

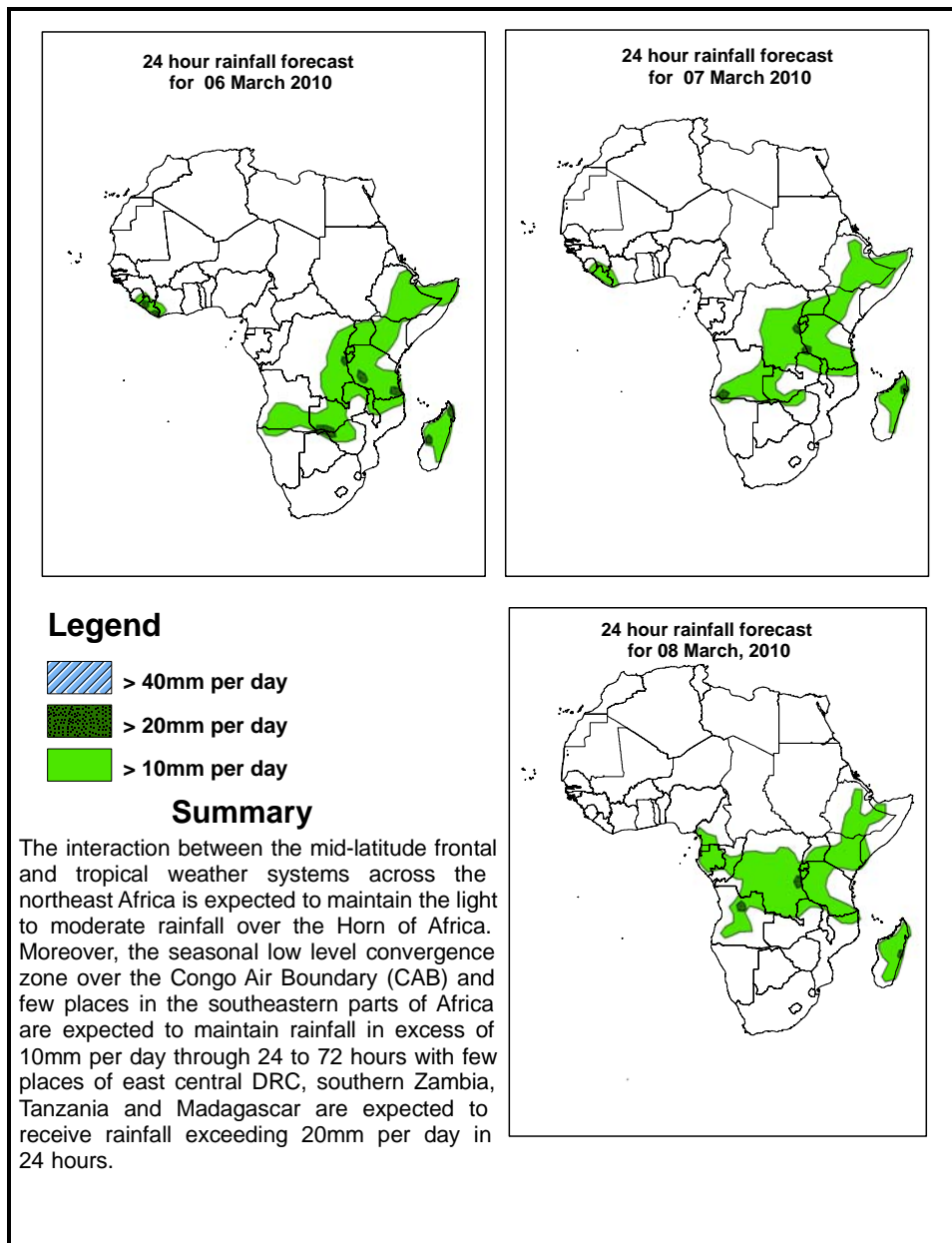


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 06 March –06Z of 08 March 2010, (Issued at 14:00EST of 05 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 05 March 2010

In 24 hours, a low pressure system located over Northern Atlantic Ocean, with central pressure value of 1002mb is expected to move eastwards while deepening to 999mb in 24 to 48 hours. This low pressure system is expected to move further eastwards while deepening gradually in 48 to 72 hours. On the other hand, a high pressure cell located over the Arabian Peninsula with central pressure value of 1019mb is expected to expand southwards, while maintaining its central pressure value through 24 to 72 hours. Besides, the Mascarene high, located over east of South Africa with central pressure value of 1020mb is expected to strengthen while maintaining its position through 24 to 72 hours. Moreover, localized high pressure system located over Angola with central pressure value of 1019mb is expected to persist with slight change in central pressure in 24 to 72 hours. A low pressure zone associated with the equatorial trough is expected to deepen slightly across the western to central parts of equatorial Africa, with central pressure values of about 1008 to 1006mb over Gulf of Guinea, 1007 to 1005mb over Central African Republic and 1007 to 1005mb over southern Sudan through 24 to 72 hours.

At 850mb level, the Saharan anticyclonic system is expected to move eastwards in 48 to 72 hours while dominating the flow over much of northern. The cyclonic circulation situated over northeast Atlantic Ocean is expected to move eastwards extending its trough axis up to southern parts of Mali. This trough is expected to dominate the flow over west of the Saharan anticyclone, while deepening 48 to 72 hours. On the other hand, the Arabian anticyclone is expected to strengthen while maintaining its position in 24 to 48 hours. This anticyclone is expected to strengthen further in 72 hours merging with the Saharan anticyclone. The monsoon flow is expected to attain more easterly to southeasterly component that favors increased moisture incursion towards East Africa in 48 to 72 hours. Moreover, the peripheral winds of the east African ridge are expected to enhance moisture incursion towards the coastal areas of southeast Africa.

In 24 to 72 hours, the seasonal convergence over the CAB region is expected to remain active. In addition, localized convergences are expected to dominate the flow over parts of east and central Africa through 24 to 72 hours. Localized convergence zones over Angola, central and southeast coast of South Africa, Cameroon, Northeastern DRC and southwestern, western and eastern parts of Ethiopia are expected to enhance wet weather activity through 24 to 72 hours over the areas. Furthermore, convergence of the southeasterly to easterly flow from the east African monsoon and the easterly flow towards Ethiopia and Somalia is expected to persist through 24 to 72 hours.

At 500mb level, deep mid latitude westerly troughs with a strong wavy pattern is expected to dominate the flow over subtropical regions of Africa. The mid latitude trough extending from southern Europe is expected to move eastwards in 24 to 48 hours. On the other hand the sub tropical high in the southern hemisphere is expected to dominate the Southern Africa regions in 24 to 72 hours. Unlike the northern hemisphere it is

expected to assume a strong wavy flow in 24 to 48 hours while weakening gradually in 72 hours.

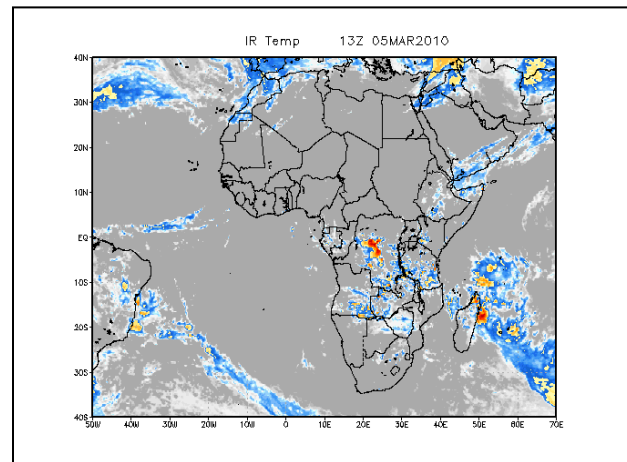
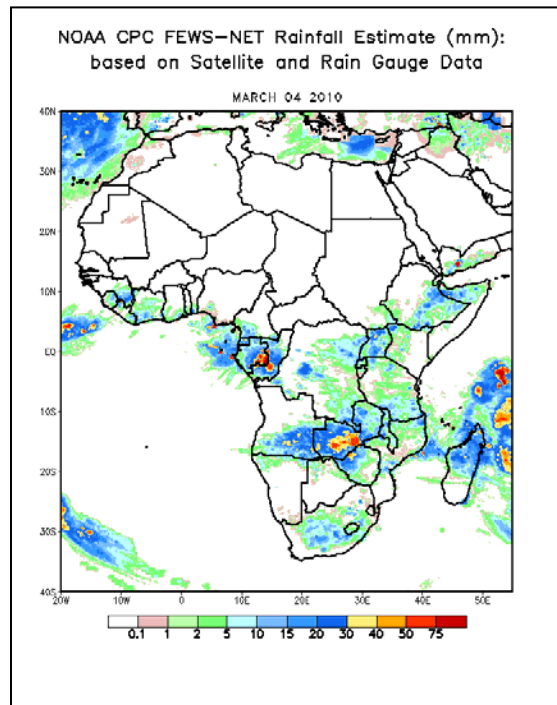
At 200mb, North Africa will experience a mid-latitude wavy flow pattern with wind speeds of up to 130 knots stretching across northeast Africa to Western Sahara, while western Algeria to western Egypt, northwest of Algeria to east of Libya, southeast of Algeria to central Libya and northeast of Africa to east of Algeria will assume wind speeds of 110 knots, in 24 to 72 hours.

The interaction between the mid-latitude frontal and tropical weather systems across the northeast Africa is expected to maintain the light to moderate rainfall over the Horn of Africa. Moreover, the seasonal low level convergence zone over the Congo Air Boundary (CAB) and few places in the southeastern parts of Africa are expected to maintain rainfall in excess of 10mm per day through 24 to 72 hours with few places of east central DRC, southern Zambia, Tanzania and Madagascar are expected to receive rainfall exceeding 20mm per day in 24 hours.

2. 0. Previous and Current Day Weather Discussion over Africa (04-05 March 2010)

2.1. Weather assessment for the previous day (04 March 2010): During the previous day, moderate to heavy rainfall events were observed over places of southern Congo and adjacent areas of Gabon, central Zambia and adjacent areas of Zimbabwe.

2.2. Weather assessment for the current day (05 March 2010): isolated patches of intense clouds are observed over central DRC and northern tip of 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

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