

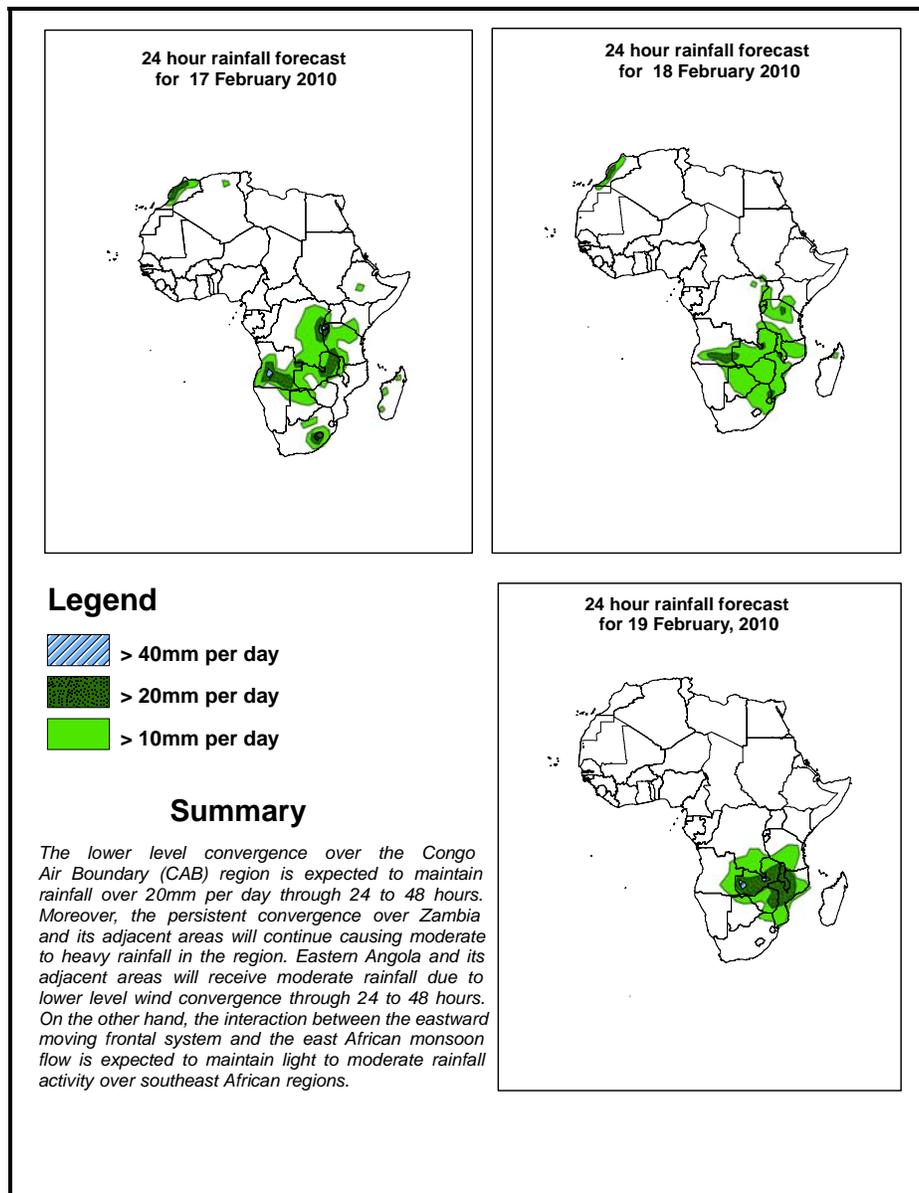


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

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

The Siberian high is expected to maintain its position through 24 to 48hrs with its ridge extending across the Arabian Peninsula up to Ethiopia. On the other hand, A low pressure system situated over Northeast Atlantic Ocean, with central pressure value of 990mb, is expected to move slightly eastwards while deepening through 24 to 48 hours. The mean sea level pressure values associated with the equatorial trough are expected to be in the order of 1008mb over the Gulf of Guinea, about 1003mb over Central African Republic, and 1003mb over southern Sudan. Furthermore, the central pressure value of 1009mb is expected over Mozambique Channel, while a low pressure system in the region bordering South Africa and Botswana is expected to fill up through 24 to 72 hours

At 850mb level, the mid-latitude westerlies are expected to dominate the flow over northwest Africa through 24 to 72 hour, with a trough axis deepening across the coastal areas of Northwest Africa. On the other hand, a trough in the westerlies is expected to move eastwards crossing the southern tip of Africa between 24 to 48 hours. The East African monsoon wind is expected to dominate the flow over southeast Africa through 24 to 72 hours. Furthermore, the zone of strong wind discontinuity is expected to develop in 24hours. However, the discontinuity is expected to weaken gradually through 48 to 72 hours. The seasonal lower level convergence over the Congo Air Boundary (CAB) region is expected to weaken slightly through 48 to 72 hours, while the convergence over Zambia and adjacent areas will remain active through 24 to 72 hours.

At 500mb level, a wavy pattern in the westerly wind is expected to dominate the flow over sub-tropical regions of northern and southern Africa. The northern hemisphere westerly flow is expected to be characterized by two feeble trough axes, extending southward across coastal northwest Africa and the Red Sea region. On the other hand, a trough in the westerlies is expected to move eastwards crossing South Africa while filling up through 24 to 72 hours

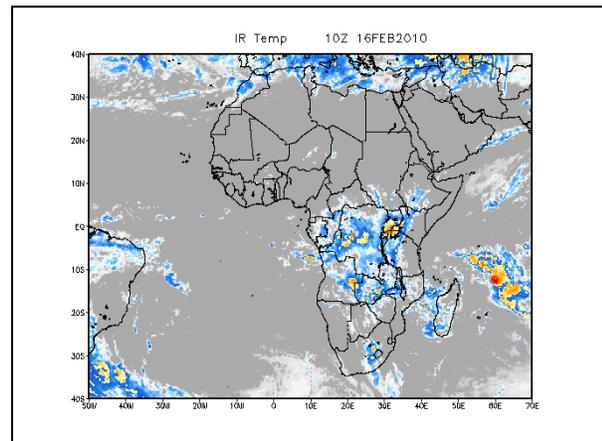
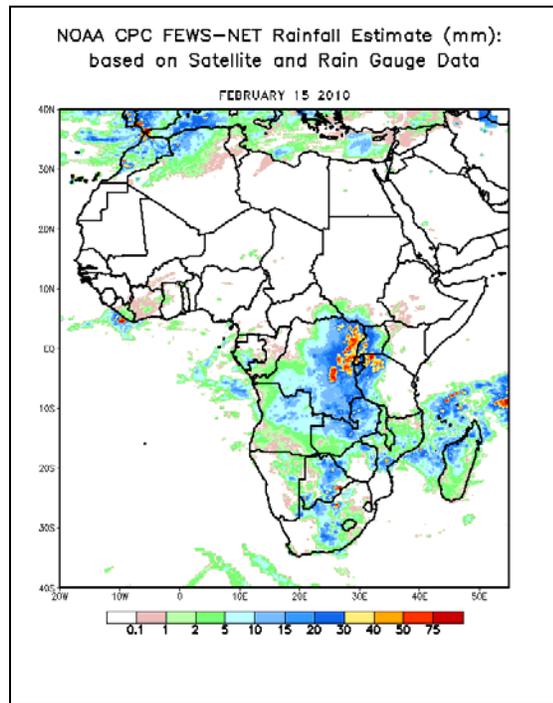
At 200mb, the flow over sub-tropical regions of North Africa will remain more of zonal, while the flow over subtropical regions of the southern hemisphere will assume a wavy pattern, with a trough associated with flow is expected to cross South Africa through 24 to 72 hours. The wind speed associated with sub-tropical westerly jet stream of the northern hemisphere is expected to exceed 110 knots through 24 to 48 hrs, while the jet is expected to weaken slightly through 48 to 72 hours

The lower level convergence over the Congo Air Boundary (CAB) region is expected to maintain rainfall over 20mm per day through 24 to 48 hours. Moreover, the persistent convergence over Zambia and its adjacent areas will continue causing moderate to heavy rainfall in the region. Eastern Angola and its adjacent areas will receive moderate rainfall due to lower level wind convergence through 24 to 48 hours. On the other hand, the interaction between the eastward moving frontal system and the east African monsoon flow is expected to maintain light to moderate rainfall activity over southeast African regions.

2. 0. Previous and Current Day Weather Discussion over Africa (15-16 February 2010)

2.1. Weather assessment for the previous day (15 February 2010): During the previous day, heavy rainfall events were observed over northeastern parts of DRC and the adjoining areas of great Lake Region. Besides, light to moderate rainfall events were observed over much of DRC, Rwanda, Burundi, Angola, Zambia, Botswana, central part of South Africa, eastern Tanzania and Madagascar.

2.2. Weather assessment for the current day (16 February 2010): Intense cloud patches are observed over central of DRC and great Lake Region.



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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