

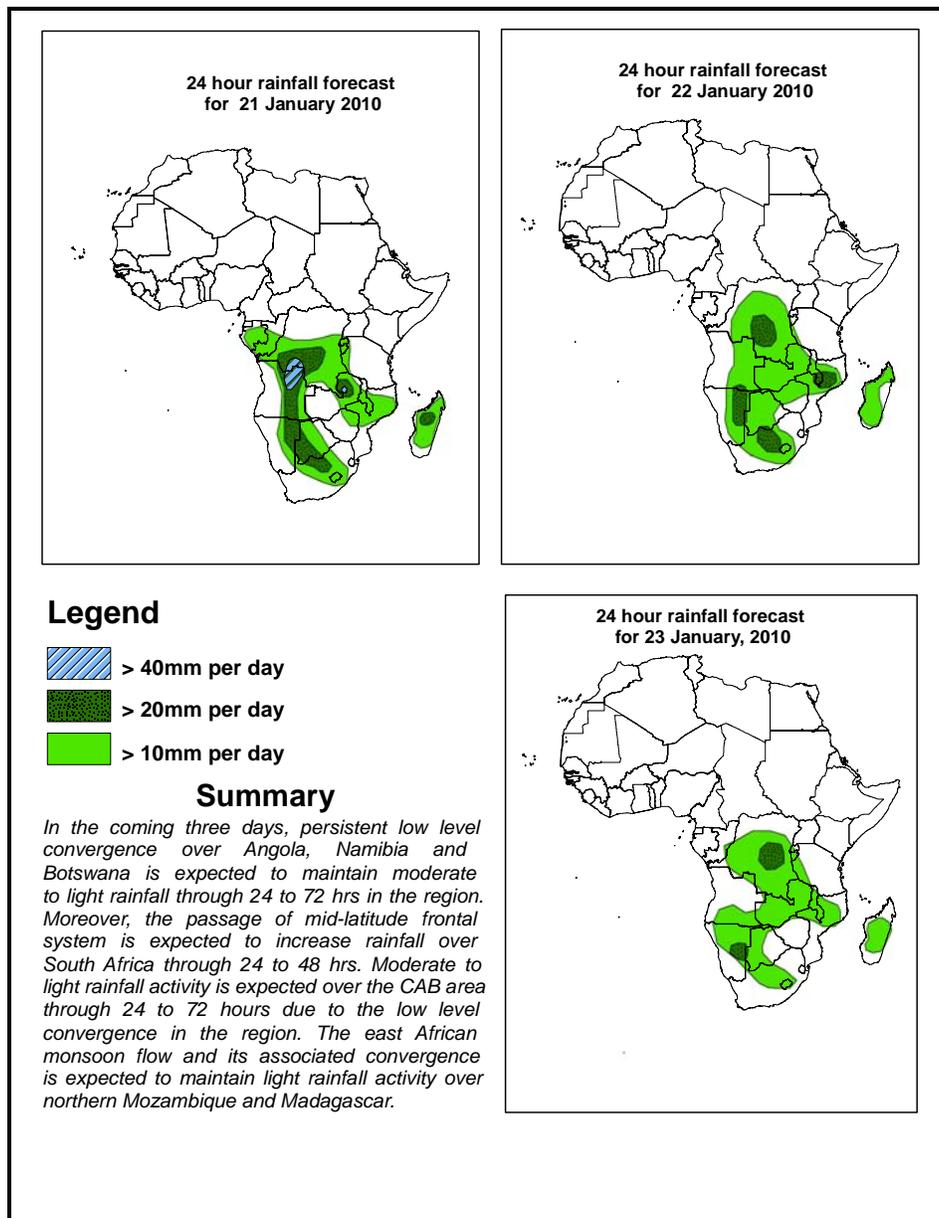


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 21 January –06Z of 23 January 2010, (Issued at 14:00EST of 20 January 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 21 January 2010

A high pressure system over Egypt is expected to merge with a high pressure system over southern Europe and move eastward to form the Arabian high over the Arabian Peninsula through 24 to 72 hrs. Behind the Arabian high is a low pressure system moving eastwards from western Mediterranean Sea to eastern Mediterranean Sea through 48 to 72 hrs. A trough associated with the seasonal low pressure system is expected to persist over Namibia, Botswana and western South Africa through 24 to 48 hrs. A high pressure system is expected to persist over southern Mozambique and extending north up to the border with Zimbabwe through 48 to 72 hrs. A frontal system is expected to increase rainfall over South Africa, while moving eastward across the region.

At 850mb level, the Saharan Anticyclone is expected to weaken and slightly give way to the mid latitude cyclonic circulation which is expected to move eastwards while extending southwards up to southern Libya in 24 to 48 hrs and 20⁰ N over the Red Sea in 48 to 72 hrs. On the other hand the Arabian anticyclone is expected to strengthen through 24 to 72 hrs with its centre positioned over the Arabian Peninsula. A weak cyclonic circulation is also expected to persist over Yemen through 24 to 48 hrs. Easterly flow, from the east African monsoon, and westerly flow from the Atlantic Ocean is expected to converge over parts of east central and southern Africa, through 24 to 48 hrs. The seasonal convergence over the CAB region is expected to persist through 24 to 72 hrs while discontinuities over western equatorial Africa are expected to subside through 48 to 72 hrs. Localized convergence over southern Angola and northern Namibia is expected through 24 to 72 hrs.

At 500mb level, a wavy flow is expected over much of North Africa with a trough extending southwards up to 12⁰ N south of Chad through 24 to 72 hrs. A zonally oriented flow in the westerlies is expected to dominate the flow over southern hemisphere sub tropical areas in 24 to 48hrs. However, the system is expected to move eastwards while attaining a feeble wave pattern through 48 to 72 hrs.

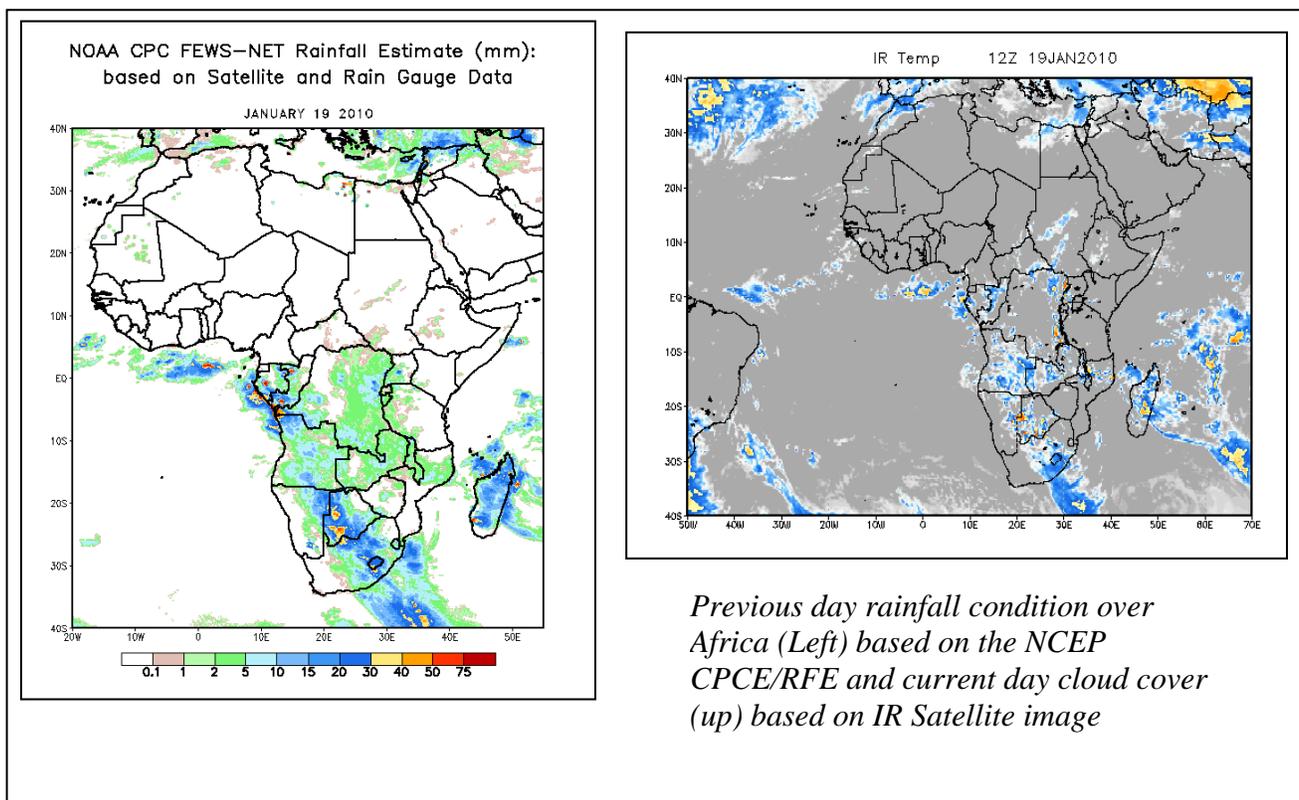
At 200mb, a mid latitude westerly wave is expected in 24 hrs, tending to a zonal flow in 48 to 72 hrs. Wind speeds exceeding 130 are expected over Egypt and north of the Arabian Peninsula much of North Africa with the strongest winds reaching 150kts over Egypt and the north of the Arabian Peninsula through 24 to 72 hrs.

In the coming three days, persistent low level convergence over Angola, Namibia and Botswana is expected to maintain moderate to light rainfall through 24 to 72 hrs in the region. Moreover, the passage of mid-latitude frontal system is expected to increase rainfall over South Africa through 24 to 48 hrs. Moderate to light rainfall activity is expected over the CAB area through 24 to 72 hours due to the low level convergence in the region. The east African monsoon flow and its associated convergence is expected to maintain light rainfall activity over northern Mozambique and Madagascar.

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

2.1. Weather assessment for the previous day (19 January 2010): During the previous day, intense rainfall activity was observed over southern Botswana and coastal Congo. Moderate to light rainfall events were also observed over northern South Africa and Madagascar.

2.2. Weather assessment for the current day (20 January 2010): Clouds are observed over western Zambia, parts of Angola, Botswana, South Africa and Madagascar.



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