Forecasting guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

**SHORT RANGE FORECAST DISCUSSION 14H00 EST 04TH MARCH 2008**

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

**FORECAST DISCUSSION 14H00 EST, 04TH MARCH 2008**
**Valid: 00Z 05TH MARCH 2008-OOZ 07TH MARCH 2008**

## 1: 24HR RAINFALL FORECAST

**DAY 1: 05TH MARCH 2008**
During this period, more than 30mm with a Probability Of Precipitation (POP) 50% is expected over northeastern Madagascar, 40% over southwestern Angola and northwestern Namibia. More than 20mm with POP 50% over southern central DRC, central to northeastern Angola, and southwestern Namibia. More than 20mm with POP 60% over southeastern South Africa, 40% over southern DRC, central to northern Mozambique.

**DAY 2: 06TH MARCH 2008**
During this period, more than 40mm with POP 50% is expected over northern Madagascar. More than 30mm with POP 50% over southwestern to central Angola, 40% over northeastern South Africa. More than 20mm with POP 40% over eastern Angola, northern Zambia, southern DRC, northern Malawi, southern Tanzania, and northern Mozambique.

**DAY 3: 07TH MARCH 2008**
More than 40mm with POP 60% is expected over northeastern Madagascar. More than 30mm with POP 50% other southwestern to central Angola, and northeastern South Africa. More than 20mm with POP 50% over southern Tanzania and northern Mozambique, 40% over northern Zambia and eastern Angola.

## 2: MODELS DISCUSSION:

*Models comparison (Valid from 00Z; 04th 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 move eastward and to be centered around 66E 35S ridging towards eastern South Africa. A weak frontal system is expected to maintain its location southeast of South Africa ridging behind by a high pressure system centered at 22E 40S. An area of Low pressure system is expected to be located north east of Madagascar centered at around 54E 11S and is expected to move westwards. Easterly flow pattern will prevail over central to northern Mozambique, Zambia, Zimbabwe while a weak trough is expected to dominate southwestern Angola and southwestern Namibia. A southeasterly diffluent flow pattern is expected to dominate over Tanzania. A weak trough is expected to prevail south east of South Africa.

At T+48, a Mascarine high pressure system is expected to be centered at 42E 35S ridging over northeastern South Africa and southern Botswana. The low pressure system which was located northeast Madagascar is expected to deepen and to move southwestwards, and causing convergence over the area. Easterly flow pattern is expected to continue prevailing over Mozambique, Malawi, Zambia and Zimbabwe. A weak trough is expected to continue dominating over southwestern Angola and western Namibia. A southeasterly diffluent flow pattern is expected to dominate over Tanzania. A convergence area is expected to develop over northwestern to northeastern DRC.

T+72hr, a Mascarine high pressure system is expected to increase and to maintain its position and continue ridging over the same areas as 24hours before. A weak frontal system is expected to be located southwest of South Africa. An easterly flow pattern is expected to continue dominating over Mozambique, Malawi, Zimbabwe and Zambia. A weak trough is expected to continue prevailing over western Angola and western Namibia. An easterly flow pattern is expected to dominate over Tanzania. The convergence area over northern Zambia is expected to shift towards central of the country. The low pressure system located northeast Madagascar is expected to shift northwestwards and continue contributing to convergence over there.

**FLOW AT 500MB**

At T+24, a High pressure system centered at 15E 25S is expected to ridge over northeastern Namibia, southeastern Angola, and eastern Botswana. A middle level trough system is expected to be located southeast of South Africa. An onshore flow pattern is expected to prevail over central Mozambique. A middle level convergent flow is expected over northwestern Zambia and over western Angola, otherwise southeasterly flow will dominate northern part of the sub continent.

At T+48, a high pressure system is expected to dominate over southern Namibia, South Africa, southern Mozambique, southern Botswana, and central part of Madagascar. A weak trough system is expected to extend over eastern Angola, western Zambia and northern Botswana causing convergence over southwestern Zambia, northern Zimbabwe

and eastern Botswana. Confluent flow pattern is expected over southern Tanzania and northern Mozambique.

At T+72, a high pressure system is expected to weaken over southwestern Namibia, southwestern Botswana, and western South Africa. A trough system is expected to continue expanding over southeastern Angola, central Botswana, and over northeastern South Africa. A high pressure system is expected to dominate central part of Madagascar and associated with a ridge over northern Mozambique, north eastern Zimbabwe and central Zambia. A diffluent flow pattern is expected to prevail over northern Tanzania and DRC.

**FLOW AT 200MB**

At T+24, an upper level Low system is expected to be located west of Namibia and associated with an upper level ridge extending over southeastern Namibia, western Botswana and central South Africa. An upper level trough is expected to dominate over southern Zambia, eastern Botswana, Zimbabwe, northeastern South Africa and southern Mozambique. An upper level Low system is expected to be situated north east of Madagascar and to dominate over the northern part of the country. An upper level divergence is expected over eastern DRC.

At T+48, The upper level Low system which was west of Namibia is expected to shift westwards with an associated ridge extending over Namibia, southern Botswana, northern South Africa. A new upper level trough is expected to prevail over southern South Africa. The upper level trough at T+24 is expected to contract over extreme southeastern Angola, southern Zambia, Zimbabwe, northeastern Botswana and southern Mozambique. The upper level Low system which was northeast of Madagascar is expected to continue expanding and to prevail over Tanzania northern Zambia, Malawi and northern Mozambique. The upper level divergence which was over eastern DRC is expected to shift by western of the country.

At T+72, the upper level trough over southern South Africa is expected to shift eastwards and will be replaced by an upper level low system centered at the tip of South Africa. The upper level Low system which was northeast of Madagascar is expected to shift southwestwards and to dominate over southern Tanzania, Malawi, northern Zambia, and northern Mozambique. Otherwise, the rest part of the subcontinent is expected to be dominated by an upper level trough.

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