Forecast guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 01st May 2007

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

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Valid: 00Z 02nd May 2007- 00Z 4th May 2007.

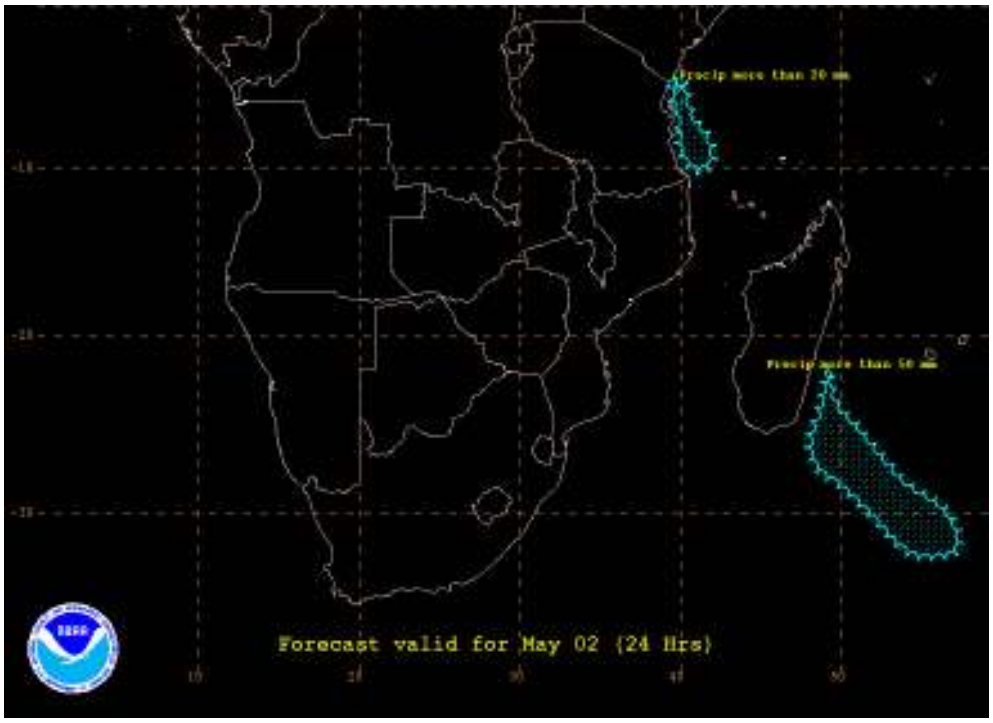
At T+24 hrs, the general flow pattern at 200 mb over Southern Africa (South of the Equator) shown by the GFS, ECMWF and UK-MET models is a upper level trough lying above the eastern Madagascar. Another trough is lying above the southwestern parts of the sub continent, causing convergence over these areas. Convergence is also seen above Zimbabwe and Zambia, due to a shallow trough. A high pressure system cell lying over Tanzania (6°S 38°E) is causing divergence over the rest of the sub continent. At T+48 hrs, the upper level trough which was above eastern Madagascar, has shifted eastward, weakening. The shallow trough which was above Zimbabwe, stretching into Zambia, has also weakened. The trough which was above the southwestern parts of the sub continent has shifted to the southeast, stretching into northern Botswana. There is a trough above the Atlantic Ocean, approaching the southwestern coast of the sub continent. Divergence over the rest of the sub continent is maintained. At T+72 hrs, there is no significant change in general flow pattern, except that the trough which was above the southeastern parts of the sub continent has slightly shifted eastward, but linking the trough above the southwestern coast of the sub continent, associated to west-southwesterly wind up to 60 kt. The three models show that the rest of the sub continent is under divergence.

At 500mb, the GFS models show a trough lying above southeastern Madagascar, causing convergence over these areas. There is a shallow trough above the southwestern coast of the sub continent, causing convergence over western coast of South Africa and Namibia. Areas of convergence can be seen over southern Kenya and northeastern D.R. Congo, due to a southeasterly trough with a closed circulation near 9°S 56°E. The three models show that the St Helene high centered at 30°S 2°E is hardly ridging the southwestern coast of the sub continent. The Mascarene high with two cells centered at 29°S 67°E and at 31°S 35°E is ridging the rest of the sub continent and causing onshore flow along northern Madagascar and the coast of Tanzania. At T+48 hrs, the trough which was

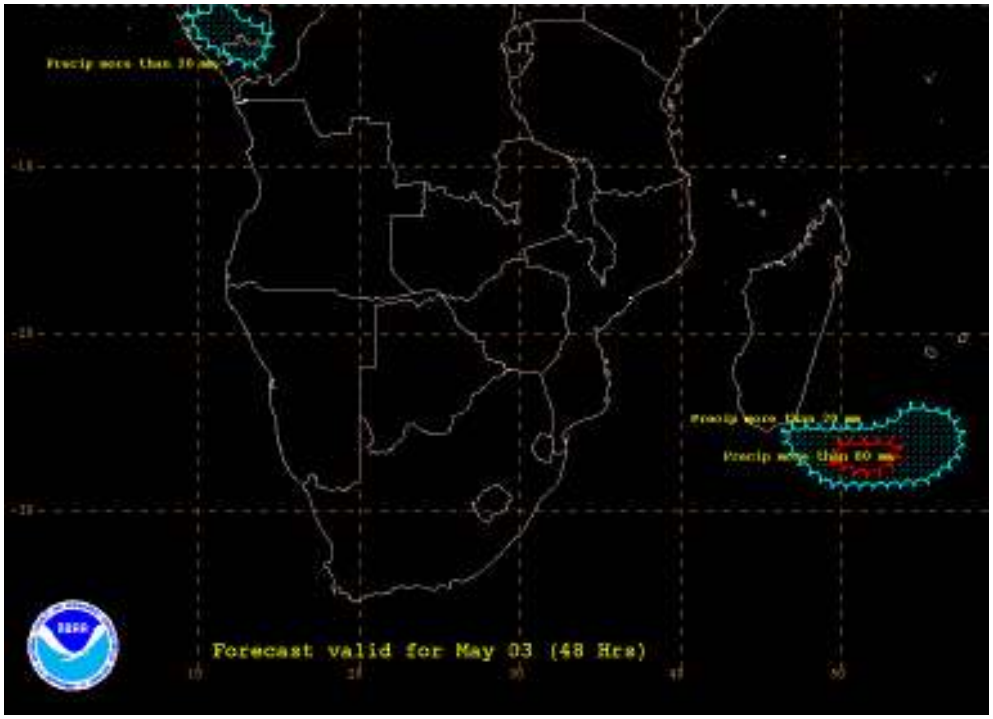
above eastern Madagascar has shifted eastward, weakening. The trough which was above the southwestern coast of the sub continent has slightly shifted eastward as the St Helene high is throwing a ridge into western South Africa. Northern Mozambique and areas which are to the north of 10^{o}S latitude are under convergence due to the southeasterly trough. Divergence prevails over the rest of the sub continent. At T+72 hrs, there is no significant change in the general flow pattern except that the trough which was above the southwestern parts of the sub continent has weakened in amplitude. The rest of the sub continent is under divergence of the St Helene and Mascarene highs. The ensemble members of the GFS show a huge spread of the 5700m and 5870m height contours over eastern and central Mozambique, to the eastern coast of Madagascar and western Namibia up to T+72, which implies uncertainty in the position and also in amplitude of the shallow troughs over these areas.

At 850mb, there is a trough lying over central Madagascar, stretching into northern Mozambican Channel, causing convergence over these areas. A shallow trough is lying over southwestern parts of the sub continent, causing convergence over southern Namibia and western South Africa. Convergence is also seen over northeastern D.R. Congo and over northwestern Zambia. The St Helene high with two cells centered at 21°S 8°E and at 21°S 30°E is ridging the most of the sub continent. The Mascarene high has also two cells centered at 28°S 70°E and at 9°S 50°E, throwing a ridge into northeastern parts 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 central Madagascar has slightly shifted northeastward. A bud-off high lying over southeastern coast of Mozambique (22°S 39°E) is causing onshore flow along the northeastern coast of Mozambique. The shallow trough which was over southwestern parts of the sub continent has shifted eastward, stretching into northwestern Angola as the St Helene high is ridging the western parts of the sub continent. At T+72 hrs, the trough which was over the southeastern parts of the sub continent stretching into northeastern Angola, has developed a closed circulation near 27°S 34°E. The trough which was over northern Madagascar has shifted eastward, weakening due to the ridge of Mascarene high. The rest of the sub continent is under divergence of the St Helene high.
There is a huge spread between the ensemble products of the 50 mm isolines of 6 hourly total precipitations over southern and to the southeast of Madagascar, western Gabon and to the east of the coast of Tanzania up to T+72 hrs, denoting uncertainty in the intensity and location of precipitation over these areas.

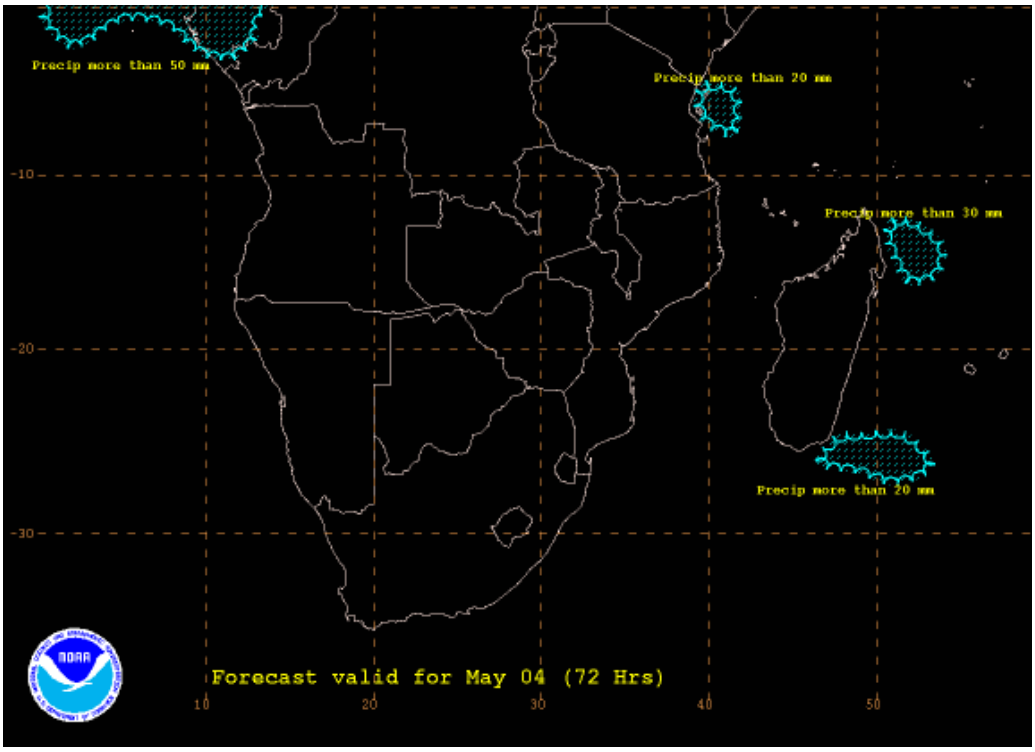
FORECAST MAP FOR DAY 1



FORECAST MAP FOR DAY 2



FORECAST MAP FOR DAY 3



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