Forecast guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 26th April 2007

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

FORECAST DISCUSSION 14H00 EST 26th April 2007
Valid: 00Z 27th April 2007- 00Z 29th April 2007.

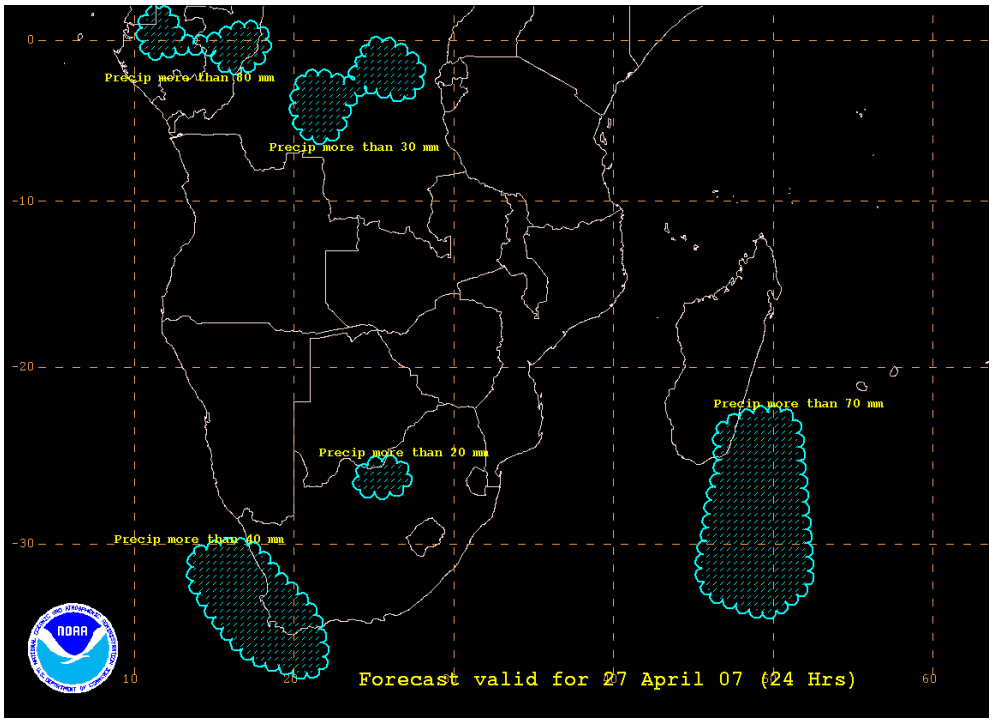
At T+24 hrs, the general flow pattern at 200 mb over Southern Africa (South of the Equator) shown by the GFS, ECMWF and UK-MET models is a trough lying above Madagascar, with a closed circulation near 32°S 41°E, associated to a west-southwesterly stream up to 85 kt. Another trough is above the southwestern coast of the sub continent, causing convergence over these areas. There is a shallow trough lying to the northeast of the northern coast of Madagascar. Two high pressure system cells lying near the equator at 21°E and at 48°E longitude 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 with west-southwesterly winds up to 80Kt, which was above Madagascar, has shifted eastward, linking the shallow trough which was to the northeast of the northern coast of Madagascar. The trough which was above the southwestern coast of the sub continent has slightly shifted eastward, causing convergence over southwestern Namibia and western South Africa. Divergence is maintained over the rest of the sub continent. At T+72 hrs, the trough which was to the east of the eastern coast of Madagascar, has shifted further east. The three models show that the trough which was above the southern parts of the sub continent shifts to the east associated to west-northwesterly wind up to 110 kt, causing convergence over northwestern Namibia, central Botswana, eastern South Africa and southern Mozambique. The rest of the sub continent is under divergence.

At 500mb, the GFS models show a shallow trough lying above southern Madagascar, with southwesterly flow, causing convergence over these areas. A trough is lying above the southwestern coast of the sub continent, causing convergence over western Namibia and South Africa. The three models show that the St Helene high is centered at 21°S 11°W, hardly throwing a ridge over the northwestern coast of the sub continent. The Mascarene high with two cells centered at 15°S 53°E and at 35°S 62°E is ridging the rest of the sub continent. At T+48 hrs, the three models show that the trough which was lying

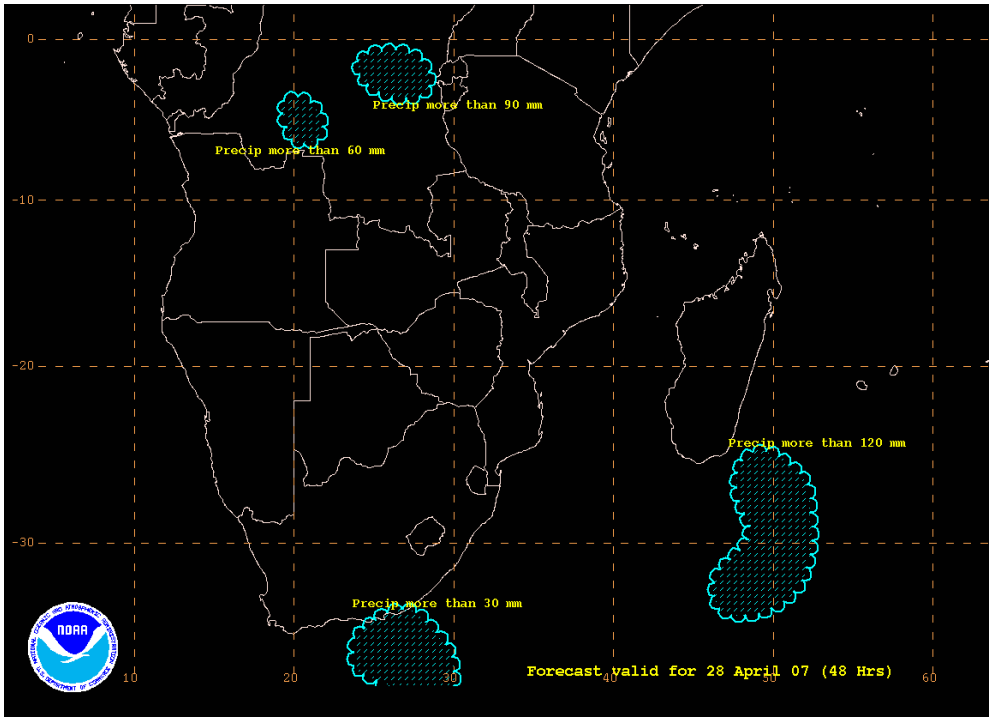
above the southwestern coast of the sub continent has shifted eastward, causing convergence over central South Africa, Botswana and northern Namibia. The shallow trough which was above southern Madagascar has weakened, shifting southeastward. The rest of the sub continent is under divergence of the Mascarene and St Helene highs. At T+72 hrs, there is no significant change in the general flow pattern, except that the trough which was above southern parts of the sub continent has shifted eastward, causing convergence over northeastern South Africa, southern Mozambique and northwestern Botswana. The ensemble members of the GFS show a huge spread of the 5700m and 5870m height contours over southern parts of the sub continent at T+24 up to T+72, which implies uncertainty in the position and also in amplitude of the trough brushing the southern parts of the sub continent.

At 850mb, there is a trough lying over the southwestern parts of the sub continent, causing convergence over these areas. Convergence is also seen over northwestern Gabon, northern D.R. Congo and central Angola. The St Helene high cell is centered at 30°S 8°W and is hardly ridging the northwestern coast of the sub continent. The Mascarene high is centered at 35°S 60°E, throwing a ridge into 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 lying over the southwestern parts of the sub continent has shifted to the southeast, thus strong wind and thundershowers are expected over eastern South Africa, southern Mozambique and northeastern Botswana. At T+72 hrs, the trough which was over the southeastern parts of the sub continent has slightly shifted eastward into the Mozambican Channel, causing convergence over central Mozambique and southwestern Madagascar. Slight convergence can be seen over northwestern Namibia due to a cut-off low. A bud-off high centered at 30°S 30°E is causing a onshore flow along the southern coast of Mozambique. The rest of the sub continent is under divergence of the St Helene and Mascarene highs.
There is a huge spread between the ensemble products of the 50 mm isolines of 6 hourly total precipitations over Gabon, northwestern Angola, northern D.R. Congo, southeastern Madagascar and southern parts of the sub continent up to T+72 hrs, denoting uncertainty in the intensity of precipitation over these areas.

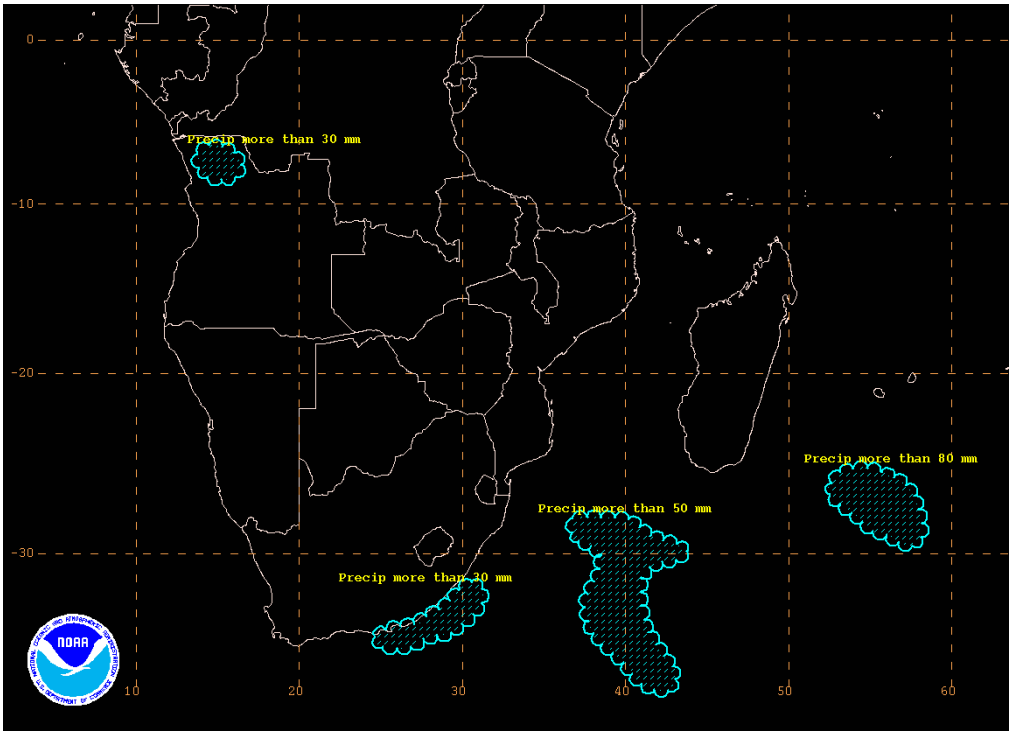
FORECAST MAP FOR DAY 1



FORECAST MAP FOR DAY 2



FORECAST MAP FOR DAY 3



Forecast valid for April 29 (72 Hrs)

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