

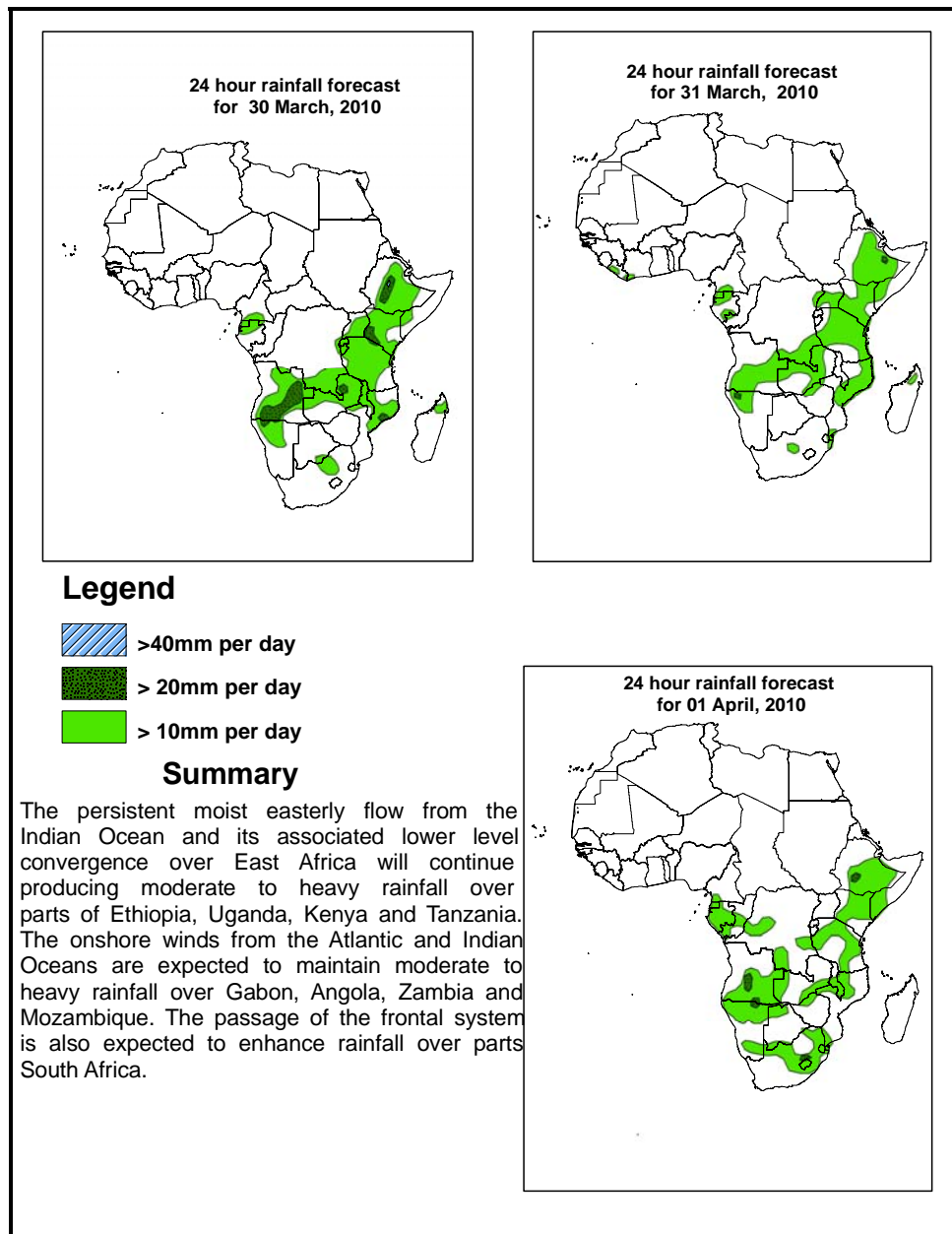


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 30 March –06Z of 01 April 2010, (Issued at 14:00EST of 29 March 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 29 March 2010

The central pressure value associated with northern hemisphere subtropical high pressure system is expected to be as high as 1021mb over northern Africa through 24 to 72 hours. In the southern hemisphere localized high pressure cells with central pressure values of 1019mb and 1021mb located over Zimbabwe and South Africa, respectively, are expected to persist through 24 to 72 hours. Their associated ridge extends up to Namibia and Tanzania in 24 to 48 hours. On the other hand the Arabian high is expected to continue having a maritime ridge that will enhance moisture incursion towards East Africa. A low pressure system with central pressure value of 1010mb located off the coast of Angola is expected to maintain its position while slightly deepening in 48 to 72 hours. The low pressure zones associated with the equatorial trough are expected to deepen slightly from 1008mb to 1007mb over Gulf of Guinea, from 1009mb to 1006mb over central Africa and 1009mb to 1005mb over southern Sudan through 24 to 72 hours.

At 850mb level, the Saharan anticyclone is expected to dominate the northern African regions, while expanding towards the Arabian Peninsula across Red Sea through 24 to 72 hours. With eastward expansion of the subtropical ridge, the interaction between the mid-latitude and tropical system is expected to weaken gradually, through 24 to 72 hours. However, the moist southeasterly winds from central Indian Ocean and their associated convergence are expected to maintain the moderate to heavy rainfall activity over parts of East African countries through 24 to 72 hours. On the other hand, a mid-latitude frontal system is expected to pass across the southern portions of South Africa through 24 to 48 hours. The convergence in the CAB region is expected to remain active through 24 to 72 hours. Besides, the lower tropospheric convergence zones over parts of the Gulf of Guinea countries and western parts of equatorial and southern Africa are expected to weaken slightly through 48 to 72 hours.

At 500mb level, a mid-latitude trough near the 10⁰E longitude and 10⁰N latitude is expected to move eastwards, while weakening in 48 to 72 hours. The associated westerly flow is expected to expand towards northern Sudan 48 to 72 hours. On the other hand, the mid latitude flow over the southern hemisphere is expected to be zonal through 24 to 72 hours.

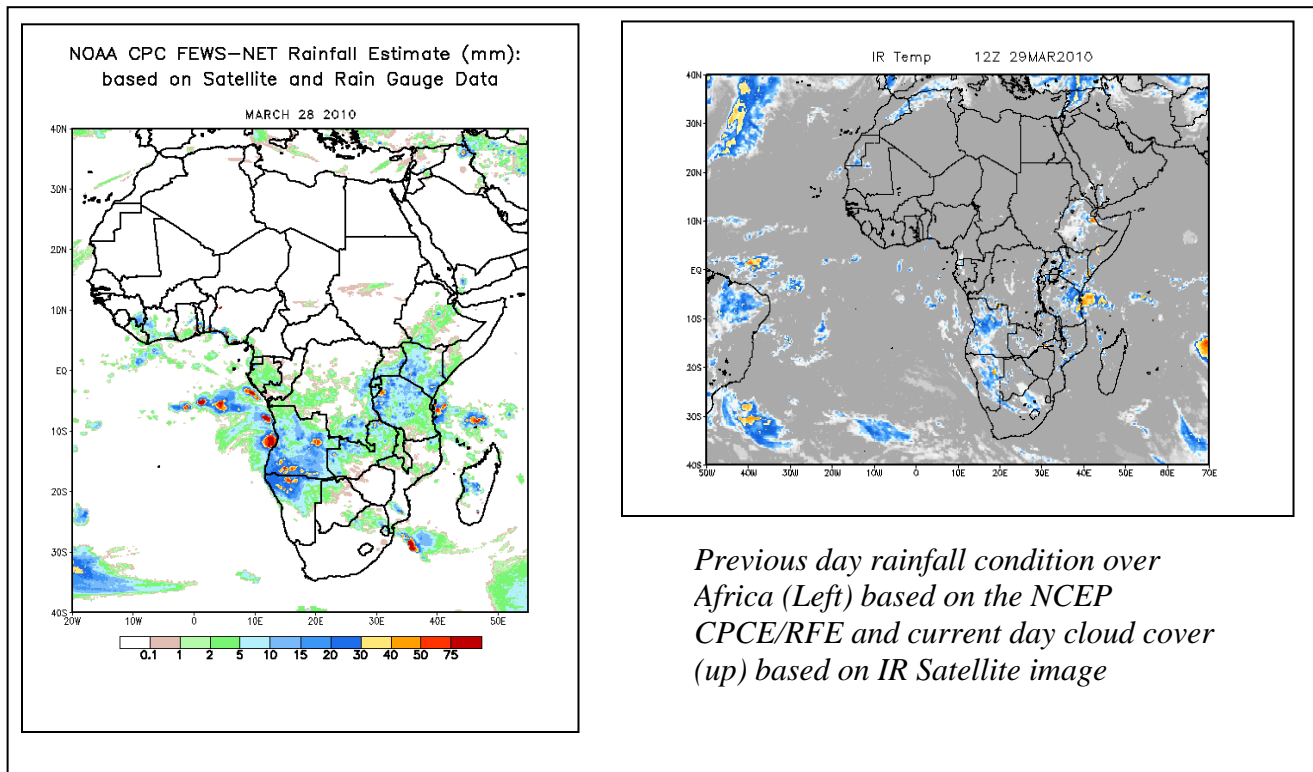
At 200mb, the flow over the subtropical regions of northern Africa expected to remain zonal across the northern Africa region through 24 to 72 hours. On the other hand a wavy pattern in the westerly flow is expected to dominate the subtropical regions of the southern hemisphere, with a ridge axis over southern Africa countries and the trough axes over the Atlantic and Indian Oceans. In the northern hemisphere, the maximum wind speed associated with this flow is expected to exceed 110 knots across Arabian Peninsula to east Asia, while the maximum wind speed values are expected to exceed 90 knots across red Sea to east of Asia through 24 to 72 hours.

The persistent moist easterly flow from the Indian Ocean and its associated lower level convergence over East Africa will continue producing moderate to heavy rainfall over parts of Ethiopia, Uganda, Kenya and Tanzania. The onshore winds from the Atlantic and Indian Oceans are expected to maintain moderate to heavy rainfall over Gabon, Angola, Zambia and Mozambique. The passage of the frontal system is also expected to enhance rainfall over parts South Africa.

2.0. Previous and Current Day Weather Discussion over Africa (28-29 March 2010)

2.1. Weather assessment for the previous day (28 March 2010): During the previous day, moderate to heavy rainfall events were observed over Angola and adjacent areas, northern Namibia, northern and western Tanzania and southern Kenya.

2.2. Weather assessment for the current day (29 March 2010): isolated patches of intense clouds are observed over central Angola, central Namibia, northeastern Tanzania, eastern Ethiopia and central part of South Africa.



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