



Forecasting guidance for Sever Weather Forecasting Demonstration Project (SWFDP)

**SHORT RANGE FORECAST DISCUSSION 14H00 EST 19<sup>TH</sup> FEBRUARY 2008**

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

**FORECAST DISCUSSION 14H00 EST, 19<sup>TH</sup> FEBRUARY 2008**

**Valid: 00Z 20<sup>TH</sup> FEBRUARY 2008-00Z 22<sup>TH</sup> FEBRUARY 2008**

**1: TROPICAL CYCLONE SUMMARY.**

During this period, an Ex Tropical Cyclone Ivan is expected to be situated over Mozambique Channel, west of Madagascar and deepen. (GFS, UK MET and ECMWF models)

20<sup>th</sup> Feb 2008, 00Z the position is expected to be around 21.42S 41.91E with central pressure 1002hPa.

21<sup>st</sup> Feb 2008, 00Z at 21.19S 40.88E and 1000hPa.

22<sup>nd</sup> Feb 2008, 00Z at 20.38S 41.35E and 997Pa.

**2: 24HR RAINFALL FORECAST**

**DAY 1: 20<sup>TH</sup> FEB 2008**

During this period, more than 50mm with a Probability Of Precipitation (POP) 80% is expected over western Madagascar; More than 40mm with POP 60% over western DRC, 50% over northern Madagascar; More than 20mm with POP 90% over southwestern to northeastern Angola, , 60% over southwestern to southern Tanzania, 40% over southern DRC and 30% over northern Mozambique and northern Malawi.

**DAY 2: 21<sup>TH</sup> FEB 2008**

During this period, more than 50mm with POP 80% is expected over northwestern Madagascar, 50% over western to southern Madagascar; More than 30mm with POP 60% over southwestern to northeastern Angola; More than 20mm with POP 60% over southwestern to southern Tanzania, northern Mozambique, northern Malawi and northern Zambia and 30% over southern DRC.

### **DAY 3: 22<sup>TH</sup> FEB 2008**

More than 50mm with POP 90% is expected over northwestern Madagascar; More than 40mm with POP 60% over southern Madagascar; More than 30mm with POP 60% over southwestern to southern Tanzania; More than 20mm with POP 80% over northwestern Zambia, 60% over northern Zambia, 40% over southwestern to northeastern Angola, and southern DRC.

### **3: MODELS DISCUSSION:**

*Models comparison (Valid from 00Z; 19<sup>TH</sup> FEBRUARY 2008): GFS, UK MET and ECMWF models predict an Ex Tropical Cyclone Ivan to be situated over Mozambique Channel, west of Madagascar and intensify. There is an agreement between the models, no major discrepancies among them.*

### **FLOW AT 850MB**

At T+24, an Ex Tropical Cyclone Ivan is expected to be situated southwest of Madagascar causing convergence over there and onshore flow on southern Mozambique. A Mascarin high pressure system is expected to be situated far to the east ridging slightly westwards. A high pressure system sits over the Indian Ocean, east of Tanzania and contributes to diffluent pattern over eastern part. A St Helena high pressure system is expected to be far to the west at 25S 13W ridging eastwards and forming a high pressure cell southwest of South Africa. Weak convergence prevails over northern Mozambique, southern Tanzania, Angola, western DRC and western Namibia.

At T+48, an Ex Tropical Cyclone Ivan is expected to shift slightly to the west and continues to cause convergence over southwestern Madagascar and onshore flow over southern Mozambique. A frontal system is expected to be south of Madagascar ridging behind by a high pressure cell situated southeast of South Africa. A St Helena high pressure system is expected to maintain its position far to the west and ridging slightly eastwards. A high pressure system which was situated east over Indian Ocean, east of Tanzania has weakened but diffluent pattern is expected to persist over eastern Tanzania. Weak convergence prevail over western Angola, western Zambia otherwise a diffluent pattern over northern Angola, western Tanzania, central Mozambique, southern DRC, Botswana and Zimbabwe.

T+72hr, convergence associated with an Ex Tropical Cyclone Ivan continues to dominate western Madagascar with onshore flow over southern Madagascar. A Mascarin high pressure system is expected to be centered at 39S 45E holding Ivan over the area. A St Helena high pressure system is situated further to the west heading by a frontal system which is expected to be south of South Africa. Convergence continues to prevail over

northern Mozambique, southern Tanzania and western Angola otherwise a diffluent pattern over Zambia, southern DRC, western Tanzania, Botswana and Zimbabwe.

### **FLOW AT 500MB**

At T+24, a sub tropical high pressure system is expected to be centered over southern Botswana and causing divergence over Botswana, South Africa, Namibia and Zimbabwe. Convergence associated with an Ex Tropical Cyclone Ivan is expected to be centered over southern Madagascar. Convergence is expected to prevail northern Mozambique, southern Tanzania, Malawi while a diffluent over western Tanzania, Zambia and Angola.

At T+48, a sub tropical high pressure system is expected to continues dominating South Africa, Botswana, Zimbabwe and Namibia associated with divergence over there. Convergence associated with Ivan is almost maintained the position while confluent over northern Mozambique and southern Zambia is expected to persist.

At T+72, a sub tropical high pressure system is expected to sit over southern Namibia and continue to cause divergence over South Africa, Botswana and Namibia. Convergence associated with an Ex Tropical Cyclone Ivan is expected to maintain its position southwest of Madagascar. Convergence is expected to continue dominating northern Mozambique and southern Tanzania.

### **FLOW AT 200MB**

At T+24, an upper level high pressure is expected to sit over western Zimbabwe and causing divergence over there. Strong divergence associated with Ex Tropical Cyclone Ivan is expected to dominate western Madagascar. Very strong westerlies are expected to dominate southern South Africa otherwise southeasterlies over northern part of the sub continent.

At T+48, an upper level high pressure which was over western Zimbabwe is expected to shift westwards and centered over southern Angola. A trough system is expected to be situated east of South Africa, together with a high pressure system over Angola, they expect to contribute to very strong southwesterlies over South Africa.

At T+72, divergence associated with ex Tropical Cyclone Ivan continues to dominate western Madagascar. An upper level high pressure which was over southern Angola has shifted to the west while a trough system which was situated east of South Africa has maintained the position but extended northwards. These two systems contribute to very strong southwesterlies over South Africa.

*Author: 1. Augustino Nduganda (Tanzania Meteorological Service and African Desk)  
2. Guy Razafindrakoto (Madagascar Meteorological Service and African Desk)*