Forecast guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 09th May 2007

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

FORECAST DISCUSSION 14H00 EST 09th May 2007
Valid: 00Z 10th May 2007- 00Z 12th 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 the southeastern parts of the sub continent stretching into western Namibia, associated with northwesterly wind up to 105 kt. A shallow trough is lying to the northeastern coast of Madagascar, causing convergence over these areas. A high pressure system cell centered at 10^oS 60^oE is causing divergence over the most of the sub continent. There is a bud-off high lying to the west of the southwestern coast of the sub continent (27^oS 8^oE), throwing a ridge over these areas.

At T+48 hrs, the trough which was lying above the southeastern parts of the sub continent has slightly shifted eastward weakening in amplitude and the northwesterly stream as also weakened. The shallow trough which was lying to the northeastern coast of Madagascar has shifted southward, stretching into northern Mozambican Channel, as the high pressure cell which was centered at 10^oS 60^oE is shifting southwestward. The rest of the sub continent is under divergence.

At T+72 hrs, the trough which was lying above southeastern parts of the sub continent has shifted eastward. There is another trough lying above the Atlantic Ocean, approaching the southwestern coast of the sub continent, hence convergence. An area of slightly convergence over northern Mozambican Channel is maintained. Slight convergence can also be seen over central D.R. Congo. The three models show that the divergence prevails over the rest of the sub continent.

FLOW AT 500MB

At T+24 hrs, the GFS models show a shallow trough with a closed circulation over Botswana/Namibia border, causing convergence over these areas. There is a trough to the southwestern coast of South Africa, associated with a southwest-northwesterly stream winds up to 140 kt, causing convergence over southern coast of South Africa. Areas

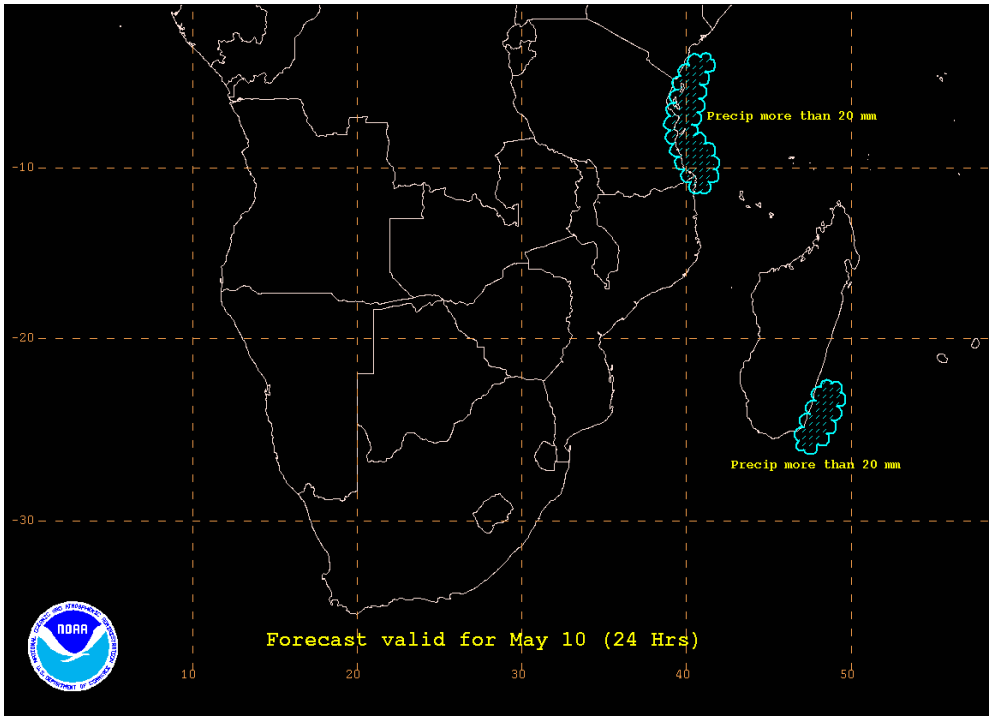
which are to the east of 33^{o}E longitude but south of 24^{o}S latitude are under convergence, due to shallows troughs. The St Helene high pressure system centered at 27^{o}S 0^{o} longitude, is throwing a ridge into the southern parts of the sub continent. The Mascarene high is centered at 16°S 47°E ridging 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 to the southwestern coast of South Africa has shifted to the southeastern coast, weakening in amplitude. The shallow trough with a closed circulation which was lying over Botswana/Namibia border has shifted westward.
At T+72 hrs, the trough which was to the southeastern coast of South Africa has rapidly shifted further east. There is a shallow trough over northern Madagascar, causing convergence over these areas. Slight convergence over the northwestern coast of Namibia, prevails. The three models show that the rest of the sub continent is under divergence.
The ensemble products show that the probability of 10 m wind speeds to exceed 30 KT over the southern coast of the sub continent is 65 to 95% at T+24 hrs, and drops at higher time leads.

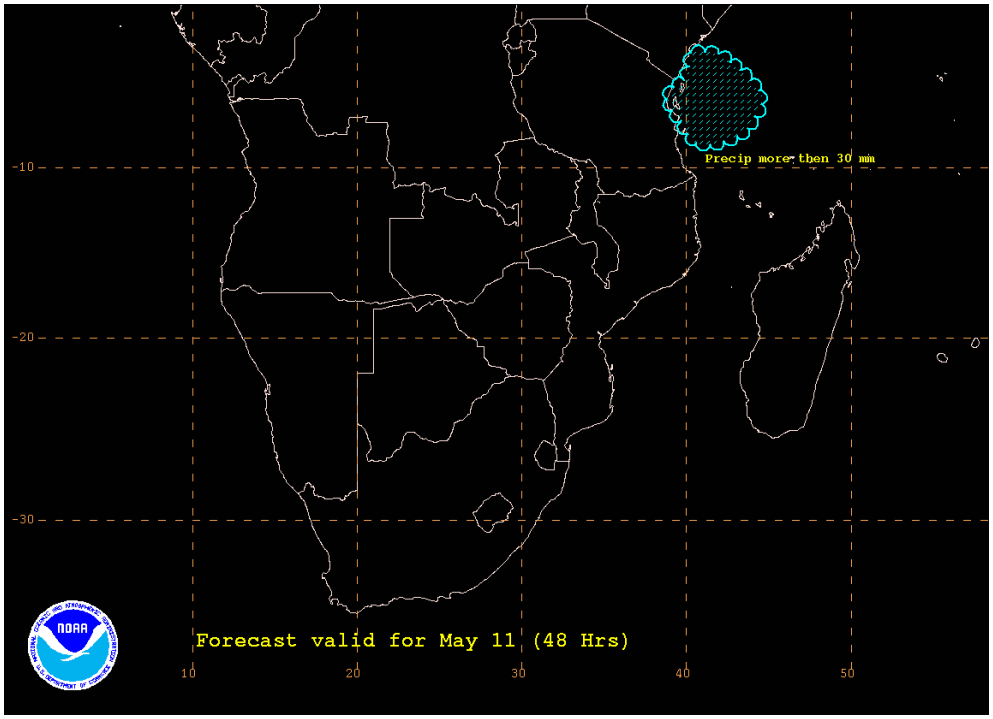
FLOW AT 850MB

At T+24 hrs, there is a shallow trough lying over southern coast of South Africa, associated to southwest-northwesterly winds up to 60 kt, causing convergence over these areas, thus gale force wind are thundershowers are expected. Areas of slight convergence can be seen over the Mozambican Channel and over northwestern Gabon. A southeasterly trough is causing convergence over northeastern coast of Tanzania and also over southern coast of Kenya. The Mascarene high centered at 31°S 63°E is throwing a ridge into most of the sub continent and causing onshore flow along the northeastern coast of Madagascar, northeastern coast of Mozambique and also along the southeastern coast of Tanzania.
The St Helene high cell is centered at 29°S 1°W, ridging the southwestern coast of the sub continent.
At T+48 hrs, the shallow trough which was lying over southern coast of South Africa has weakened in amplitude rapidly shifting further east to the southern coast of Madagascar, as the St Helene high pressure cell shifted to the southeastern parts of South Africa (30°S 29°E) ridging the most of the sub continent and causing onshore flow along eastern coast of Mozambique. Convergence over northeastern coast of Tanzania and over southern coast of Kenya is maintained.
At T+72 hrs, there is no significant change in the general flow pattern, except that the shallow trough which was to the southeastern coast of Madagascar has shifted eastward. There is a huge spread between the ensemble products of the 50 mm isolines of 6 hourly total precipitations over northeastern coast of Tanzania, southeastern coast of Kenya and over southeastern and northeastern coast of Madagascar up to T+72 hrs, also over northwestern Gabon from T+69 hrs, denoting uncertainty in the intensity of precipitation over these areas.

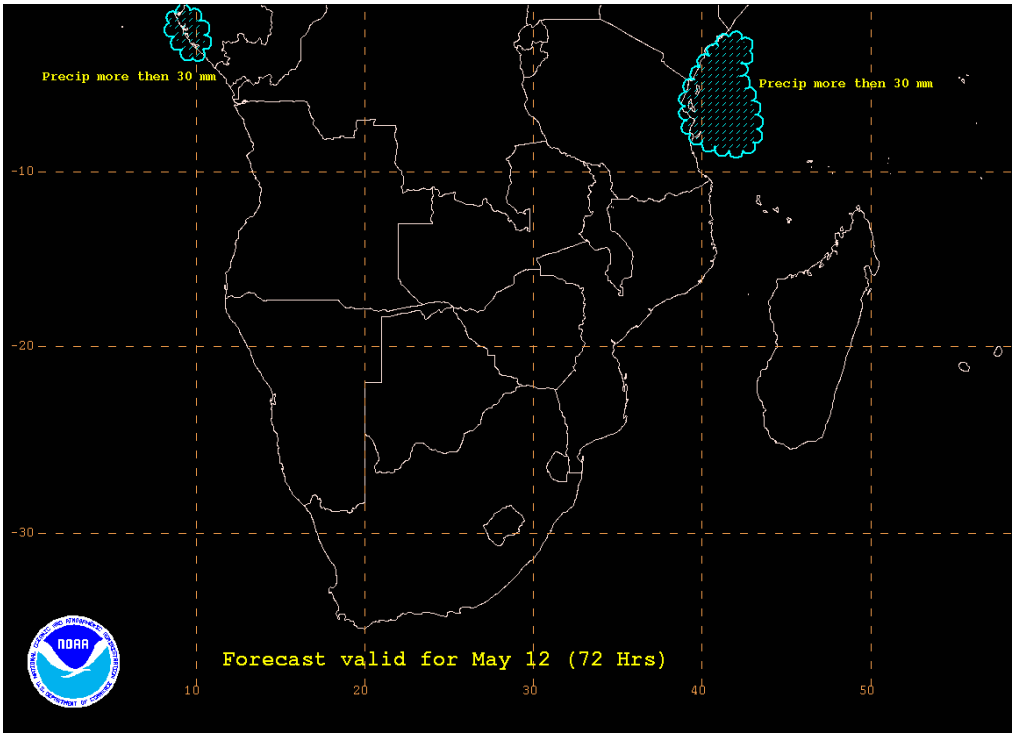
FORECAST MAP FOR DAY 1



FORECAST MAP FOR DAY 2



FORECAST MAP FOR DAY 3



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