



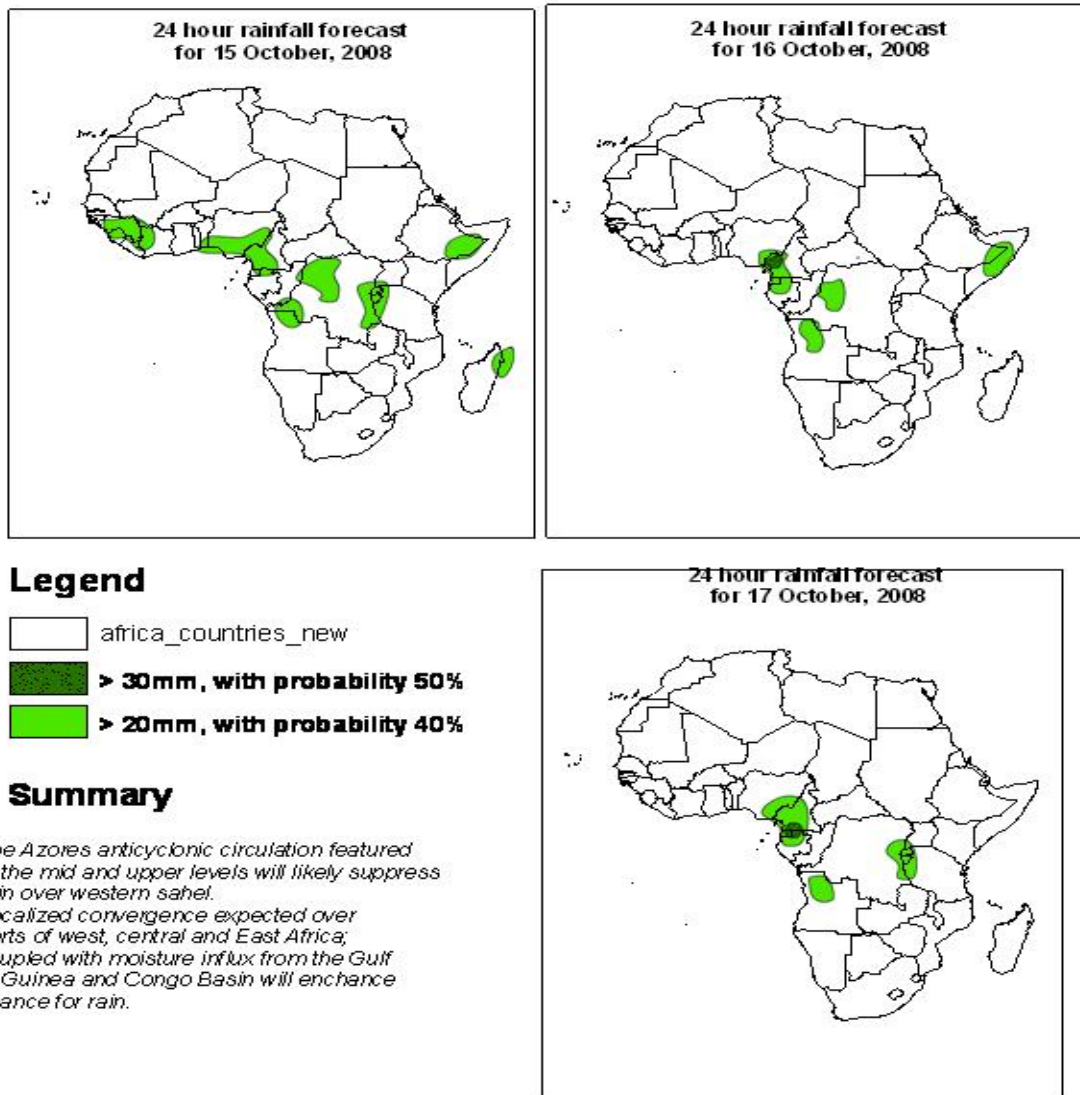
Forecast Guidance for Africa

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

FORECAST DISCUSSION 14H00 EST, 14th OCTOBER, 2008
Valid: 00Z 15th OCTOBER – 17th 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; 15th 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, The Saharan Subtropical anticyclone is expected to dominate over much of northern Africa with a deep ridge over Tunisia, eastern Algeria and western Libya and over Western Sahara. To the South, the subtropical anticyclone easterlies are expected to prevail with localized convergences over the border between Mali and Burkina, over Lake Victoria region, southern Angola and over northeastern South Africa and confluent flows over western Algeria, southeastern Sudan, eastern Ethiopia, western Congo, western DRC, northeastern Angola, central Namibia and over western Botswana. Divergent flows are likely to occur over southeastern Algeria, central Mauritania and over eastern Chad. Southern Africa will be under the influence of the Santa Helena and Mascarene anticyclonic circulation systems with westerly wave to the South.

T+48, the ridge over Tunisia will strengthen and expand southwards covering much of eastern North Africa with the Acores anticyclone to the west separated in between by a trough over western Algeria. Easterlies will prevail equator wards. Convergence is likely to occur over southern Morocco, central Mali, eastern Sudan, southern Congo and over the Lake Victoria region with confluent flows over eastern Ethiopia onto southeastern Sudan, southeastern DRC, eastern Angola and over southern Angola onto northern Namibia. Divergent flows will be featured over central Mauritania, southern Algeria and over eastern Chad. The southern African region is expected to be dominated by the Santa Helena and Mascarene Ridges.

T+72, The Saharan subtropical anticyclone will prevail over much of North Africa with a closed circulation over most of Libya and eastern Egypt and the Acores high to the west. A trough will affect northern Morocco and northwestern Algeria. Convergence is likely to occur over western Algeria, eastern Ethiopia, Lake Victoria region, northern Namibia and over western Botswana with confluent flows over eastern Mauritania, central Mali, northeastern Sudan, northwestern and western DRC. On the other hand, divergence will be featured over northwestern Mauritania, central Algeria and over southwestern Sudan. Southern Africa will be under the influence of the Santa Helena and Mascarene Ridges; with a mid-latitude trough likely to affect the southeastern coast of South Africa.

2.2. Flow at 500hPa:

T+24, a cyclonic circulation with two troughs will affect the flow over most of Morocco, western Algeria, northeastern Libya and northern Egypt, while the rest of North Africa will be under the influence the Saharan anticyclonic circulation. Confluent flows are likely to occur over northwestern Mali, southeastern Libya, southeastern Mauritania, southwestern Mali onto northern Senegal and western CAR. Conversely, divergent flow will be featured over western Niger. Southern Africa will be dominated by an anticyclonic circulation system and the mid latitude westerly wave will affect the flow over southern South Africa.

T+48, a trough will affect the flow over most of Morocco, northern Western Saharan, northwestern Algeria and Tunisia, while the Saharan anticyclonic circulation will prevail over the rest of North Africa. Confluent flows patterns will be featured over western

Mauritania, central Mali and over the Lake Victoria region. Conversely, divergent flow will be featured over north. Most of Southern Africa will be under the influence of an anticyclonic circulation system with a westerly wave affecting southeastern South Africa.

T+72, the cyclonic circulation over western Maghreb will weaken and retreat northwards but still prevail over Morocco and northern Algeria, while the rest of North Africa is likely to be under the influence of the Saharan anticyclonic circulation system. Confluent flows will be featured over northern Mauritania, northern Sudan onto southeastern Egypt, northeastern CAR, northern Gabon, northern DRC and over northern Kenya onto northeastern Uganda. Localized divergence will be featured over the border between eastern Chad and western Sudan and over southeastern Somalia. Southern Africa will be dominated by the Santa Helena and Mascarene anticyclonic circulation systems with westerly wave to the South.

2.3. Flow at 200hPa:

T+24h, Most of North Africa will be under the influence of a westerly wave with an upper level cyclonic circulation over most of Morocco and western Algeria. An upper-level anticyclone circulation will prevail over Northeastern, Central and Southern Africa. Confluent flows are likely to occur over Burkina onto southeastern Niger, eastern Niger, central Angola and northern Madagascar. Strong divergence will be featured over northern DRC. The mid-latitude westerly wave will dominate the flow over southern Namibia, most of South Africa and over southern Madagascar.

T+48h, the westerly wave will dominate the flow over North Africa and the cyclonic circulation over Morocco will move southeastwards reaching northern Western Sahara. An upper-level anticyclonic circulation will prevail over Northeastern and Central Africa. Confluent flow will be featured over central Mali, northeastern Niger onto northwestern Chad, southwestern Sudan and over the Lake Victoria region. Conversely, strong localized divergence is expected over central Guinea. The mid-latitude westerly wave will propagate northwards and cover most of Southern Africa.

T+72h, the westerly wave will prevail over North Africa and the trough over Morocco will move eastwards covering northern Algeria. An anticyclonic circulation is expected to dominate the flow over Eastern, Central and Southern Africa. Confluent flows will be featured over northeastern Mauritania onto western Algeria, southeastern Mauritania onto western Mali, border between southeastern Sudan and southwestern Ethiopia and over northern DRC. On the other hand, divergence is likely to occur over northern Congo. The mid-latitude westerly wave will retreat and move southwards but still affect the flow over southern Namibia and over most of South Africa.

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