



**Forecast guidance for Severe Weather Forecasting Demonstration Project (SWFDP)**

**SHORT RANGE FORECAST DISCUSSION 14H00 EST 18<sup>th</sup> May 2007**

**AFRICAN DESK  
CLIMATE PREDICTION CENTER  
National Centers for Environmental predictions  
National Weather Service  
NOAA  
Camp Springs MD 20746**

**FORECAST DISCUSSION 14H00 EST 18<sup>th</sup> May 2007**

**Valid: 00Z 19<sup>th</sup> May 2007- 00Z 21<sup>st</sup> May 2007.**

**FLOW AT 200MB**

At T+24 hrs, the general flow pattern over Southern Africa (South of the Equator) shown by the GFS, ECMWF and UK-MET models indicates a trough lying to the southwestern coast of the sub continent, associated with northwesterly stream up to 110 kt, causing convergence over southwestern South Africa. Another trough is lying above northwestern Madagascar, stretching into Tanzania, causing convergence over these areas. There is a shallow trough further east of the northeastern coast of Madagascar. A high pressure system cell centered above northeastern D.R. Congo (4°S 30°E) is causing divergence over the rest of the sub continent.

At T+48 hrs, the trough which was lying to the southwestern coast of the sub continent has slightly shifted eastward, deepening. The shallow trough which was lying above northwestern Madagascar, stretching into Tanzania has also shifted eastward, weakening in amplitude, due to the ridge. Divergence prevails over the rest of the sub continent.

At T+72 hrs, the shallow trough which was lying above the northeastern extreme of the Mozambican coast prevails. The trough which was lying above the southwestern parts of the sub continent, deepening, has shifted eastward. The rest of the sub continent is under divergence.

**FLOW AT 500MB**

At T+24 hrs, the GFS models show a trough lying above southwestern Madagascar, stretching into central Mozambique, causing convergence over these areas. Areas of slight convergence can be seen to the northwest of Madagascar. A well developed upper level trough which has developed a cut-off low near 24°S 5°E is lying above the Atlantic Ocean, approaching the southwestern coast of the sub continent. The Mascarene high with three cells, centered at 19°S 60°E, at 4°S 39°E and at 8°S 21°E, is ridging the central and the northern parts of the sub continent. There is a sub tropical high pressure

cell, centered above southern Zimbabwe (21°S 30°E), ridging the southwestern parts of the sub continent, but causing onshore flow along the central coast of Mozambique. At T+48 hrs, the trough which was lying over southern Madagascar has shifted eastward, weakening in amplitude, as the sub tropical high rapidly shifted further east. Slight convergence to the north of Madagascar, due to a shallow trough, is maintained. The upper level trough with closed circulation, associated to northwesterly winds up to 80 kt, has shifted northeastward deepening, causing convergence over southwestern parts of the sub continent. The rest of the sub continent is under divergence of the Mascarene high.

At T+72 hrs, the upper level trough which was over the southwestern parts of the sub continent, deepening has shifted eastward stretching into Botswana. Over the rest of the sub continent, there is no significant change in the general flow pattern.

The ensemble members of the GFS show a huge spread of the 5700m and 5870m height contours over D.R. Congo/Tanzania border, to the north of the northern coast of Madagascar up to T+60, which implies uncertainty in the position and also in amplitude of the shallow troughs over these areas. But show a good agreement in the position and depth of the upper level trough lying to the south of 30°S latitude.

### **FLOW AT 850MB**

At T+24 hrs, there is a well developed trough lying over southwestern coast of the sub continent associated to a cut-off low near 40°S 43°E and northwesterly winds up to 60 kt, thus isolated thundershowers and gale force wind is expected over southwestern and southern coast of South Africa. Areas of convergence can be seen over eastern Kenya and central D.R. Congo, due to a shallow trough. The Mascarene high pressure cell centered at 28°S 65°E is throwing a ridge into the of the sub continent and causing onshore flow regime along the northeastern coast of Madagascar, northeastern extreme of the coast of Mozambique and over eastern Tanzania. The St Helene high with two cells, centered at 28°S 20°W and at 48°S 1°W, is hardly ridging the northwestern coast of the sub continent.

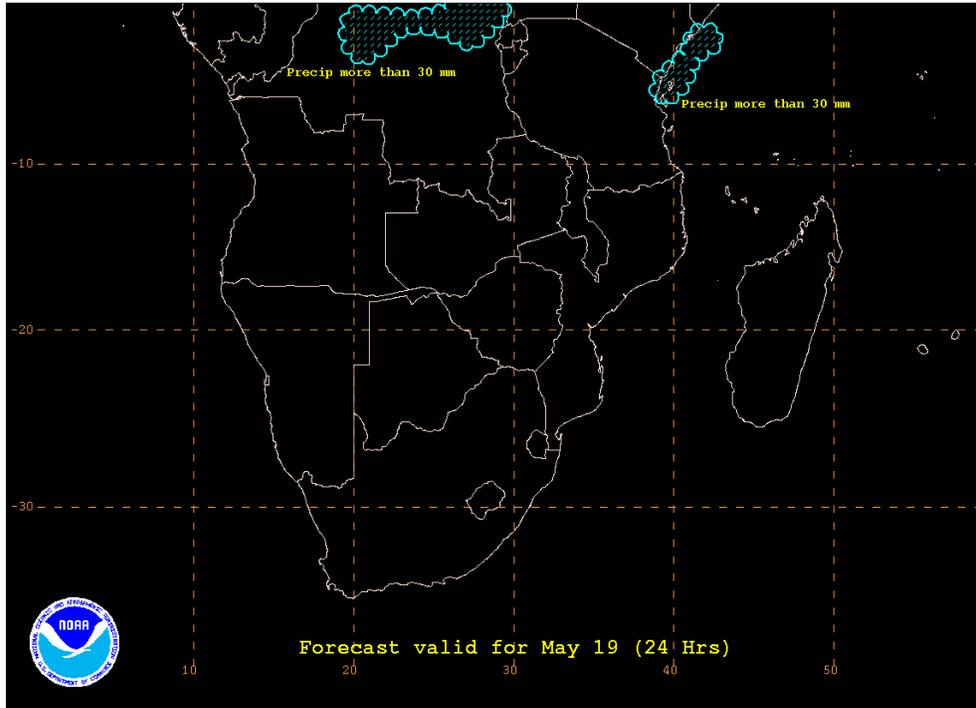
At T+48 hrs, the trough which was lying over southwestern coast of the sub continent has slightly shifted eastward, causing convergence over southern Namibia, southern Botswana and western South Africa. Over the rest of the sub continent, there is no significant change in the general flow pattern.

At T+72 hrs, the trough which was lying over the western parts of the sub continent has shifted to the southeast, stretching into Botswana, causing convergence over eastern South Africa, Botswana and southern extreme of Mozambique as the St Helene high shifted eastward, ridging the western parts of the sub continent. Slight convergence can be seen over central Angola and the coast of Kenya. Anticyclonic flow prevails over the rest of the sub continent, hence subsidence.

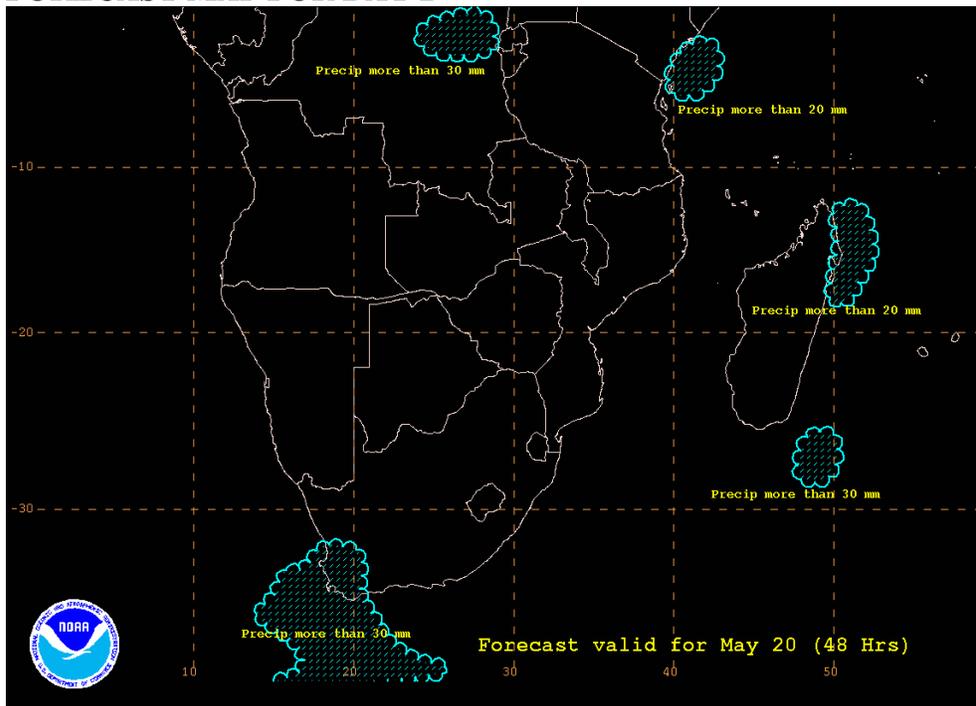
There is a huge spread between the ensemble products of the 50 mm isolines of 6 hourly total precipitations over the coast of Kenya and to the southwest of the southern coast of South Africa from T+24 hrs up to T+54 hrs; over southern Madagascar, central D.R. Congo, western Gabon and Congo Brazzaville from T+36 hrs up to T+60 hrs, which implies uncertainty in the intensity of precipitation over these areas.

The ensemble products show that the probability of 10 m wind speeds to exceed 30 KT over the areas which are to the south of 30°S latitude is 45 to 85% up to T+72 hrs.

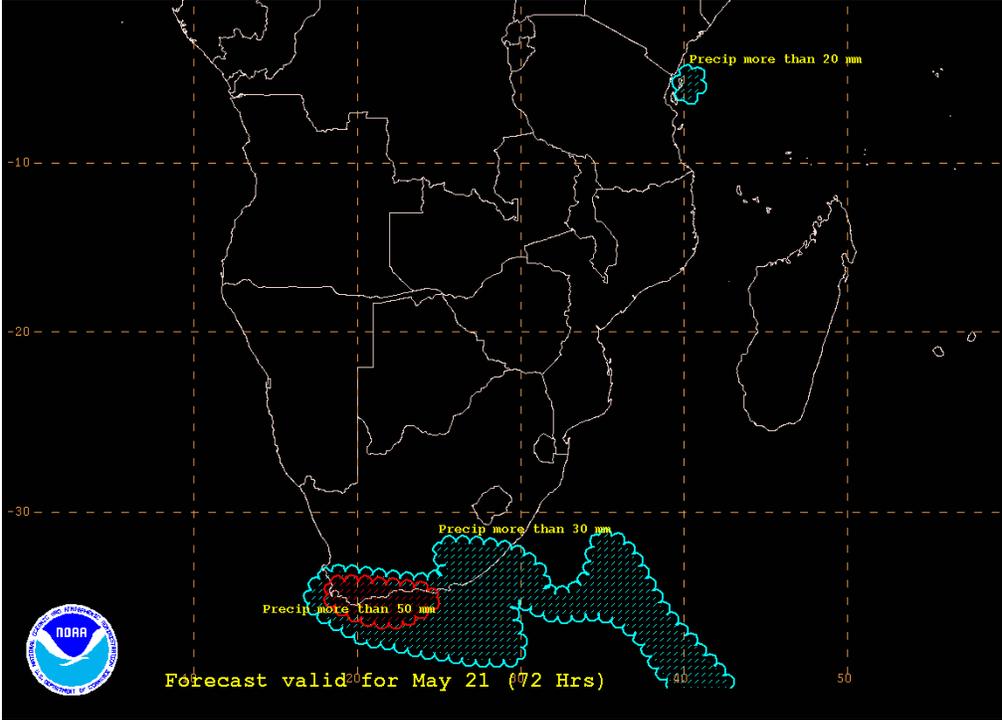
### FORECAST MAP FOR DAY 1



### FORECAST MAP FOR DAY 2



**FORECAST MAP FOR DAY 3**



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