



Forecast guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 30th, 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 31st, January, 2007- 00Z 02nd, February 2007

At T+24, the general pattern at 200hpa over Southern Africa (South of the Equator) shows the St Helena high which has split into two cells with centers located at 18°S 3°E and 12°S 11°E, causing subsiding motion over the western parts of the sub continent. The Mascarine high has its centre located at 15°S 44°E, and is causing subsiding motion over the northeastern parts of the sub continent stretching into northern Madagascar. The rest of the sub continent (the southeastern parts) are under unstable atmosphere caused by a back hanging westerly trough with its northwest axis lying at 20°S 25°E and its southeast axis lying at 60°S 42°E. At T+ 48 hrs the positions of the two cells of the St Helena high have been maintained, but it has relaxed its ridge such that it is restricted to the northwestern parts of the sub continent. The centre of the Mascarine high has maintained its position, but this high pressure system has extended its ridge further westwards to the eastern half of Angola and has covered the whole of Madagascar, causing subsiding motion over these areas also. The instability over the southeastern parts of the sub continent is maintained by the westerly trough. At T+72 Hrs the centre of the Mascarine high has not changed significantly, but its ridge is covering almost the entire sub continent, hence subsidence prevails over the sub continent. The westerly trough has flattened over the sub continent, the centre of the St Helena high has shifted westwards and this high pressure system has no significant effect over the sub continent.

At 500hpa, the St Helena high has its center at 15°S 11°W, and is ridging into the extreme western parts of the sub continent, causing subsiding motion over these areas. The Mascarine high has split into two cells with centers at 15°S 52°E and 30°S 67°E, causing subsiding motion over northeastern Madagascar. The areas under unstable atmosphere caused by a back hanging trough with closed cyclonic circulations located at 18°S 31°E, are Angola, Zambia, Mozambique and Madagascar, the other cyclonic circulation is located at 14°S 62°E this is a tropical cyclone. At T+48 hrs the centre of the St Helena high has changed significantly to 24°S 12°E coast of Namibia, and has

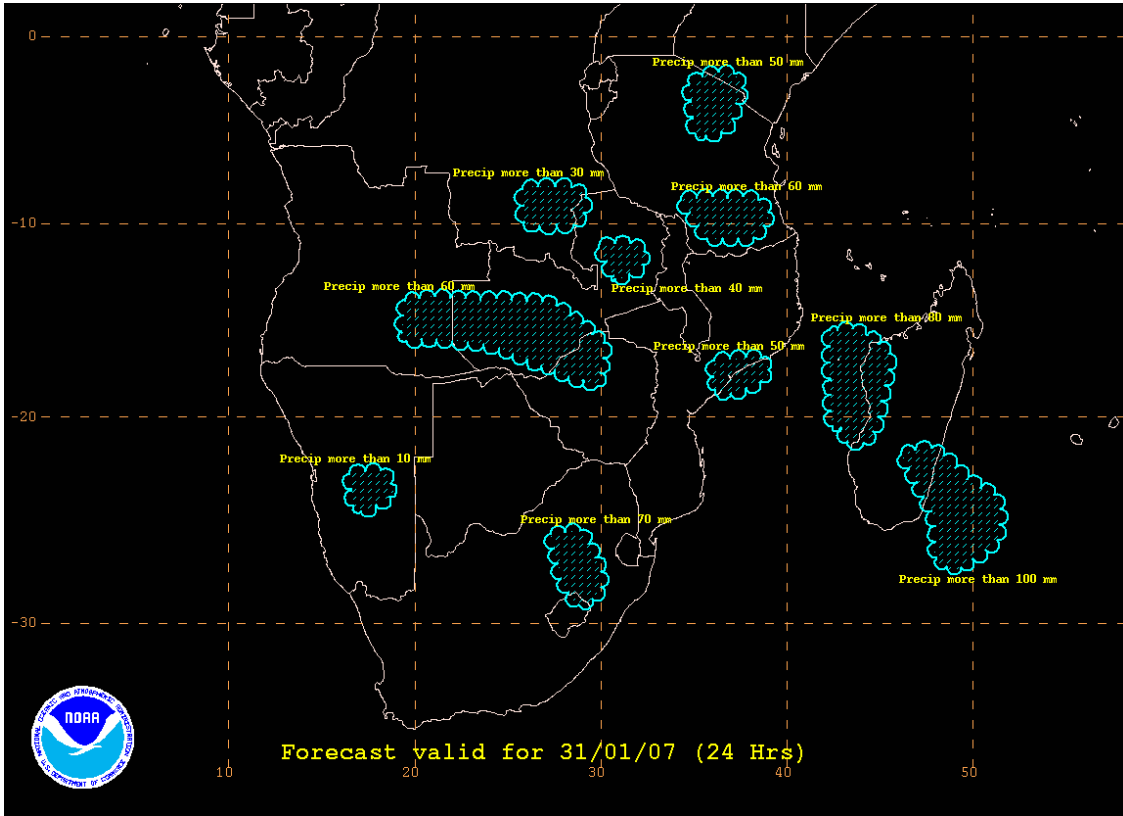
extended its southwest ridge axis to DR Congo inducing subsiding air motion. Otherwise there is no significant change over the rest of the sub continent The Mascarine high has slightly shifted south and its cutoff is located over northern Madagascar, the tropical cyclone has also shifted south to 17°S 62°E. At T+72 hrs the centre of the St Helena high has shifted to 18°S 18°W with acutoff high over Namibia, inducing subsiding air motion over South Africa, Botswana, Namibia and southern Angola. The Mascarine high centre is located at 28°S 70°E and its cutoff high at 18°S 46°E, causing subsiding motion over the eastern parts of the sub continent, the tropical cyclone has also shifted south to 18°S 62°E so it is gently moving southwards. The remaining parts of the sub continent, which are Angola, Zambia and Mozambique are under unstable atmosphere due to a trough with a closed circulation at 14°S 20°E.

At 850 hPa, T + 24 Hrs St. Helena high has two centres, one at 29°S 25°W and the second one at 25°S 08°W with a cutoff high at 30°S 30°E in South Africa. The Mascarine high has its centre at 35°S 66°E with a cutoff high over north of Madagascar, between these two cells the St. Helena high and the Mascarine high there is a shallow trough from the south associated with a cutoff low at the Mozambique channel, which is also in phase with the Tropical cyclone located at 15°S 61°E. Areas of convergence can be seen over southern Uganda due to the influence of Lake Victoria and cyclonic circulations can be seen over Namibia, Angola and Zimbabwe boarder and Angola coast. At T + 48 Hrs St. Helena high centre is at 28°S 09°W and the cutoff high form St. Helena has joined the Mascarine high which has its centre at 32°S 68°E with a cutoff high over north of Madagascar and a ridge with a southeast curved axis over Mozambique extending to the south of lake Malawi, between these two cells the St. Helena high and the Mascarine high there is a deep trough from the south in phase with the meridional arm of the ITCZ. Area of convergence can still be seen over southern Uganda due to the influence of Lake Victoria, and the Tropical cyclone located at 15°S 61°E is stationary.

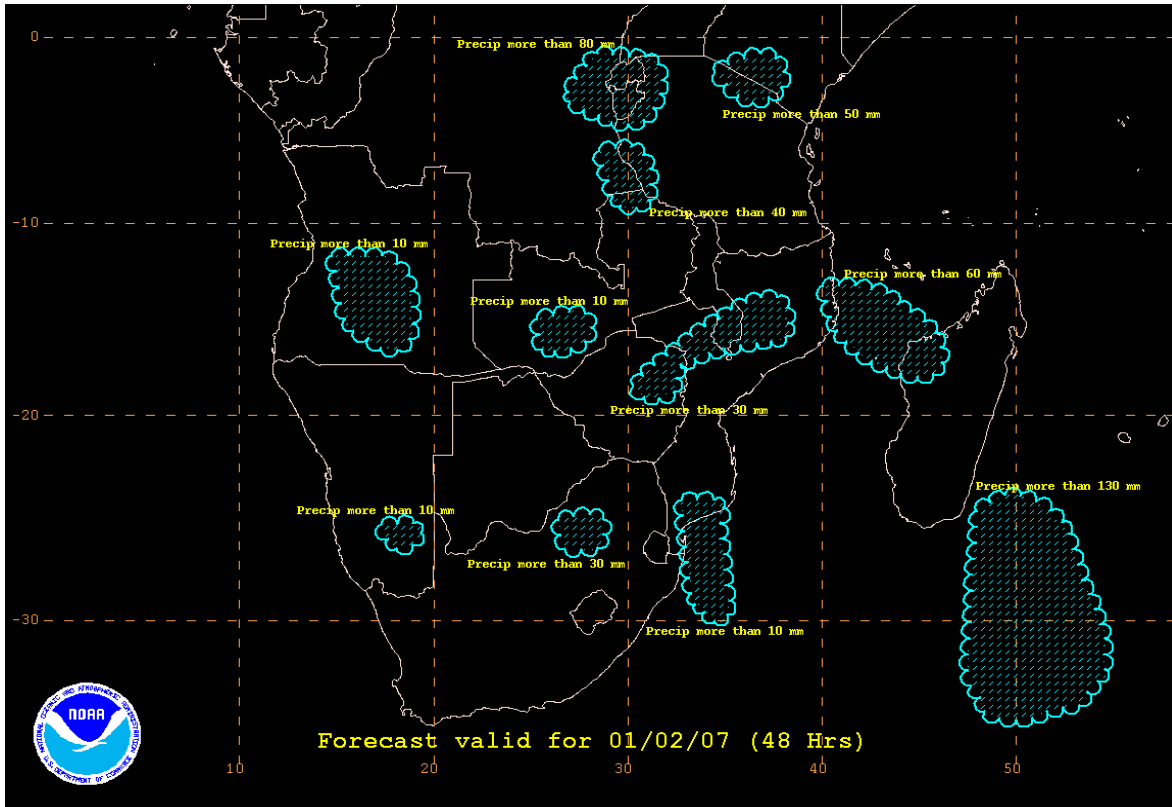
At T + 72 Hrs St. Helena high has intensified and its centre has slightly shifted to the east 28°S 02°W with a ridge enclosing a cutoff high extending to the eastern coast of South Africa. The Mascarine high has relaxed and its center has shifted further to the east and can be located at 35°S 67°E, between the St. Helena high and the Mascarine high is a shallow trough from the south with a cutoff low. The meridional arm of the ITCZ has been pushed to the north by the ridge from the St. Helena high and can be located in Angola, and the Tropical cyclone which was located at 15°S 61°E has slightly moved southwards to 18°S 61°E and the convergence over southern Uganda has been replaced by a diffluent flow.

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.

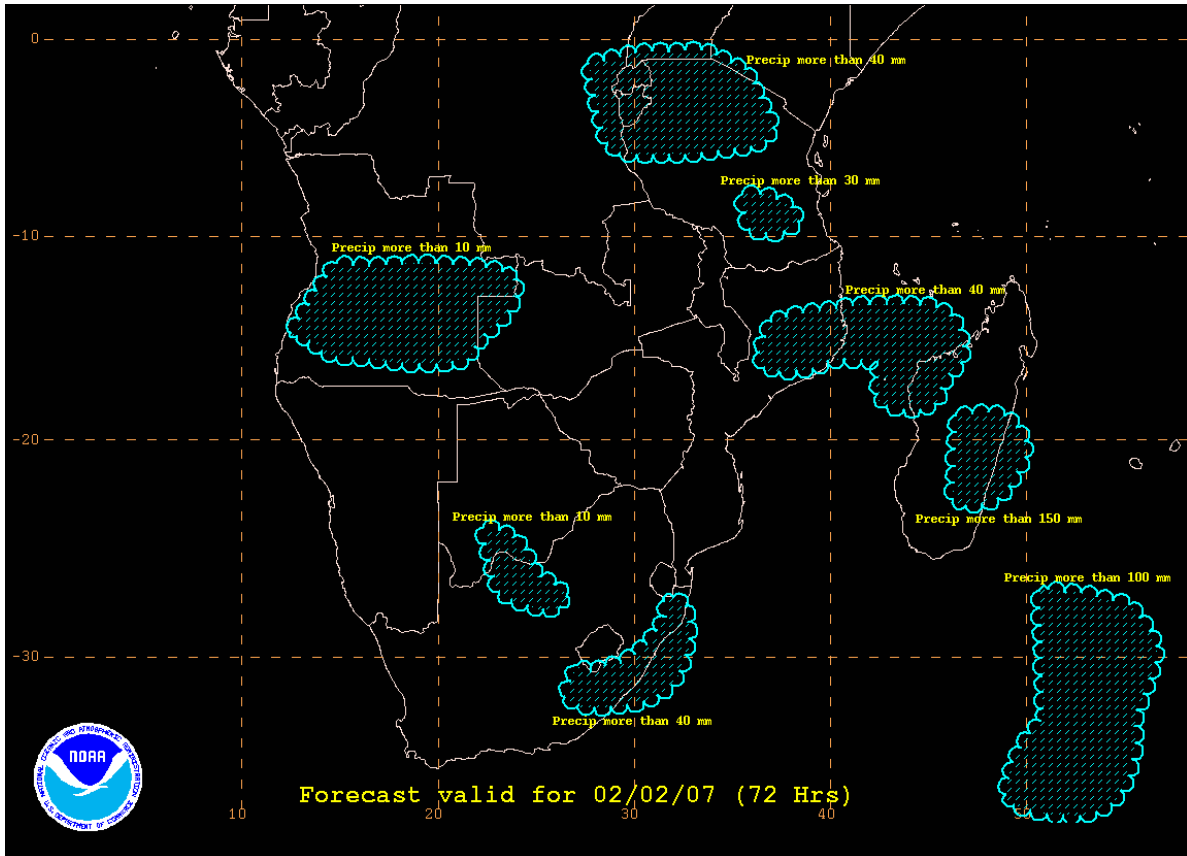
FORECASTMAPFORDAY1



FORECAST MAP FOR DAY2



FORECAST FOR DAY 3



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