

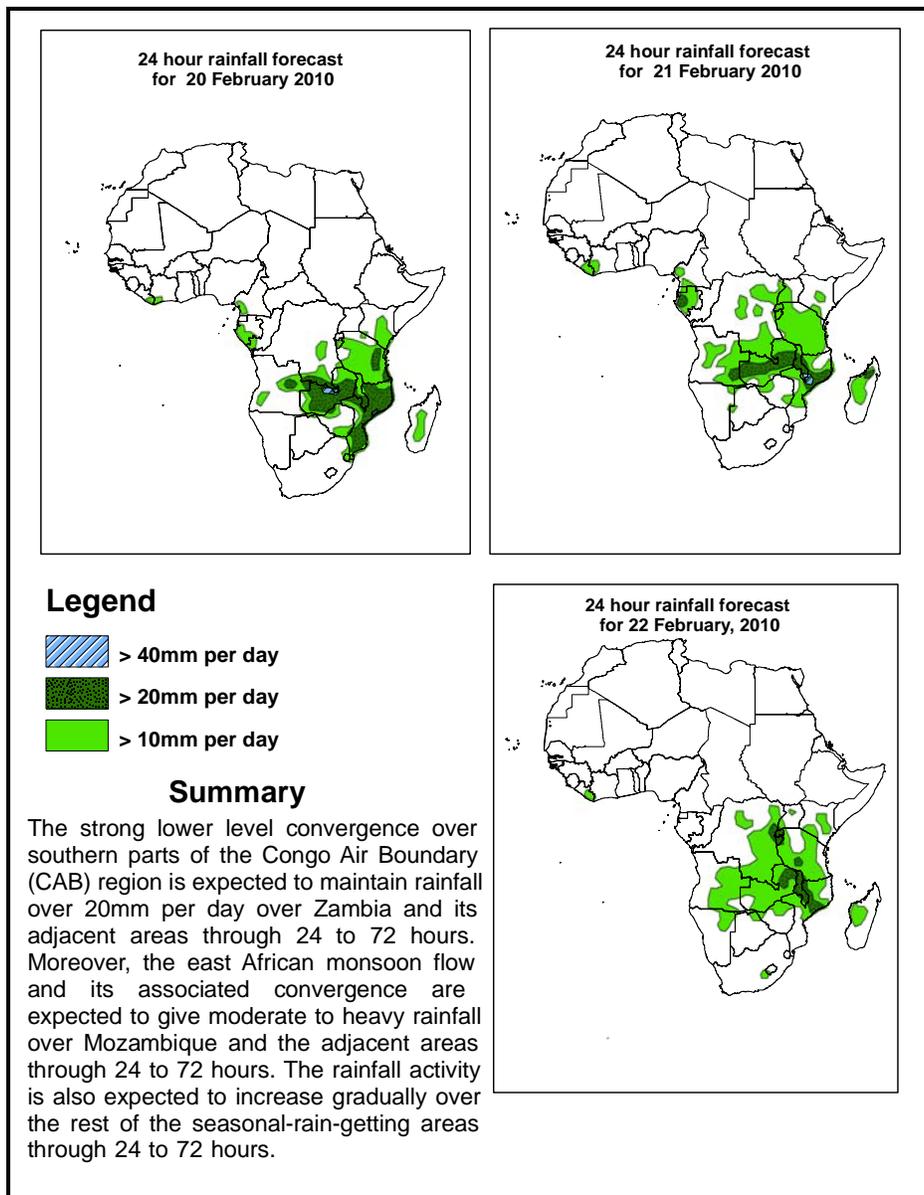


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 20 February –06Z of 22 February 2010, (Issued at 14:00EST of 19 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 20 February 2010

A mid latitude trough is expected to move from western Mediterranean Sea to eastern Mediterranean Sea while weakening through 24 to 72 hours. The mean sea level pressure values associated with the equatorial trough are expected to be about 1006mb over the Gulf of Guinea, 1004 over Central African Republic and 1003mb over southern Sudan through 24 to 72 hrs. The low pressure system over the Mozambique Channel is expected to deepen in 24 to 72 hours. On the other hand, a sub tropical high situated over northwest coast of Africa is expected to move eastwards while strengthening with mean sea level pressure value of 1021 in 48 to 72 hours. Furthermore, a weak high pressure system developed over the southeastern part of South Africa will give a way to a westward moving frontal system, while central pressure value is expected to weaken through 48 to 72 hours.

At 850mb level, a wavy pattern in mid-latitude westerlies is expected to dominate the flow over North Africa, with trough axes over Algeria and Middle East through 24 to 72 hours. On the other hand, the East African monsoon wind and its associated convergence are expected to dominate the flow over southeast and southern Africa through 24 to 72 hours. The seasonal lower level convergence is expected to persist influencing the rainfall activity over the Congo Air Boundary (CAB) region, including Zambia through 24 to 72 hours, while the convergence over Angola is expected to strengthen gradually through 48 to 72 hours.

At 500mb level, the persistent wavy pattern in the westerly wind over sub-tropical regions of northern and southern Africa is expected to weaken gradually resulting in a more or less zonal flow through 24 to 72 hours.

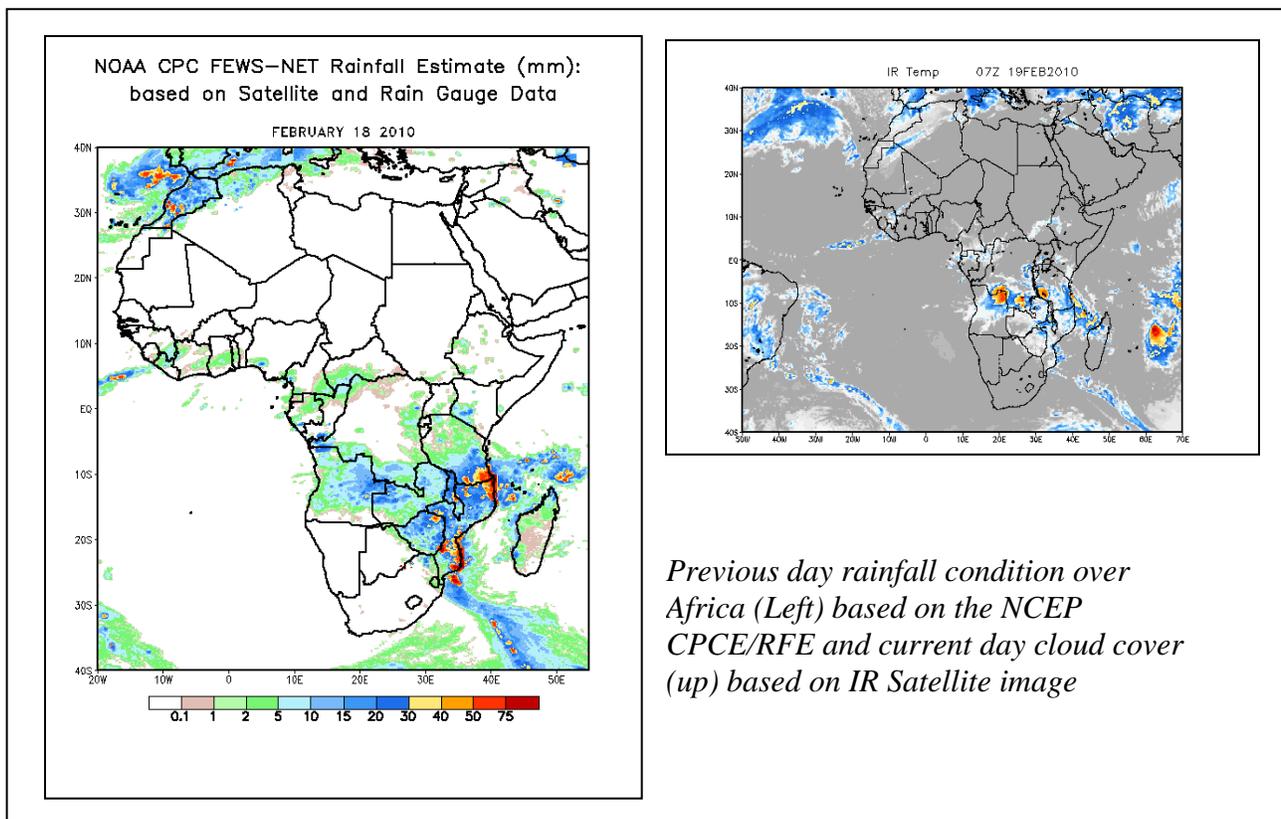
At 200mb, the flow over sub-tropical regions of North Africa is expected to be more zonal with a weak wavy pattern. On the other hand, the flow over the subtropical regions of the southern hemisphere is expected to remain wavy through 48 to 72 hours. The wind speed associated with sub-tropical westerly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

The strong lower level convergence over southern parts of the Congo Air Boundary (CAB) region is expected to maintain rainfall over 20mm per day over Zambia and its adjacent areas through 24 to 72 hours. Moreover, the east African monsoon flow and its associated convergence are expected to give moderate to heavy rainfall over Mozambique and the adjacent areas through 24 to 72 hours. The rainfall activity is also expected to increase gradually over the rest of the seasonal-rain-getting areas through 24 to 72 hours.

2. 0. Previous and Current Day Weather Discussion over Africa (18-19 February 2010)

2.1. Weather assessment for the previous day (18 February 2010): During the previous day, heavy rainfall events were observed over few places Mozambique and the adjoining areas whereas, light to moderate rainfall events were observed over southern extreme part of DRC, much of Tanzania, Malawi Zambia, Zimbabwe, Gabon and Angola, southwestern Kenya, northern and eastern parts of Madagascar as well as southwestern Ethiopia.

2.2. Weather assessment for the current day (19 February 2010): Intense cloud patches are observed over northern Angola, southeastern DRC and northwestern Tanzania.



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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