Forecasting guidance for Sever Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 04TH JANUARY 2008

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

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

1: 24HR RAINFALL FORECAST

DAY 1: 05TH JAN 2008

During the period, 30-50mm is expected over central to northern Madagascar; 20-40mm over southern Zambia; 10-30m over northern Mozambique, Malawi, southwestern Tanzania, northern and western Zambia and northern Zimbabwe; 5-20mm over southeastern to northeastern South Africa and southern Republic of the Congo.

DAY 2: 06TH JAN 2008

During this period, 20-40mm is expected over central to northern Madagascar; 20-30mm over southern Zambia; 5-30mm over northern Mozambique, Malawi, southern, southwestern and western Tanzania, northern and western Zambia and northern Zimbabwe;5-20mm over northeastern to northern South Africa.

DAY 3: 07TH JAN 2008

During this period, 20-40mm is expected over northern Madagascar; 20-30mm over southern Zambia and extreme northern Botswana; 5-30mm over northern Mozambique, interior of northeastern to northern South Africa, northern Malawi, southern, southwestern and western Tanzania, central to eastern DRC, central to northern Zambia, northern Botswana and northern Zimbabwe; 5-20mm over southern South Africa.

2: MODELS DISCUSSION:

Models comparison (Valid from 00Z; 04TH JANUARY 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 has situated southeast of South Africa at 40S 30E causing a weak onshore flow over southeastern to northeastern South Africa and southern Mozambique. A St Helena high pressure system has situated far to the west, centered at 25S 15W and ridging southeastwards. There is a frontal system ahead of St Helena high pressure, situated southwest of South Africa. Convergence associated with a tropical depression ex Elnus has situated southeast of Madagascar, but weak convergence associated with it prevails over Madagascar. Low pressure systems continues to dominate central Mozambique, Zambia, northern Zimbabwe, Botswana, Malawi and Namibia causing convergence over there. Also, weak convergence dominates western to southwestern Tanzania, eastern DRC and southern Republic of the Congo. The eastern Tanzania and southern DRC are dominated by divergence pattern

At T+48, a Mascarine high pressure system has shifted southwards, now centered at 43S 35E and ridging towards northeastern South Africa while causing an onshore flow on southern Mozambique. A St Helena high pressure system has slightly shifted to the east and hence pushed a frontal system slightly to east. The convergence associated with ex Elnus tropical depression has shifted further southwards. Low pressure system continues to dominate central to northern Mozambique, Malawi, Zambia, northern Zimbabwe, Botswana, central South Africa, Namibia and Angola causing convergence over there. There is a strong convergence over the southwestern to western Tanzania, Lake Victoria Basin and eastern DRC associated with northeasterlies and westerlies. Divergence dominates eastern Tanzania.

At T+72, a St Helena High pressure system ha shifted further to the east, now centered at 34S 6W pushing strongly the frontal system ahead of it. The frontal system is touching southern South Africa associated with convergence over the central part. Convergence associated with Low pressure system dominates central to northern Mozambique, Malawi, Zimbabwe, Botswana, Namibia, Angola, Zambia and Malawi. Convergence continues to dominate western, southwestern to southern Tanzania, Lake Victoria Basin,

central to eastern DRC otherwise weak divergence over the eastern Tanzania and southern DRC.

FLOW AT 500MB

At T+24, there is a weak trough system over the Mozambique Channel associated with ex Elnus tropical depression, it is associated with convergence over Madagascar. A trough system has situated southwest of South Africa together with a weak high pressure system over Namibia, they both contribute towards strong northwesterlies to westerlies over South Africa. Convergence dominates central to northern Mozambique, Malawi, Zambia and Zimbabwe otherwise divergence over most parts of Tanzania.

At T+48, the high pressure system which was over Namibia has shifted eastwards, now centered over Botswana at 25S 25E and causing divergence over there. A trough which was situated southwest of South Africa has slightly shifted eastwards, together with a high pressure system over Botswana, they contribute to very strong northwesterly wind over South Africa. Convergence continues to dominate northern Madagascar, central to northern Mozambique, Malawi, Zimbabwe, Zambia otherwise divergence continues over eastern DRC and most parts of Tanzania.

At T+72, a high pressure system has almost maintained the position while a trough has shifted to the east, now touching southern part of South Africa. These two systems contribute to very strong westerlies over South Africa. Northern Mozambique, Malawi and Zambia continue to be dominated by convergence.

FLOW AT 200MB

At T+24, a high pressure cell sits over Zambia at 15S 25E causing divergence over there. An upper level trough has situated west of South Africa, together with a high pressure system, they contribute to very strong westerlies over South Africa. Very strong southeasterlies dominates northern part of the sub continent.

At T+48, a high pressure system has almost maintained the position over Zambia. An upper level trough which was situated west of South Africa has now situated southwest of the country. These two systems contribute to a northwesterly Jet Stream with a maximum speed of 85Kts over southwestern South Africa, otherwise strong southeasterlies continues to dominate northern part of the sub continent.

At T+72, a high pressure system continues to maintain its position over Zambia. An Upper level trough has slightly filled up and now touching the tip of South Africa. These two systems continue to contribute towards a westerly Jet Stream with a maximum speed of 80Kts over South Africa. Strong southeasterlies continues to prevail over the northern part of the sub continent.

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