

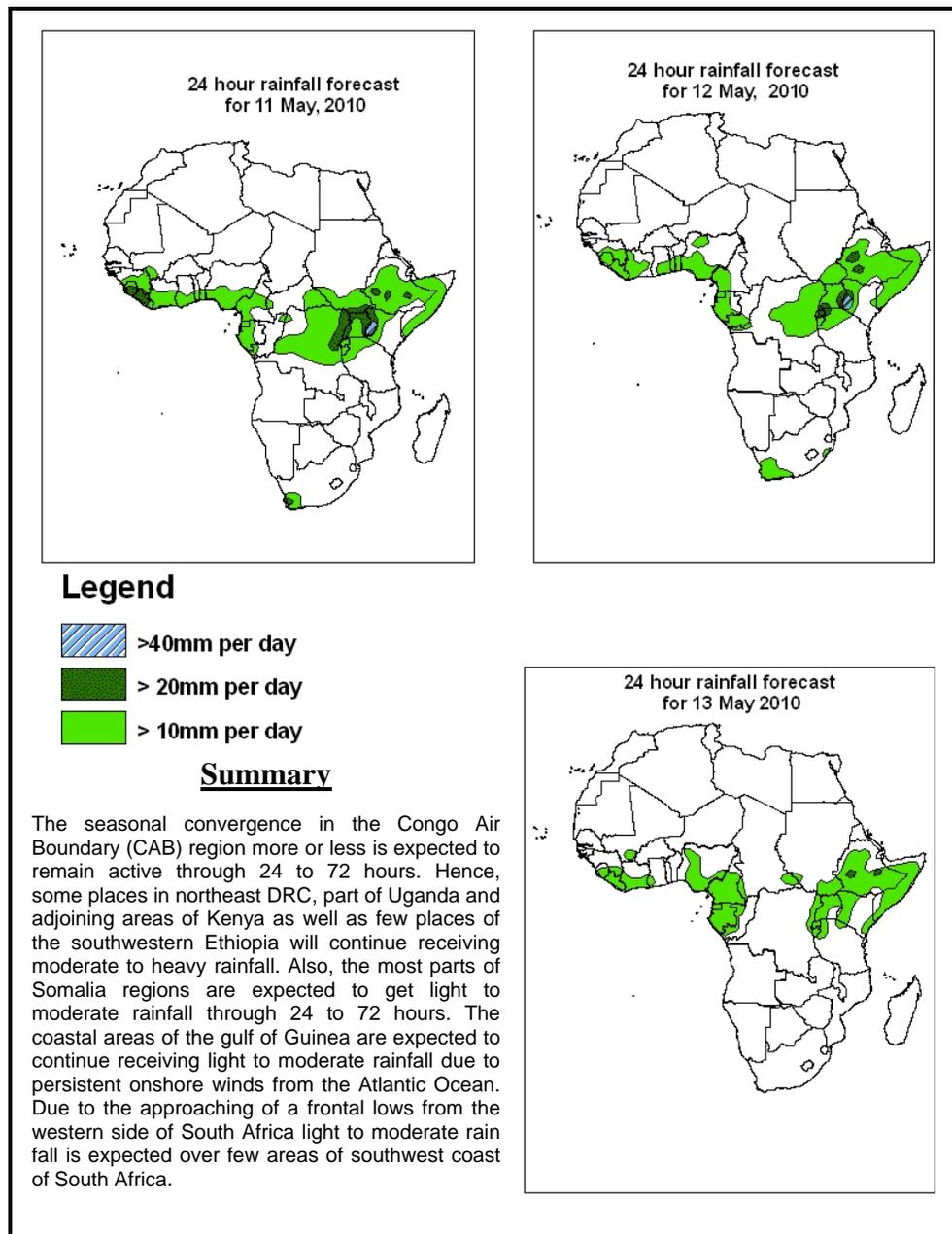


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 11 May – 06Z of 12 May 2010, (Issued at 14:00EST of 10 May 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 10 May 2010

A localized low pressure system located northwest of Algeria with central pressure value of 1002mb is expected to maintain its position while weakening in 24 to 72 hours. A low pressure with central pressure value of 1006mb located over north of Libya is expected to persist in 48 to 72 hours. A low pressure with central pressure value of 1005mb located over southwestern Niger is expected to persist through 24 to 72 hours. Low pressures located in the Red Sea and Gulf of Aden with central pressure values of 1004mb and 1006mb, respectively, are expected to maintain their position with slight change through 24 to 72 hours. A low pressure system, with central pressure value of 1007mb, located off the coast of Somalia is expected to maintain its position through 24 to 72 hours. Low pressure systems with central pressure values of 1010mb each located along the coasts of Gabon and Angola are expected to persist through 24 to 72 hours. A localized low pressure system with central pressure value of 1011mb located over central DRC is expected to weaken while maintaining its position through 24 to 72 hours. In southern hemisphere, a deep frontal low located over southern Atlantic Ocean in the region between 10°W and 0° longitude is expected to move eastwards reaching between 0° and 20°E longitude along west coast of South Africa in 48 to 72 hours. On the other hand, localized high pressure systems with central pressure values of 1020mb and 1019mb located over South Africa and Zimbabwe respectively are expected to persist with slight change in 48 to 72 hours. A sub tropical high pressure system with central pressure values of 1019mb located over southern Atlantic Ocean is expected to persist with a slight shift to westwards in 24 to 72 hours. The equatorial trough is expected to maintain its position with central pressure values of 1005mb in the Gulf of Guinea, 1004mb each over Central Africa Republic and southern Sudan through 24 to 48 hours. The heat low over Sudan, with central pressure value of 1004mb is expected to maintain its position with slight change through 24 to 72 hours.

At 850mb level, the back hanged mid latitude trough located between 20°W and 20°W longitude is expected to move slightly westwards along 20°W longitude in 24 to 48 hours while moving slightly eastwards in the next 72 hours . Another trough located between 30°E and 40°E is expected to weaken gradually through 24 to 72 hours. On the other hand, the sub tropical anticyclone is expected to dominate part of the northern Africa regions in 24 to 72 hours. The northeasterly and southwesterly trade winds are expected to converge near 10°N latitude in the region between coastal West Africa and Sudan through 24 to 72 hours. Meanwhile, the southeasterly winds from the periphery

of the anticyclone in the Indian Ocean are expected to continue carrying moisture towards a strong lower level convergence in East Africa through 24 to 72 hours.

At 500mb level, a mid latitude trough located between 20⁰E and 40⁰E longitude, is expected to move slightly eastwards in 24 to 48 hours while moving further eastwards being back hanged to eastwards. This mid tropospheric trough is expected to maintain its position while being meridional in 48 to 72 hours. On the other hand, the mid tropospheric Anticyclonic circulation is expected to dominate the northern Africa regions through 24 to 72 hours. In the southern hemisphere, more or less a zonal pattern in the mid-latitude westerlies dominates the flow in the sub-tropical regions through 24 to 48 hours while becoming slightly wavy in 48 to 72 hours.

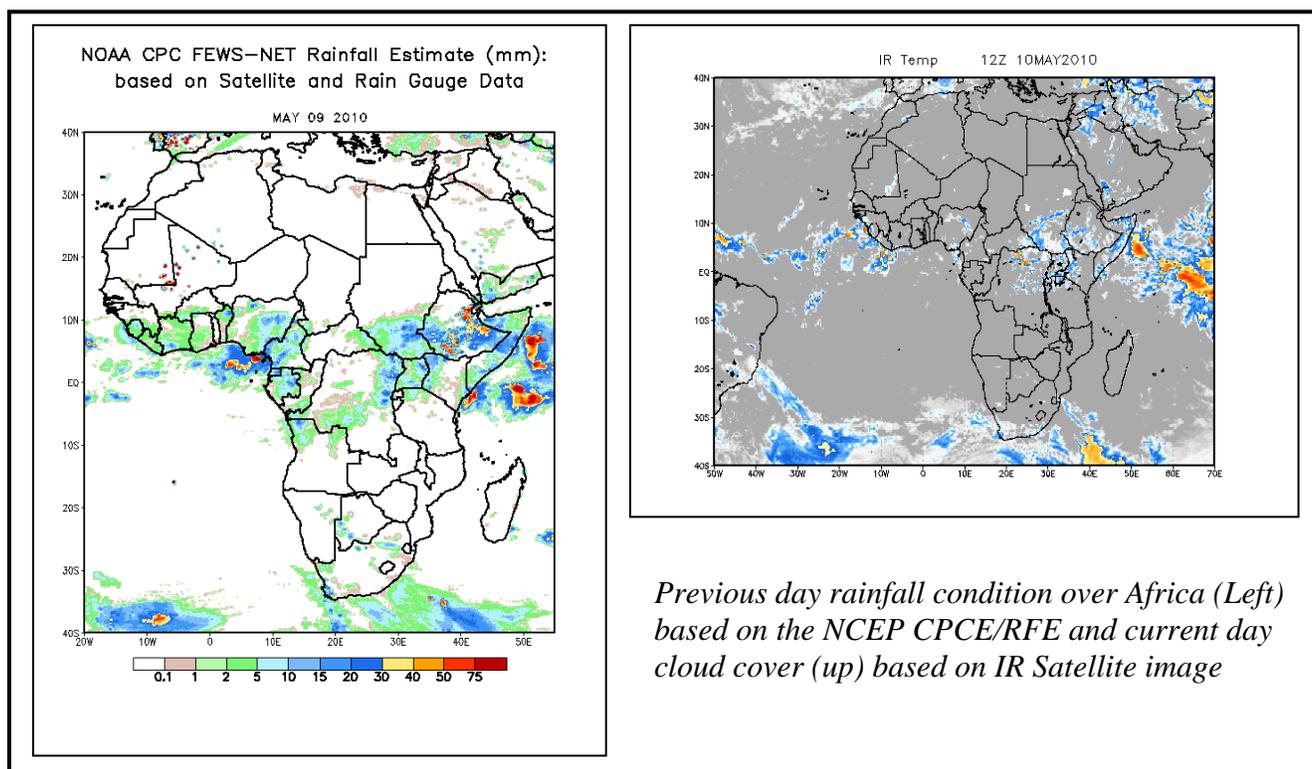
At 200mb, the flow in the northern Africa regions is expected be wavy through 24 to 48 hours, while becoming strong in 48 to 72 hours. On the other hand, the wind flow in the southern hemisphere is expected to be zonal through 24 to 72 hours. In the northern hemisphere, the maximum wind speed associated with this flow is expected to exceed 110 knots across northeastern Atlantic to northwestern Algeria, while exceed 90 knots across northern Atlantic to northern Tunisia and northern Atlantic to central Mediterranean Sea. In the southern hemisphere, the maximum wind speed is expected to exceed 130 knots in the region between near 25⁰W to 5⁰W and 25⁰W to 18⁰E longitude, while exceed 110 knots between 25⁰W to 0⁰, 30⁰E to 40⁰E, 35⁰E to 50⁰E and 25⁰W to 20⁰E longitude. The maximum wind speed exceeds 90 knots in the region between 25⁰W to 50⁰E longitude in 24 to 72 hours. The speed of the jet wind is expected to weaken in 48 to 72 hours in association with an east ward propagating the westerly wave.

The seasonal convergence in the Congo Air Boundary (CAB) region more or less is expected to remain active through 24 to 72 hours. Hence, some places in northeast DRC, part of Uganda and adjoining areas of Kenya as well as few places of the southwestern Ethiopia will continue receiving moderate to heavy rainfall. Also, the most parts of Somalia regions are expected to get light to moderate rainfall through 24 to 72 hours. The coastal areas of the gulf of Guinea are expected to continue receiving light to moderate rainfall due to persistent onshore winds from the Atlantic Ocean. Due to the approaching of a frontal lows from the western side of South Africa light to moderate rain fall is expected over few areas of southwest coast of South Africa.

2.0. Previous and Current Day Weather Discussion over Africa (09 May 2010 – 10 May 2010)

2.1. Weather assessment for the previous day (09 May 2010): During the previous day, moderate to heavy rains was observed over most parts of Ethiopia, southern Sudan, northeast DRC, northwest Kenya, northern Benin, parts of Nigeria, Cameroon and Gabon, Equatorial Guinea, northwest Angola, Somalia, some places of Uganda, few places of southwest part of Botswana and southwest and northern parts of South Africa.

2.2. Weather assessment for the current day (10 May 2010): Isolated intense clouds are observed over northern half of DRC, Uganda, western Kenya, southern half of Sudan and adjacent areas of Central African Republic, parts of Ethiopia, Somalia, southwestern part of South Africa, central parts of Nigeria as well as coastal areas of Guinea and Sierra Leone.



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