Forecasting guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 12th DECEMBER 2007

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

FORECAST DISCUSSION 14H00 EST, 12th DECEMBER 2007
Valid: 00Z 13TH DECEMBER 2007-OOZ 15TH DECEMBER 2007

1: 24HR RAINFALL FORECAST

DAY 1: 13TH DEC 2007

During the period, 50-100 mm is expected over eastern Angola and western Zambia; 40-75 mm over Zimbabwe; 20-60 mm over northern Zambia, southwestern Tanzania, Malawi, Southern DRC, Central Mozambique and northern Botswana.

DAY 2: 14TH DEC 2007

During this period, 60-100mm is expected over central to eastern Angola, extreme northern Botswana and western Zambia; 20-75mm over central to northern Zambia, northern Zimbabwe, northern Botswana, northern Namibia, eastern Mozambique, Malawi, western to southwestern Tanzania, southern DRC and northern Angola.

DAY 3: 15TH DEC 2007

During this period, 40-75mm is expected over central to eastern Angola and western Zambia; 20-50mm over northern Angola, central Zambia, northern Zimbabwe, northern Botswana and northern Namibia;10-20mm over southeast South Africa.

2: MODEL DISCUSSION:

Model comparison (Valid from 00z Dec 2007): There is an agreement of UK MET, ECMWF and GFS models. There are no major discrepancies between them.

FLOW AT 850MB

At T+24, there is a strong convergence associated with northeasterlies and northwesterlies wind over southern DRC, southwest Tanzania, Zambia, eastern Angola otherwise N'easterlies and easterlies converge over Mozambique, Zimbabwe and Botswana. A St Helena/Atlantic Ocean high pressure is situated southwest of the sub continent at 37S 4E and associated with a weak onshore flow on Angola coast. A Mascarine/Indian Ocean high pressure is centered a 32S 47E causing onshore flow on Mozambique coast. A weak trough is situated south of South Africa.

At T+48, the wind convergence associated with northeasterlies and northwesterlies continues to prevail over Zambia, southwestern Tanzania, southern DRC and Zimbabwe. There is a Low pressure system developed on the eastern side of Angola associated with convergence over there. The St Helena high pressure is now centered at 36S 0, ridging southeastwards causing offshore flow on the western side of South Africa but onshore on the southern part. A Mascarine high pressure has almost maintained the position, but causing a weak onshore flow on the southern Mozambique coast. A trough system has shifted slightly to the east pointing towards southeastern part of South Africa.

At T+72, a Low pressure has developed on the western part of the sub continent associated by wind convergence over Angola and Namibia. Wind convergence prevails over southern DRC, Zambia and central South Africa otherwise Malawi and Mozambique is dominated by continental northeasterlies. The convergence over southwestern Tanzania is replaced by divergence. The series of high pressure cells are located south of the sub continent with St Helena high pressure far to the west and Mascarine high pressure at 30S 52E. There is no significant change on the trough system situated southeast of South Africa.

FLOW AT 500MB

At T+24, a sub tropical high pressure is situated east of Namibia. There is a trough system situated southwest of the sub continent, together with a high pressure, they contribute to strong N'westelies-westerlies wind over South Africa reaching 40-55Kts. Southeasterlies to easterlies dominates great part of the sub continent.

At T+48, a trough system which was southwest of South Africa has continues to shift eastwards, forming a Low pressure cell at its northern flank and centered at around

30S 5E. It continues to be associated with strong westerlies wind reaching 35Kts over South Africa. The strong wind convergence is evident over Zambia.

At T+72, a trough system southwest of South Africa has filled up but a Low pressure cell has deepened and centered at 29S 7E. The wind convergence over Zambia has shifted to the west, now centered over the eastern Angola. Southwesterlies dominate South Africa, otherwise there is no significant flow pattern over the rest of sub continent.

FLOW AT 200MB

AtT+24, a high pressure sit over Botswana, centered at 23S 26E and associated with divergence pattern. A trough system is over southwest of the sub continent associated with a Jet Stream having a maximum speed of 100Kts south of South Africa but strong wind over South Africa. Strong Southeasterlies up to 40Kts dominates northern part of the sub continent.

At T+48, a trough system has slightly shifted eastwards where by its axis is closer to the tip of South Africa. A high pressure has shifted northwards, now centered over Zambia at 15S 27E. Strong westerlies continue to dominate South Africa but Southeasterlies-easterlies on the northern part of the sub continent.

At T+72, a trough system has filled up but a Low pressure system has formed at 30S 8E. A high pressure over Zambia has shifted towards Angola associated with divergence over there. Strong southwesterlies dominates South Africa but southeasterlies-easterlies on the northern part of the sub continent.