Forecast guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 15th February, 2007

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

FORECAST DISCUSSION 14H00 EST 15th, February, 2007
Valid: 00Z 16th, February, 2007- 00Z 18th, February 2007.

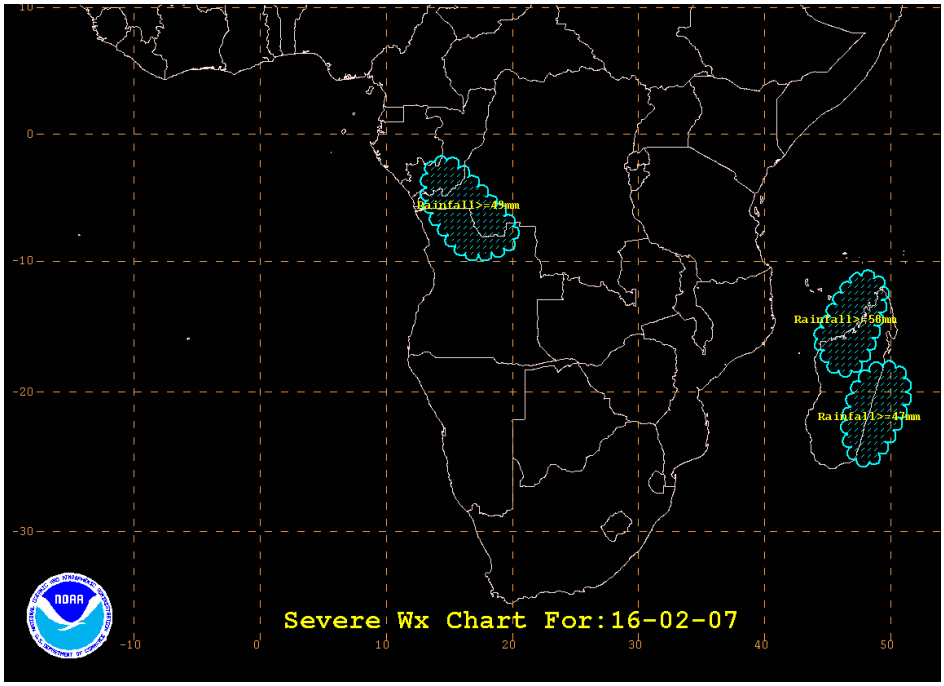
At T+24 hrs, the general flow pattern at 200hpa over Southern Africa (South of the Equator) indicates an upper air trough causing convergence over the southwestern parts of Namibia and South Africa. The rest of the sub continent is under divergence due to a high pressure system which has split into two cells with centers located at 16°S 4°E and at 24°S 44°E. The general flow pattern does not change significantly at T+48 hrs and at T+72 hrs.

At 500hpa, the T+24 hrs prognostic chart is depicting a trough causing convergence over the southwestern parts of South Africa. Another trough is lying over northern Angola stretching into Madagascar, causing convergence over these areas. The St Helena high is centered at 30°S 11°W, but it is not ridging into the sub continent. The Mascarene high centered at 31°S 70°E has a bud off high over Namibia stretching into the southeastern parts of the sub continent, hence divergence over these areas. The Mascarene high has another bud off high over the northeastern parts of the sub continent. At T+48 hrs the position of the St Helena high has not changed significantly, and the westerly trough over southwestern South Africa is maintained. There is another trough over northwestern Madagascar, causing convergence over these areas. The Mascarene high is still forcing a ridge over the rest of the sub continent, hence divergence. At T+72 hrs the general flow pattern is similar to that at T+48 hrs.

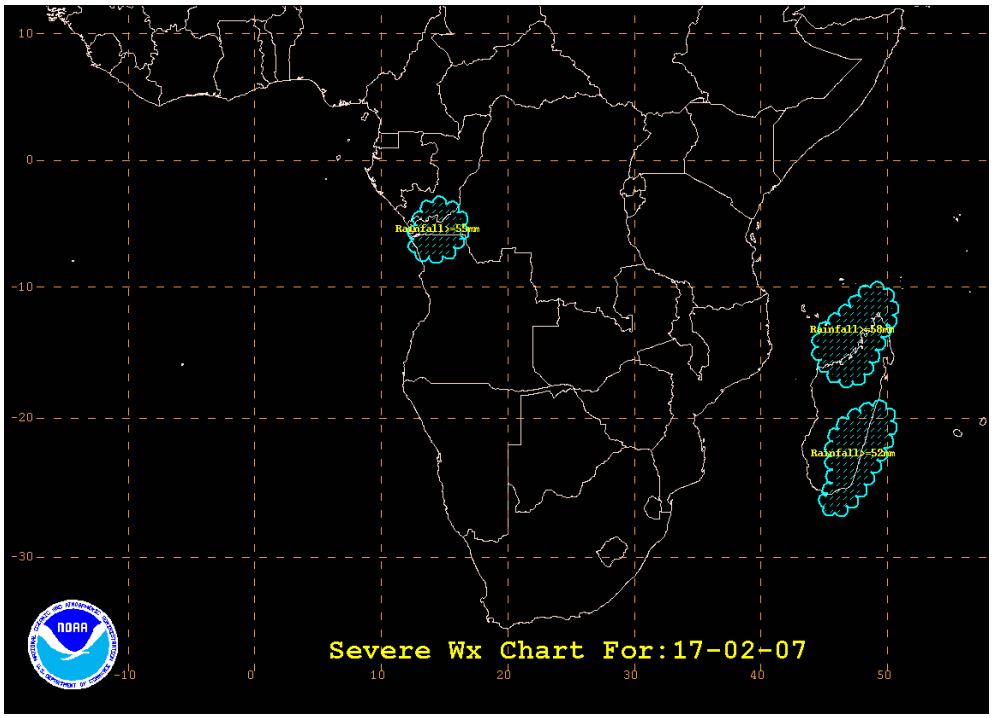
At 850hpa, the T + 24 hrs prognostic chart shows that the St Helena high has relaxed and its centre is located at 35°S 15°W. The Mascarene high has intensified and its centre is located at 32°S 70°E with curved ridges enclosing the cyclonic circulations (Tropical Cyclones) over Madagascar and east of Madagascar in the Indian Ocean. The trough from the south in phase with the Meridional arm of the ITCZ are to the west of the sub continent due to the intensification of the Mascarene high and relaxation of the St Helena high. Area of linear convergence can be seen over northern DR Congo. At T + 48 Hrs the

St Helena high has intensified and its centre is located at 32°S 15°W with a ridge axis extending up to southern Zambia pushing Meridional arm of the ITCZ to the north specifically over Angola and the trough to the east and it is in phase with the cyclonic circulation over Madagascar. The Mascarine high has relaxed and its centre is located at 34°S 65°E with curved ridge axis and a cut off high over north of Madagascar and Tanzania coast in the Indian ocean. Area of convergence can be seen over northeastern DR Congo. At T + 72 Hrs St. Helena high has relaxed and its centre is located at 31°S 17°W. The Mascarine high has intensified and its centre is located at 33°S 58°E with curved ridges enclosing the cyclonic circulation over Madagascar in the Indian Ocean. The trough from the south in phase with the Meridional arm of the ITCZ are to the west of the sub continent due to the intensification of the Mascarine high and relaxation of the St Helena high. Area of convergence can be seen over northern Congo and DR Congo.
Generally there is a resemblance in the patterns of UK- Met, ECMWF and GFS models because for the consecutive three days, the 200hPa shows anticyclonic circulation while the lower levels show cyclonic circulation, which implies that there is generally a vertical motion in the sub continent.

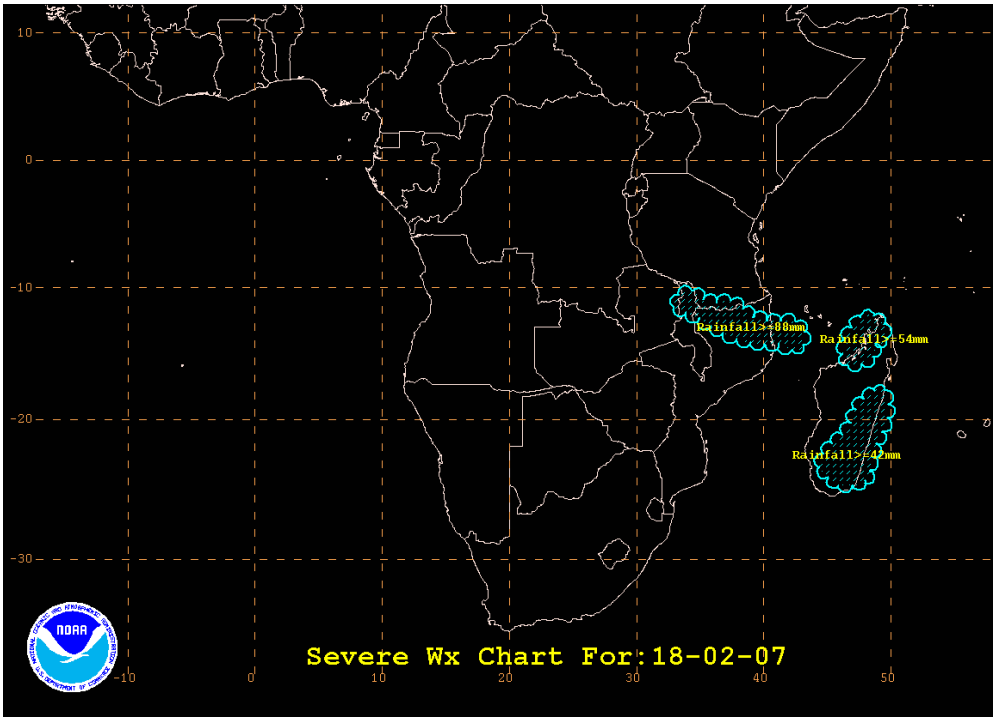
FORECAST MAP FOR DAY1



FORECAST MAP FOR DAY2



FORECAST FOR DAY 3



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