



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

**SHORT RANGE FORECAST DISCUSSION 14H00 EST 17<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 17<sup>th</sup> April 2007**

**Valid: 00Z 18<sup>th</sup> April 2007- 00Z 20<sup>th</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 east of the coast of Madagascar, causing convergence over these areas. Another trough is lying over the Atlantic Ocean to the west of the southwestern coast of the sub continent. There is a cut-off low over northwestern areas of D.R. Congo (2°S 21°E) Two high pressure cells, with center located over northeast of Angola (11°S 20°E) and over the extreme northwest of Mozambique(11°S 35°E) are 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 the trough which was over the Atlantic Ocean, to the west of the southwestern coast of the sub continent slightly shifts southeastward, weakening. At T+72 hrs, the trough which was to the east of the coast of Madagascar is maintained. The three models show a shallow trough lying over the southwestern coast of South Africa, causing convergence over these areas. The rest of the sub continent is under divergence.

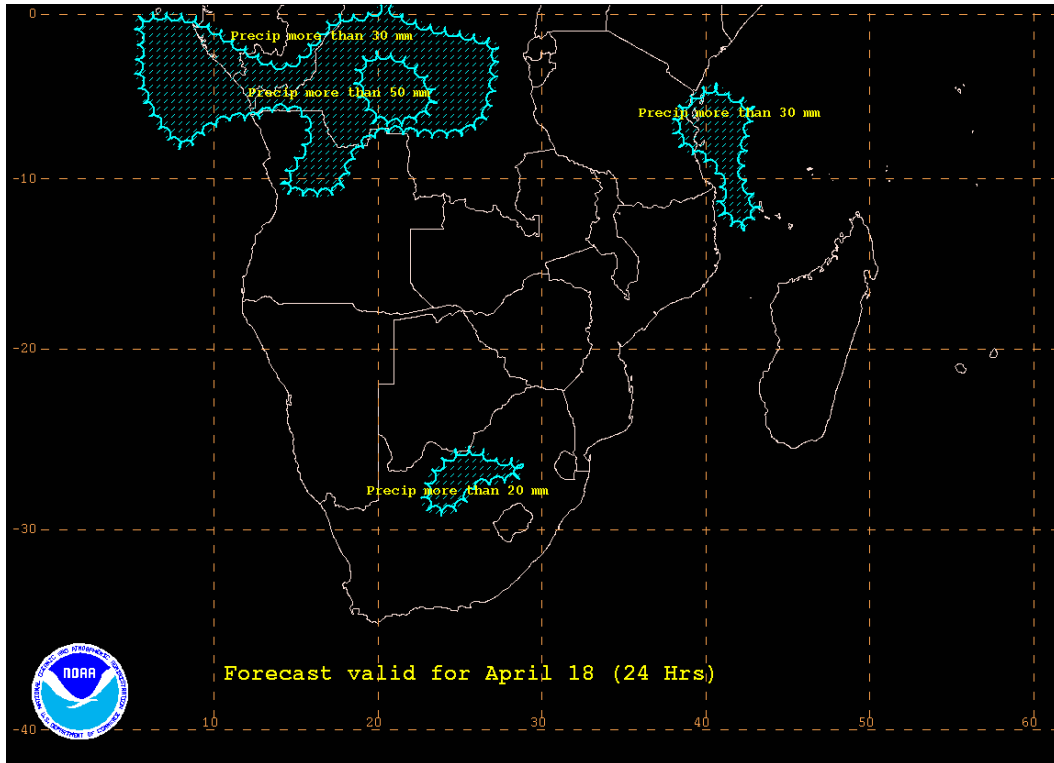
At 500mb, the GFS models show shallow troughs over the northeastern coast of South Africa, to the south of the Mozambican Channel and over southern Madagascar, causing convergence over areas which are to the east of 30°E longitude but south of 26°S latitude. Convergence is also seen over areas which are to the east of the eastern coast of Madagascar, associated with a cut-off low lying further northeast of Madagascar (8°S 61°E). A trough is lying over the Atlantic Ocean, further west of the southwestern coast of the sub continent. The three models show that the Mascarene high centered over Zimbabwe at 19°S 29°E is throwing a ridge over the rest of the sub continent, but causing onshore flow along the Northeastern coast of the sub continent. At T+48 hrs, the three models show that the shallow trough which was over the northeastern coast of South Africa is maintained. Convergence to the east of the eastern coast of Madagascar is also maintained, due to a shallow trough. The cut-off low which was lying further northeast of

Madagascar has shifted to the north. The trough over the Atlantic Ocean is approaching the southwestern coast of the sub continent. The rest of the sub continent is under divergence of the Mascarene high. At T+72 hrs, there is no significant change in the general flow pattern, except that the shallow trough which was to the east of the eastern coast of Madagascar has deepened linking the low to the north of the coast of Madagascar. 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 northeastern coast of Tanzania, to the south of the Mozambican Channel and over central and eastern South Africa at T+24 up to T+72, which implies uncertainty in the position and deepening of the shallow troughs and the cut-off low to the north of the coast of Madagascar.

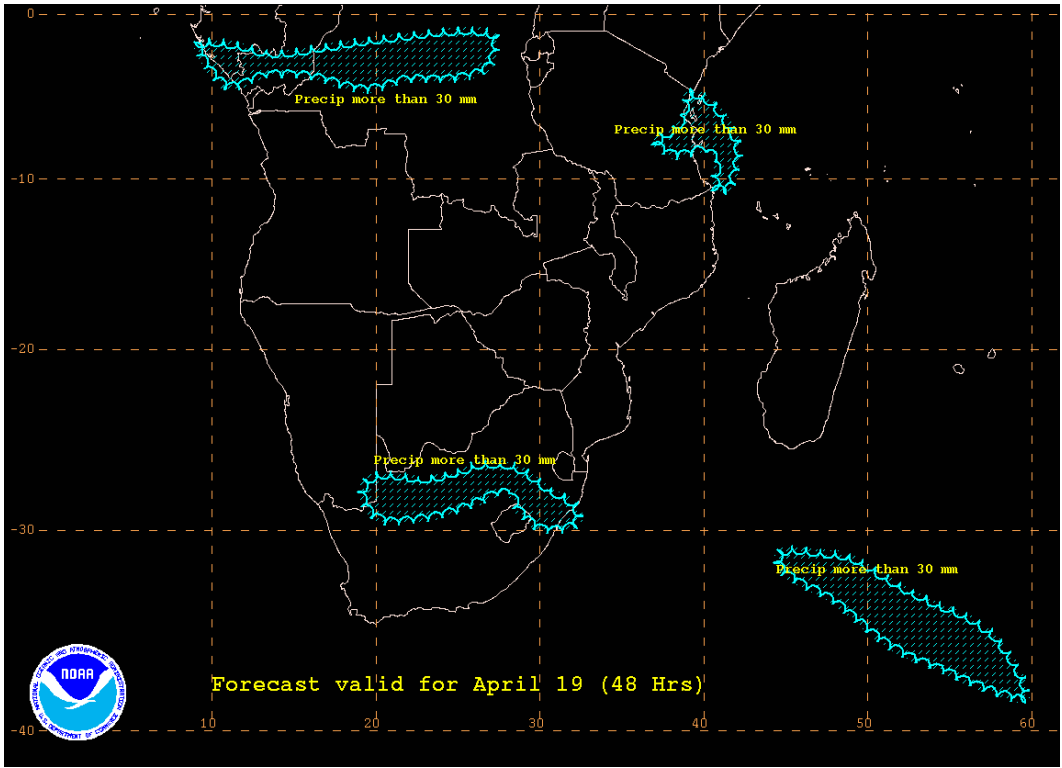
At 850mb, there is a trough over the southern coast of the sub continent, causing convergence over southern South Africa. Slight convergence is also seen over the western coast sub continent and northeastern D.R. Congo. There is low associated to a southeasterly trough lying further northeast of the northern coast of Madagascar (10°S 61°E) and Another one lying to the east of the coast of Gabon, causing convergence over areas which are to the north of 8°S latitude. The St Helene high centered at 31°S 16°W is hardly ridging the southwestern coast of South Africa. The Mascarene high with its center located at 32°S 61°E is ridging the rest of the sub continent. At T+48 hrs, the trough which was to the southern coast of the sub continent has shifted southeastward, as there is a bud-off high centered at 32°S 39°E, blocking the deepening of the trough but causing onshore flow along the eastern coast of South Africa, thus heavy rainfall is expected over these areas. Convergence over the western coast of Namibia and to the west of the northwest coast of Angola is maintained. The low which was lying further northeast of the coast of Madagascar at 10°S 61°E, associated with a southeasterly trough, is tracking westward. Divergence caused by the Mascarene and St Helene highs prevails over the rest of the sub continent. At T+72 hrs, the low associated with a southeasterly trough, still tracks northwestward causing convergence over northern Madagascar, the coast of Tanzania and the southeastern coast of Kenya. Convergence over southern Angola and northeastern D.R. Congo prevails. Convergence is also seen to the east of the coast of Namibia and South Africa, due to a shallow trough. Divergence prevails over the rest of the sub continent.

There is a huge spread between the ensemble products of the 50 mm isolines of 6 hourly total precipitations over the coast of Tanzania extending to the northern coast of Madagascar and over northwestern Angola at T+24 up to T+54 hrs and over central and northeastern South Africa from T+54 hrs up to T+72 hrs, denoting uncertainty in the intensity of precipitation over these areas.

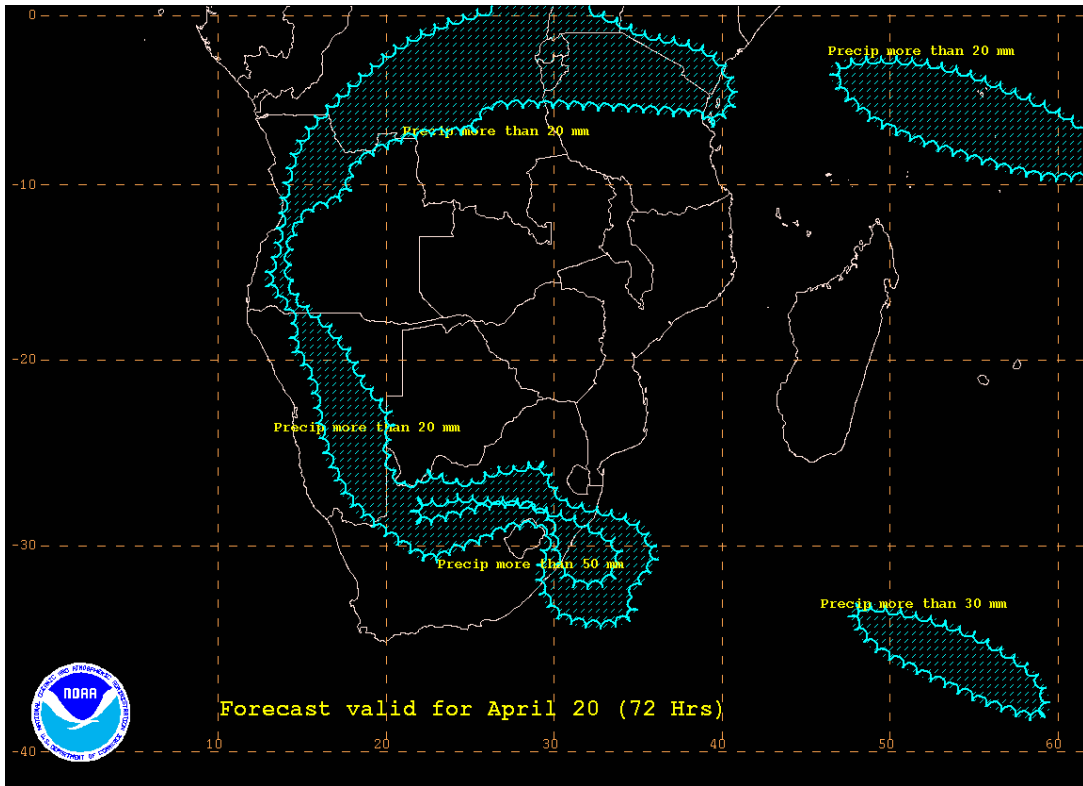
## FORECAST MAP FOR DAY 1



## FORECAST MAP FOR DAY 2



**FORECAST MAP FOR DAY 3**



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