

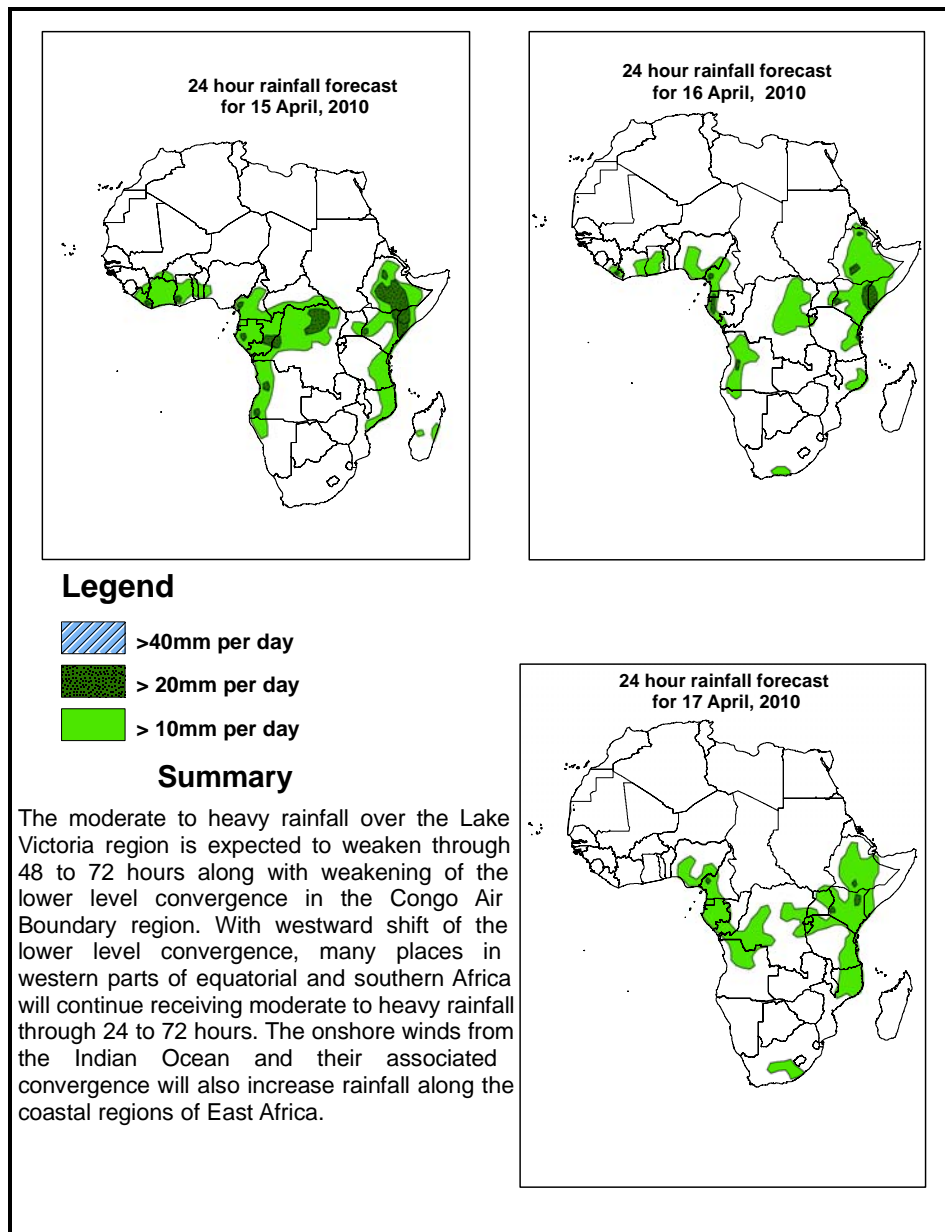


NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative

1.0. Rainfall Forecast: Valid, 06Z of 15 April –06Z of 17 April 2010, (Issued at 14:00EST of 14 April 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 14 April 2010

A low pressure system with central pressure value of 993mb located over Northern Atlantic Ocean is expected to deepen through 24 to 48 hours and will weaken slightly through 48 to 72 hours. Low pressure systems with central pressure values of 1006mb and 1003mb located over northern Algeria are expected to weaken in 24 to 48 hours, and the two systems tend to merge through 48 to 72 hours. Another low pressure system with central pressure value of 1006mb, centered over east of Libya, is expected to persist through 24 to 48 hours, while a low pressure system with central pressure value of 1007mb located over Egypt is expected to move slightly eastwards through 48 to 72 hours. On the other hand, localized high pressure systems over Zimbabwe and eastern portions of South Africa are expected to persist through 24 hours. The Mascarene high, with central pressure values of 1021mb in southern Indian Ocean is expected to weaken slightly, while moving slightly eastwards through 24 to 48 hours. The localized low pressure systems in the Gulf of Aden and the adjacent areas of Red Sea are expected to assume central pressure values of 1008mb and 1007mb, respectively. A localized low pressure system located off the west coast of Gabon is expected to persist through 24 to 48 hours with slight change in 72 hours. The low pressure zones associated with the equatorial trough are expected to assume central pressure values of 1004mb over the Gulf of Guinea, 1003mb over central Africa and 1004mb over Sudan with a slight change in 24 to 72 hours.

At 850mb level, a mid latitude westerly trough, near 20⁰E longitude is expected to move eastwards in 24 to 72 hours. The lower level convergence in Congo Air Boundary (CAB) region is expected to remain weak through 24 to 72 hours. On the other hand, easterly to southeasterly winds from western Indian Ocean are expected to reach the western coastal regions of equatorial and southern Africa across East Africa. As a result of this, the lower level wind convergences are mainly limited to the western coastal areas of equatorial and the Horn of Africa regions through 24 to 72 hours. A westerly trough in the southern hemisphere is expected to move eastwards up to southwestern tip of Africa, while enhancing wet weather activity along coast of South Africa in 72 hours. The seasonal wind convergence between the southeasterly winds of the southern hemisphere and northeasterly winds of the northern hemisphere is expected to maintain its position along 10⁰N latitude between coastal West Africa and Sudan through 24 to 72 hours.

At 500mb level, a mid tropospheric westerly trough is expected to move between 30⁰E and 40⁰E longitudes, while deepening through 24 to 72 48 hours, and will assume a back-hanged orientation through 48 to 72 hours. On the other hand, the flow over the subtropical regions in the southern hemisphere is expected to remain wavy with a westerly trough propagating across South Africa through 24 to 48 hours.

At 200mb, a mid-latitude westerly trough located near 35⁰ longitude is expected to move slightly eastwards, with its southern extent dominating the flow over much of Sudan and the adjacent areas of Ethiopia and Central African Republic through 24 to 72 hours. In

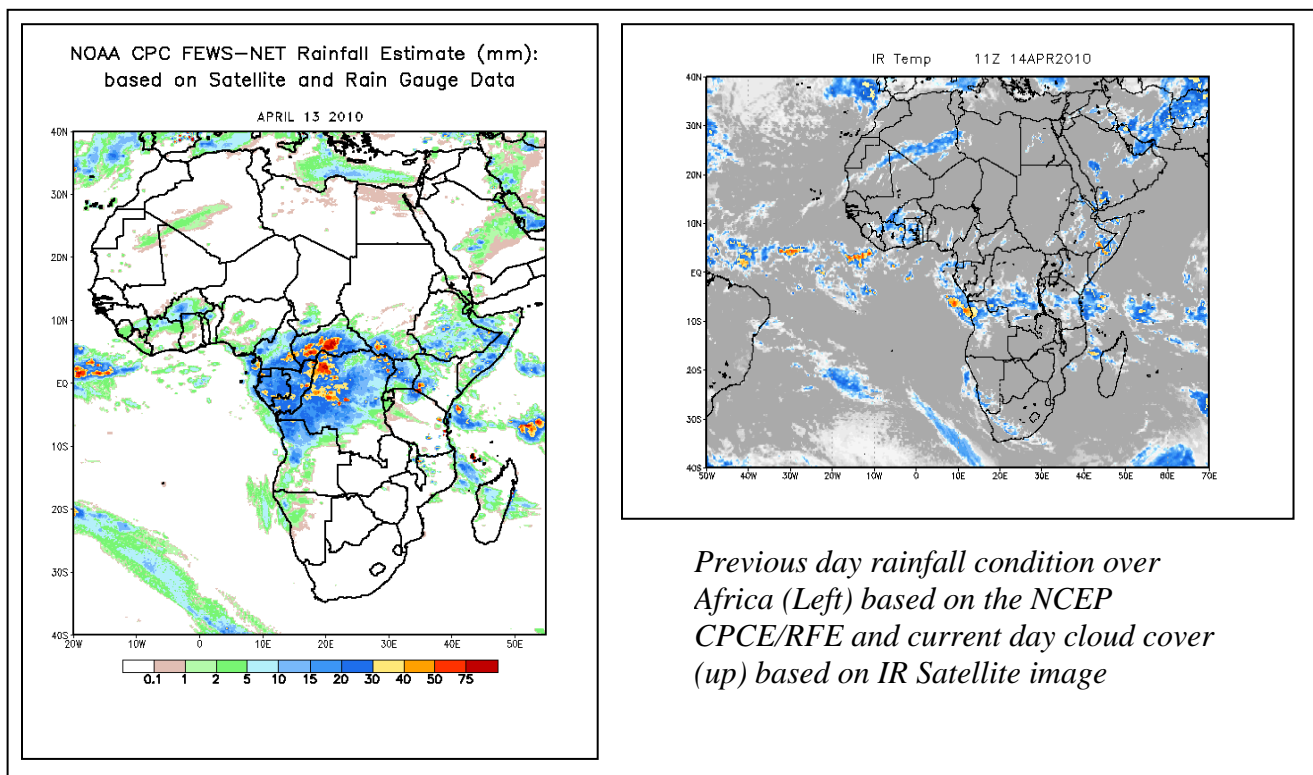
the southern hemisphere the wavy pattern that dominates the flow over the subtropical regions is expected to weaken gradually and attain a more or less zonal pattern through 24 to 72 hours. In the northern hemisphere, the maximum wind speed associated with this flow is expected to exceed 130 knots across east of Western Sahara to west of Algeria, southern Tunisia to southern Mediterranean Sea east of Northern Atlantic to west of Arabian Peninsula and exceed 110 knots across Northern Atlantic Ocean to east of Libya, northern Red Sea and western Algeria as well as northwest of Algeria to central Mediterranean Sea, while exceed 90 knots across Northern Atlantic Ocean to west of Egypt, northern Red Sea and west of Arabian Peninsula through 24 to 72 hours.

The moderate to heavy rainfall over the Lake Victoria region is expected to weaken through 48 to 72 hours along with weakening of the lower level convergence in the Congo Air Boundary region. With westward shift of the lower level convergence, many places in western parts of equatorial and southern Africa will continue receiving moderate to heavy rainfall through 24 to 72 hours. The onshore winds from the Indian Ocean and their associated convergence will also increase rainfall along the coastal regions of East Africa.

2.0. Previous and Current Day Weather Discussion over Africa (13 April 2010 – 14 April 2010)

2.1. Weather assessment for the previous day (13 April 2010): During the previous day, moderate to heavy rainfall events were observed over southern Cameroon, Equatorial Guinea, Gabon, Central African Republic, much of DRC, Congo, northern part of Angola, central Uganda, southern Sudan, southeastern Somalia and few places of southern, southeastern and central Ethiopia.

2.2. Weather assessment for the current day (14 April 2010): isolated patches of intense clouds are observed over northeastern part of Ivory Coast, Ghana, and northwestern part of Angola, southern part of DRC, central part of Tanzania and south and southeastern parts of Ethiopia.



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