

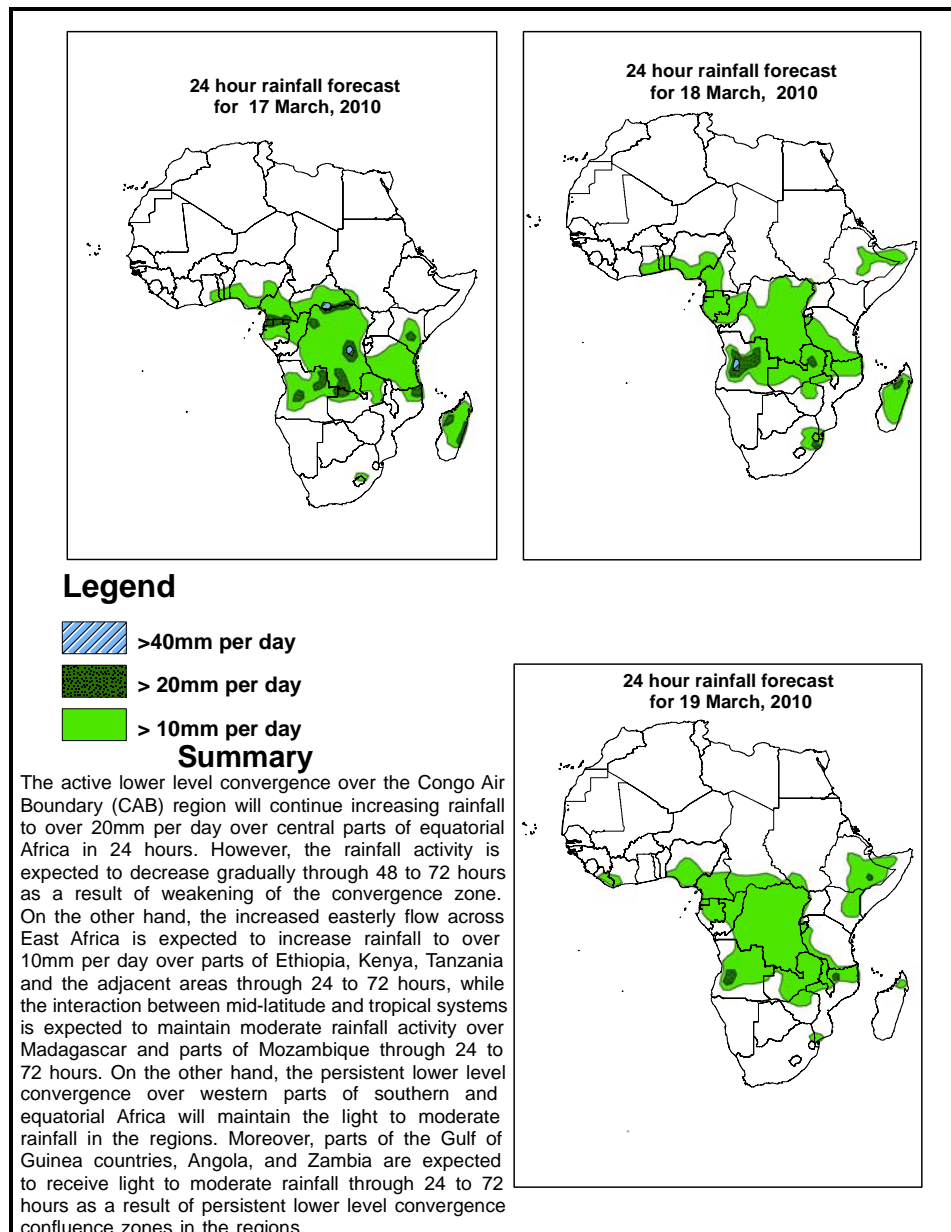


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 17 March –06Z of 19 March 2010, (Issued at 14:00EST of 16 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.



1.2. Models Comparison and Discussion - Valid from 00Z of 16 March 2010

The ridge associated with Saharan high is expected to expand over northern Africa and the adjacent Mediterranean area, while maintaining its intensity through 24 to 72 hours. In the southern hemisphere, a ridge that extends from the St. Helena high pressure system towards central and southern Mozambique across South Africa, Botswana and Zimbabwe is expected to weaken slightly through 24 to 72 hours. On the other hand the low pressure zones associated with the equatorial trough are expected to maintain central pressure values of 1010 to 1012mb over western parts of equatorial and southern Africa while slightly filling up over eastern and southeastern Africa through 24 to 72 hours.

At 850mb level, the dry northeasterly winds associated with Saharan anticyclone are expected to dominate the flow over much of northern Africa through 24 to 72 hours. On the other hand, the easterly winds from the periphery of the Arabian anticyclone are expected to maintain moisture incursion towards East Africa through 24 to 72 hours. The seasonal wind convergence over the Congo Air Boundary (CAB) region is expected to remain active through 24 hours, tending to weaken through 48 to 72 hours. On the other hand, lower tropospheric convergence zones over parts of the Gulf of Guinea countries and western parts of equatorial and southern Africa are expected to maintain light to moderate rainfall in the regions. Moreover, the interaction between tropical and extra-tropical systems across the Mozambique Channel will continue increasing rainfall to over 20mm per day over parts of southeast Africa, including Madagascar through 24 to 48hours.

At 500mb level, a trough in the mid-latitude westerly flow is expected to extend southwestwards across the Gulf of Eden while intensifying through 24 to 48 hours and tending to weaken through 48 to 72 hours. On the other hand, a trough in the westerlies is expected to extend northwards in the vicinity of Madagascar intensifying interactions between mid-latitude and tropical systems in the region through 24 to 72 hours.

At 200mb, a trough in the mid-latitude westerly flow is expected to extend southwestwards across the Gulf of Eden while intensifying through 24 to 48 hours and tending to weaken through 48 to 72 hours. On the other hand, a trough in the westerlies is expected to extend northwards in the vicinity of Madagascar intensifying interactions between mid-latitude and tropical systems in the region through 24 to 72 hours. The maximum wind speed associated with this flow is expected to exceed 130 knots in the region between eastern Mediterranean Sea to Persian Gulf, while the maximum wind values are expected to exceed 110 knots across western eastern Algeria to Libya through 24 to 72 hours.

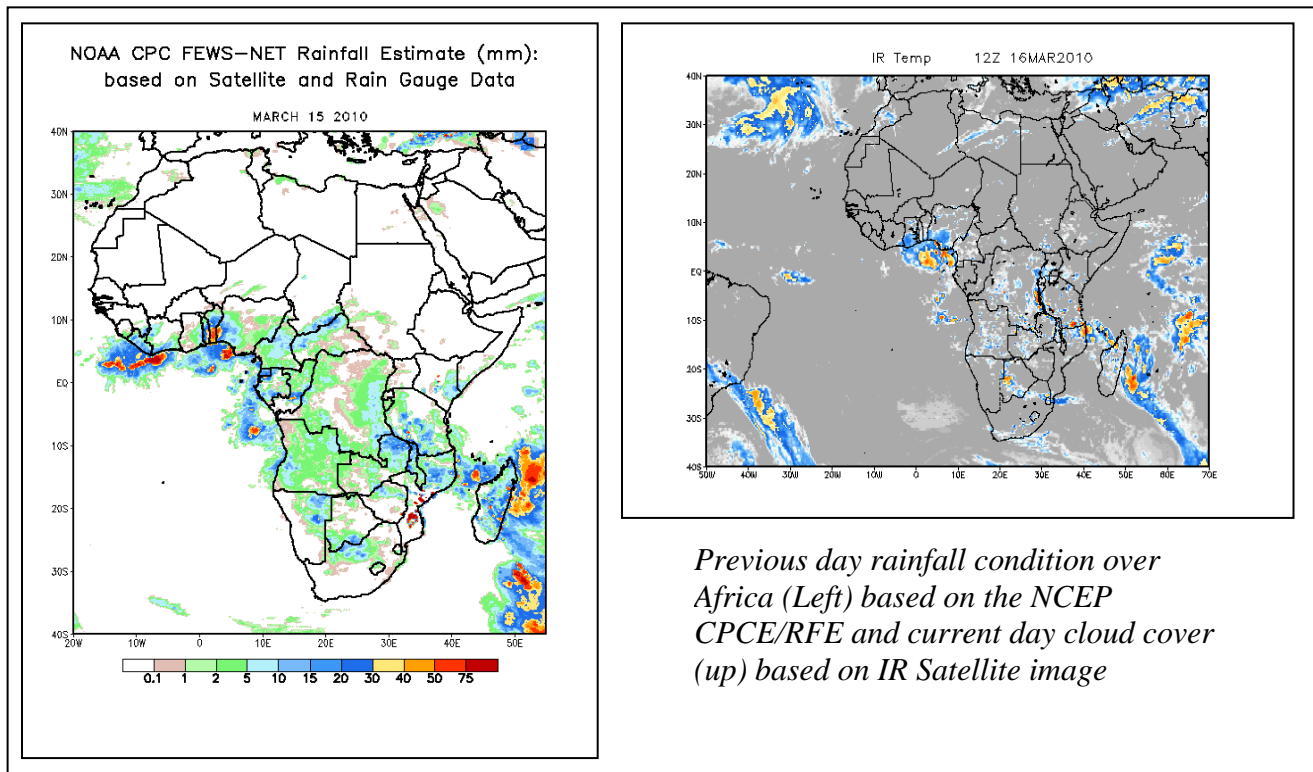
The active lower level convergence over the Congo Air Boundary (CAB) region will continue increasing rainfall to over 20mm per day over central parts of equatorial Africa in 24 hours. However, the rainfall activity is expected to decrease gradually through 48 to 72 hours as a result of weakening of the convergence zone. On the other hand, the

increased easterly flow across East Africa is expected to increase rainfall to over 10mm per day over parts of Ethiopia, Kenya, Tanzania and the adjacent areas through 24 to 72 hours, while the interaction between mid-latitude and tropical systems is expected to maintain moderate rainfall activity over Madagascar and parts of Mozambique through 24 to 72 hours. On the other hand, the persistent lower level convergence over western parts of southern and equatorial Africa will maintain the light to moderate rainfall in the regions. Moreover, parts of the Gulf of Guinea countries, Angola, and Zambia are expected to receive light to moderate rainfall through 24 to 72 hours as a result of persistent lower level convergence confluence zones in the regions.

2.0. Previous and Current Day Weather Discussion over Africa (15-16 March 2010)

2.1. Weather assessment for the previous day (15 March 2010): During the previous day, moderate to heavy rainfall events were observed over places of Madagascar and Benin, some places of Madagascar, Mozambique and Equatorial Guinea as well as few places of Congo, Tanzania, Zambia, Namibia and Botswana.

2.2. Weather assessment for the current day (16 March 2010): isolated patches of intense clouds are observed over Nigeria, Ghana, coastal areas of Cameroon and Mozambique, some places of Rwanda, Burundi, Botswana, Tanzania, Uganda and Swaziland as well as eastern extreme portions of DRC.



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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