



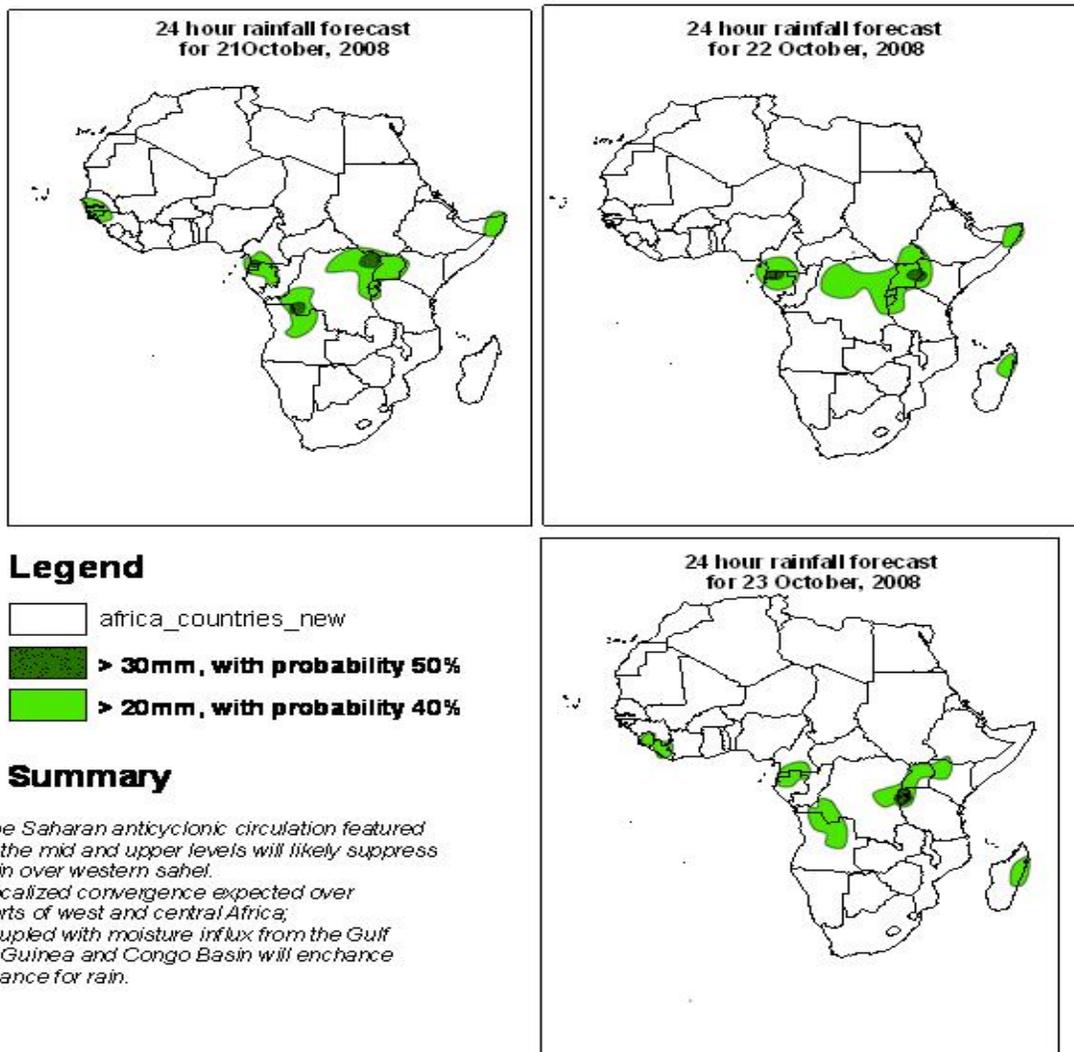
Forecast Guidance for Africa

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

FORECAST DISCUSSION 14H00 EST, 20th OCTOBER, 2008
Valid: 00Z 21st OCTOBER – 23rd OCTOBER, 2008

1. Twenty Four Hour Cumulative Rainfall Forecasts

The forecasts are expressed in terms of probability of precipitation (POP) exceedance 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; 21st October, 2008): all the three models are in general agreement especially with respect to the positioning of large scale features, however, the UK model has a tendency to give lower values than the GFS and ECMWF models in the Equatorial (10°S and 10°N) Continental Africa.

2.1. Flow at 850hPa:

T+24h, much of North Africa will be under the influence of the Saharan Anticyclonic circulation, while a deep trough will penetrate onto much of Morocco and Western Sahara. To the South, the subtropical anticyclone easterlies will feature with a closed cyclonic circulation centered over the Arabian Sea and affect the tip of Somalia. Localized convergence is expected over the eastern Gulf of Guinea, the Lake Victoria region and over southeastern Angola, while confluent flows will feature over northern Mauritania, western Sudan, northwestern Ethiopia, western Kenya and over southeastern DRC. Divergent flow is likely to occur over central coast of Liberia and over southeastern Kenya. Much of Southern Africa will be under the influence of a merger of the Santa Helena and Mascarene anticyclones with a westerly wave to the South.

T+48, the Saharan anticyclonic circulation will be centered over Libya, and is expected to dominate the flow over much of North Africa, while the trough over western Maghreb will expand and move northwards affecting western and northern Algeria. The closed cyclonic circulation over the tip of Somalia will remain in the same position. Convergence is likely to occur over western Ethiopia, the Lake Victoria region and over southeastern Angola, and confluent flows will feature over southeastern Mauritania, southwestern Niger, southwestern Chad, and central Sudan and over western Zambia. On the other hand, divergent flows are expected over southwestern Mauritania and over eastern Kenya. The flow over much of Southern Africa will be dominated by a merger of The St. Helena and Mascarene anticyclones and a trough will affect southern and central South Africa.

T+72, The Saharan anticyclonic circulation is expected to intensify. A closed cyclonic circulation will affect southern Morocco and northern Western Sahara, while a ridge over the sea is expected to affect northern Morocco and northwestern Algeria. The cyclonic circulation over the tip of Somalia is expected to move northwards. Convergence is likely to occur over southwestern Mali, southeastern Angola with confluent flows over southeastern Niger, western Sudan, western Tanzania, southeastern DRC and over southern Angola. Conversely, divergence will be featured over northern Benin and over southeastern Sudan. Southern Africa is expected to be under the influence of the Santa Helena ridge.

2.2. Flow at 500hPa:

T+24, a westerly wave in which a trough is embedded will feature over western Maghreb, while the flow over much of North Africa will be dominated by an extensive Sub-tropical anticyclonic circulation system. Easterlies will prevail equator-wards and feature a cyclonic circulation centered over the tip of Somalia. Convergence is likely to occur over the southern Mozambique Channel with confluent flows over northeastern Sudan, northwestern and southeastern Tanzania. Conversely, divergence will be featured over northeastern CAR. Much of Southern Africa will be dominated by the St. Helena ridge, while a trough will affect the flow over the Indian Ocean.

T+48, an extensive Sub-tropical anticyclonic circulation will dominate the flow over North Africa and the mid-latitude trough over western Maghreb will weaken but still affect

northern Morocco and northwestern Algeria. The cyclonic circulation over Somalia will propagate westwards and affect eastern Ethiopia. Convergence is expected over eastern Gulf of Guinea, northwestern Angola and over northern Channel of Mozambique with confluent flows over northeastern Mauritania, northeastern Guinea, southwestern CAR and over western Uganda. Divergence will be featured over southeastern DRC. Much of Southern Africa will be under the influence of the St. Helena and Mascarene anticyclones, while a westerly wave will dominate the flow over southern South Africa and cyclonic circulation will prevail over the Indian Ocean.

.T+72, the trough over western Maghreb will move southwestwards, while the rest of North Africa is likely to be under the influence of the Sub-tropical anticyclonic circulation system. The cyclonic circulation over Somalia will strengthen and expand, reaching central and southeastern Ethiopia. Convergence will be featured over northern DRC with confluent flows over southern Benin, northern Cameroon onto northeastern Nigeria, southwestern Cameroon and over central Tanzania. Localized divergence will occur over southeastern Sudan. The flow over much of Southern Africa will be dominated by the Santa Helena Ridge, while a trough will affect the flow over the Indian Ocean.

2.3. Flow at 200hPa:

T+24h, a westerly wave will dominate the flow over the Maghreb region featuring a trough over Morocco. To the south, an extensive anticyclonic circulation system will prevail. Convergent flows are expected over southern Tanzania, northeastern Zambia, eastern Angola and over the Mozambique channel. On the other hand, a strong divergence is likely to occur over northern Angola. The northern sector of Southern Africa will be under the influence of an anticyclonic circulation, while a mid-latitude westerly wave will dominate the flow over the southern sector with cut off cyclonic and anticyclonic circulation to the south of Madagascar.

T+48h, the trough over Morocco will weaken and propagate northeastwards and affect northern Algeria. To the South, an extensive anticyclonic circulation system will prevail. Confluent flows will be featured over northwestern Mauritania, central Mali, western Kenya and over northern Mozambique. Localized divergence is expected over the Lake Victoria region. The flow over the northern sector of Southern Africa will be dominated by an anticyclonic circulation system, while the southern sector will be under the influence of a westerly wave.

T+72h, a westerly wave will prevail over North Africa and the upper-level trough over western Maghreb will weaken and retreat northwards but still affect northeastern Morocco. To the South, an anticyclonic circulation is expected to dominate the flow. Confluent flows will be featured over central Niger, central Chad, northeastern Sudan, southeastern Nigeria, and over northeastern Tanzania. Divergence is likely to occur over northeastern Guinea, northeastern DRC and over northwestern Angola. The flow over the northern sector of Southern Africa is expected to be dominated by an anticyclonic circulation system, while a westerly wave will affect the southern sector

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