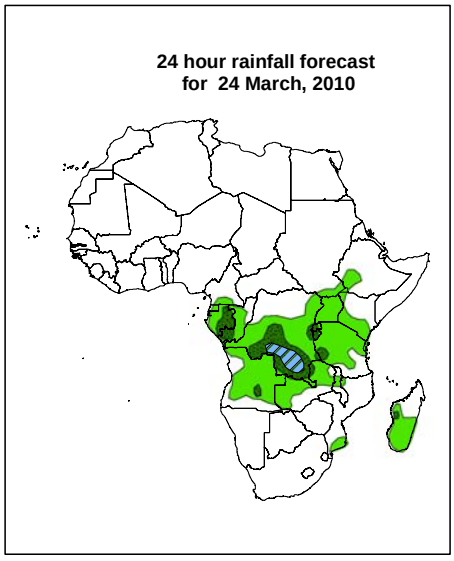
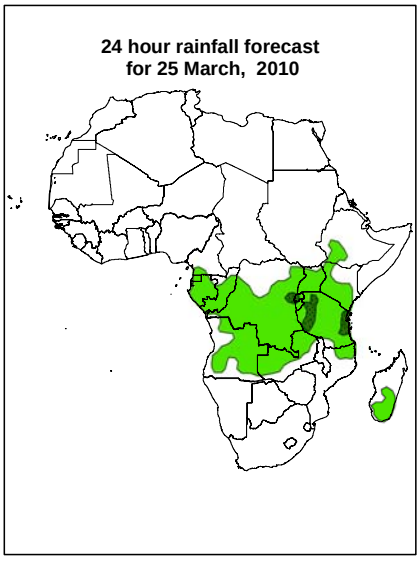
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 24 March –06Z of 26 March 2010, (Issued at 14:00EST of 23 March 2010)

1.1. Twenty Four Hour Cumulative Rainfall Forecasts

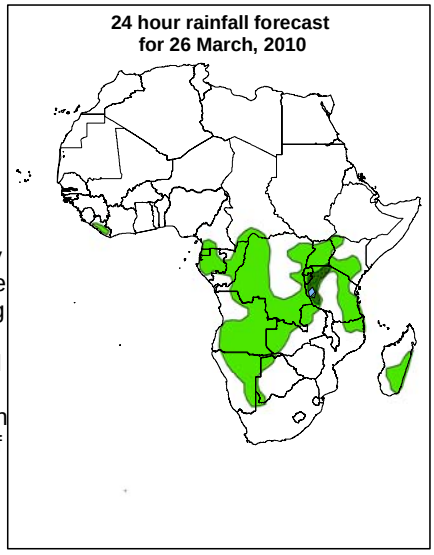
The forecasts are expressed in terms of probability of precipitation (POP) exceedence based on the NCEP, UK Met Office and the ECMWF NWP outputs, the NCEP global ensemble forecasts system (GEFS) and expert assessment.





Legend

- >40mm per day
- > 20mm per day
- > 10mm per day



Summary

The moderate rainfall activity in Lake Victoria region is expected to continue due to active lower level convergence in the region through 24 to 72 hours. On the other hand, the heavy rainfall over central DRC is expected to decrease through 48 to 72 hours as a result of weakening of lower level wind convergence. The onshore winds from the Atlantic and Indian Oceans and their associated convergence are expected to maintain the light to moderate rainfall over western parts of equatorial and southern Africa, parts of East Africa and southeast Africa.

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

The sub tropical high pressure system is expected to remain weak over northern Africa and the adjacent areas through 24 to 48 hours, with maximum central pressure value of 1019mb. However, the system is expected to rebuild up through 48 to 72 hours. On the other hand, a ridge extending from the Arabian anticyclone is expected to remain over the Arabian Sea through 24 to 72 hours. The localized low pressure systems developed over the Gulf of Aden and Red Sea are expected to persist with central pressure values of 1005mb and 1007mb, respectively. A Low pressure and its associated trough with minimum pressure value of 1008mb is expected to extend in the region between northwest Angola and western South Africa across Namibia through 24 to 72 hours. The low pressure zones associated with the equatorial trough are expected to fill up its central pressure values from 1006mb to 1010mb over Gulf of Guinea and 1005mb to 1008mb over central Africa and 1004mb to 1006mb over southern Sudan while slightly deepening through 24 to 48 hours.

At 850mb level, the Saharan anticyclone is expected to intensify gradually over northern Africa and the associated dry northeasterly winds are expected to continue dominating the flow over much of northern Africa through 24 to 72 hours. On the other hand, the maritime ridge extending from the Arabian anticyclone is expected to continue pumping moisture into the Horn of Africa. The convergence over central DRC and its associated rainfall is expected to decrease through 48 to 72 hours, while the wind convergence in the vicinity of Lake Victoria will remain active through 24 to 72 hours. Besides, the lower tropospheric convergence zones over parts of the Gulf of Guinea countries and western parts of equatorial and southern Africa are expected to continue through 24 to 72 hours.

At 500mb level, a mid-latitude low is expected to move between central Mediterranean Sea and northern Red Sea, with its associated trough deepening over Egypt and northern Sudan. On the other hand, a mid latitude trough in the westerly flow is expected to deepen over southeast Atlantic Ocean through 24 to 72 hours.

At 200mb, the persistent zonal westerly flow over the subtropical regions of both hemispheres is expected to attain a wavy pattern through 48 to 72 hours. The maximum wind speed associated with this flow is expected to exceed 110 knots across northwest Atlantic to east of Algeria, southeast of Libya to Arabian Peninsula, northern Morocco to northern Algeria, northeast of Algeria to eastern Egypt, while the maximum wind speed values are expected to exceed 90 knots across western Sahara to western Asia through 24 to 72 hours.

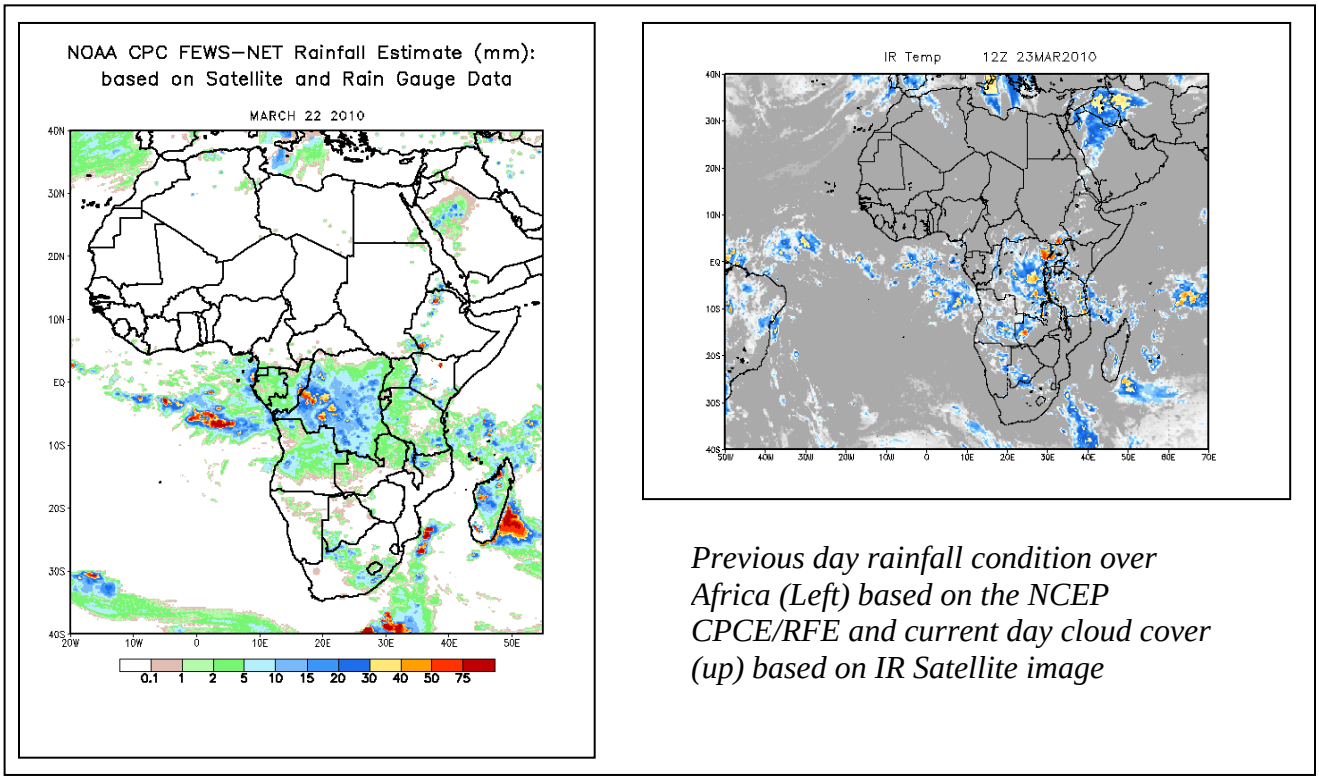
The moderate rainfall activity in Lake Victoria region is expected to continue due to active lower level convergence in the region through 24 to 72 hours. On the other hand, the heavy rainfall over central DRC is expected to decrease through 48 to 72 hours as a result of weakening of lower level wind convergence. The onshore winds from the Atlantic and Indian Oceans and their associated convergence are expected to maintain

the light to moderate rainfall over western parts of equatorial and southern Africa, parts of East Africa and southeast Africa.

2.0. Previous and Current Day Weather Discussion over Africa (22-23 March 2010)

2.1. Weather assessment for the previous day (22 March 2010): During the previous day, moderate to heavy rainfall events were observed over much of DRC and adjacent areas of Congo and Angola as well as few places of northern Ethiopia, Madagascar and Burundi.

2.2. Weather assessment for the current day (23 March 2010): isolated patches of intense clouds are observed over DRC, Rwanda, Burundi, Angola, Congo, Uganda and adjacent areas of southern Sudan, western part of Zambia and few places of southern Madagascar.



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

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