

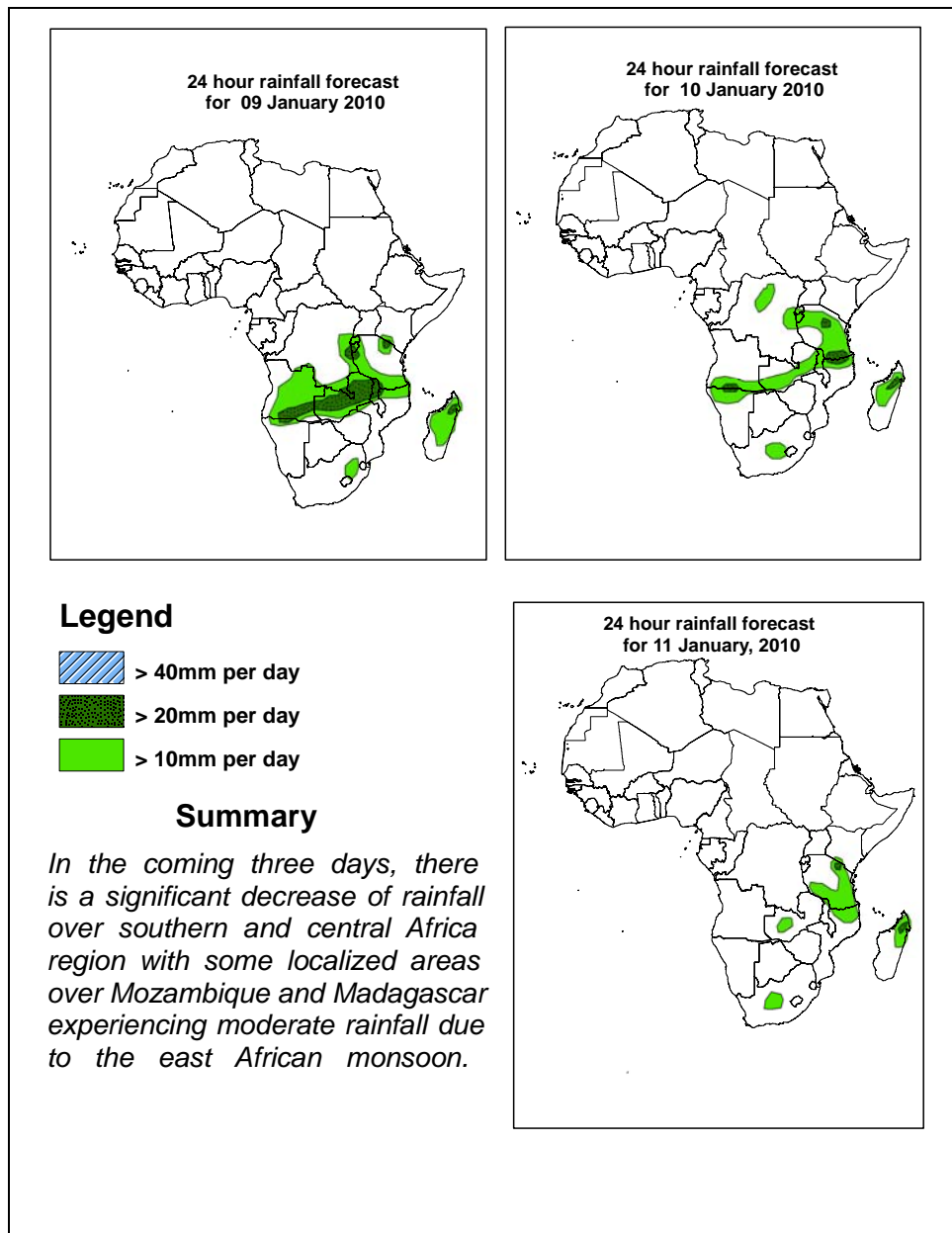


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 09 January –06Z of 11 January 2010, (Issued at 14:00EST of 08 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 09 January 2010

Through 24 hrs, the Siberian high is expected to have two ridge axes extending towards Libya across Egypt and towards the Arabian Peninsula. A mid-latitude low pressure system over extreme North Africa and the Mediterranean Sea will shift eastwards while weakening through 24 to 48hrs. Another low pressure system will build up from the northwest Atlantic and will merge with the low pressure system over extreme North Africa in 48 to 72 hrs.

At 850mb level, an anticyclonic circulation over Jordan is expected to have two ridges, extending towards Libya and the Arabian Peninsula through 24 hrs. The anticyclonic circulation is expected to move slightly to the east through 48 to 72 hrs, as a result of which the western branch of the ridge weakens, while its eastern branch maintains its intensity.

Zonal convergence of northwesterlies and southwesterlies over Equatorial Africa is expected to persist in the coming three days. Convergence over the CAB region is also expected to remain active increasing its extent to south western Africa through 48 to 72hrs. Therefore, much of the CAB areas will continue receiving light to moderate rainfall diminishing through 24 to 72hrs. The east African monsoon flow is expected to maintain light to moderate rainfall activity over coastal areas of East Africa and Madagascar.

At 500mb level, a wavy wind flow moving eastwards is more pronounced in both hemispheres; a high pressure system over northern Africa stretching from the Senegal to Sudan is expected to strengthen while maintaining its position through 24 to 72hrs. The mid latitude trough over the eastern Mediterranean is expected to move eastwards while slightly weakening through 48 to 72 hrs.

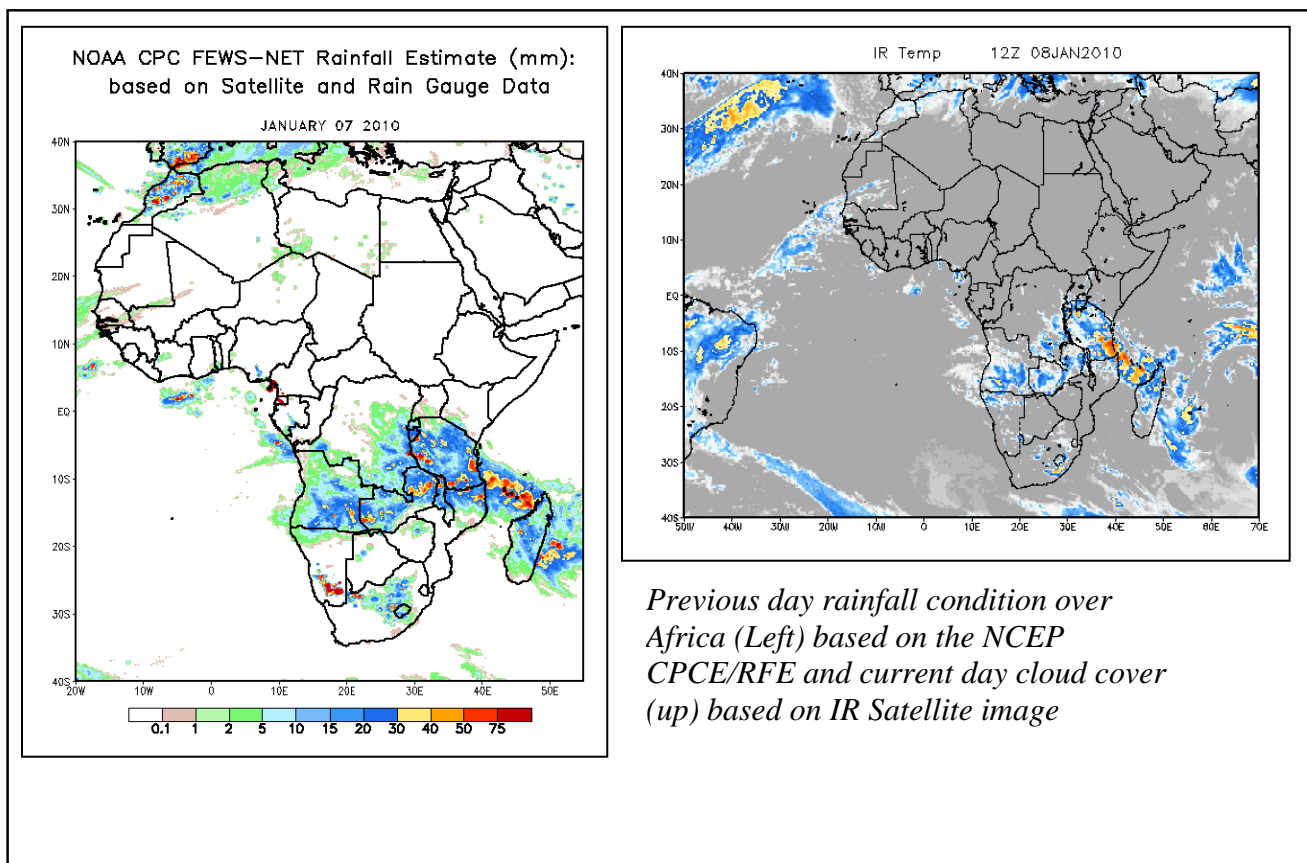
At 200mb, consistent with the mid-tropospheric flow, a wavy pattern is expected, extending across Algeria, with speeds exceeding 110knotts with pockets of wind with speed up 150knotts. In 48 to 72hrs, Jet streams will maintain a wavy pattern with increase in speed up to 150 knots over Algeria.

In the coming three days, there is a significant decrease of rainfall over southern and central Africa region with some localized areas over Mozambique and Madagascar experiencing moderate rainfall due to the east African monsoon.

2. 0. Previous and Current Day Weather Discussion over Africa (07 –08 January 2010)

2.1. Weather assessment for the previous day (07 January 2010): During the previous day, intense to moderate rainfall events were observed over Zambia and Tanzania and parts of Namibia, Angola, Mozambique, and Madagascar.

2.2. Weather assessment for the current day (08 January 2010): Clouds are observed over Zambia, Tanzania and the Great lakes region and parts of DRC, Angola Mozambique and Madagascar.



Previous day rainfall condition over Africa (Left) based on the NCEP CPCE/RFE and current day cloud cover (up) based on IR Satellite image

Author(s): Edson Nkonde (Zambia Meteorological Department/CPC-African Desk)
Anthony Twahirwa (Rwanda Meteorological Services / CPC-African Desk)

Disclaimer: *This bulletin is for training purposes only and should be used as guidance. NOAA does not make forecasts for areas outside of the United States.*