

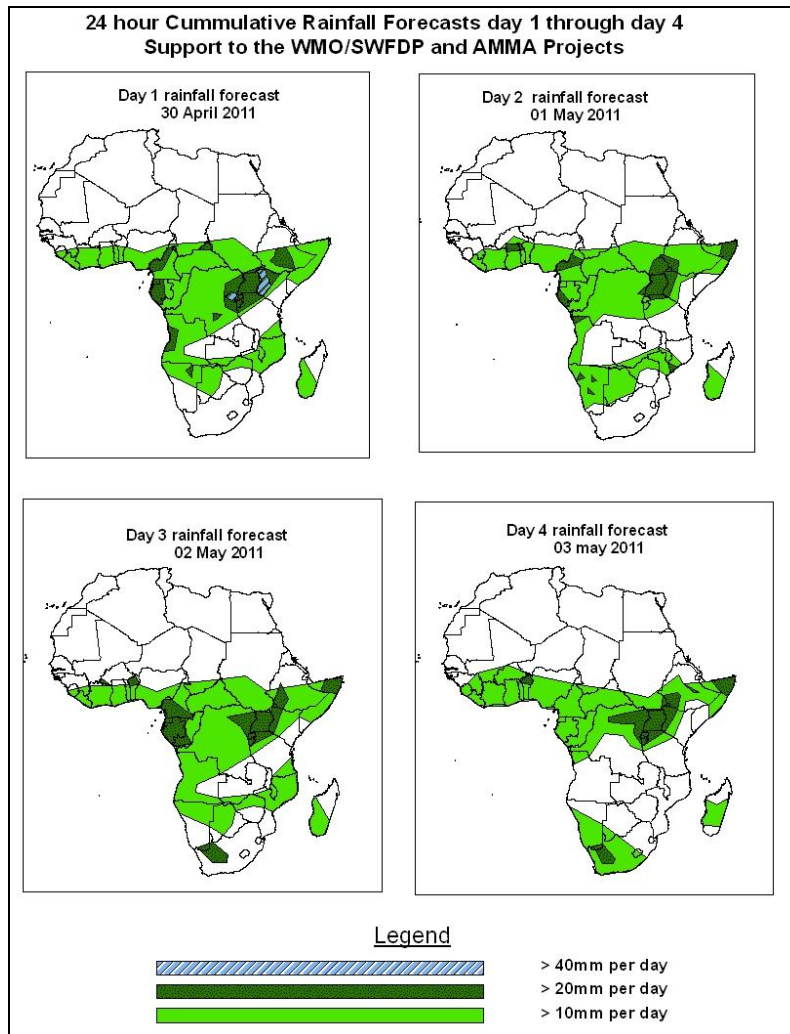


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid 06Z of 30 April – 06Z of 03 May 2011, (Issued at 10:50Z of 29 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 seasonal lower tropospheric convergence in the Congo Air Boundary Region, moist flow from the Indian Ocean and its associated convergence across the Horn of Africa region as well as the localized convergences across western equatorial region and the westward propagating storms between central African region and the Gulf of Guinea coast are expected to enhance rainfall in their respective areas. In general, there is an increased chance for moderate to heavy rainfall over eastern Nigeria, western Cameroon, Gabon, parts of Congo, Angola, northeast DRC, Uganda, southeast Sudan, western Kenya, southwest Ethiopia and northern Somalia.

1.2. Models Comparison and Discussion-Valid from 00Z of 29 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 through 24 to 96 hours, while extending northwards up to the coastal area of Gulf of Guinea. The East African ridge, associated with the Mascarene high pressure system is expected to remain strong across southeast and East Africa during the forecast period. The Saharan high is expected to shift eastwards between Libya and eastern Egypt through 24 to 96 hours.

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

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 weaken slightly through 24 hours and tends to regain its intensity through 48 to 96 hours. On the other hand, the wind convergence associated with the meridional arm of the ITCZ is expected to remain active in the Congo Air Boundary (CAB) region during the forecast period. Lower tropospheric convergence associated with southeasterly winds from the Indian Ocean is expected to persist across eastern GHA region throughout the forecast period.

At the 700hPa level, a trough in the westerlies located near the border between Libya and Egypt is expected to propagate towards Red Sea, while another trough in the westerlies is dominating the flow over northwest Africa during the forecast period. Persistent northeasterly to easterly winds are expected to dominate the flow in the region between southern Sudan to western equatorial Africa and the northern Congo through 24 to 96 hours.

At 500hpa, easterly winds with moderate intensity (10 to 15knots) are expected to dominate the flow over Sudan, central African and the Gulf of Guinea region through 24 to 96 hours. Locally strong winds (>30kts) associated with the African Easterly Jet are also expected in the vicinity of Nigeria and Southern Benin through 48 and 72 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 between Egypt and Red

Sea through 24 to 96 hours, while the other trough is expected to dominate the flow in coastal Atlantic, Morocco, Algeria, Tunisia through 24 and 96hrs. 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 (>110Kts) at 200hpa level associated with the Sub Tropical westerly Jet is expected to propagate eastwards across Northern Mauritania, Morocco, Algeria, Libya and Egypt through 24 to 72 hours and then to weaken to (>90kts) though 96 hours. On the other hand, strong winds (>110Kts) associated with the Sub-Tropical Westerly Jet is expected in the southern hemisphere across southern Africa, Lesotho and Atlantic and Indian Ocean through 24 and 48hours and Weakens to (>90Kts) in 72 and 96hours.

In the next four days, the seasonal lower tropospheric convergence in the Congo Air Boundary Region, moist flow from the Indian Ocean and its associated convergence across the Horn of Africa region as well as the localized convergences across western equatorial region and the westward propagating storms between central African region and the Gulf of Guinea coast are expected to enhance rainfall in their respective areas. In general, there is an increased chance for moderate to heavy rainfall over eastern Nigeria, western Cameroon, and Gabon, parts of Congo, Angola, northeast DRC, Uganda, southeast Sudan, western Kenya, southwest Ethiopia and northern Somalia.

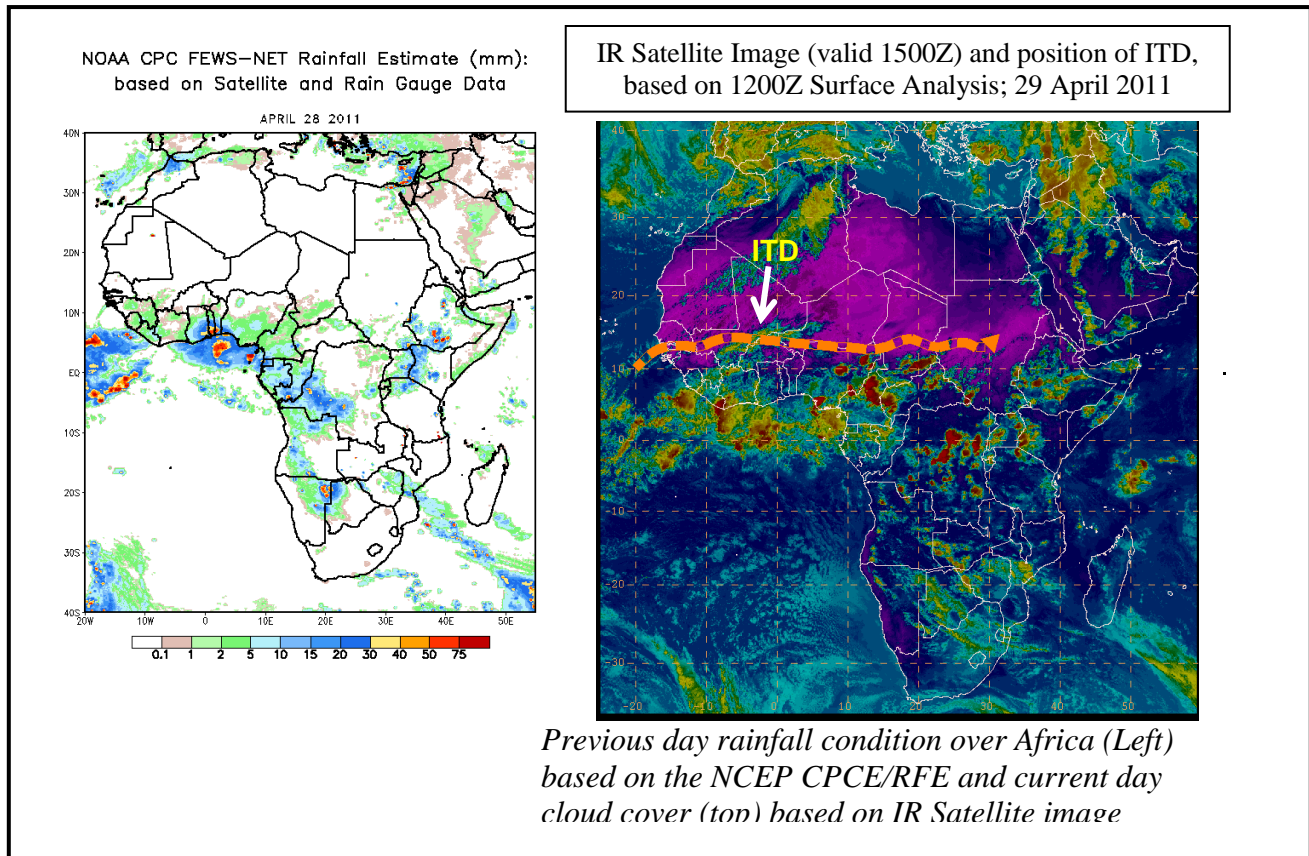
2.0. Previous and Current Day Weather Discussion over Africa (28 April – 29 April 2011)

2.1. Weather assessment for the previous day (28 April 2011):

During the previous day, a combination of moderate and heavy rainfall was observed over Southern Togo and Benin, parts of Ethiopia, western DRC and eastern Namibia.

2.2. Weather assessment for the current day (29 April 2011):

Intense clouds are observed over Southern Cote D'Ivoire, Northern Cameroon, parts of DRC, Ethiopia, Westerly Kenya, Southern Chad and Uganda.



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