



Forecast guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 19th April 2007

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

FORECAST DISCUSSION 14H00 EST 19th April 2007

Valid: 00Z 20th April 2007- 00Z 22nd 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. Another trough is lying over the Atlantic Ocean further west of the southwestern coast of the sub continent. There is a shallow trough to the southeast of the eastern coast of South Africa. A high pressure system centered over northeastern Zambia (11°S 32°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 the trough which was over the Atlantic Ocean, to the west of the southwestern coast of the sub continent has weakened. The shallow trough to the southeast of the eastern coast of South Africa has also weakened. 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 the Mozambican Channel as the high pressure system shifts westward. The three models show a shallow trough lying over the Atlantic Ocean, approaching the southwestern coast of South Africa. There is a persistent high pressure with the cell lying near 11°S 64°E, hence subsidence over these areas. The rest of the sub continent is under divergence.

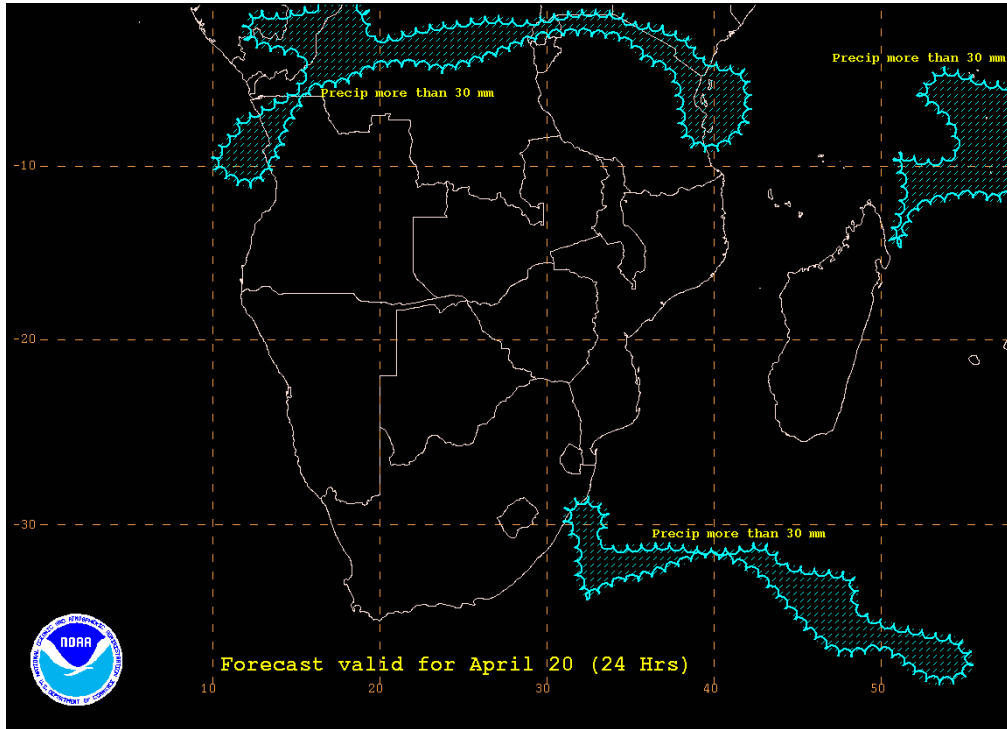
At 500mb, the GFS models show shallow troughs over southeastern parts of the Mozambican Channel and further east of the southeastern coast of Madagascar, causing convergence over these areas. Convergence is also seen over areas which are further northeast of the northeastern coast of Madagascar, associated with a cut-off low lying near 9°S 59°E. There is a slight convergence to the west of the northwestern coast of Angola. A trough is lying over the Atlantic Ocean, further west of the western coast of the sub continent. The three models show that the Mascarene high centered to the north of Botswana at 19°S 22°E is throwing a ridge over the rest of the sub continent, but causing onshore flow along the Northeastern coast of Tanzania. 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 to the east of the coast of Madagascar. The shallow trough associated with a cut-off low lying near $9^{\circ}\text{S } 59^{\circ}\text{E}$, which was further northeast of the northeastern coast of Madagascar, has slightly shifted westward, weakening but causing convergence over the northeastern coast of Madagascar. The trough over the Atlantic Ocean is approaching the southwestern coast of the sub continent, weakening in amplitude. 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 over southeastern parts of the Mozambican Channel has weakened, shifting further east. The shallow trough further northeast of the northeastern coast of Madagascar, associated with a cut-off low, as also weakened in amplitude, due to a presence of bud-off highs at $2^{\circ}\text{S } 48^{\circ}\text{E}$ and at $9^{\circ}\text{S } 65^{\circ}\text{E}$ thus blocking the deepening of the system.

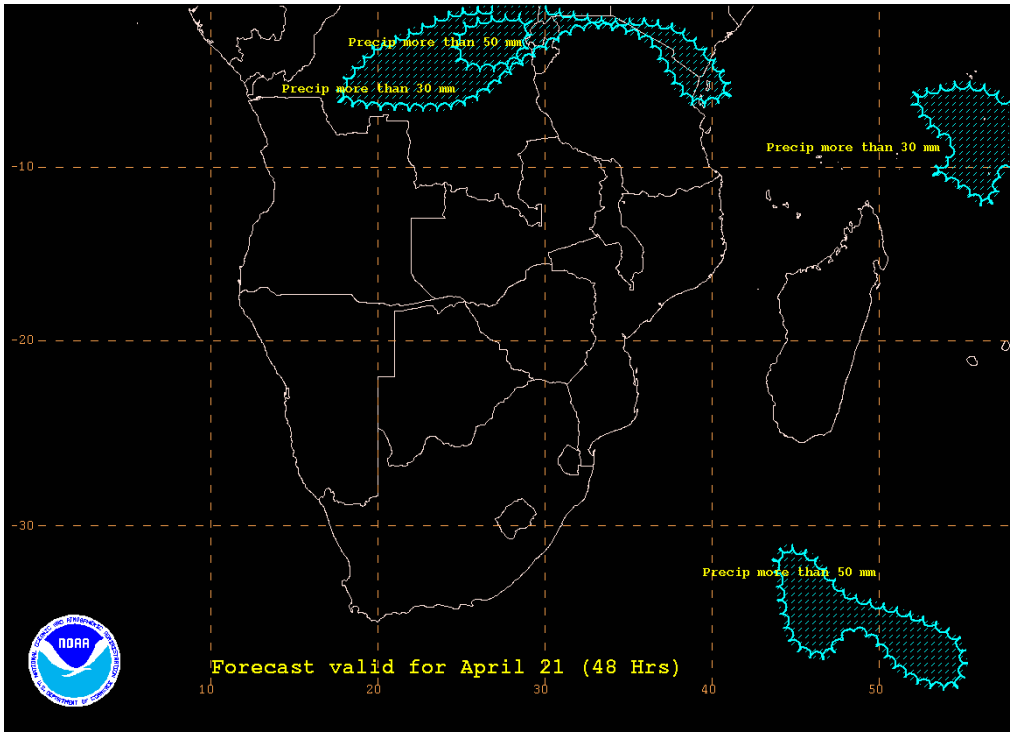
At 850mb, there is a shallow trough over the southern part of the Mozambican Channel, causing convergence over these areas. A southeasterly trough, associated with a cut-off low lying further northeast of the northern coast of Madagascar ($9^{\circ}\text{S } 54^{\circ}\text{E}$) is causing convergence over areas which are to the north of 11°S latitude. The Mascarene high has two cells; one centered at $32^{\circ}\text{S } 63^{\circ}\text{E}$, throwing a ridge to the most of the sub continent and another one at $36^{\circ}\text{S } 31^{\circ}\text{E}$ causing onshore flow along the southeastern coast of Mozambique. At T+48 hrs, the shallow trough which was over the southern part of the Mozambican Channel has slightly shifted eastward. The southeasterly trough, associated with a cut-off low lying further northeast of the northern coast of Madagascar still prevails, causing convergence over areas which are to the north of 8°S latitude. Areas of slight convergence are seen over the southwestern coast of Namibia. Divergence prevails over the rest of the sub continent. At T+72 hrs, the low associated with a southeasterly trough, still tracks westward causing convergence over northern Madagascar, the coast of Tanzania and the southeastern coast of Kenya. Convergence over eastern and to the south of the coast of Madagascar is maintained. Convergence is also seen over the northwestern coast of Namibia and over southern Namibia. 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 northeastern coast of Tanzania, further northeast of the northern coast of Madagascar, over northwestern Angola, northeastern D.R. Congo and over northeastern coast of South Africa up to T+48 hrs, denoting uncertainty in the intensity of precipitation over these areas.

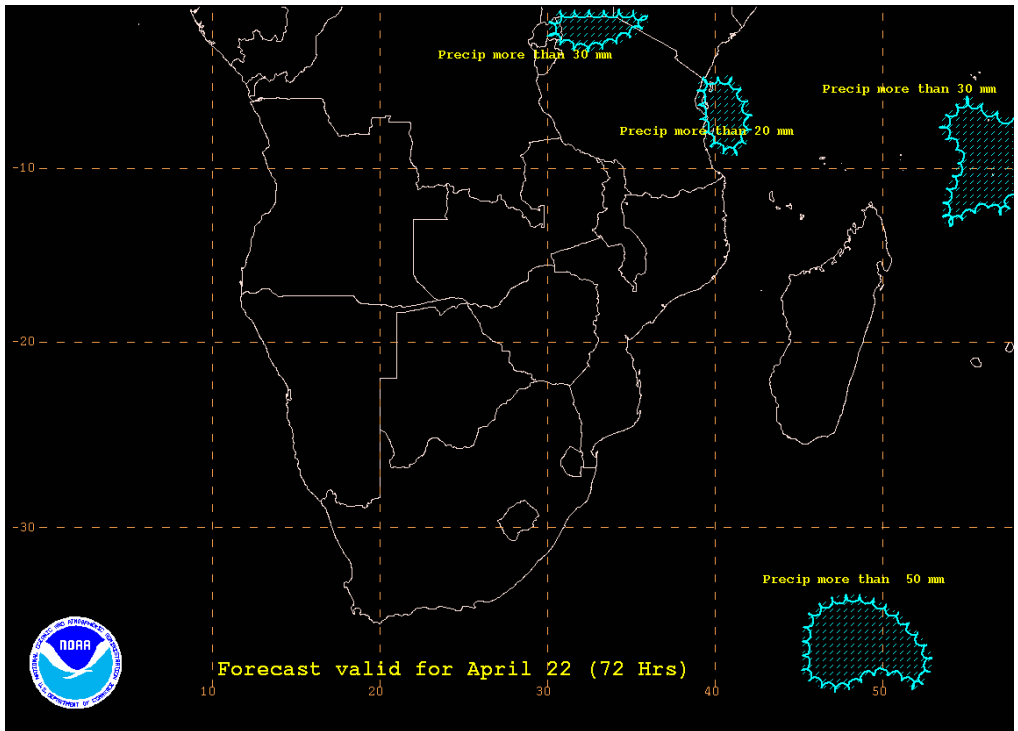
FORECAST MAP FOR DAY 1



FORECAST MAP FOR DAY 2



FORECAST MAP FOR DAY 3



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