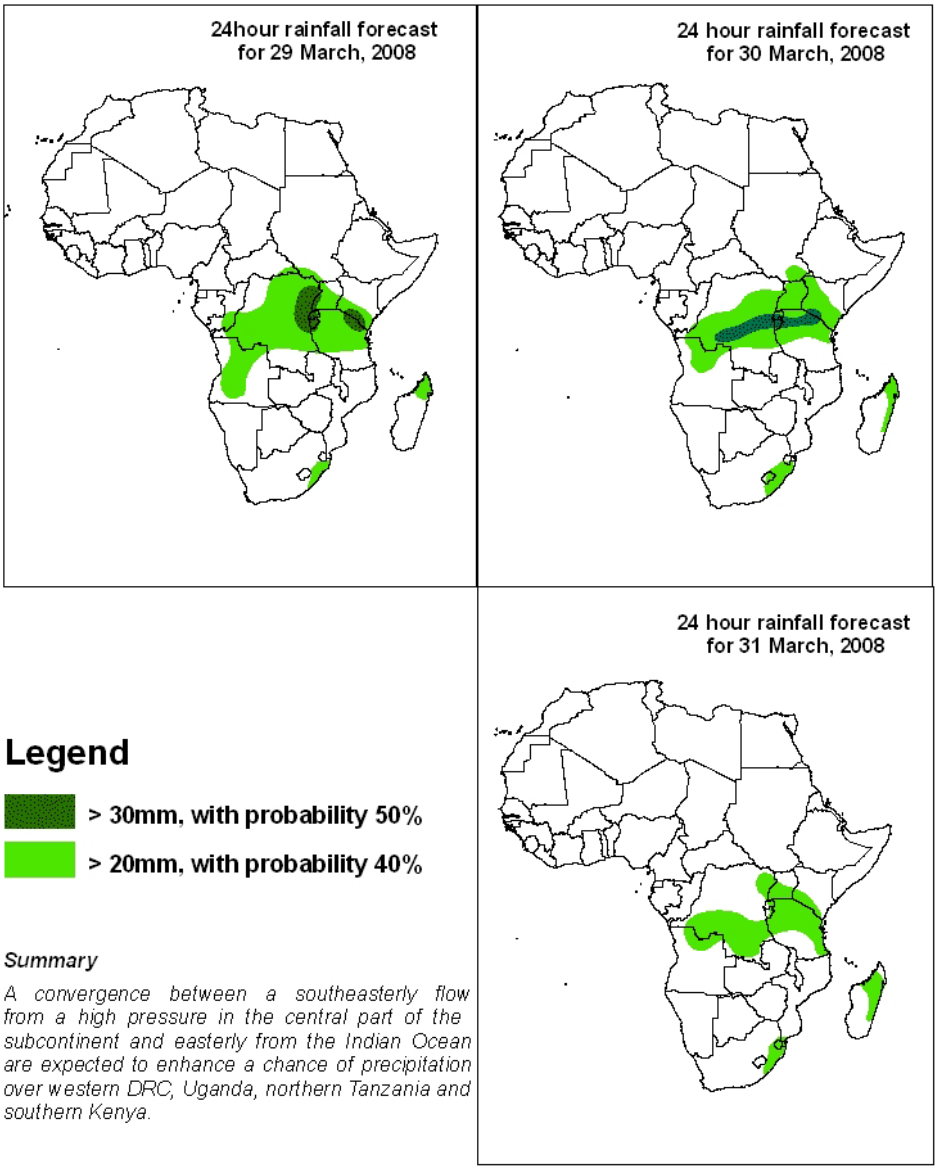
Forecast Guidance for Africa

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

FORECAST DISCUSSION 14H00 EST, 28 MARCH 2008
Valid: 00Z, 29-31 MARCH, 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; 28th March 2008): There is a general agreement between UK MET, ECMWF and GFS models, but the UKMET model placed pressure and circulation systems slightly to the south in comparison to other models.

2.1. Flow at 850hPa

T+24h, a cyclonic circulation associated with the tropical disturbance (ex-Lola) is expected to be centered near 63E 28S and dominate over the Indian Ocean with a weak trough extending northern coast of Mozambique. The eastern side of the subcontinent is expected to be dominated by a wide cyclonic circulation associated with a high pressure area to the south of the tip of South Africa, while a cyclonic circulation with a weak trough is expected to dominate over western Namibia, western Angola and western DRC. These systems will cause convergence over northwestern Namibia, southern Angola, southern and eastern DRC, Lake Victoria basin, Uganda and southern Sudan.

T+48h, the cyclonic circulation over the Indian Ocean is expected to move eastward and the tropical disturbance to dissipate, while the anticyclonic circulation over the continent and the cyclonic circulation over Namibia and Angola are expected to prevail and maintain convergence over the same areas, except southern Sudan. An anticyclonic circulation is expected to reduce convective activity over northwestern DRC.

T+72h, the cyclonic circulation over the Indian Ocean is expected to continue weakening while the anticyclonic circulation is expected to dominate the eastern side of the subcontinent and develop westward, reducing convective activity over the western side of the subcontinent, and maintain convergence over northern Angola, central DRC, Lake Victoria basin and Uganda.

2.2. Flow at 500hPa

At T+24h, an anticyclonic flow pattern is expected to dominate over most of the southern and eastern part of the subcontinent (western and northern Mozambique, Zimbabwe, southern Zambia, Botswana and South Africa) including over the Indian Ocean north and east of Madagascar. Cyclonic flow patterns are expected to dominate over Namibia and western Angola and off the coast of Somalia with a shallow trough over the southern Mozambique Channel including southern Madagascar.

At T+48h, the anticyclonic flow pattern is expected to prevail over most of the southern and eastern part of the subcontinent including over the Indian Ocean north and eastern of Madagascar. The cyclonic flow patterns are expected to prevail over Namibia and western Angola and off the coast of Somalia as well as the shallow trough over the southern Mozambique Channel including southern Madagascar.

At T+72h, the anticyclonic flow pattern is expected to prevail over most of the southern and eastern part of the subcontinent including over the Indian Ocean north and eastern of Madagascar, also the cyclonic flow patterns are expected to prevail over Namibia and western Angola and off the coast of Somalia as well as the shallow trough over the

southern Mozambique Channel including southern Madagascar while a low pressure area is expected to develop and dominate over western DRC.

2.3. Flow at 200hPa

At T+24h, an upper level anticyclonic flow system is expected to dominate over Angola, southwestern DRC and over the Indian Ocean northeast of Madagascar with an upper level trough over eastern South Africa. To the south of this system (south of latitude 15S) a westerly flow pattern is expected to dominate with an embedded small cyclonic system off the coast of southern Namibia. A strong upper level divergence is expected to develop over eastern DRC and western Tanzania.

At T+48h, the upper level anticyclonic flow system is expected to prevail over Angola, southwestern DRC and over the Indian Ocean northeast of Madagascar with an upper level trough over eastern South Africa. The small cyclonic flow system off the coast of southern Namibia is expected to fill up and an upper level trough is expected to develop over there. The strong upper level divergence is expected to move westward.

At T+72h, the upper level anticyclonic flow system is expected to prevail over Angola, southwestern DRC and over the Indian Ocean northeast of Madagascar and the trough over the eastern South Africa is expected to move slightly eastward while the other over southern Namibia and western South Africa is expected to deepen. The strong upper level divergence is expected to prevail over northeastern DRC.

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