Forecasting guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 03RD MARCH 2008

AFRICAN DESK
CLIMATE PREDICTION CENTRE
National Centers for Environmental Predictions
National Weather Service
NOAA
Camp Spring MD 20746

FORECAST DISCUSSION 14H00 EST, 03RD MARCH 2008
Valid: 00Z 04TH MARCH 2008-OOZ 06TH MARCH 2008

1: 24HR RAINFALL FORECAST

DAY 1: 04TH MARCH 2008
During this period, more than 40mm with a Probability Of Precipitation (POP) 50% is expected over northeastern Madagascar, western Angola and western Namibia. More than 30mm with POP 50% over southern South Africa, and 40% over central to eastern Angola. More than 20mm with POP 50% over western Zambia, southern DRC, and 40% over northern Zambia, south western to southern Tanzania, central Mozambique and south eastern Botswana.

DAY 2: 05TH MARCH 2008
During this period, more than 40mm with POP 50% is expected over northern Madagascar. More than 30mm with POP 50% over southwestern Angola, northwestern Namibia. More than 20mm with POP 50% over western Namibia, 40% over northern Mozambique and Malawi, southern DRC, central to eastern Angola, southwestern Namibia and central to south eastern South Africa.

DAY 3: 06TH MARCH 2008
More than 40mm with POP 50% is expected over northeastern Madagascar. More than 30mm with POP 50% other southwestern to northeastern Angola. More than 20mm with POP 40% over northern Mozambique, Malawi, central to southern Tanzania, northern Zambia, southern DRC and southeastern South Africa.

2: MODELS DISCUSSION:

Models comparison (Valid from 00Z; 03rd FEBRUARY 2008): There is an agreement of UK MET, ECMWF and GFS models. There are no major discrepancies between them

FLOW AT 850MB

At T+24, a Mascarine high pressure system is expected to be centered around 52E 36S ridging towards northeastern South Africa. A weak frontal system is expected to be situated southeast of South Africa ridging behind by a St Helena high pressure system centered at 02E 38S. An area of Low pressure system is expected to be situated north east of Madagascar centered at around 49E 09S and is expected to deepen and to contribute to southeasterly pattern over northern Tanzania. Diffluence pattern will dominate over Botswana and Namibia, while a convergence pattern will be over central to eastern Angola, southern Namibia and northern DRC.

At T+48, a Mascarine high pressure system will have shifted to the east, centered at 67E 35S and is expected to contribute an easterly flow pattern over Madagascar. The frontal system which has been southeast of South Africa is expected to shift eastward creating a high pressure system centered at 22E 40S with a ridge towards South Africa. A Low pressure system is expected to maintain its position over the Indian Ocean and it will be associated with diffluent pattern over northern Madagascar and eastern Tanzania. Convergence will prevail over central Angola and western Namibia while a diffluent pattern will be over Botswana, Zimbabwe, and central DRC. An onshore flow pattern is expected to prevail over northern Mozambique.

T+72hr, a new Mascarine high pressure from the junction of the two high pressure systems at T+48 is expected to ridge towards eastern South Africa, and to contribute a diffluent flow pattern over the area and Botswana. A Low pressure system over the Indian Ocean is expected shift northwestward and be centered at 45E 08S contributing to a diffluent flow over eastern Tanzania and strong onshore over northern Madagascar. A Low pressure system with a weak trough is expected to continue prevailing over southern Angola and western Namibia.

FLOW AT 500MB

At T+24, a High pressure system centered at 35E 32S is expected to ridge over South Africa and southern Namibia. An Easterly flow pattern is expected to dominate over Mozambique, Zambia, and southern Angola while a diffluent flow pattern over eastern Tanzania and central DRC will contribute to a weak convergence over the Indian Ocean.

At T+48, a high pressure cut-off centered around southern Namibia is expected to dominate the southern part of the subcontinent, and to contribute to the southeasterly pattern over Zimbabwe, Botswana, northern Namibia and southern Angola. A weak convergence is expected over central Mozambique eastern Zambia and southern DRC. A low level pressure system centered at 48E 09S is expected to contribute to convergence over northern Madagascar and southeastern Tanzania.

At T+72, a high pressure system is expected to continue dominating the southern part of the sub continent and slightly shift eastward, thus middle level high pressure systems are

expected over southern Namibia, eastern South Africa and over southern Mozambique. A weak convergence is therefore expected over central Zimbabwe and northern Botswana. A low level pressure system is expected to deepen over eastern Madagascar and to contribute to convergence over the area. Otherwise a diffluent pattern is expected over the northern part of the sub continent.

FLOW AT 200MB

At T+24, an upper level low system is expected at north east of Namibia which will be associated with convective condition over the area and over southwestern Angola. An upper level trough is expected to be situated north east of Botswana, over northern South Africa and southern Mozambique affecting subsidence over there while a diffluent flux is expected over southern part of South Africa. An upper level ridge is expected to prevail over northern part of Madagascar and to contribute a convective condition over the area. A confluence pattern is expected over western Zambia while a diffluent pattern over Tanzania and northern Mozambique.

At T+48, the upper level low pressure system which was dominating north of Namibia is expected to be shifted westward with an associated upper level ridge toward southern Namibia and central South Africa. These systems will contribute to convective conditions over there. The upper level trough at T+24 is expected to extend toward southern Zambia causing subsidence over there, over eastern Botswana, Zimbabwe, and southern Mozambique. An upper level divergence is expected to dominate north east of Madagascar and to contribute convection over the area. Otherwise, an easterly pattern is expected to prevail over northern part of the subcontinent.

At T+72, the upper level low pressure system which was dominating over northeastern Namibia is expected to shift further westward to 02E 19S and the associated weak ridge will also move toward northern Namibia. The upper level trough at T+48 is expected to continue extending northwestward to southeastern Angola and cause an upper level convergence over extreme southern DRC, central Zambia and central Mozambique. The upper level divergence area north east of Madagascar is expected to continue expanding toward northern Mozambique, Malawi and southern Tanzania and to contribute convection over there. An upper level divergence area is expected to be cut off over central South Africa while a weak trough is expected to extend towards the southwest part of the country.

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