Forecast guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST10 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 12:00Z 11th, January, 2007- 00z 13th, January 2007

At T+24, the general pattern at 200hpa over the Southern Africa (South of the Equator) shows a strong anticyclone or high pressure system with its center at 15°S 23°E with a cutoff high at the Mozambique channel also it has a sharp ridge with a zonal axis extending to the Indian ocean.The prevailing flow is anticyclonic. At T+ 48 Hrs the high pressure system has been divided into two with one centre which shifted to the west at 17°S 12°E and the second center at 15°S 47°E over Madagascar, this implies that it has covered a bigger area and the flow is still anticyclonic. At T+72 Hrs the high pressure system is still divided into two and it has maintained its position but it has increased in size also there is a trough from the south between them with a north-south axis.. The general pattern of wind flow for the consecutive three days over the Southern Africa at this level is anticyclonic.
At 500hpa the pattern shows that the St Helena high pressure in the Atlantic ocean, can be seen with its center is at 22°S 15°E in Namibia and the Mascarine high pressure in the Indian ocean has its center at 21°S 62°E, between the two cells there is a back hanging trough from the south with a southeasterly axis, convergence can be seen over northern Zambia south of lake Tanganyika. A T+48 the systems indicate that the St Helena high pressure center has maintained its position with a southeast ridge extending to the south eastern coast of South Africa in the Indian ocean. The Mascarine high pressure centre has moved northwest to 20°S 56°E with its southeast axis ridge extending near southern Tanzania coast, the a back hanging trough from the south is still persisting with a more easterly axis and the convergence over northern Zambia south of lake Tanganyika has shifted to northern Angola and DR. Congo. At T+72 the St Helena high pressure has moved to the west with its center at 21°S 01°E with its southeast ridge axis extending upto the south eastern coast of South Africa in the Indian ocean. the Mascarine high pressure centre in the Indian ocean is stationary with its southeast ridge axis extending upto the south western highlands of Tanzania, the back hanging trough from the south with a are over the southern coast of Mozambique .

At 850hpa, T + 48 Hrs the St Helena high pressure in the Atlantic ocean has its centre at 28°S 16°W and the Mascarine high pressure in the Indian ocean has its center is beyond 70°E, between St Helena high and the Mascarine high is a narrow trough from the south which is located between Namibia and Botswana with a southerly axis, cyclonic circulation areas can be seen over Angola and northern Madagascar otherwise there is a strong convergence over western Tanzania. At T + 48 Hrs the St Helena high pressure is stationary but the Mascarine high pressure is shifting eastward and its center is at 36°S 52°E the narrow trough is still persisting, the cyclonic circulation areas can be seen over the coast of Angola and Mozambique channel , otherwise the strong convergence over western Tanzania is still there.At T+72 Hrs the whole pressure system has slightly shifted to the east. St Helena high pressure in the Atlantic ocean has its center at 27°S 09°W and the Mascarine high pressure has its center 35°S 59°E, the narrow back hanging trough between the St Helena high and the Mascarine high has shifted to the east with a southeast axis, the cyclonic circulation areas have shifted westward one is over southwestern Angola and north western Namibia the other one is over the Mozambique channel.The strong convergence has shifted to the north of lake Victoria.
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 I mentioned above show similarity.

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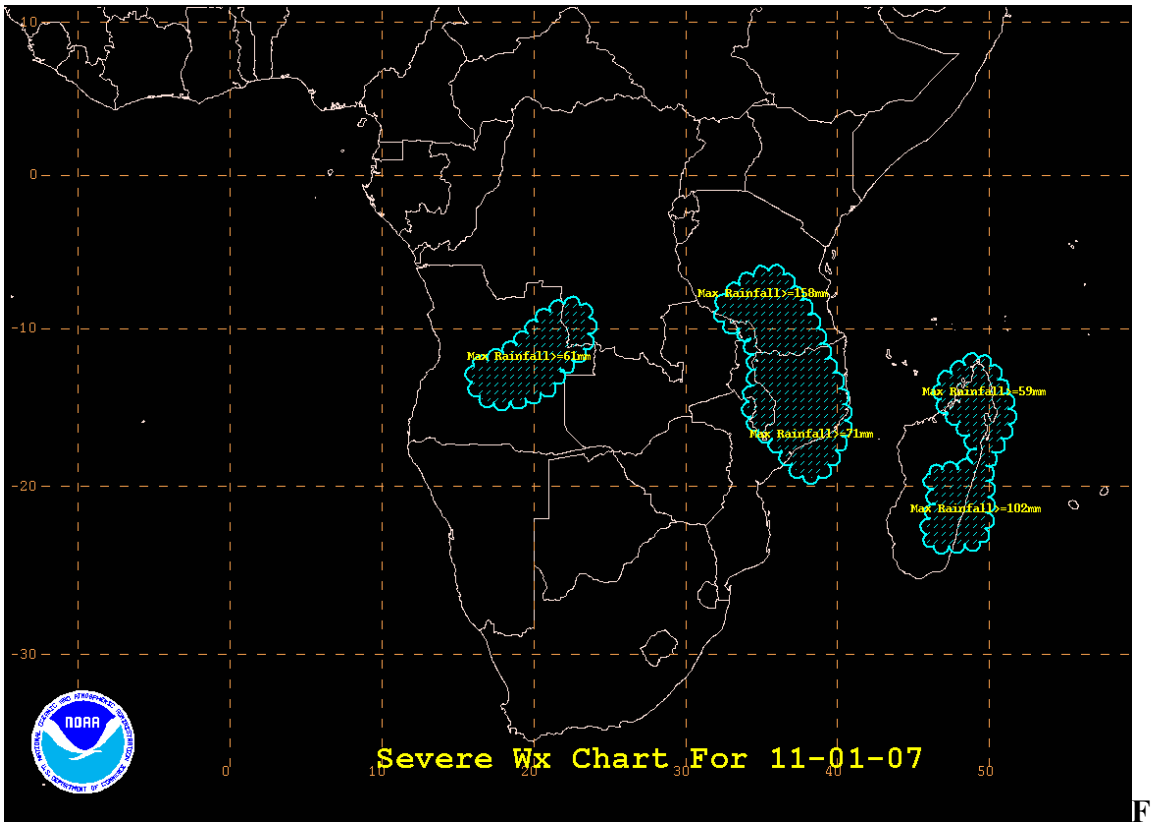
FORECAST MAP FOR DAY1



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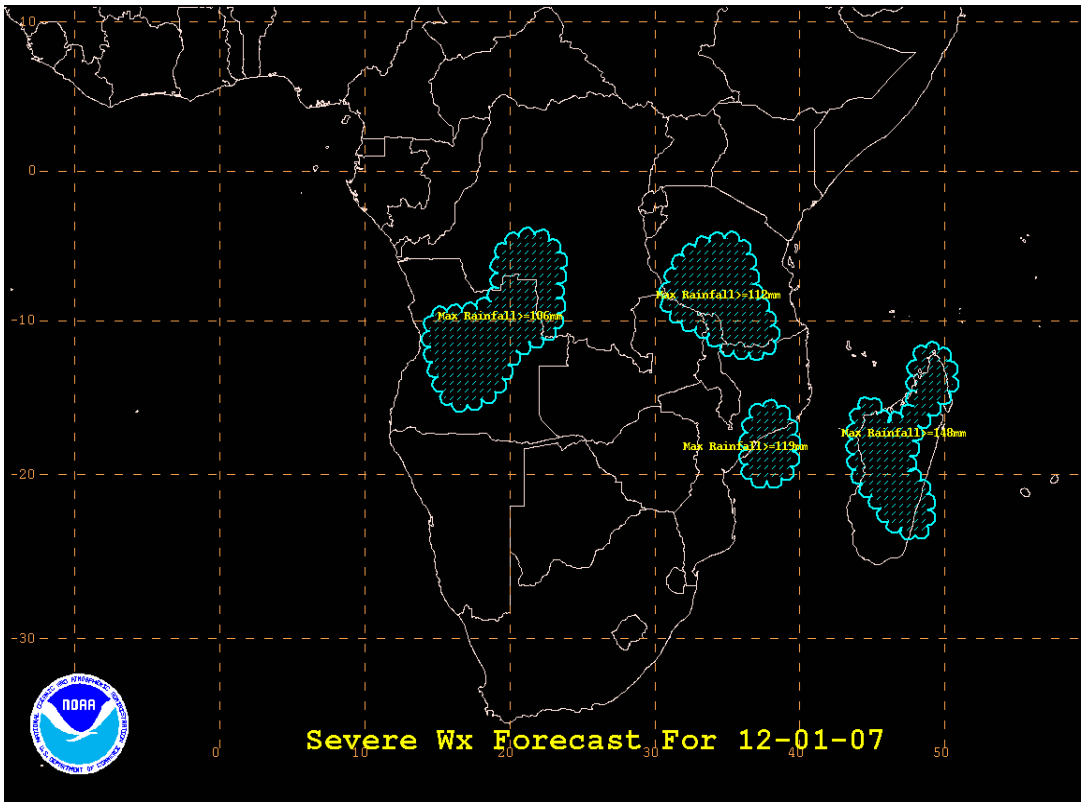
ORECAST FOR DAY2



FORECAST FOR DAY 3