



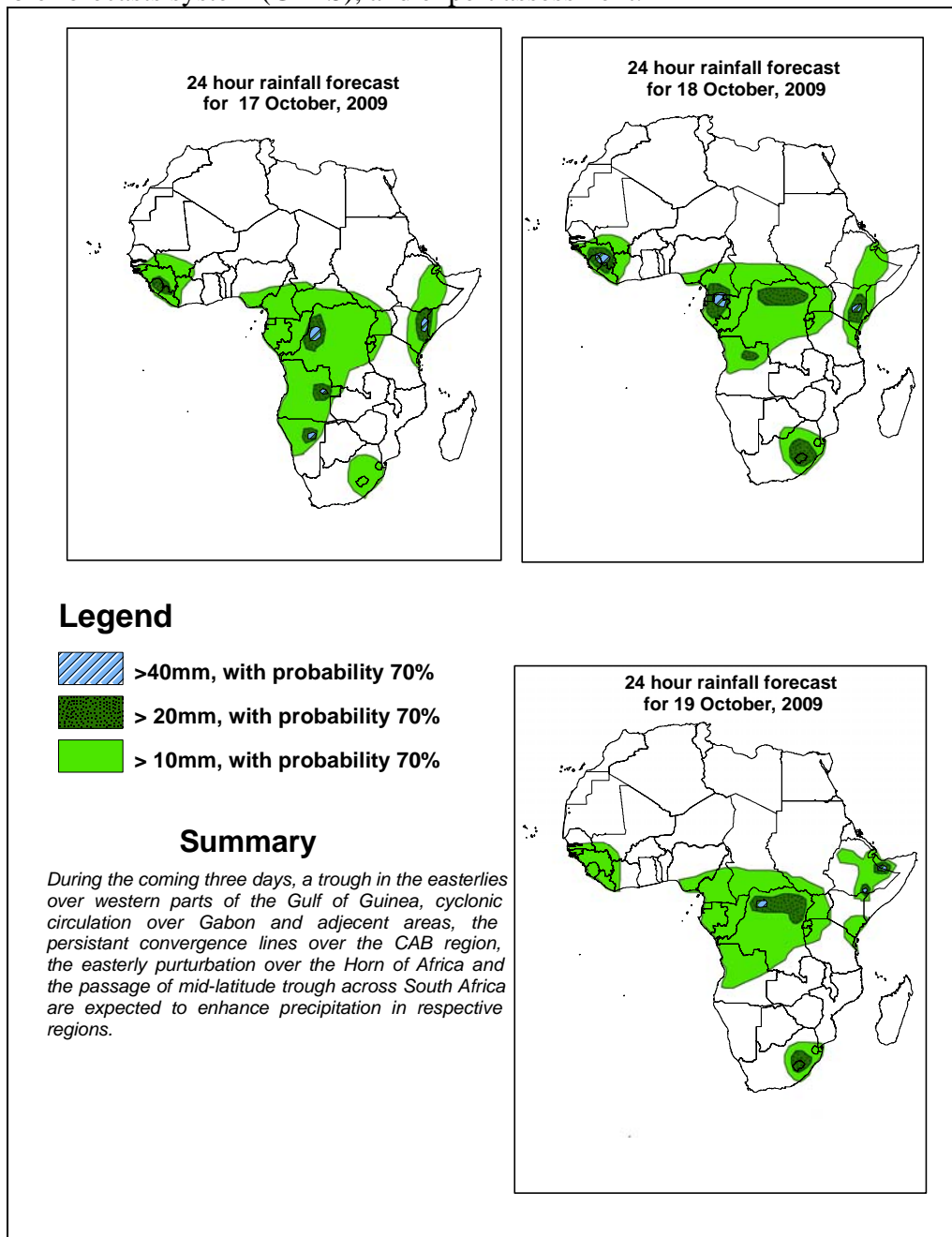
NCEP Contributions to the WMO Severe Weather Forecasting Demonstration Project (SWFDP) and to the African Monsoon Multidisciplinary Analysis (AMMA) Initiative.

## FORECAST DISCUSSION 14H00 EST, 16 OCTOBER, 2009

Valid: 00Z 17 October – 19 October, 2009

### 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.



## 2. Model discussion

*Model comparison (Valid from 00Z; 15, OCTOBER, 2009): all the three models are in general agreement especially with respect to the positioning of large scale features, however, the UK model tends to give lower values than both the GFS and ECMWF models especially in the Equatorial region (10°S and 10°N).*

**2.1. Weather assessment for the previous day (15 October 2009):** During the previous day, moderate to heavy rainfall events were observed over parts of Cote d'Ivoire, Ghana, Togo, Benin, western and southern Nigeria, southern Cameroon, Gabon, Central Africa Rep., Congo, DR Congo, Lake Victoria region, portions of Kenya and Namibia.

**2.2. Weather assessment for the current day (16 October 2009):** Intense clouds are observed over Gambia and southern Senegal, western Cote d'Ivoire, northern Gabon, central and northern DR Congo, Central Africa Rep., parts of northern Tanzania, Uganda, Rwanda, southern Angola, northeastern Namibia, southwestern Botswana, Lesotho, Swaziland and South Africa.

### 2.3. Flow at 850hPa

**T+24h:** A weak trough in the easterlies is expected to have its axis extended over Liberia. Besides, the localized cyclonic circulation over Gabon is expected to persist. The convergence associated with the Congo Air mass is expected to persist over CAB region and extending southward to Angola. Moreover the localized convergence lines over southern Ethiopia, eastern Kenya and parts of the southern African countries are expected to continue influencing the rainfall pattern in the regions. On the other hand, the trough associated with mid-latitude frontal system is expected to have its axis extending towards southeastern parts of South Africa.

**T+48h:** The cyclonic circulation over Gabon is expected to persist in its previous day position. Similarly, the convergence over east Africa and Congo air boundary region is expected to continue enhancing rainfall over the regions. The mid-latitude westerly trough is expected to move eastwards with its axis extending off the eastern coast of South Africa

**T+72h:** The cyclonic flow over Gabon is expected to move westwards reaching the coastal area. The convergence over East African countries and Congo air boundary region is expected to persist, enhancing precipitation over the regions.

### 2.4. Flow at 500hPa

**T+24h:** A mid-tropospheric trough in the easterlies is expected to extend across the coastal areas of eastern and southern African countries. On the other hand, the westerly trough associated with the mid-latitude frontal system is expected to dominate the flow over southern parts of South Africa.

**T+48h:** The mid-tropospheric easterly trough over East Africa is expected to persist. On the other hand, the mid-latitude westerly trough is expected to deepen over the South African Countries.

**T+72h:** The trough associated with mid-latitude frontal system is expected to move to the east, while weakening.

## 2.5. Flow at 200hPa

**T+24h:** Much of the tropical Africa is expected to be dominated by a flow associated with upper tropospheric ridge. However, an upper tropospheric cyclonic circulation is expected to develop over the Horn of Africa.

**T+48h:** The upper tropospheric cyclonic circulation over the Horn of Africa is expected to drift towards the Gulf of Eden.

**T+72h:** A deep trough in the westerlies is expected to develop over Ethiopia and adjacent areas out of the cyclonic circulation that dominates the region in the previous days.

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