Forecast guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 25 th, January, 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 26th, January, 2007- 00z 28th, January 2007

At T+24, the general pattern at 200hpa over Southern Africa (South of the Equator) is showing the St Helena high pressure system which has split into two cells with centers at 16°S 11°E and 22°S9°E. The Mascarine high has its centre located at 16°S 50°E. These high pressure systems are causing subsiding motion over most parts of the sub continent, except over the Mozambique/Madagascar channel which is under unstable atmosphere due to a back hanging westerly trough with its northwest axis lying at 13°S9°E and its southeast axis lying at 40°S 60°E, and the western parts of Botswana stretching into the southeastern parts of South Africa which are under a secondary trough.
At T+ 48 Hrs the only significant change in the general pattern over Southern Africa is that the back hanging westerly has developed a closed circulation which is lying at 24°S 39°E, hence increasing instability over the Mozambique/Madagascar channel. At T+72 Hrs the general pattern over the sub continent is similar to the pattern at T+48 hrs.

At 500hpa the St Helena high over the Atlantic ocean has its centre at 25°S 01°E, the Mascarine high has its centre at 30°S 32°E between the two cells is a weak trough from the south this is in phase with the meridional arm of the ITCZ . Cyclonic circulations can seen over the northern part of the Mozambique channel and northern Namibia.
At T+48 St Helena high over the Atlantic ocean has its centre at 27°S 05°E. The Mascarine high has its centre at 29°S 41°E with a cutoff high over Tanzania, Zambia and Malwi boarder also over northeastern Madagascar, between them is a weak trough from the south in phase with the Merdional arm of the ITCZ with cyclonic circulations over Namibia and Botswana boarder.
At T+72 there is a shift of the systems over the north and south of 20°S. To the south the system has shifted eastwards in such a way that the St Helena high has its centre at 33°S 21°E in southern South Africa and its ridge has extended to 38°E and the Mascarine high has been pushed further to the east and can not be seen in the chart. To the north of 20°S is the Merdional arm of the ITCZ with cyclonic circulations over the coast of Namibia and Angola boarder, central Zambia, the coast of Mozambique and Madagascar, inducing some instability over the areas which are under it.

At 850 hPa, T + 24 Hrs St Helena high has its centre at 28°S 41°W. The Mascarine high has its centre at 32°S 46°E with a cutoff high over the coast of Tanzania in the Indian

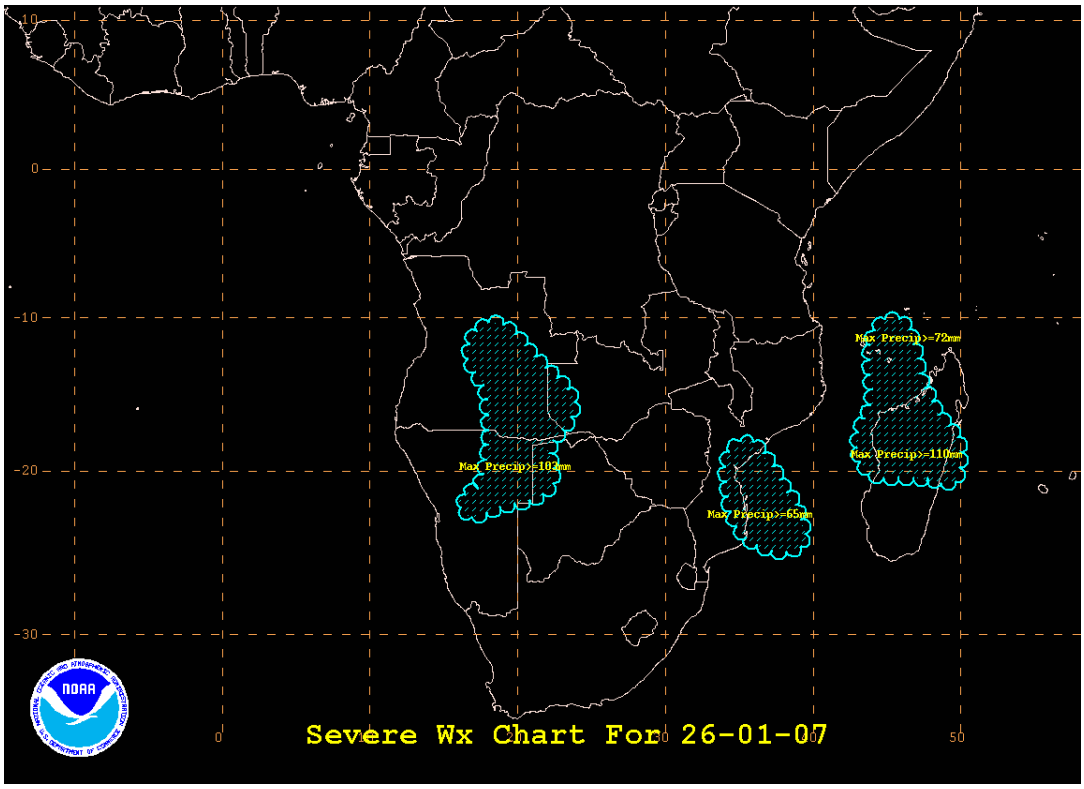
ocean, between these two cells the St. Helena high and the Mascarine high there is a back hanging trough in the Atlantic ocean associated with a front which is in phase with another low located over the coast of Namibia and Angola. Areas of convergence can be seen over the coast of Gabon, Congo and DR Congo boarder, and northern Tanzania due to the influence of Lake Victoria, cyclonic circulations can be seen over the coast of Namibia and Angola, southern Angola and Zambia Boarder, western Zambia and Madagascar.

At T + 48 Hrs there is a southeastward shift of the system south of 20°S, the St Helena high has its centre at 32°S 03°W and Mascarine high has its centre at 33°S 54°W with a cutoff high over the coast of Tanzania in the Indian ocean, the back hanging trough associated with a front between the St. Helena high and the Mascarine high has also shifted to the eastern coast of south Africa in the Indian ocean. Cyclonic circulations can be seen over the coast of Angola, southern Angola and Zambia Boarder and western Namibia.

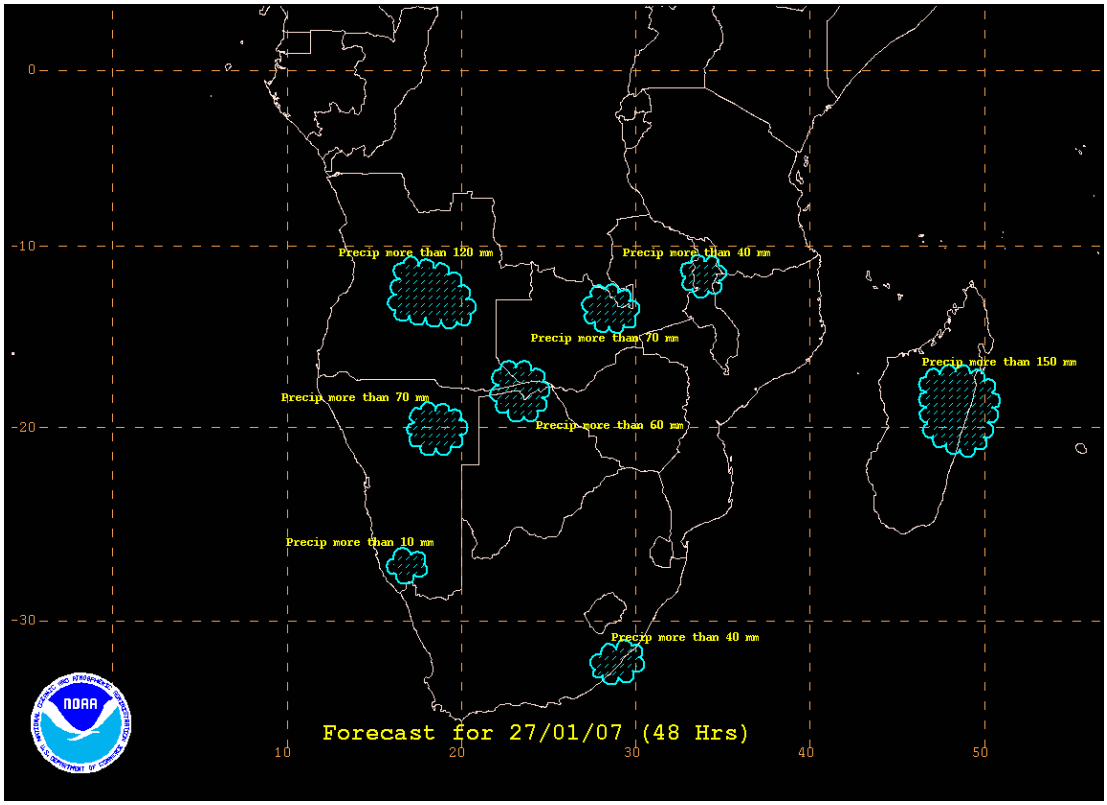
At T + 72 Hrs there is a westward shift (retrogression) of the system south of 20°S,the St Helena high has its centre at 27°S 41°W and the Mascarine high has its centre at 32°S 56°E with two cutoff highs one is over the coast of Tanzania and the second one is over the southeast of South Africa both are in the Indian ocean, between these two cells the St. Helena high and the Mascarine high there is a weak trough from the south in the Atlantic ocean in phase with the meridional arm of the ITCZ. Areas of linear convergence can be seen over Namibia and northern Tanzania due to the influence of Lake Victoria, cyclonic circulations can be seen over the boarder of Namibia and Angola and central Zambia.

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 at lower levels the general flow is cyclonic which means there is a vertical motion in the area and the three models mentioned above show similarity meaning that the season has not changed over most countries.

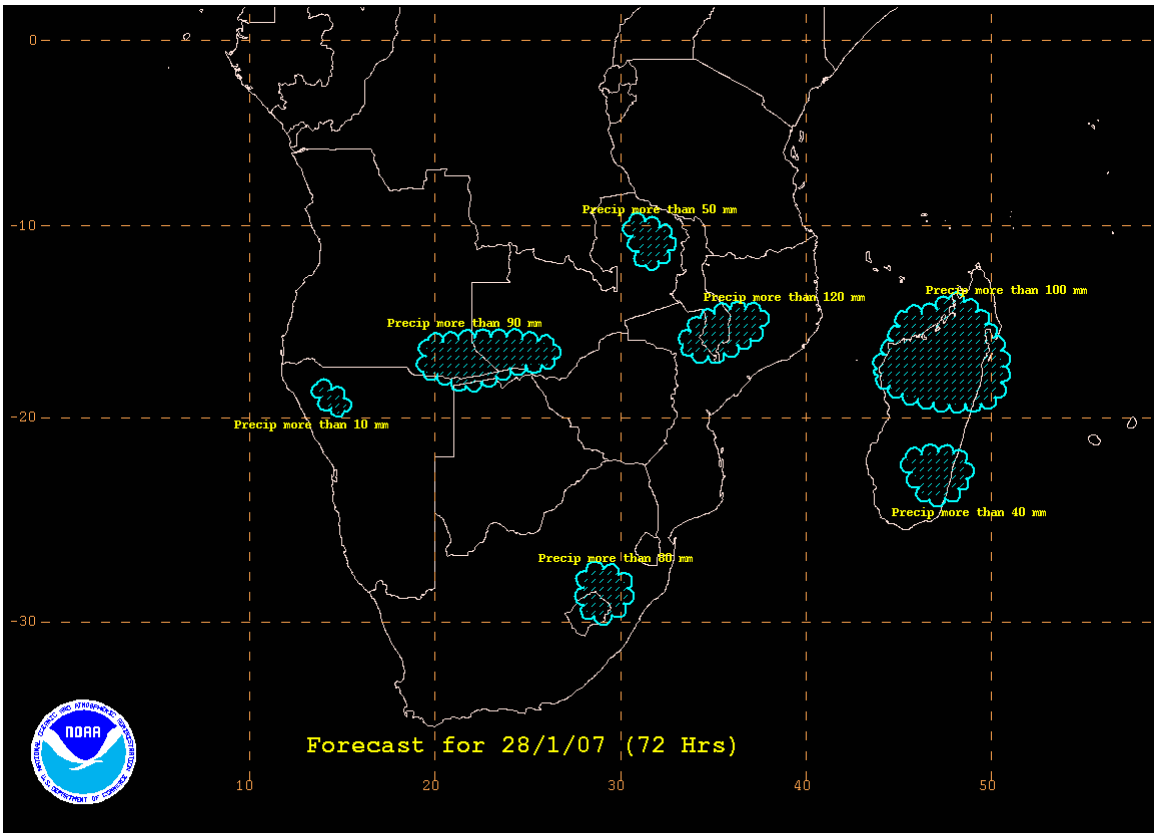
FORECASTMAPFORDAY1



FORECAST MAP FOR DAY2



FORECAST FOR DAY 3



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