



**Forecast guidance for Severe Weather Forecasting Demonstration Project (SWFDP)**

**SHORT RANGE FORECAST DISCUSSION 14H00 EST 17<sup>th</sup>, January, 2007**

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

**FORECAST DISCUSSION 14H00 EST 17<sup>th</sup>, January, 2007  
Valid 12:00Z 18<sup>th</sup>, January, 2007- 00z 20<sup>th</sup>, January 2007**

At T+24, the general pattern at 200hpa over the Southern Africa (South of the Equator) shows an anticyclone or high pressure system which has been divided into two cells, with centers at 17°S 17°E and 30°S 9°W, making most parts of the sub continent to be under anticyclonic motion. Between the two high pressure cells is a back hanging westerly trough causing some instability over the western parts of Botswana spreading into the southeastern parts of South Africa. At T+ 48 Hrs the high pressure system has split into three cells, with centre at 26°S 19°E, 17°S 14°E and 18°S 38°E. This high pressure system is still causing subsidence over most parts of the sub continent, except the north and the eastern parts of Botswana stretching into the southeastern parts of the sub continent, including areas which are to the south of Madagascar, which are under the back hanging westerly trough which has shifted to these areas from the west. At T+72 Hrs the high pressure system has two cells with centre at 20°S 4°E and 19°S 38°E. This high pressure system is still causing subsidence over most parts of the sub continent, except northern Namibia, southern Angola stretching into the southeastern parts of the sub continent, which are still influenced by the back hanging westerly trough. There is a back hanging secondary trough coupled with an easterly, with its southeast axis lying at 32°S 8°E, and the northwest axis lying at 15°S 22°W. This system has been present at both T + 24 and T + 48 hours, but has been far to the west.

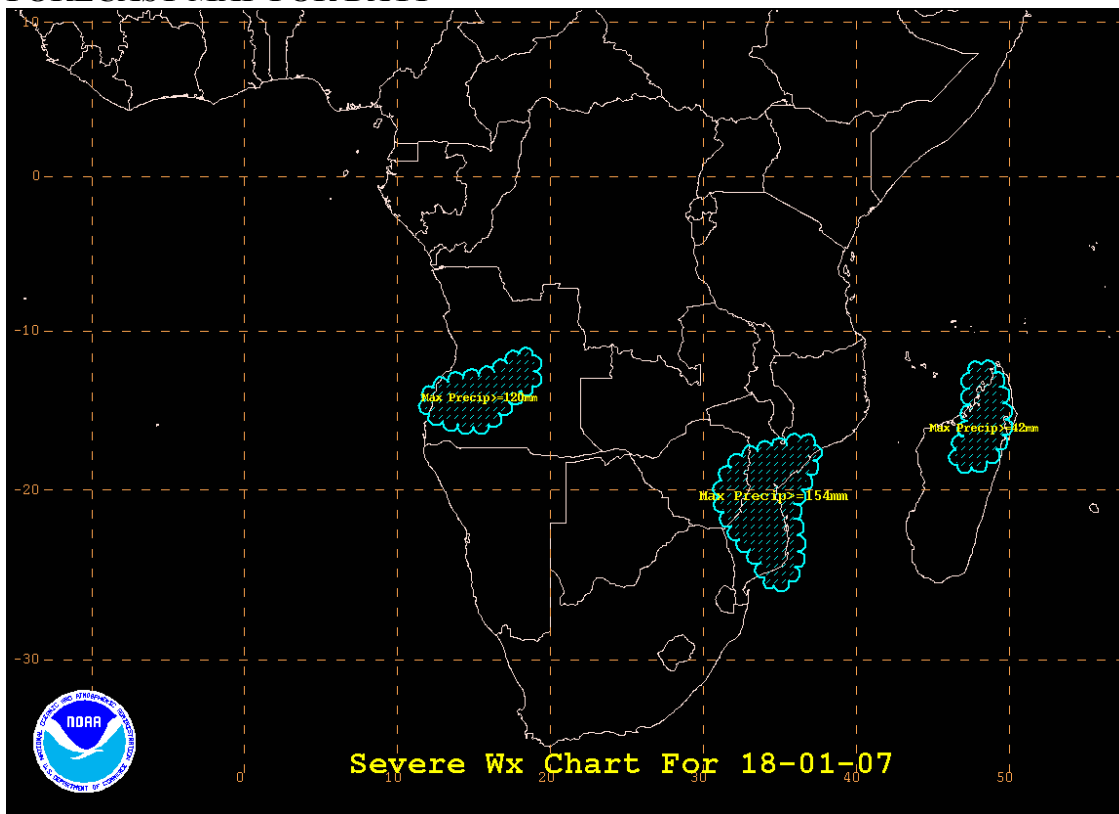
At 500hpa the St Helena high over the Atlantic ocean has its centre at 28°S 29°E, and is ridging mainly into Namibia. The Mascarine high has its centre at 18°S 40°E. Several bud-off highs which are part of the Mascarine high have their centre located at 7°S 24°E, 8°S 52°E, 19°S 53°E and 31°S 65°E. This makes the Mascarine high to cover more areas of the sub continent. It covers northern Angola, DR Congo, northern Mozambique, Tanzania stretching into Madagascar. A back hanging westerly trough from the south is lying over the remaining parts of the sub continent which are South Africa, southern Mozambique stretching into Zambia, and it is expected to cause some instability over

these areas. At T+48 the St Helena high has not moved significantly, but it extends its ridge further into western South Africa and western Botswana, pushing the trough eastwards to cover the eastern half of Zambia, stretching into the southeastern parts of the sub continent. The centre of the Mascarine high has shifted eastwards to 16°S 49°E, and it is still causing subsidence over the rest of the sub continent. At T+72 the centre of the St Helena high has not changed significantly, but it extends its ridge further eastwards to cover almost the whole of South Africa, Botswana and the southern half of Angola. This extension of the ridge has pushed the trough further eastwards to eastern Zambia stretching into the extreme southeastern parts of the sub continent. The centre of the Mascarine high has moved to 15°S 50°E. This high pressure system is causing anticyclonic flow over northern Madagascar, northern Mozambique and Tanzania.

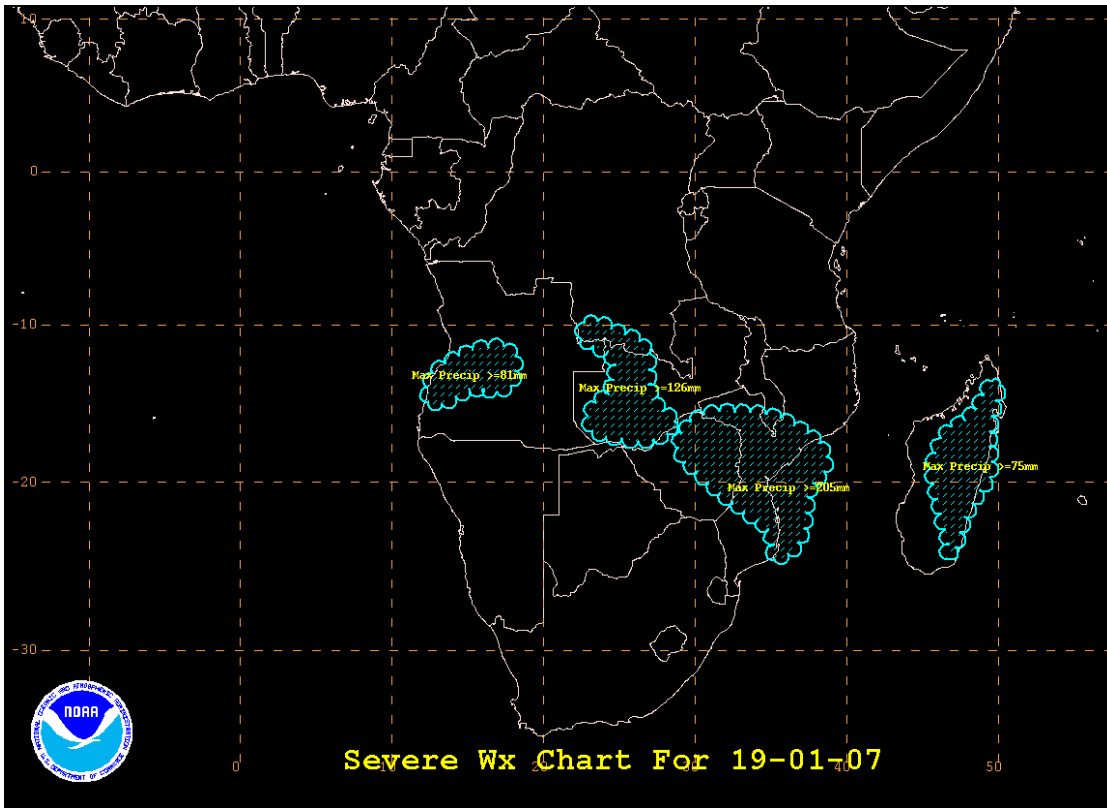
At 850 hPa the St Helena high pressure in the Atlantic ocean has its centre at 25°S 15°W and the Mascarine high pressure in the Indian ocean has its center beyond 70°E out of the chart, between these two cells St Helena high and the Mascarine high which are in phase is a trough from the south with a southeasterly curved axis, also it is in phase with the meridional arm of the ITCZ which is associated with cyclonic circulation located over northern South Africa, southeast Namibia and Botswana the other area with cyclonic circulation can be seen over north of Madagascar otherwise there is a strong convergence over west of lake Victoria. At T + 48 Hrs the St Helena high pressure has slightly moved to the southeast with its center at 31°S 08°W, the Mascarine high pressure centre is still to the east not seen in the chart but it has a westward ridge axis extending up to 27°E 28°S the trough which is associated with a front from the south has deepened and it is still in phase with the Meridional arm of the ITCZ which is associated with cyclonic circulation located over northern South Africa, southeast Namibia and Botswana extending to the southern coast of Mozambique other areas with cyclonic circulation can be seen over northeast of Madagascar and northern Madagascar otherwise the convergence over west of lake Victoria has shifted to southern part of the lake. At T+72 Hrs the St Helena high pressure has further moved to the southeast with its center at 35°S 04°E with its ridge extending to 40°E south of the Mozambique Channel, the Mascarine high pressure centre is still to the east not seen in the chart and its westward ridge has moved to the east due to the intensification of the St. Helena high the trough has moved eastward and has become a back hanging trough, The meridional arm of the ITCZ has also been pushed to the north, the cyclonic circulation areas can be seen over north of Madagascar approaching the coast of Tanzania and the others are over Namibia and southwestern Tanzania otherwise the convergence over lake Victoria is still there.

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.

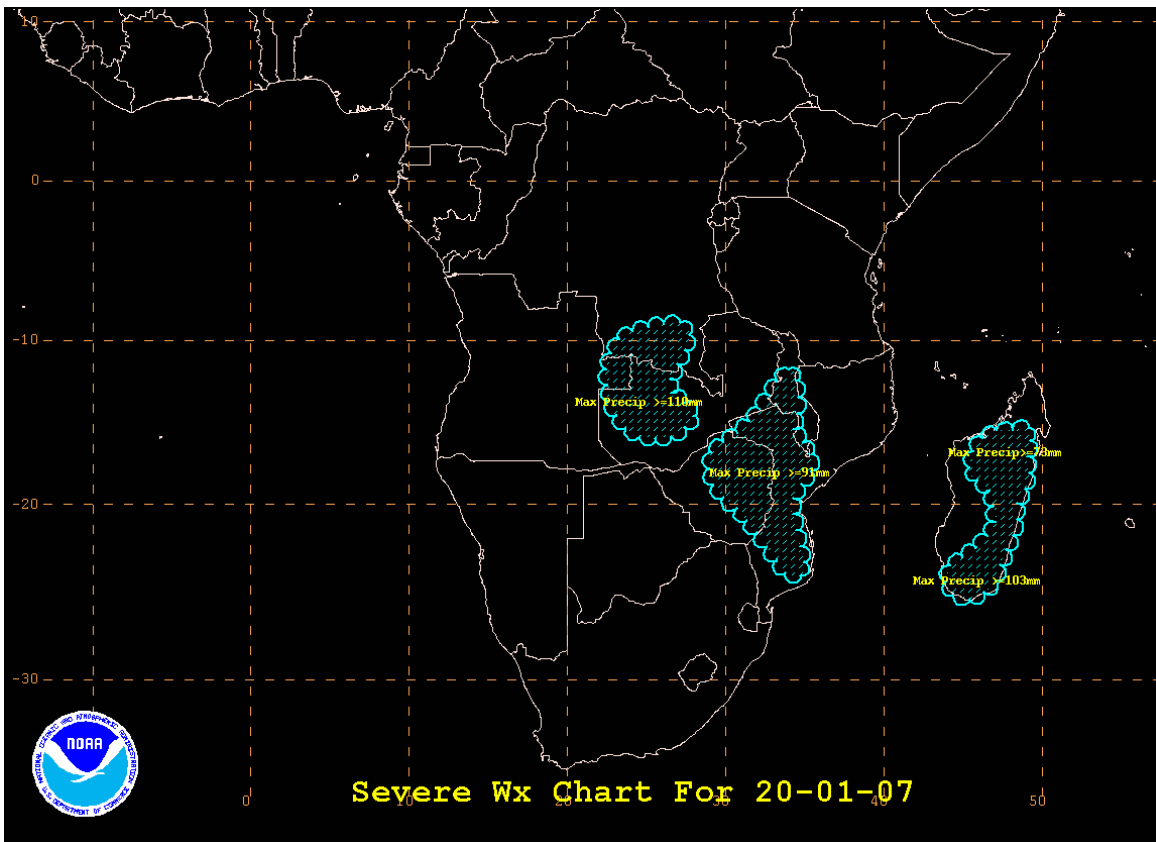
### FORECAST MAP FOR DAY1



### FORECAST MAP FOR DAY2



**FORECAST FOR DAY 3**



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