Forecasting guidance for Sever Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 17TH JANUARY 2008

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

FORECAST DISCUSSION 14H00 EST, 17TH JANUARY 2008
Valid: 00Z 18TH JANUARY 2008-OOZ 20TH JANUARY 2008

1: 24HR RAINFALL FORECAST

DAY 1: 18TH JAN 2008

During this period, 20-40mm is expected over northern South Africa and southern Zimbabwe; 10-30mm over northern Mozambique, southern Malawi and central to southern Zambia; 5-30mm over eastern South Africa, southern Mozambique, southern Botswana, eastern Namibia, eastern Angola, northern Zambia, western, southwestern to southern Tanzania and Madagascar.

DAY 2: 19TH JAN 2008

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

DAY 3: 20TH JAN 2008

During this period, 20-50mm is expected over eastern Angola to northern Namibia; 20-40mm over central to northern Madagascar; 5-30mm over northern South Africa, eastern Namibia, western Botswana, northern Zimbabwe, northern Mozambique, Zambia, Malawi, eastern DRC, northern coast of Tanzania and southern Madagascar.

2: MODELS DISCUSSION:

Models comparison (Valid from 00Z; 17TH 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 far to the east causing a weak onshore flow on the eastern side of Madagascar. A St Helena High pressure system has centered at 35S 13W ridging towards southern South Africa and forming a high pressure cell on the eastern part. The high pressure cell causes onshore flow associated with convergence on southern Mozambique towards Zimbabwe and pushes the frontal system to the east. Convergence caused by Low pressure systems dominates northern Mozambique, northern Botswana, eastern Namibia, northern South Africa, Malawi, Zambia, eastern Angola, northern Madagascar, western Tanzania and eastern DRC but slight divergence from central to northeastern Tanzania. There is a long track of wind over the Indian Ocean causing onshore flow on the eastern Tanzania.

At T+48, a St Helena high pressure system, a high pressure cell over the eastern South Africa and a frontal system have almost maintained their positions. Convergence continues to prevail over central to northern Mozambique, Zimbabwe, Botswana, eastern Namibia, Malawi, Zambia, eastern Madagascar, eastern Angola western Tanzania and eastern DRC. An onshore flow on the eastern Tanzania continues to prevail.

At T+72, a new Mascarine high pressure system has formed, centered at 32S 35E causing an onshore flow on the southern Mozambique. A St Helena high pressure has shifted to the east, centered at 34S 4W ridging slightly on the southern South Africa. There is a frontal system developed, now touching southern South Africa. Convergence continue to dominates central to northern Mozambique, northern Madagascar, Zimbabwe, northern Botswana, eastern Namibia, eastern Angola Zambia, southern Malawi, western Tanzania and eastern DRC. Convergence associated with onshore flow is evident on the eastern Tanzania.

FLOW AT 500MB

At T+24, a sub tropical high pressure cell sits over northern South Africa associated with westerly wind over southern South Africa. There is a Low pressure system causing convergence over southern Madagascar. Convergence dominates Zambia, northern Zimbabwe and northern Botswana.

At T+48, a sub tropical high pressure system has slightly shifted northwards and associated with southwesterlies over southern South Africa. A Low pressure system over Madagascar has filled up and replaced by a trough system associated with convergence over the eastern part. Convergence prevails over western Zambia, northern Botswana and northern Namibia.

At T+72, a sub tropical high pressure system has shifted towards Mozambique and weakens. Southeasterlies to easterlies dominates northern part of the sub continent otherwise convergence over the western Zambia and eastern Angola.

FLOW AT 200MB

At T+24, a high pressure cell sits over southern Mozambique and extending a ridge towards northern Botswana. There is a trough system south of South Africa, together with a high pressure cell, they both contributes towards a westerly Jet Stream with a maximum speed of 100Kts over Southern South Africa. A Low pressure system associated with strong wind dominates southern Madagascar.

At T+48, a high pressure system associated with divergence has retrograted to the west towards northern Namibia while a trough system has filled up. The system contributes towards a westerly Jet Stream with a maximum speed of 95Kts over southern South Africa. A Low pressure system over Madagascar has filled up and replaced by trough system extending towards Tanzania.

At T+72, a high pressure cell associated with divergence has almost maintained the position over the northern Namibia. A new trough system has developed southwest of South Africa. These two systems continue to contribute towards a westerly Jet Stream over South Africa.

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