



Forecasting guidance for Sever Weather Forecasting Demonstration Project (SWFDP)

**SHORT RANGE FORECAST DISCUSSION 14H00 EST 26<sup>TH</sup> DECEMBER 2007**

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

**FORECAST DISCUSSION 14H00 EST, 26<sup>th</sup> DECEMBER 2007**

**Valid: 00Z 27<sup>th</sup> DECEMBER 2007-00Z 29<sup>th</sup> DECEMBER 2007**

**1: 24HR RAINFALL FORECAST**

**DAY 1: 27<sup>th</sup> DEC 2007**

During the period, 40-75mm is expected over central Madagascar; 40-60mm over eastern Mozambique, northern Zimbabwe, southern Malawi, central to western Zambia and southern DRC; 10-40mm over eastern Mozambique, northern Malawi, southern to southwestern Tanzania, central DRC, central to northern Angola.

**DAY 2: 28<sup>th</sup> DEC 2007**

During this period, 40-75 mm is expected over central Madagascar; 20-50mm over central Mozambique, central Zimbabwe, western Zambia, eastern Angola; 5-30mm over northern Mozambique, Malawi, central to northern Zambia, southern DRC, central Angola, Swaziland, northeastern South Africa and southwestern Tanzania

**DAY 3: 29<sup>th</sup> DEC 2007**

During this period, 40-75mm is expected over central to eastern Madagascar; 30-60mm over northern Mozambique, southern Malawi and northern Zambia, central to eastern Zimbabwe; 5-30mm over central to southern Mozambique, eastern Zimbabwe, northern South Africa, central to western Zambia, eastern Angola, southern DRC, extreme northern Zambia and northern Malawi.

## **2: MODELS DISCUSSION:**

*Models comparison (Valid from 00Z; 26<sup>th</sup> 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, a Mascarine high pressure is situated far southeast at 37S 64E, extending a ridge northeastwards and forming a high pressure cell east of Tanzania, centered at 10S 50E. A St Helena high pressure has also situated far to the west at 27S 29W causing a weak onshore flow on Angola coast. Low pressure systems are dominating the southern part of the sub continent with a frontal system southwest of South Africa. There is a Low pressure system sitting over Botswana, Malawi, Zimbabwe, Zambia, northern Namibia, southern to southwestern Tanzania, eastern Angola and southern DRC causing convergence over the areas. Strong northerly flow dominates Tanzanian coast, but offshore flow on Mozambique coast.

At T+48, a Mascarine high pressure has now centered at 36S 65E continues to ridge northeastwards and maintaining a high pressure cell over the Indian Ocean, east of Tanzania. A St Helena high pressure has also maintained the position far to the west, ridging south of South Africa. The frontal system which was situated southwest of South Africa has shifted eastwards, now touching southeast of South Africa. Convergence associated by a Low pressure system continues to dominate central to northern of South Africa, western Botswana, eastern Namibia, Angola, Zambia, Malawi, central to southern DRC, central to southern Madagascar but divergence over most parts of Tanzania.

At T+72, a Mascarine high pressure system has slightly shifted to the east, now centered at 35S 67E and still ridging northeastwards with a high pressure cell east of Tanzania. A St Helena high pressure continues to maintain its center far to the west while ridging south of South Africa and forming a high pressure cell southeast of South Africa, centered at 36S 29E. The high pressure cell is associated with onshore flow over southern Mozambique. A trough system has pushed further to the east, now pointing towards Mozambique Channel. Convergence continues to prevail over central to northern South Africa, Namibia, Angola, Zambia, Malawi, central to southern DRC. There is a Low pressure system formed east of Madagascar causing convergence over there. Large part of Tanzania continues to be dominated by divergence pattern.

### **FLOW AT 500MB**

At T+24, there is a weak sub tropical high pressure over Atlantic Ocean west of Namibia, centered at 20S 6E . A weak trough system is situated southeast of South Africa, together with a high pressure system, they contribute to strong southwesterly flow reaching 25Kts over South Africa. Divergence dominates large part of Tanzania but convergence over Madagascar and central DRC.

At T+48, a weak sub tropical high pressure system east of Namibia has almost maintained the position, but now ridging towards northern South Africa. A weak trough system has shifted to the east, now pointing towards southern Mozambique. These systems continue to contribute towards strong westerlies to southwesterlies over South Africa. A strong convergence is evident over Zambia, Malawi and eastern Angola, otherwise divergence over Tanzania has been replaced by easterly flow.

At T+72, a weak sub tropical high pressure west of Namibia continues ridging over South Africa. A trough system has pushed further to the east. Wind convergence continues to dominate Zambia, Malawi, eastern Angola and southern DRC.

### **FLOW AT 200MB**

At T+24, a trough system is situated to the southeast of South Africa. A high pressure causing divergence is centered at 22S 38E, extending westwards and forming another cell west of Angola at 16S 13E. These two systems contribute towards very strong northwesterlies reaching 65Kts over northern South Africa. Strong southeasterlies reaching 45Kts dominates northern part of the sub continent.

At T+48, a trough system has shifted to the east, now pointing towards Mozambique Channel. The high pressure cells causing divergence both retrograded to the west, one centered at 19S 30E and another at 19S 10E. Very strong westerlies-northwesterlies reaching 60Kts dominates southern part of South Africa but strong southeasterlies reaching 45Kts over northern part of the sub continent..

At T+72, the high pressure cells have almost maintained their positions, but a trough system has shifted further to the east. Very Strong westerlies reaching 60Kts dominates South Africa but strong wind over northern part of the sub continent.

*Author: Augustino Nduganda (Tanzania Meteorological Service and African Desk)*