

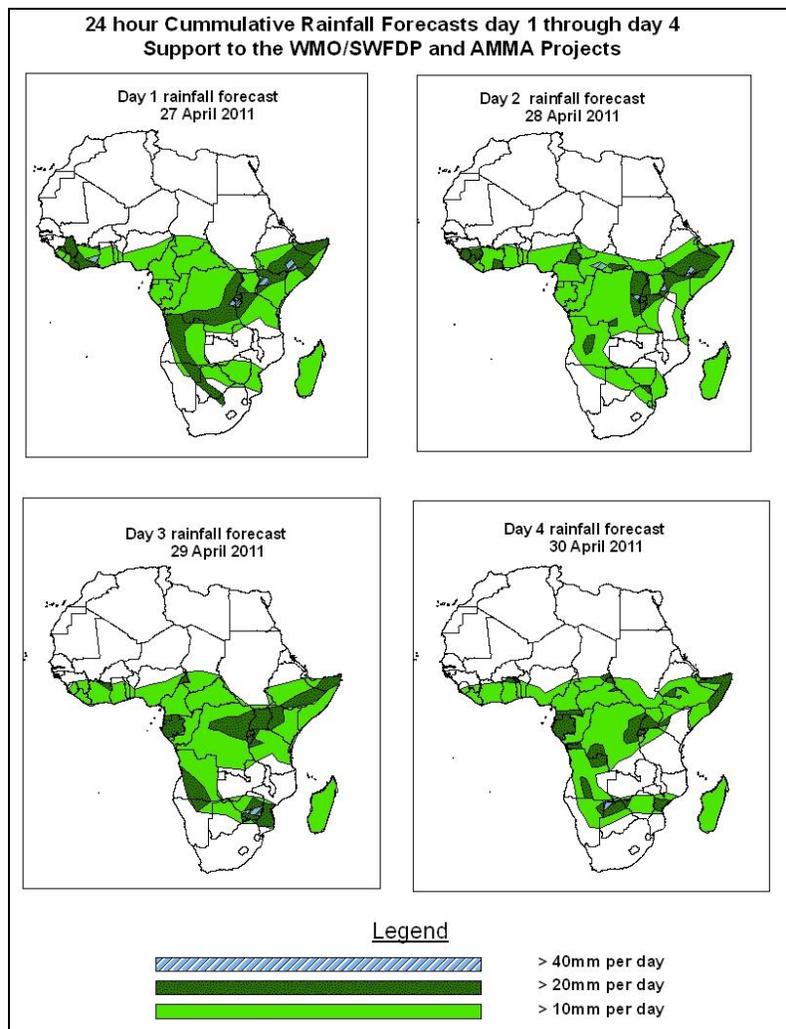


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 27 April – 06Z of 30 April 2011, (Issued at 11:20Z of 26 April 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 lower tropospheric wind convergence across the Gulf of Guinea, the north-south oriented wind convergence in the CAB region and eastward propagating frontal system across southern Africa are expected to enhance rainfall in the respective regions. Moreover, easterly flow between eastern Africa and western equatorial Africa is also expected to enhance westward propagation of clouds towards the Gulf of Guinea coast. In general, there is an increased chance for rainfall to exceed 20mm/day over Liberia, Sierra Leone, parts of Guinea, Gabon, Cote d'Ivoire, parts of Cameroon, parts of Angola, Uganda, parts of Namibia, Botswana, DRC, Rwanda, Burundi, parts of Kenya, Tanzania, Somalia, and parts of Ethiopia.

1.2. Models Comparison and Discussion-Valid from 00Z of 25 April 2011

According to the GFS, ECMWF and UKMET models, the ridge associated with the St Helena high pressure system is expected to remain strong while extending northwards up to the coastal areas of Cote d'Ivoire and Ghana through 24 to 96 hours. On the other hand, the East African ridge, associated with the Mascarene high pressure system is expected to remain across southeast and East Africa during the forecast period, with no significant change in its intensity, while a ridge associated with the Azores high is expected to extend eastwards gradually across Mauritania and Morocco through 24 to 48 hours. The ridge is expected to cut off from the Azores' high and become the Saharan high, while moving eastwards through 72 to 96 hours.

The St. Helena High pressure system over southeast Atlantic Ocean is expected to maintain a central pressure value of 1032hpa in 24 and 48hrs and weakens to 1028hpa in 72hrs and to 1024hpa by 96 hours. The Mascarene high pressure system over southwest Indian Ocean is expected to assume a central pressure value of 1020hpa through 24 hours and weakens to 1016hpa through 48 and 96hours.

At the 850hpa level, the GFS model maintains the east-west oriented convergence line in the region between the western parts of the Gulf of Guinea and Sudan. This convergence is expected to remain active during forecast period. The wind convergence associated with the meridional arm of the ITCZ is expected to remain active in the Congo Air Boundary (CAB) region through 24 to 96 hours. Southwesterly winds from the Atlantic Ocean into the Gulf of Guinea region are expected to persist through 24 hours and weaken slightly through 48 to 96 hours. The moist southeasterly flow from the Indian Ocean into the Greater Horn of Africa (GHA) is expected to persist through 24 to 96 hours.

At the 700hPa level, a trough in the westerly in the subtropical region of northern Africa is expected to propagate across Algeria, Tunisia and Egypt through 24 to 72 hours. Persistent northeasterly to easterly winds are expected to dominate the flow in the region between southern Sudan to western equatorial Africa and the northern Angola through 24 to 96 hours.

At 500hpa, easterly winds with moderate intensity (10 to 15knots) are expected to dominate the flow between the Horn of Africa and Cameroon through 24 to 96 hours. Two mid-latitude troughs are expected to propagate across the sub-tropical regions of northern Africa, with one of the troughs is expected to move across Libya, Egypt and Red sea through 24 to 96 hours, while another trough is expected in the vicinity of Morocco and Mauritania through 72 and 96 hours. Similarly, mid-latitude frontal systems are expected to propagate between southeast Atlantic Ocean and southwest Indian Ocean across southern Africa through 24 to 96 hours.

A zone of strong wind (>130Kts) at 200hpa level associated with the Sub Tropical westerly Jet is expected to propagate eastwards across Atlantic Ocean, Morocco, Algeria and Libya through 24 and 72 hours and then to weakens to (>110kts) though 96 hours. On the other hand, strong winds (>130Kts) associated with the Sub-Tropical Westerly Jet is expected in the southern hemisphere across southern Africa, Lesotho and Indian Ocean through 24 and 48hours and Weakens to (>110Kts) in 72 and 96hours.

In the next four days, the lower tropospheric wind convergence across the Gulf of Guinea, the north-south oriented wind convergence in the CAB region and eastward propagating frontal system across southern Africa are expected to enhance rainfall in the respective regions. Moreover, easterly flow between eastern Africa and western equatorial Africa is also expected to enhance westward propagation of clouds towards the Gulf of Guinea coast. In general, there is an increased chance for rainfall to exceed 20mm/day over Liberia, Sierra Leone, parts of Guinea, Gabon , Cote d'Ivoire, parts of Cameroon, parts of Angola, Uganda, parts of Namibia, Botswana, DRC, Rwanda, Burundi, parts of Kenya, Tanzania, Somalia, and parts of Ethiopia.

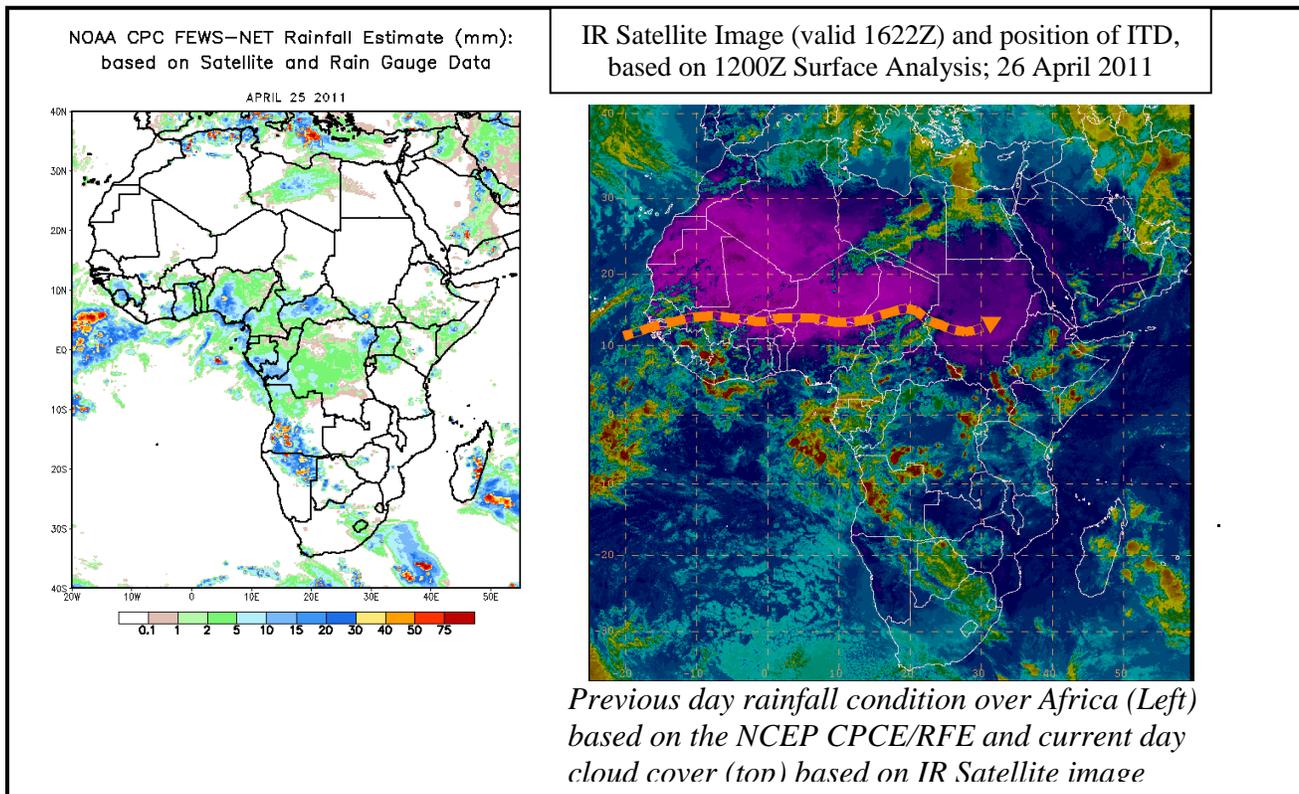
2.0. Previous and Current Day Weather Discussion over Africa (25 April – 26 April 2011)

2.1. Weather assessment for the previous day (25 April 2011):

During the previous day, a combination of moderate and heavy rainfall was observed over Southern Angola, northern Namibia and Easterly Madagascar.

2.2. Weather assessment for the current day (26 April 2011):

Intense clouds are observed over parts of Guinea, Liberia and Cote D'Ivoire, Gabon, RDC, Uganda, parts of Somalia, Angola, parts of Ethiopia and Botswana.



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