



Forecasting guidance for Sever Weather Forecasting Demonstration Project (SWFDP)

**SHORT RANGE FORECAST DISCUSSION 14H00 EST 02<sup>ND</sup> JANUARY 2007**

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

**FORECAST DISCUSSION 14H00 EST, 02<sup>ND</sup> JANUARY 2008**

**Valid: 00Z 03<sup>RD</sup> JANUARY 2008-00Z 05<sup>TH</sup> JANUARY 2008**

**1: 24HR RAINFALL FORECAST**

**DAY 1: 03<sup>RD</sup> JAN 2008**

During this period, 20-30mm is expected over southern Madagascar; 5-30mm over central to eastern Madagascar; 5-20mm over southern to southeastern South Africa, central Zambia and southern Malawi; 5-15mm over southern DRC, western to southwestern Tanzania, northern Zambia, northern Malawi, northern Zimbabwe, central to northern Mozambique and southern Republican of the Congo.

**DAY 2: 04<sup>TH</sup> JAN 2008**

During this period, 20-40 mm is expected over central to southern Zambia, southern Malawi, central Mozambique, western DRC and southern Republic of the Congo; 15-30mm over eastern and southern Madagascar; 5-15mm over southeastern South Africa, northern Mozambique, northern Zimbabwe, western Zambia, northeastern Angola, northern Zambia, eastern DRC, western to southwestern Tanzania.

**DAY 3: 05<sup>TH</sup> JAN 2008**

During this period, 30-50mm is expected over eastern DRC; 15-40mm over central Zambia, central Mozambique, central Madagascar and southern Malawi; 5-20mm over southwestern Tanzania, northern Malawi, northern and western Zambia, northern Mozambique, northern Zimbabwe, southeastern South Africa and eastern Angola.

## **2: MODELS DISCUSSION:**

*Models comparison (Valid from 00Z; 2<sup>nd</sup> JAN 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 Mascarine high pressure system has situated far to the west, ridging towards eastern part of South Africa. A St Helena High pressure system has situated far to the west, ridging eastwards and forming a high pressure cell centered at 38S 7E. The high pressure cell is causing an onshore flow on the southern part of South Africa. There is a frontal system ahead of this cell, where its axis extends towards northern part of South Africa. A tropical depression over the Mozambique Channel is causing a significant convergence over there and southern part of Madagascar. Convergence associated with Low pressure system dominates central Mozambique, Malawi, Zambia, northern Zimbabwe, central to northern South Africa, southern Angola and eastern Namibia. Divergence dominates eastern part of Tanzania.

At T+48, a Mascarine high pressure continues to shift to the east. The St Helena high pressure has retrograded to the west, having little influence to the sub continent. There is a high pressure cell situated south of South Africa at 39S 23E causing a weak onshore flow on the southeastern part of it. A frontal system has shifted to the east, now it is in phase with a tropical depression which is over Mozambique Channel. The depression has centered at 24S 40E causing strong convergence over there and southern part of Madagascar. Convergence continues to persist over central Mozambique, Malawi, Zambia, eastern and western DRC, southern Republic of the Congo, western Tanzania, northern part of South Africa and eastern Angola. Eastern Tanzania and southern DRC are dominated by divergence pattern.

At T+72, a new Mascarine high pressure system has formed southeast of South Africa, centered at 40S 30E causing a weak onshore flow on the eastern side of South Africa. There is a new frontal system southwest of South Africa, where its axis extends towards southwestern of the country. A tropical depression has almost maintained the position over the Channel, continues to cause convergence over there and southern part of Madagascar. There is a Low pressure system developing over the Indian Ocean at 10S

42E causing significant convergence over there. Low pressure system causing convergence continues to dominate central Mozambique, Malawi, Zambia, southern Angola, eastern Namibia, western part of Tanzania, eastern part of DRC and northern South Africa. Eastern part of Tanzania continues to be dominated by divergence pattern.

### **FLOW AT 500MB**

At T+24, there is a weak tropical high pressure system over Namibia causing divergence over there. A trough system is situated to the south of South Africa, together with a high pressure system over Namibia, they both contribute towards very strong northwesterlies over South Africa. A strong convergence associated with a tropical depression is evident over Mozambique Channel. Significant convergence is seen over central to southern Madagascar, central Mozambique and Malawi otherwise southeasterlies dominates northern part of the sub continent.

At T+48, a weak tropical high pressure has shifted eastwards, now centered over Botswana at 24S 26E causing divergence over there. A trough system which was situated south of South Africa has slightly shifted to the east, where the northern part of the axis is touching the southern tip of South Africa. A tropical depression has almost maintained the position but slightly filled up. Convergence continues to dominate central Mozambique, Malawi and Zambia but divergence over Tanzania and DRC.

At T+72, a weak tropical high pressure has almost maintained the position over Botswana. A trough system has filled up but a new one has developed west of South Africa, together with a high pressure system over Botswana, they contribute towards strong northwesterlies over South Africa. A tropical depression over the Channel continues to fill up, but still convergence prevails over central to southern Madagascar, central Mozambique, Malawi, northern Zimbabwe and Zambia but Tanzania and DRC continues to be dominated by divergence pattern.

### **FLOW AT 200MB**

At T+24, a high pressure cell causing divergence dominates Zambia. A trough system has situated southwest of South Africa, together with a high pressure system over Zambia, they contribute towards northwesterly Jet Stream with a maximum speed of 85Kts over South Africa. Divergence pattern associated with a tropical depression dominates Mozambique Channel, otherwise strong easterlies to southeasterlies dominate northern part of the sub continent.

At T+48, the high pressure cell associated with divergence continues to dominate Zambia while a trough system which was situated southwest of South Africa has shifted slightly to the east, the axis is touching the tip of South Africa. A northwesterly Jet Stream with a maximum speed of 85Kts continues to dominate South Africa. Strong southeasterlies prevails over the northern part of the sub continent.

At T+72, a trough system which was touching the tip of South Africa has filled up, a new trough system has developed to the west of South Africa. High pressure system causing divergence continues to dominate Mozambique Channel and Zambia. Very strong

westerlies dominate South Africa but strong southeasterlies over the northern part of the sub continent.

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