Forecast guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 14th May 2007

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

FORECAST DISCUSSION 14H00 EST 14th May 2007
Valid: 00Z 15th May 2007- 00Z 17th May 2007.

FLOW AT 200MB

At T+24 hrs, the general flow pattern over Southern Africa (South of the Equator) shown by the GFS, ECMWF and UK-MET models indicates a trough lying above southern Madagascar stretching into southwestern Tanzania, associated with northwesterly wind up to 65 kt, causing convergence over these areas. There is a shallow trough lying to the southern coast of South Africa. A high pressure system cell lying above southeastern D. R. Congo (5^oS 28^oE), is causing divergence over the rest of the sub continent.
At T+48 hrs, the trough which was lying above southern Madagascar stretching into southwestern Tanzania has slightly shifted eastward, developing a closed circulation over northwestern coast of Madagascar. The shallow trough which was lying above the southern coast of South Africa has weakened. There is another trough lying above the southwestern coast of the sub continent, causing convergence over these areas. 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 trough which was lying above the southwestern coast of the sub continent has shifted eastward.

FLOW AT 500MB

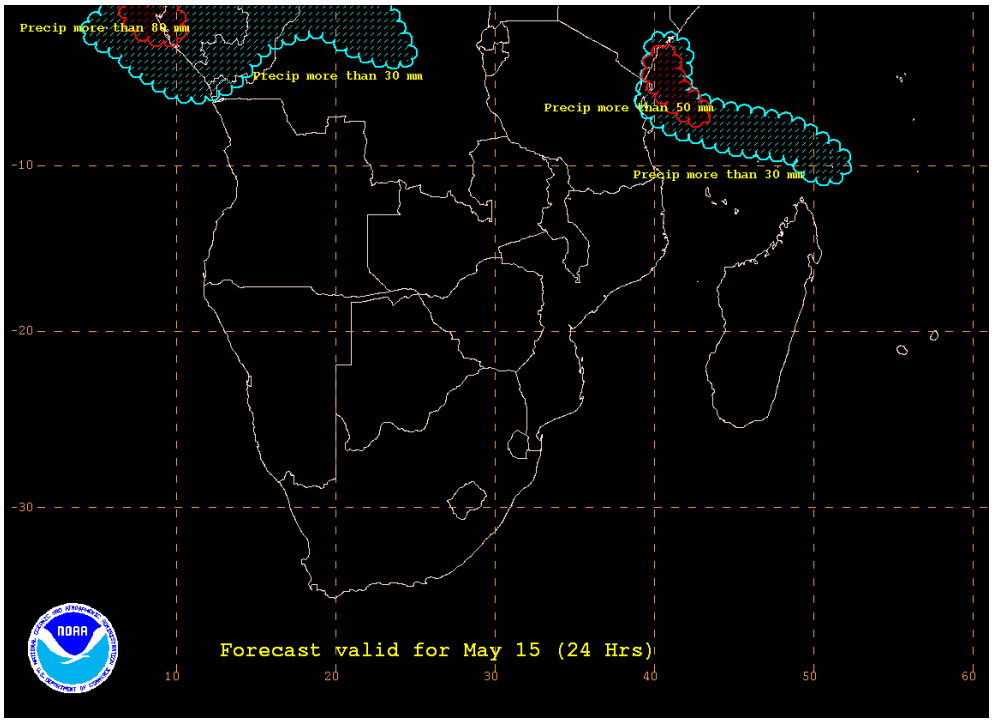
At T+24 hrs, the GFS models show a trough lying over southwestern parts of the sub continent, causing convergence over these areas. Convergence is also seen over central and northeastern Mozambique, over the coast of Kenya and northwestern Gabon, due to shallow troughs. The St Helene high with three cells, centered at 20°S 20°W, at 13°S 21°E and at 8°S 1°E is ridging the rest of the sub continent.
At T+48 hrs, trough which was lying over southwestern parts of the sub continent has shifted further east, weakening in amplitude. Convergence over central Mozambique, northwestern Gabon and over the coast of Kenya prevails. There is another trough lying over the southwestern coast of the sub continent, causing convergence over western

South Africa and southwestern Namibia. Divergence over the rest of the sub continent is maintained.
At T+72 hrs, the trough which was lying over southwestern coast of the sub continent has shifted eastward, linking the shallow trough over Zimbabwe, causing convergence over these areas. Convergence is also seen over the coast of Kenya, central D.R. Congo and western Gabon. The rest of the sub continent is under divergence of St Helene and Mascarene high.

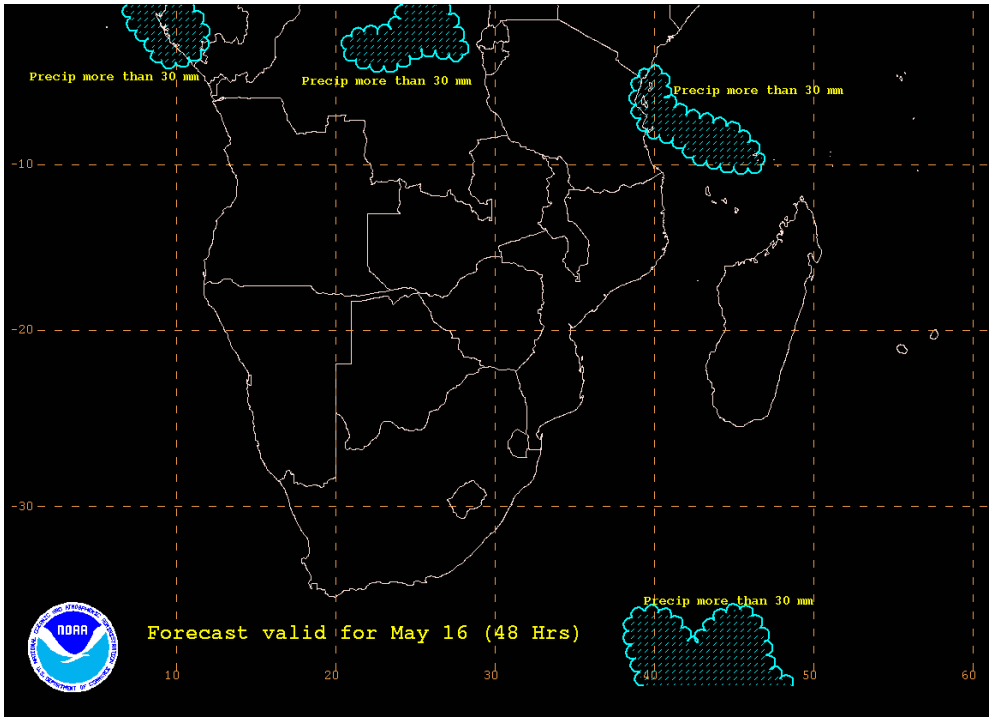
FLOW AT 850MB

At T+24 hrs, there is a trough lying over the southern parts of the sub continent causing convergence over these areas. Areas which are to the north of 8^{o}S latitude but to the east of 9^{o}E longitude are under convergence due to a southeasterly trough, thus isolated thundershowers and strong wind is expected over these areas. The Mascarene high pressure cell centered at 30°S 51°E is throwing a ridge into most parts of the sub continent, but causing onshore flow along the northeastern coast of Madagascar, northeastern Mozambique and over southeastern Tanzania. The St Helene high is centered at 31^{o}S 1^{o}W, ridging the southwestern 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 the southern parts of the sub continent has shifted eastward. Areas of slight convergence can be seen over the western coast of Namibia due to a cut-off low.
At T+72 hrs, there is a trough lying over the southern parts of the sub continent, aligned with a cut-off low to the west of the coast of Namibia, causing convergence over these areas. A shallow trough is causing slight convergence over the areas which are to the south of Madagascar. Convergence over the areas which are to the north of 8^{o}S latitude prevails. The Mascarene high with two cells, centered at 24°S 38°E and at 29°S 65°E, is ridging the most of the sub continent, maintaining the onshore flow regime along central and northern coast of Mozambique, northeastern Madagascar and also along the southeastern coast of Tanzania. The St Helene high centered at 30°S 9°E is hardly ridging the southwestern coast of the sub continent.
There is a huge spread between the ensemble products of the 50 mm isolines of 6 hourly total precipitations over eastern coast of Tanzania, to the northwest of the northern coast of Madagascar extending to the coast of Kenya, over central D.R. Congo and northwestern Gabon up to T+72 hrs, which implies uncertainty in the intensity of precipitation over these areas.
The ensemble products show that the probability of 10 m wind speeds to exceed 20 KT over areas which are to the south of 33^{o}S latitude and to the northern coast of Madagascar extending to the eastern coast of Tanzania is 35 to 85% up to T+54 hrs, and drops at higher time leads.

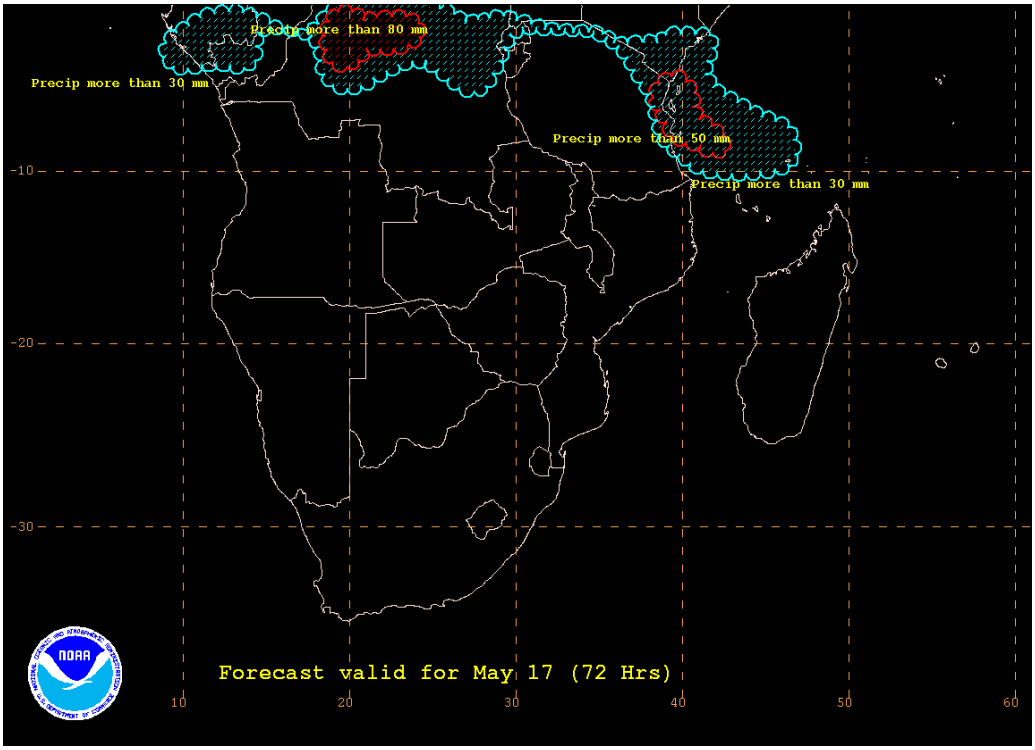
FORECAST MAP FOR DAY 1



FORECAST MAP FOR DAY 2



FORECAST MAP FOR DAY 3



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