



Forecasting guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

**SHORT RANGE FORECAST DISCUSSION 14H00 EST 13<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, 13<sup>th</sup> DECEMBER 2007  
Valid: 00Z 14<sup>TH</sup> DECEMBER 2007-00Z 16<sup>TH</sup> DECEMBER 2007**

**1: 24HR RAINFALL FORECAST**

**DAY 1: 14<sup>TH</sup> DEC 2007**

During the period, 50-75mm is expected over central to eastern Angola, extreme northern Namibia, extreme northern Botswana and western Zambia; 30-60 mm over southern Zimbabwe and northern Botswana; 20-40 mm over central to northern Zambia, southwestern Tanzania, western Malawi, Southern DRC, western Mozambique, northern Namibia, northern Angola and central Botswana.

**DAY 2: 15<sup>TH</sup> DEC 2007**

During this period, 50-100mm is expected over central to eastern Angola, western Zambia, extreme northern Botswana and extreme northern Namibia; 30-60mm over northern Zambia and southern DRC; 15-40mm over extreme western Zimbabwe, central Botswana, northern Namibia and northern Angola; 10-20mm over southeast South Africa

**DAY 3: 16<sup>TH</sup> DEC 2007**

During this period, 40-75mm is expected over central to eastern Botswana; 30-50mm over northern Namibia, extreme southern Angola and western Botswana; 20-40mm over southwestern Tanzania and extreme northern Zambia; 10-25mm over western Zimbabwe, central to eastern Botswana, southern to northern Zambia and western Mozambique.

## **2: MODEL DISCUSSION:**

*Model comparison (Valid from 00Z; 13<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, there is a Low pressure system sit over northern Namibia, western Zambia, Angola and northern Botswana associated by wind convergence. Northeasterlies converge with northwesterlies on the northern part of Zambia, Mozambique and Zimbabwe but a weak convergence is situated over southwestern Tanzania.

At T+48, a Low pressure system continues to deepen on the western part of the sub continent, and wind convergence dominates southern and western parts of DRC, Angola, Namibia, western Zambia and western Botswana. The convergence over the northern part of Zambia is associated by northeasterly and northwesterly wind otherwise the eastern part of the sub continent is dominated by continental northeasterly flow. There is a Low pressure cell developed southeast of South Africa, otherwise a weak Mascarine high pressure is centered at 38S 55E while a St Helena centered far to the west extending a ridge south of South Africa. There is a divergence pattern southwest of Tanzania.

At T+72, a Low pressure system is still a dominant feature on the western part of the sub continent associated by convergence over Angola, Zimbabwe, eastern Namibia and western South Africa. Northeasterlies and northwesterlies converge over northern Zambia and Zimbabwe. Continental northeasterlies continues to dominate eastern part of the sub continent.

### **FLOW AT 500MB**

At T+24, a trough system is situated southwest of the sub continent forming a closed Low pressure cell at its northern flank centered at 28S 5E. It is associated with strong westerlies flow over South Africa. There is a Low pressure situated over Angola associated by convergence over there. A sub tropical high pressure is centered over Mozambique Channel at 25S 38E.

At T+48, a Low pressure southwest of South Africa has slightly shifted eastwards, now centered at 28S 9E. A Low Pressure over Angola continues to be a dominant feature over there. The sub tropical high pressure over Mozambique Channel has almost maintained the position but now ridging westwards towards southern Botswana.

At T+72, a Low pressure southwest of South Africa has filled up. The high pressure cell located over Mozambique Channel has shifted westwards, centered south of Mozambique at 14S 34E. Northeasterlies and northwesterlies converge over Zambia, and extend towards Botswana.

### **FLOW AT 200MB**

AtT+24, a trough system is situated southwest of South Africa. High pressures sit over southern Zambia, causing a divergence over there. These two systems contribute towards strong northwesterlies wind over South Africa. Strong southeasterlies dominates northern part of the sub continent.

At T+48, a trough system southwest of South Africa continues to persist, now is forming a closed Low pressure cell at its northern flank centered at 30S 9E. A high pressure cell over Zambia relaxed but together with a trough, they continue to contribute towards northwesterly-westerly wind over South Africa.

At T+72, a trough system southwest of South Africa has filled up. A high pressure over Zambia continues to prevail and contributes to strong northwesterly-westerly wind over South Africa.