



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

**SHORT RANGE FORECAST DISCUSSION 14H00 EST 20<sup>th</sup> April 2007**

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

**FORECAST DISCUSSION 14H00 EST 20<sup>th</sup> April 2007**

**Valid: 00Z 21<sup>st</sup> April 2007- 00Z 23<sup>rd</sup> April 2007.**

At 200mb, the GFS, ECMWF and UK-MET models show the following general flow pattern over Southern Africa (South of the Equator). There is a trough to the eastern coast of Madagascar stretching into areas which are to the north, causing convergence over these areas. A high pressure system centered over Zambia/D.R. Congo border (11°S 26°E) is causing divergence over the rest of the sub continent. At T+48 hrs, there is no significant change in the general flow pattern, except that there is a trough over the Atlantic Ocean, to the west of the southwestern coast of the sub continent, approaching the southwestern coast of South Africa. The trough which was over Madagascar has stretched into northern Mozambican Channel. There is a persistent high pressure with the cell lying near 12°S 64°E, hence subsidence over these areas. At T+72 hrs, the trough which was to the east of the coast of Madagascar has stretched into areas which are to the east of 34°E longitude but south of 7°S latitude, as the high pressure systems shifts westward. The three models show that the trough which was lying over the Atlantic Ocean, approaching the southwestern coast of South Africa, has weakened in amplitude. The rest of the sub continent is under divergence.

At 500mb, the GFS models show shallow troughs lying over southeastern parts of the Mozambican Channel and further east of the eastern coast of Madagascar with southeasterly flow, causing convergence over these areas. A trough is lying over the Atlantic Ocean, further west of the western coast of the sub continent. The three models show that there is a high lying over the sub continent, with its cell centered at 13°S 9°E, throwing a ridge over the rest of the sub continent. At T+48 hrs, the three models show that the shallow trough over southeastern parts of the Mozambican Channel has shifted eastward linking the shallow trough which was to the east of the coast of Madagascar slightly shifting westward, weakening due to the interaction with the bud-off highs centered at 2°S 50°E and at 9°S 66°E. The trough which was over the Atlantic Ocean,

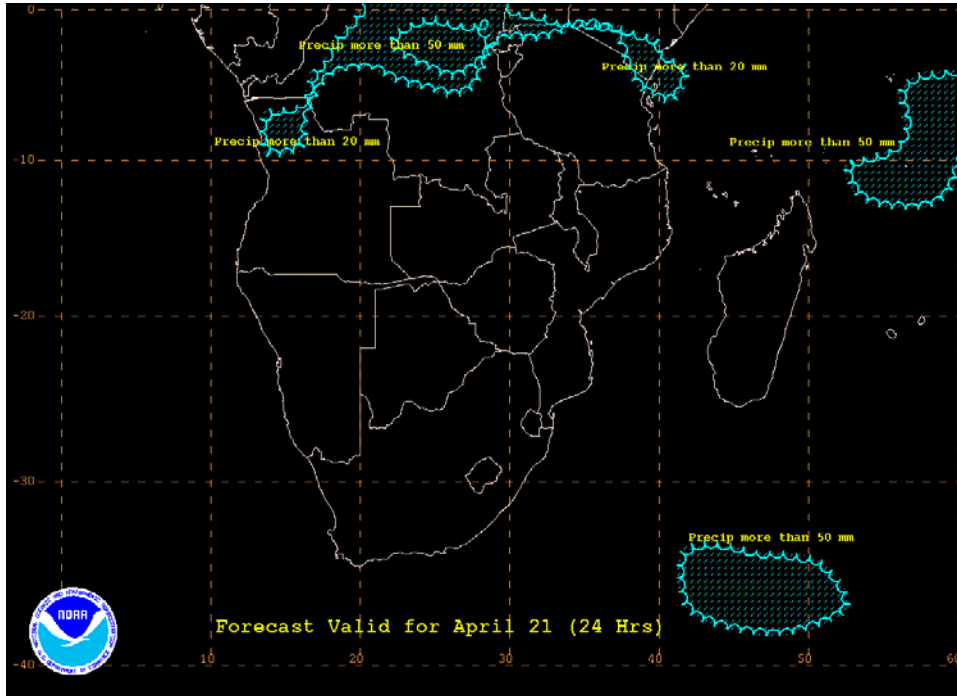
further west of the western coast of the sub continent, has weakened in amplitude. The rest of the sub continent is under divergence. At T+72 hrs, there is no significant change in the general flow pattern, except that the shallow trough which was over eastern parts of Mozambican coast is maintained and has developed a closed circulation at 30°S 41°E thus deepening and causing convergence over central coast of Mozambique.

The ensemble members of the GFS show a huge spread of the 5700m and 5870m height contours over the eastern coast of Madagascar extending to the central coast of Mozambique up to T+72, which implies uncertainty in the position of the shallow troughs with a southeasterly flow over these areas.

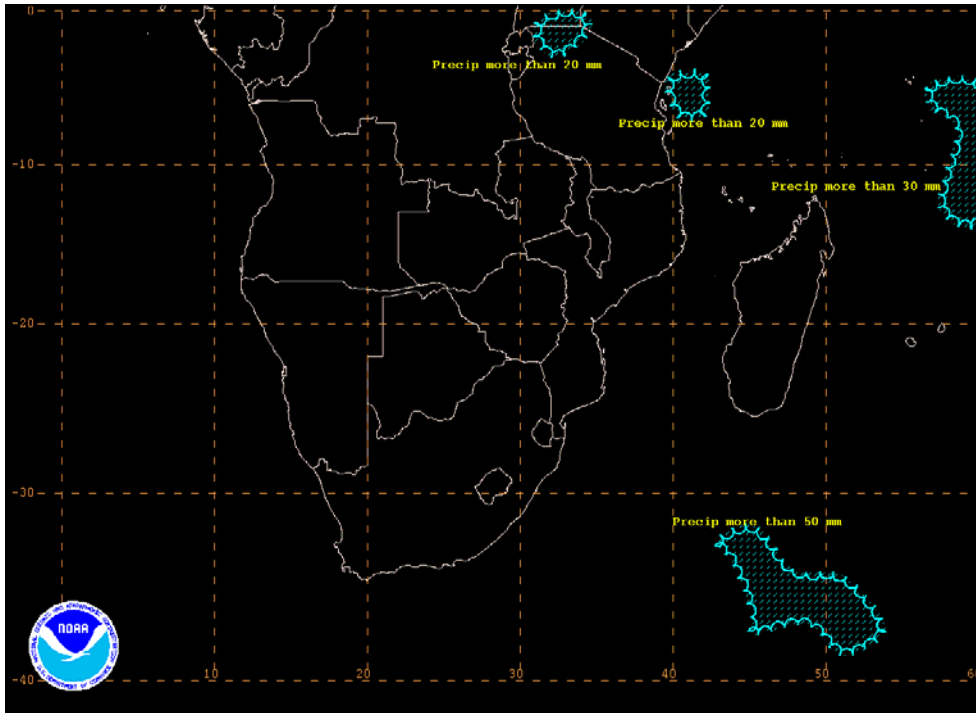
At 850mb, there is a shallow trough over the southern part of the Mozambican Channel, causing convergence over these areas. A southeasterly trough, associated with a cut-off low lying to the northeast of the northern coast of Madagascar (10°S 57°E) is causing convergence over the northeastern coast of the sub continent. The Mascarene high has three cells; one centered at 8°S 69°E, the other two centered at 40°S 39°E and at 33°S 57°E, throwing a ridge into most parts of the sub continent. At T+48 hrs, the shallow trough which was over the southern part of the Mozambican Channel has slightly shifted southward, weakening. The southeasterly trough, associated with a cut-off low lying further northeast of the northern coast of Madagascar is shifting southward. Areas of slight convergence are seen over the southwestern coast of South Africa, due to a shallow trough. The St Helene high centered at 27°S 9°E is ridging the most of the sub continent. At T+72 hrs, the low associated with a southeasterly trough, still tracks southeastward, weakening, but convergence over the northern coast of Madagascar, the coast of Tanzania and southeastern coast of Kenya is maintained. Convergence is also seen over western coast of Namibia and over northwestern South Africa. There is a shallow trough with a closed circulation at 32°S 42°E lying along the crest of Mascarene high which is causing onshore flow along the southeastern and central coast of Mozambique.

There is a huge spread between the ensemble products of the 50 mm isolines of 6 hourly total precipitations over northeastern D.R. Congo, further northeast of the northern coast of Madagascar and to the south of the southern coast of Madagascar up to T+48 hrs, denoting uncertainty in the intensity of precipitation over these areas.

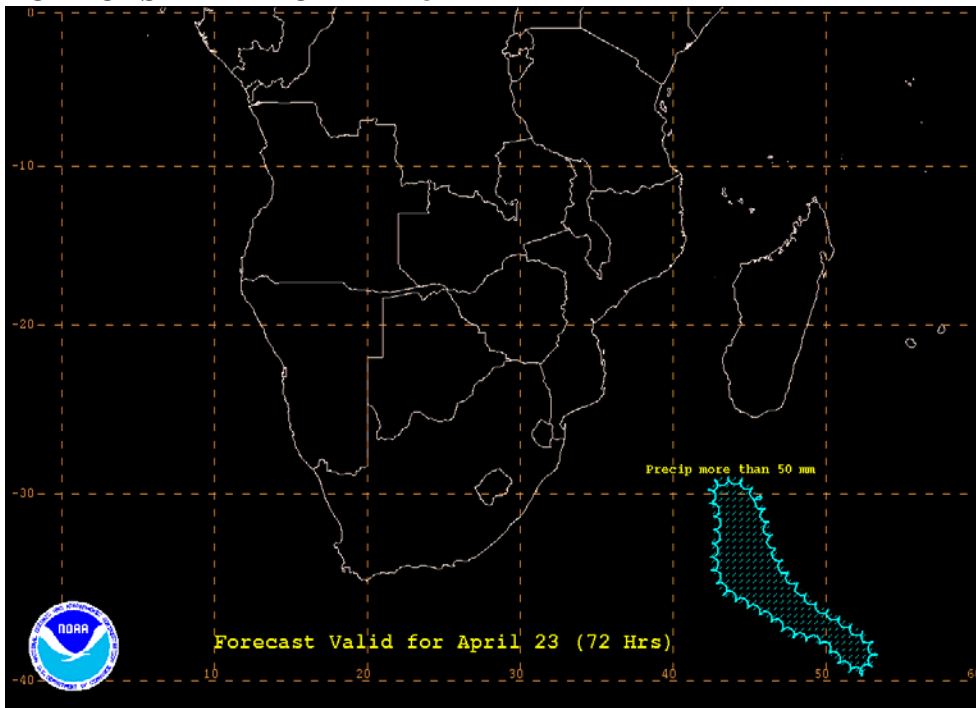
## FORECAST MAP FOR DAY 1



## FORECAST MAP FOR DAY 2



### FORECAST MAP FOR DAY 3



*Author:*  
*Sérgio Buque: - Mozambique Meteorological Services and African Desk*