



Forecasting guidance for Sever Weather Forecasting Demonstration Project (SWFDP)

**SHORT RANGE FORECAST DISCUSSION 14H00 EST 27<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, 27<sup>th</sup> DECEMBER 2007**

**Valid: 00Z 28<sup>th</sup> DECEMBER 2007-00Z 30<sup>th</sup> DECEMBER 2007**

**1: 24HR RAINFALL FORECAST**

**DAY 1: 28<sup>TH</sup> DEC 2007**

During the period, 40-75mm is expected over central to eastern Madagascar; 30-50mm over central Mozambique, southern and northern Madagascar, northern Zimbabwe, western Zambia, northeastern Angola and extreme southeastern DRC; 5-40mm over northern Mozambique, Malawi, northern Zambia, southwestern to western Tanzania, southern DRC and northern Angola.

**DAY 2: 29<sup>TH</sup> DEC 2007**

During this period, 40-70mm is expected over central to western Madagascar; 25-40mm over northern Madagascar, northern Zimbabwe, central to western Zambia; 5-30mm over central to northern Mozambique, Malawi, northern Zambia, northern Botswana, central to northern Angola, central to southern DRC, southwestern to western Tanzania.

**DAY 3: 30<sup>TH</sup> DEC 2007**

During this period, 40-100mm is expected over central Madagascar; 30-50mm over southern to northern Madagascar, central to western Zambia, extreme eastern Angola; 5-30mm over northern Zimbabwe, northern Botswana, central to eastern Angola, central to southern DRC, Malawi, northern Mozambique, extreme northern Zambia, southwestern Tanzania.

## **2: MODELS DISCUSSION:**

*Models comparison (Valid from 00Z; 27<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 36S 66E, extending a ridge northeastwards and forming a high pressure cell over the India Ocean, east of Tanzania centered at 10S 45E. A St Helena high pressure has also situated far to the west at 25S 15W ridging towards South Africa. A frontal system is situated east of South Africa extending towards Mozambique Channel. Low pressure systems causing convergence is dominating central Mozambique, Zimbabwe, Malawi, Zambia, northern Botswana, eastern Namibia and eastern Angola. There is also convergence over the eastern DRC, western Tanzania and Lake Victoria, otherwise divergence over most parts of Tanzania.

At T+48, a Mascarine high pressure has now centered at 34S 66E, continues to ridge northeastwards and maintaining a high pressure cell over the Indian Ocean, east of Tanzania. A St Helena high pressure has retrograded to the west, but still causing a weak onshore flow on Angola coast. There is a high pressure cell developed over South Africa causing divergence over the area but onshore flow over Mozambique coast. A frontal system has slightly shifted to the east, causing convergence over Madagascar. Convergence associated with Low pressure systems continues to dominate central Mozambique, Zimbabwe, northern Botswana, northern Namibia, southern Angola, Zambia and Malawi, otherwise divergence over most parts of Tanzania.

At T+72, a new Mascarine high pressure system has developed, centered at 40S 34E and ridging towards northern South Africa while causing onshore flow on southern Mozambique. A frontal system has pushed further to the east. Convergence continues to prevail over central Mozambique, Zambia, Malawi and Angola otherwise divergence over Angola, Namibia and Tanzania. There is a Low pressure system developed over central Madagascar causing convergence over there.

### **FLOW AT 500MB**

At T+24, there is a weak sub tropical high pressure over Atlantic Ocean west of Namibia. A weak trough system is situated east of South Africa, together with a high pressure system, they contribute to strong westerly wind reaching 45Kts over South Africa.

Convergence dominates Zambia and Zimbabwe. There is a weak high pressure centered over Madagascar at 17S 47E ridging towards Tanzania.

At T+48, a weak high pressure has formed over South Africa, centered at 25S 16E. A weak trough system continue to shift eastwards, together with a high pressure system, they contribute towards strong wind south of South Africa. Convergence continues to dominate Zambia and Zimbabwe. A weak high pressure system over Madagascar has shifted further east.

At T+72, a weak high pressure has dominated large area of South Africa, causing divergence over there. A weak trough system has shifted further to the east. Convergence continues to dominate Zambia and Mozambique

### **FLOW AT 200MB**

At T+24, there are two high pressure cells, one centered over Zimbabwe and another over Namibia causing divergence over the areas. Trough system is situated to the east of South Africa, together with a high pressure systems, they contributes toward very strong southwesterlies reaching 60Kts over South Africa. Strong southeasterlies dominates northern part of the sub continent.

At T+48, the two high pressure cells have merged, forming a single high pressure cell dominating Zambia, Zimbabwe, Namibia and Botswana. The system contributes towards very strong westerlies over South Africa. A weak trough system has filled up, otherwise strong southeasterlies continues to dominate northern part of the sub continent.

At T+72, the high pressure cells is now centered over Namibia at 20S 18E, causing very strong westerlies over South Africa. Strong southeasterlies continues to dominate northern part of the sub continent.

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