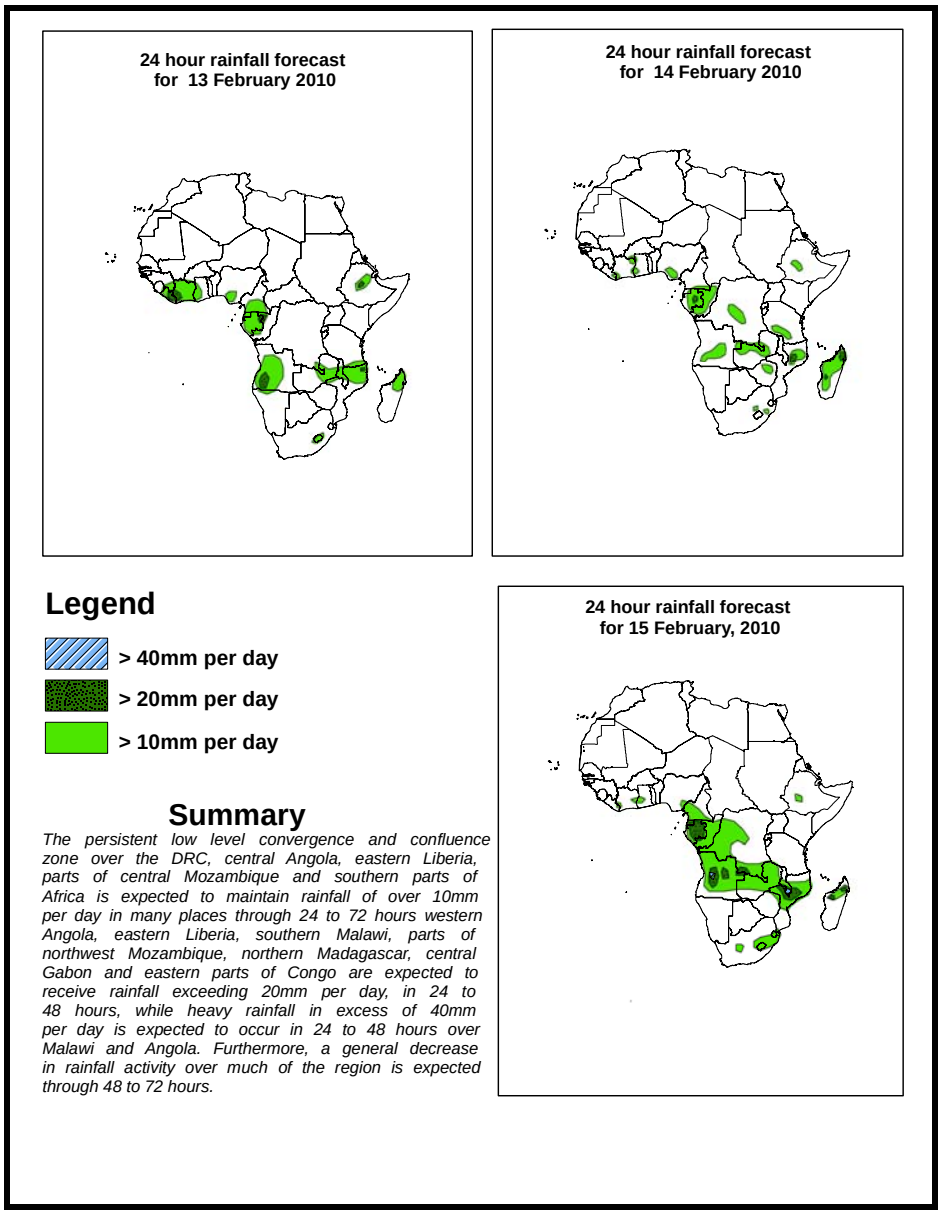
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 13 February –06Z of 15 February 2010, (Issued at 14:00EST of 12 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 13 February 2010

The Siberian high is expected to maintain its position in 24 to 48 with a ridge extending over the Arabian Peninsula up to Ethiopia and eastern Egypt. On the other hand, A low pressure system situated over extreme northwestern North Africa is expected to move eastwards while deepening with its trough extending southwards over central Libya weakening the western extent of the Arabian high in 48 to 72 hours. Besides, a low pressure system, with central pressure values of 988mb, is expected from the Azores region moving eastwards and extending up to eastern Algeria in 48 to 72 hours.

The equatorial trough is expected to persist over much of equatorial Africa with pressure values of 1009mb over the Gulf of Guinea, 1004mb over Central African Republic, and 1002mb over southern Sudan. Furthermore, 1008mb over Mozambique Channel is expected while a low pressure system over north of South Africa and covering much of Botswana is expected to reach 1010mb, in 24 to 72 hours

At 850mb level, a cyclonic system covering much of North Africa is expected to slightly move from about 32^0E to about 35^0E while maintaining its southern extent of 15^0N. This eastward movement will tend to weaken the Arabian anticyclone northern extent in 24 to 72 hours.
Generally, the seasonal convergence over much of the CAB region is expected to persist in 24 to 72 hours. However, a slight weakening over eastern parts is expected in 48 to 72 hours, while the western parts of Africa will maintain convergence activity. Furthermore, the strong convergence of the northeasterly to easterly flow, from the east African monsoon, and westerly flow from the Atlantic Ocean is expected over most parts of east central and southern Africa, through 24 to 72 hours, with slight reduction of convergence activities over the eastern part of Africa in 48 to 72 hours. Localized convergence is expected to persist over southern Angola and Namibia through 24 to 72 hours.

At 500mb level, much of North Africa is expected to assume a weak wavy pattern in the westerly flow, in 24 to 72 hours. Moreover, the southern hemisphere will experience a wavy flow in the subtopics which is expected to be slightly weakened in 24 to 72 hrs.

At 200mb, North Africa will experience a zonal flow with wind speeds of up to 110 knots in 24 to 48 hrs and is expected to decrease to about 90 knots in 48 to 72 hours.

The persistent low level convergence and confluence zone over the DRC, central Angola, eastern Liberia, parts of central Mozambique and southern parts of Africa is expected to maintain rainfall of over 10mm per day in many places through 24 to 72 hours western Angola, eastern Liberia, southern Malawi, parts of northwest Mozambique, northern Madagascar, central Gabon and eastern parts of Congo are expected to receive rainfall exceeding 20mm per day, in 24 to 48 hours, while heavy rainfall in excess of 40mm per day is expected to occur in 24 to 48 hours over Malawi and Angola. Furthermore, a general decrease in rainfall activity over much of the region is expected through 48 to 72 hours.

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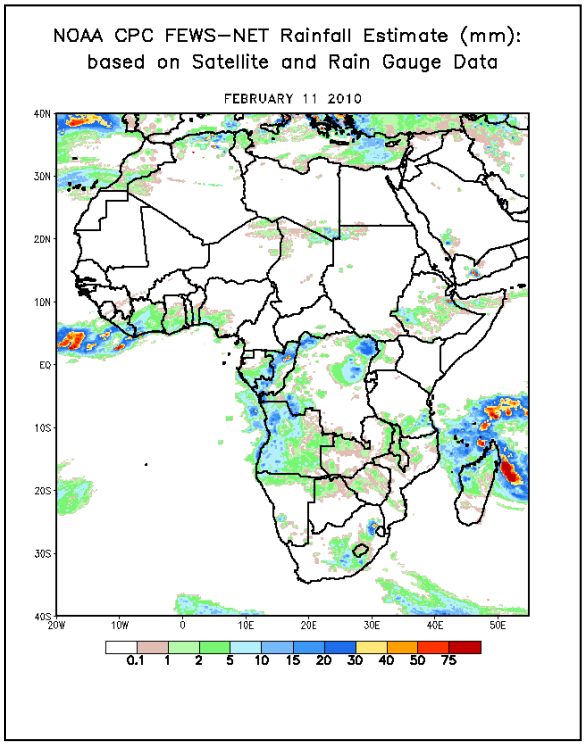
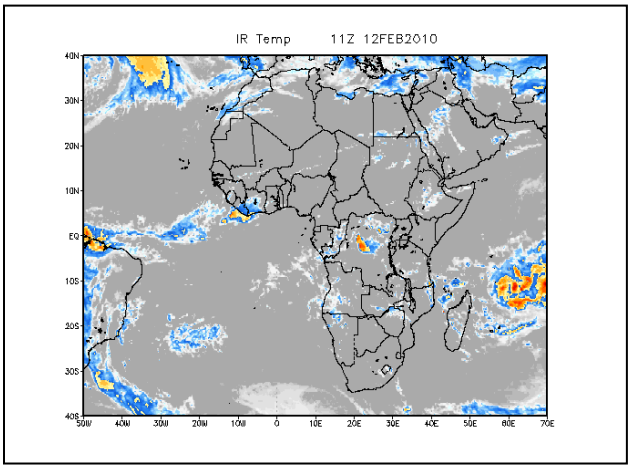
2. 0. Previous and Current Day Weather Discussion over Africa (11-12 February 2010)

2.1. Weather assessment for the previous day (11 February 2010): During the previous day, light rainfall events were observed northwestern parts of DRC.

2.2. Weather assessment for the current day (12 February 2010): Intense cloud patches are observed over central 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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