Forecasting guidance for Sever Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 01ST FEBRUARY 2008

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

FORECAST DISCUSSION 14H00 EST, 01ST FEBRUARY 2008
Valid: 00Z 02ND FEBRUARY 2008-OOZ 04TH FEBRUARY 2008

1: 24HR RAINFALL FORECAST

DAY 1: 02ND FEB 2008

During this period, more than 50mm with a Probability Of Precipitation (POP) 50% is expected over northwestern Madagascar; More than 40mm with POP 30% over southern coast of Tanzania and western Zambia; More than 30mm with POP 30% over northeastern Madagascar and northern Mozambique; More than 20mm with POP 80% over eastern Angola, 50% over central to northern Zambia, 30% over southern DRC, northern Malawi and southwestern to southern Tanzania.

DAY 2: 03RD FEB 2008

During this period, more than 50mm with a POP 30% is expected over western Zambia and southern coast of Tanzania; More than 30mm with POP 50% over northwestern Madagascar; More than 20mm with POP 70% over southern Tanzania, 60% over eastern Angola, 30% over central Zambia, northern Mozambique, northern Zambia and extreme southern DRC.

DAY 3: 04TH FEB 2008

During this period, more than 50mm with POP 60% is expected over northern Zambia, 40% over southwestern Tanzania; More than 30mm with POP 60% over northwestern Madagascar, 50% over western Zambia, 40% over southern Tanzania; More than 20mm with POP 60% over northeastern Madagascar and northern Malawi, 50% over eastern Angola and 20% over southern DRC.

2: MODELS DISCUSSION:

Models comparison (Valid from 00Z; 01ST 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 high pressure system sits on the northern South Africa and associated with onshore flow on the southern Mozambique. A weak frontal system has situated to the southern tip of South Africa ridging behind by a St Helena high pressure system. The convergence associated with Ex Tropical Cyclone Fame has shifted to the southeast of Madagascar. Convergence dominates northern Madagascar, northern Mozambique, northern Zambia, and eastern Angola, central to southern DC, western to extreme southern Tanzania, Lake Victoria Basin otherwise diffluent over eastern to northeastern Tanzania, Botswana and Namibia.

At T+48, a high pressure system which was on the northern South Africa has shifted to the east, centered at 32S 42E ridging towards northern South Africa while causing onshore flow on the southern Mozambique. A frontal system has slightly shifted to the east. A Mascarine high pressure system has retrograted to the west and now centered at 32S 8W. Convergence continues to prevail on the northern Madagascar, northern Mozambique, northern Zambia, eastern Angola and central South Africa otherwise diffluent pattern on Botswana, Zimbabwe and Namibia. There is a high pressure system over the Indian Ocean contributing to diffluent pattern on the eastern to northeastern Tanzania.

At T+72, a Mascarine high pressure system has continues to shift to the east, now centered at 35S 52E with a frontal system ridging behind it and extends towards eastern South Africa. A St Helena high pressure system has slightly shifted to the east, now centered at 30S 6W, causing a weak onshore flow on the southern South Africa and Angolan coast. Strong convergence dominated western Tanzania towards Lake Victoria Basin, otherwise a weak convergence on northern Madagascar, northern Mozambique, western Zambia, eastern Angola eastern South Africa and central DRC.

FLOW AT 500MB

At T+24, a high pressure cell sits west of South Africa ridging towards South Africa. A Low pressure associated with Ex Fame has situated southeast of Madagascar, extending a trough towards central part of the country. Convergence dominates southern Mozambique, Zimbabwe, northern Botswana, Zambia, eastern Angola and southern DRC otherwise diffluent on northern Tanzania.

At T+48, a high pressure system which was to the west of South Africa has shifted towards northern South Africa and causing divergence over there. A trough system which was associated with Ex Tropical Cyclone Fame has filled up. Convergence

continues to dominate central Mozambique, Zimbabwe, northern Botswana, eastern Angola and southern DRC otherwise diffluent on western to southern Tanzania and northern Madagascar.

At T+72, a high pressure system has shifted further to the east and now centered at 26S 41E. There is a trough system to west of South Africa associated with convergence on the western part of it. Convergence continues to prevail over Botswana, southern Zimbabwe, Zambia, eastern DRC and Malawi otherwise a weak diffluent pattern on the western Tanzania.

FLOW AT 200MB

At T+24, there is a trough system on the western Namibia. Divergence pattern dominates southern DRC, together with a trough system, they both contribute towards strong northwesterlies over northern Botswana, southern Zimbabwe and northern South Africa.

At T+48, a trough system has almost maintained the position with a slight weakening. Divergence pattern has shifted towards northern Zambia and Mozambique, together with a trough system, they both continues to contribute towards strong northwesterlies over Botswana and northern South Africa, otherwise strong southeasterlies dominates northern part of the sub continent.

At T+72, trough system has shifted to the west. A divergence which was sitting on the northern Zambia and Mozambique has now shifted towards northern Zimbabwe. These two systems contribute towards a convergence area stretching from northern Namibia to northern South Africa, associated with very strong northwesterlies.

Author: 1. Augustino Nduganda (Tanzania Meteorological Service and African Desk)
2. Guy Razafindrakoto (Madagascar Meteorological Service and African Desk)