



Forecasting guidance for Sever Weather Forecasting Demonstration Project (SWFDP)

**SHORT RANGE FORECAST DISCUSSION 14H00 EST 03<sup>RD</sup> JANUARY 2008**

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

**FORECAST DISCUSSION 14H00 EST, 03<sup>RD</sup> JANUARY 2008**

**Valid: 00Z 04<sup>TH</sup> JANUARY 2008-00Z 06<sup>TH</sup> JANUARY 2008**

**1: 24HR RAINFALL FORECAST**

**DAY 1: 04<sup>TH</sup> JAN 2008**

During the period, 20-40mm is expected over eastern to southern Madagascar, southern Zambia, southern Malawi and western Mozambique; 10-20mm over central to northern Madagascar; 5-20mm over eastern coast to northeastern South Africa, northern Mozambique, northern Malawi, northern Zambia, western Zambia and northern Zimbabwe.

**DAY 2: 05<sup>TH</sup> JAN 2008**

During this period, 20-40mm is expected over southern Zambia; 20-30mm over central to northern Madagascar; 5-20mm over northern Mozambique, Malawi, northern and western Zambia, northeastern Angola and northern Zimbabwe; 5-15mm over eastern coast to northeastern South Africa.

**DAY 3: 06<sup>TH</sup> JAN 2008**

During this period, 40-75mm is expected over southern Zambia and extreme northern Zimbabwe; 20-40mm over central to northern Madagascar; 5-20mm over northern Mozambique, southwestern to southern Tanzania, Malawi, central DRC, northern to western Zambia and northern Zimbabwe; 5-15mm over southern Republic of the Congo.

## **2: MODELS DISCUSSION:**

*Models comparison (Valid from 00Z; 03<sup>RD</sup> JANUARY 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 east, ridging eastwards while blocking the tropical depression over the Mozambique Channel to continue moving southwards. The St Helena high pressure system is situated far to the west, having little influence to the sub continent. There is a high pressure cell situated south of South Africa, causing onshore flow on the eastern South Africa and Angola coast. A trough system is ahead of a high pressure cell pointing towards northeastern South Africa. A tropical depression dominates the Channel, centered at 23S 40E causing convergence over there and southern parts of Madagascar. Low pressure system associate with convergence dominates Zimbabwe, Botswana, Namibia, Angola, Zambia, Malawi and central Mozambique. Also, there is a weak convergence over the western Tanzania and eastern DRC otherwise divergence over eastern Tanzania and southern DRC.

At T+48, a Mascarine high pressure system still situated far to the east, ridging northwestwards and forming a weak high pressure cell over the Indian Ocean, east of Tanzanian coast. A high pressure cell which was situated south of South Africa has slightly shifted eastwards, now centered at 40S 30E and causing onshore flow on northeastern South Africa and southern Mozambique while pushing a frontal system to the east. A St Helena high pressure system still situated far to the east, headed by a trough system located southwest of South Africa. A Tropical depression is almost quasi stationary over the Channel, causing significant convergence over there and southern part of Madagascar. Convergence continues to dominate central Mozambique, western to southwestern Tanzania, Zambia, Namibia eastern Angola, Malawi and eastern Angola. Divergence continues to persist over eastern Tanzania and southern DRC.

At T+72, there are two cells of Mascarine high pressure system, one situated far to the east and another at 43S 37E causing a weak onshore flow on the southern Mozambique. A St Helena high pressure system has slightly shifted eastwards, centered at 27S 24W and causing a weak onshore flow on Angola coast. A tropical depression has filled up and shifted southwards, but still convergence associated with it prevails over southern Madagascar. Central Mozambique, Zimbabwe, Botswana, Zambia, Malawi, southwestern

Tanzania, Namibia Angola and western to central DRC are dominated by convergence. Large part of Tanzania continues to be dominated by divergence.

### **FLOW AT 500MB**

At T+24, Strong convergence associated with a tropical depression dominates Mozambique Channel. A weak divergence dominates northern part of Namibia, otherwise convergence over central Mozambique, Zimbabwe, Zambia, Malawi and Angola. There is a weak trough system touch the tip of South Africa contributing towards very strong wind over there.

At T+48, there is a weak high pressure system causing divergence over northern Namibia while Zambia, Zimbabwe, central to northern Mozambique continues to be dominated by convergence. A trough system has shifted eastwards toward southeast of South Africa while another trough is to the west of South Africa. Very strong westerlies dominate South Africa. A tropical depression has slightly filled up, but still convergence associated with it dominates central to southern Madagascar.

At T+72, a weak high pressure which was over Namibia has shifted eastwards, now centered over Botswana at 24S 24E causing divergence over there. There is a trough system southwest of South Africa, together with a weak high pressure they both contribute towards very strong northwesterly over South Africa. A Low pressure system associated with a tropical depression over the Channel has filled up. Convergence continues to prevail over central Madagascar, northern Mozambique, Malawi, Zambia and Zimbabwe.

### **FLOW AT 200MB**

At T+24, a high pressure cell sits over Zambia at 16S 27E causing divergence over there. A northwesterly Jet Stream with a maximum speed of 95Kts dominates South Africa otherwise very strong southeasterlies dominates northern part of the sub continent. There is a divergence over the Mozambique Channel associated with Low level convergence.

At T+48, a high pressure system has almost maintained the position over Zambia. Very strong westerly wind dominates South Africa but southeasterlies over the northern part of the sub continent. Also, a weak divergence dominates Mozambique Channel.

At T+72, the high pressure cell has retrograded to the west, now centered over Angola at 26S 18E causing divergence over there. There is a trough system situated southwest of South Africa, together with a high pressure system over Angola, they contribute towards

a northwesterly Jet Stream over western South Africa. Very strong southwesterlies continues to dominate northern part of the sub continent.

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