

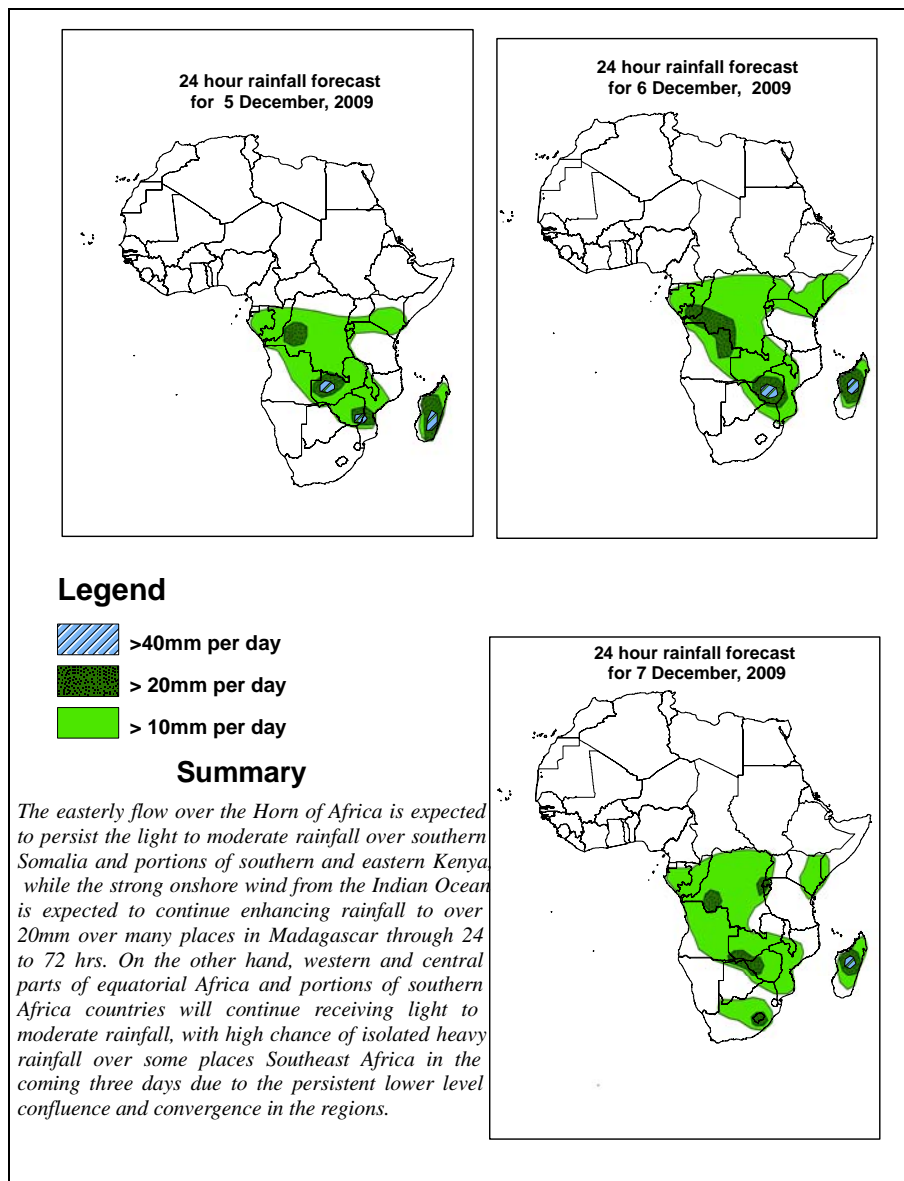


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 5 December – 06Z of 7 December 2009, (Issued at 14:00EST of 4 December 2009)

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 4 December 2009

With a weak low tropospheric cyclonic circulation developing off the coast of Somalia, the ECMWF model expects a slight weakening of the easterly flow across coastal East Africa, while the GFS model tends to persist the easterly flow through 24 to 72 hrs. Especially, the easterly flow is expected to become so strong 48hrs later that the lower level convergence over the CAB region is expected to shift slightly to the west accordingly. On the other hand, all the three models are in agreement in indicating persistent lower level convergence and confluence zone over western parts of equatorial Africa, the CAB region and southeastern portions of Africa in the coming three days. Besides, the persistent moisture advection towards Madagascar is expected to continue through 24 to 72 hrs.

The GFS and ECMWF models indicate an approach a mid tropospheric frontal system towards off the coast of South Africa in the coming three days, while the mid tropospheric circulation over Mediterranean Sea is expected to reach northern Red Sea area after 72hrs.

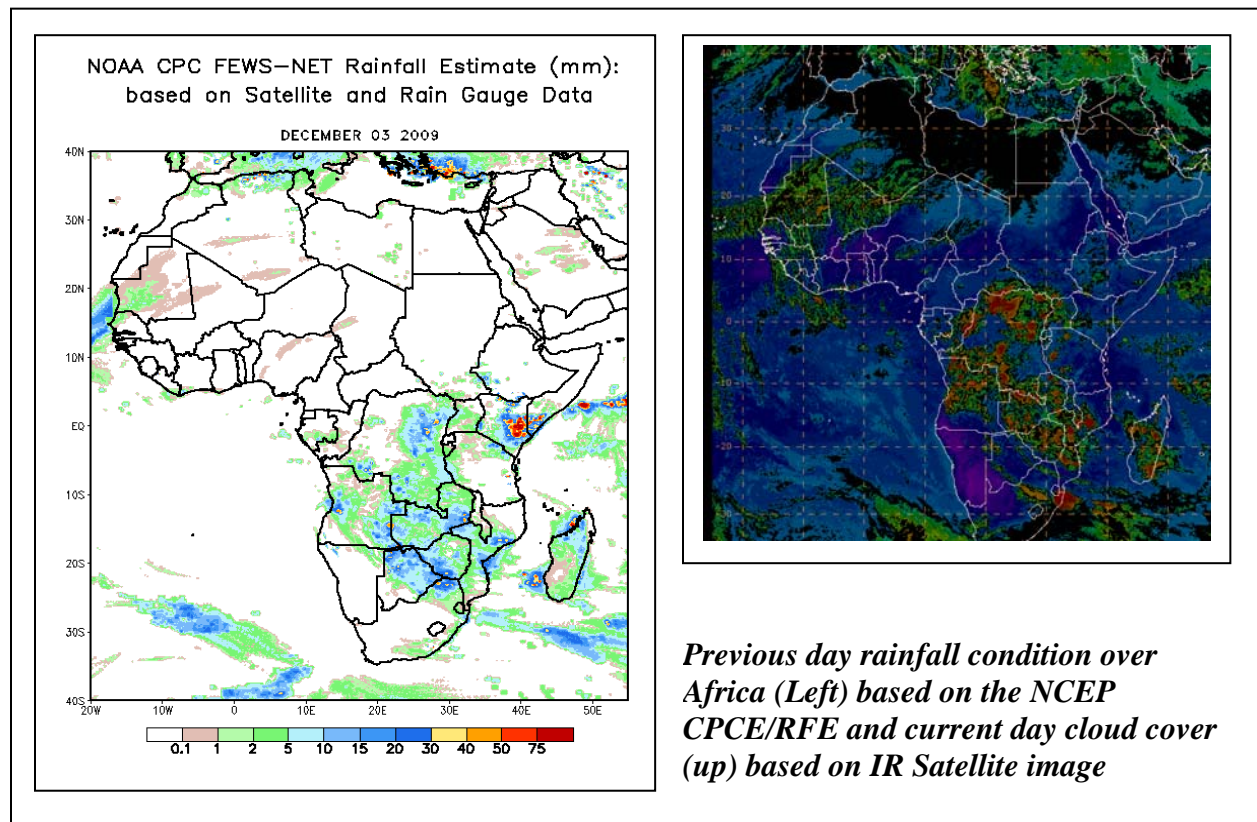
The GFS and ECMWF models indicate strong sub-tropical westerly jet (with a core speed of over 110kts) to dominate the 200mb flow in the area extending between Libya and Egypt between 24 and 48 hrs, while the maximum wind speed associated with the tropical westerly jet in the southern hemisphere is expected to be over southwest Indian Ocean. These zones of maximum wind speed in the 200mb flow in both hemispheres are expected to shift towards the east 72hrs later.

In general, the easterly flow over the Horn of Africa is expected to persist the light to moderate rainfall over southern Somalia and portions of southern and eastern Kenya, while the strong onshore wind from the Indian Ocean is expected to continue enhancing rainfall to over 20mm over many places in Madagascar through 24 to 72 hrs. On the other hand, western and central parts of equatorial Africa and portions of southern Africa countries will continue receiving light to moderate rainfall, with high chance of isolated heavy rainfall over some places Southeast Africa in the coming three days, due to the persistent lower level confluence and convergence in the regions.

2. Previous and Current Day Weather Discussion over Africa (3 – 4 December to 2009)

2.1. Weather assessment for the previous day (3 December 2009): During the previous day, moderate to heavy rainfall events were observed over parts of DR Congo, Angola, Zambia, Zimbabwe, northeastern South Africa, southern Mozambique and Madagascar

2.2. Weather assessment for the current day (4 December 2009): Intense clouds are observed over parts of Congo, DR Congo, Uganda, Angola, Zambia, Zimbabwe, eastern South Africa, southern Mozambique and Madagascar.



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