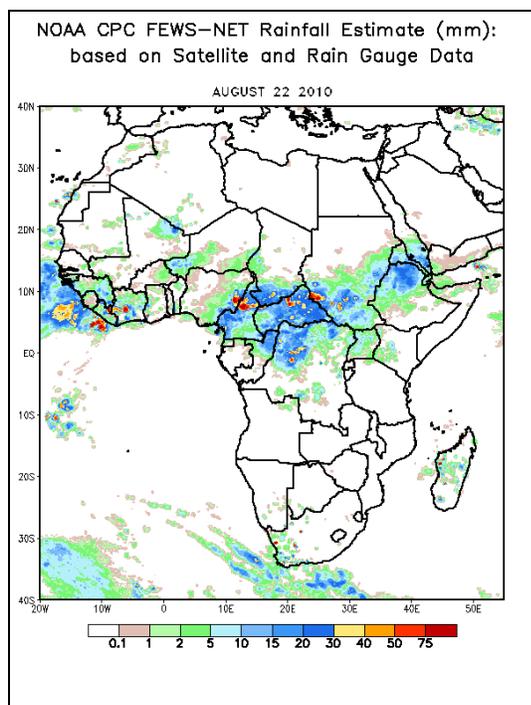
At 200hPa, a strong wind in excess of 50kts, which is associated with the Subtropical westerly Jet, is expected to dominate the flow over parts of northern Algeria and the adjoining areas of Mediterranean Sea. Zones of strong wind in excess of 35kts, which are associated with the Tropical Easterly Jet, are expected in the vicinity of Ethiopia, northern Chad, Libya and eastern Egypt.

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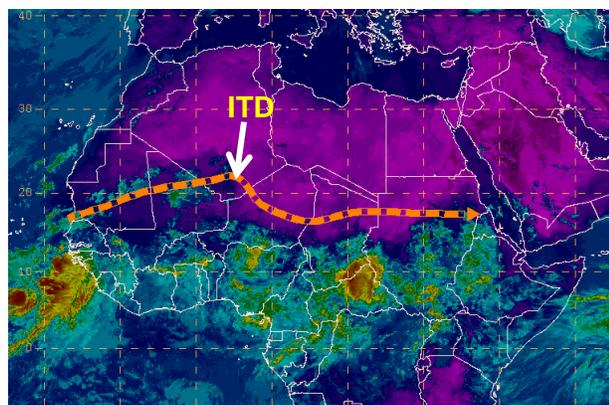
2.0. Previous and Current Day Weather Discussion over Africa (22 August 2010 – 23 August 2010)

2.1. Weather assessment for the previous day (22 August 2010): During the previous day, moderate to heavy rainfall was observed over parts of western Sierra Leone, Cote d'Ivoire, Cameroon, CAR, northern DRC, southern Sudan and Ethiopia.

2.2. Weather assessment for the current day (23 August 2010): Convective clouds are observed over much of the Gulf of Guinea, central African and the Horn of Africa countries, with the intense clouds observed in the area bordering eastern Chad, CAR and western Sudan.



IR Satellite Image, Valid 1422Z, August 23, 2010
and position of ITD (based on 1200Z observation)



*Previous day rainfall condition over Africa (Left)
based on the NCEP CPCE/RFE and current day
cloud cover (top) based on IR Satellite image*

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Disclaimer: *This bulletin is for training purposes only and should be used as guidance. NOAA does not make forecasts for areas outside of the United States.*