



Forecast guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 26th March 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 27th March 2007- 00Z 29th March 2007.

At T+24 hrs, the general flow pattern at 200hpa over Southern Africa (South of the Equator) depicted by the GFS, ECMWF and UK-MET models, is a high pressure system with the center lying over central Angola (15°S 17°E), causing divergence over most parts of the sub continent. There is a trough over the southwestern parts of the sub continent, causing convergence over areas which are to the east of 16°E longitude but south of 25°S latitude. Area of convergence can also be seen over D.R. Congo and Tanzania due to a low. At T+48 hrs, divergence over the sub continent is maintained, except over northeastern part of Madagascar, southern Tanzania and central D.R. Congo where there is a slight convergence. The trough which was over the southwestern parts of the sub continent has shifted to southeast. At T+72 hrs, there is a low over Tanzania/Mozambique border (11°S 35°E), causing convergence over these areas. The trough which was over the southeastern part of the sub continent has shifted eastward, causing convergence over southern Madagascar. Divergence is maintained over the rest of the sub continent.

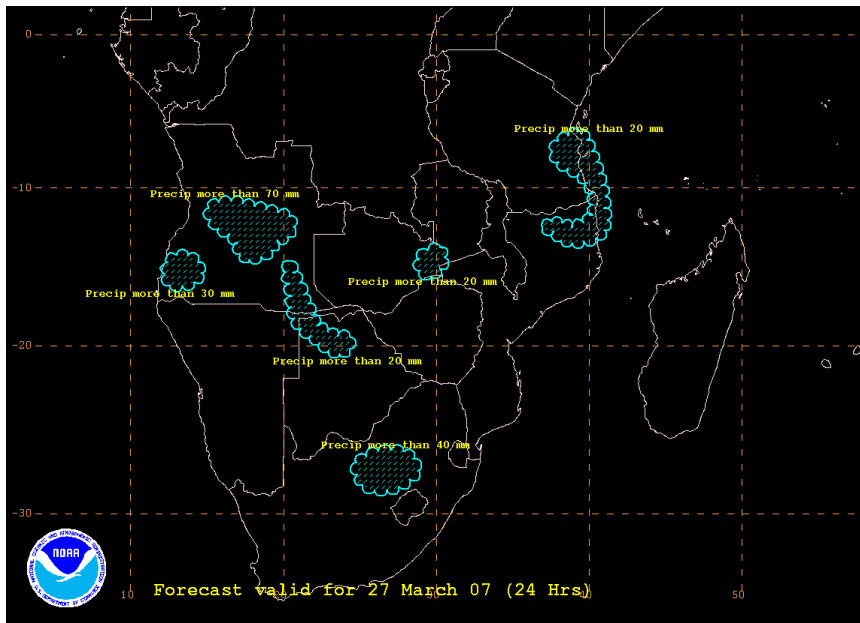
At 500mb, the GFS, UKMET and the ECMWF models are in agreement that there is a shortwave trough over southwestern Namibia and western South Africa, causing convergence over these areas. The models forecast northwesterly to westerly winds of up to 45 KT over this area of convergence. The GFS show that the shortwave trough is in line with an easterly trough over western Angola. The Mascarene high with its centre lying over Madagascar (21°S 45°E) is throwing a ridge over the rest of the sub continent, hence divergence. At T+48 hrs, the three models show that the shortwave trough shifts eastwards causing convergence over most of South Africa, southwestern Botswana stretching into southwestern Angola, but maintains southwesterly to northwesterly winds of up to 45 KT. The GFS shows a shallow trough over southern D.R. Congo, and maintains a ridge over the rest of the sub continent. The UKMET and the ECMWF do not show the trough over southern D.R. Congo, but just show a ridge over the rest of the sub

continent. At T+72 hrs, the trough has flattened and the winds have weakened. The sub continent is generally under a ridge, hence divergence.

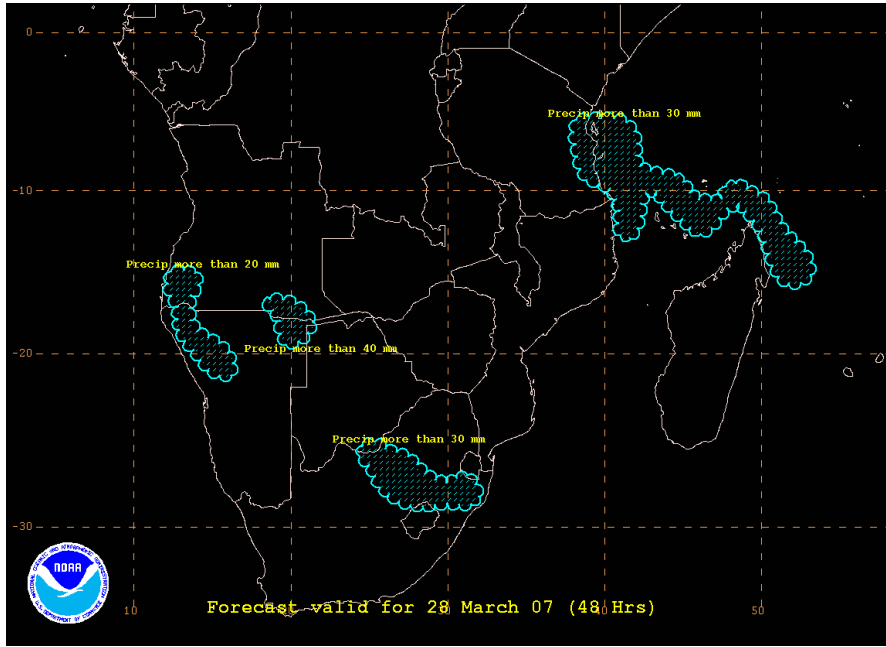
The ensemble products show that the probability of 10 m wind speeds to exceed 20 KT over the southwestern coast of the sub continent is 55 to 85% at T+24 hrs, and drops at higher time leads. The 5700m and 5870m height contours of the 500mb heights of the GFS ensemble prediction system, at T+24 hours, show a huge spread over northwestern Namibia, Angola and D.R. Congo, implying that there is a high uncertainty in the position of the shortwave trough and the easterly trough. This pattern continues up to T+72 hours.

At 850mb, the Mascarene high has its center lying at 28°S 56°E, causing divergence over most parts of the sub continent. There is a trough to the southeast of South Africa, hence convergence. Convergence can also be seen over central South Africa, Namibia, Angola and D.R. Congo and over the coast of Namibia and Angola, where there are lows. At T+48 hrs, convergence over D.R. Congo, Angola, Namibia and South Africa is maintained. The low over the coast of Angola has shifted further west. The St Helena high is centered at 48°S 8°W, but is hardly ridging into the western coast of the sub continent. The rest of the sub continent is under the ridge of the Mascarene high. At T+72 hrs, there is no significant change in the general flow pattern, except that the St Helena high has shifted eastward throwing a ridge over the southwestern parts of the sub continent. The low to the west of the coast of Angola has filled up. The UKMET and ECMWF are in agreement with GFS, but also they show the trough over southern Madagascar at T+48 hrs. The three models are in agreement that divergence prevails over most parts of the sub continent due to the persistence of the ridge of the Mascarene high.

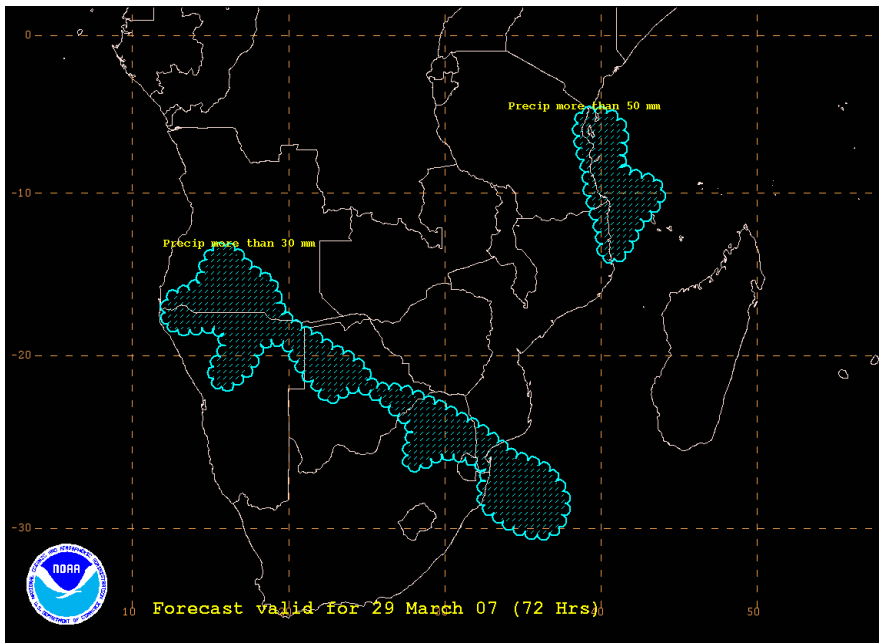
FORECAST MAP FOR DAY 1



FORECAST MAP FOR DAY 2



FORECAST MAP FOR DAY 3



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

Oliver Moses: - Botswana Meteorological Services and African Desk