



Forecast guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 31st, 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 01st, January, 2007- 00Z 03rd, February 2007

At T+24 hrs, the general pattern at 200hpa over Southern Africa (South of the Equator) shows that the Mascarine high has split into two cells with centers located at 15°S 34°E and 18°S 45°E, and is causing subsiding motion over the northeastern parts of the sub continent including Madagascar. The St Helena high has its centre located at 13°S 16°E, and is causing subsiding motion over the western parts of the sub continent. There is divergence over northern Tanzania and D. R. Congo. The remaining parts of the sub continent which are Botswana stretching into the southeastern parts of the sub continent are under unstable atmosphere caused by a secondary trough. There is a back hanging westerly trough to the southwest of the sub continent with its northwest axis lying at 30°S 1°E and its southeast axis lying at 60°S 11°E, but it does not have any significant influence over the sub continent. At T+ 48 hrs the only significant change is that the back hanging westerly trough has caught up with the secondary trough, inducing instability over South Africa, southern Namibia, southern Botswana and southern Mozambique. The northwest axis of the back hanging westerly trough lies at 25°S 1°E and its southeast axis lies at 60°S 24°E. At T+72 Hrs the back hanging westerly trough has shifted to the east such that its northwest axis lies at 22°S 13°E and its southeast axis lies at 60°S 34°E, inducing instability over most parts of South Africa, southern Botswana and southern Mozambique. The influence of the other systems over the rest of the sub continent has not changed significantly.

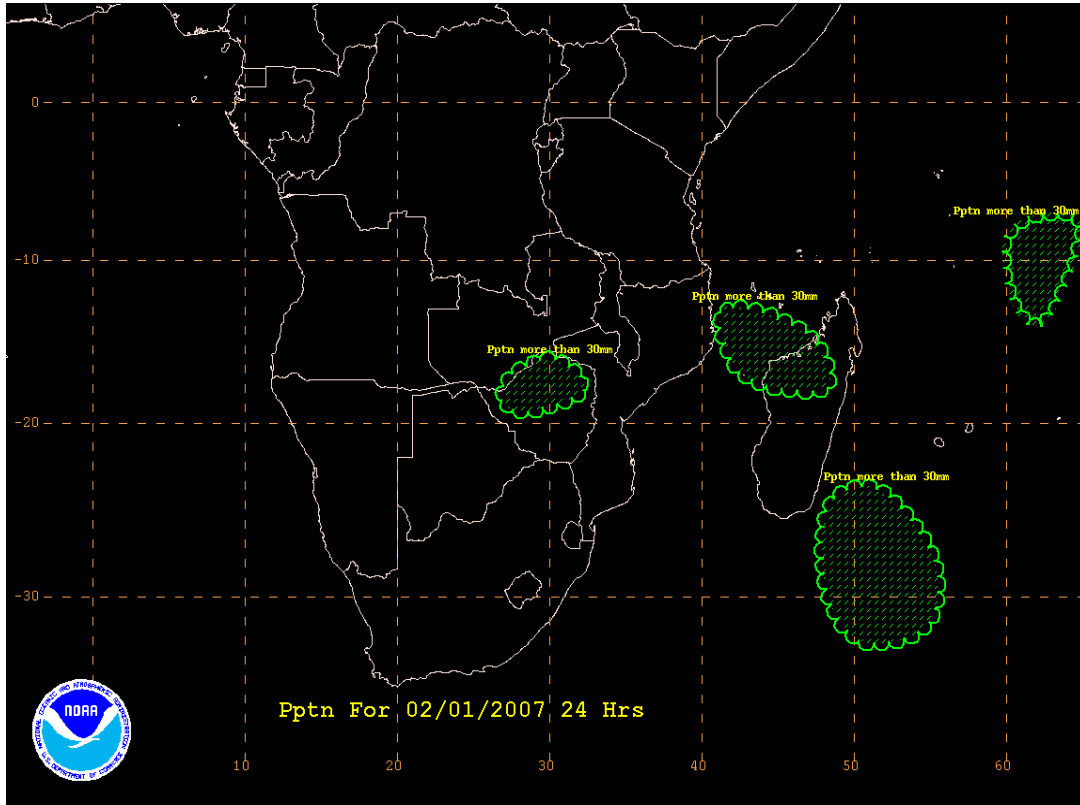
At 500hpa, the St Helena high is lying over Namibia, Botswana and South Africa, with its center positioned at 25°S 20°E, and is causing subsiding motion over these areas. The Mascarine high has split into two cells with one centre located at 8°S 29°E causing subsidence over the northeastern parts of the sub continent, and the other cell located at 18°S 51°E causing subsidence over northeastern Madagascar. A back hanging westerly trough with its northwest axis lying at 15°S 4°E and its southeast axis lying at 60°S 70°E, is inducing instability over southern Angola stretching into the southeastern parts of the

sub continent. At T+48 hrs the centre of the St Helena is maintained, but it has extended its ridge over almost the whole of the western half of the sub continent. This has resulted in the top part of the back hanging westerly trough being pushed to the east such that its northwest axis lies at 16°S 23°E, and this system is inducing instability over Zimbabwe stretching into the extreme southern parts of Madagascar. The extreme northeastern parts of the sub continent are under a trough, but Madagascar is still under subsidence due to the persistence of the high pressure cell of this area. At T+72 hrs the general pattern is similar to that at T+48 hrs.

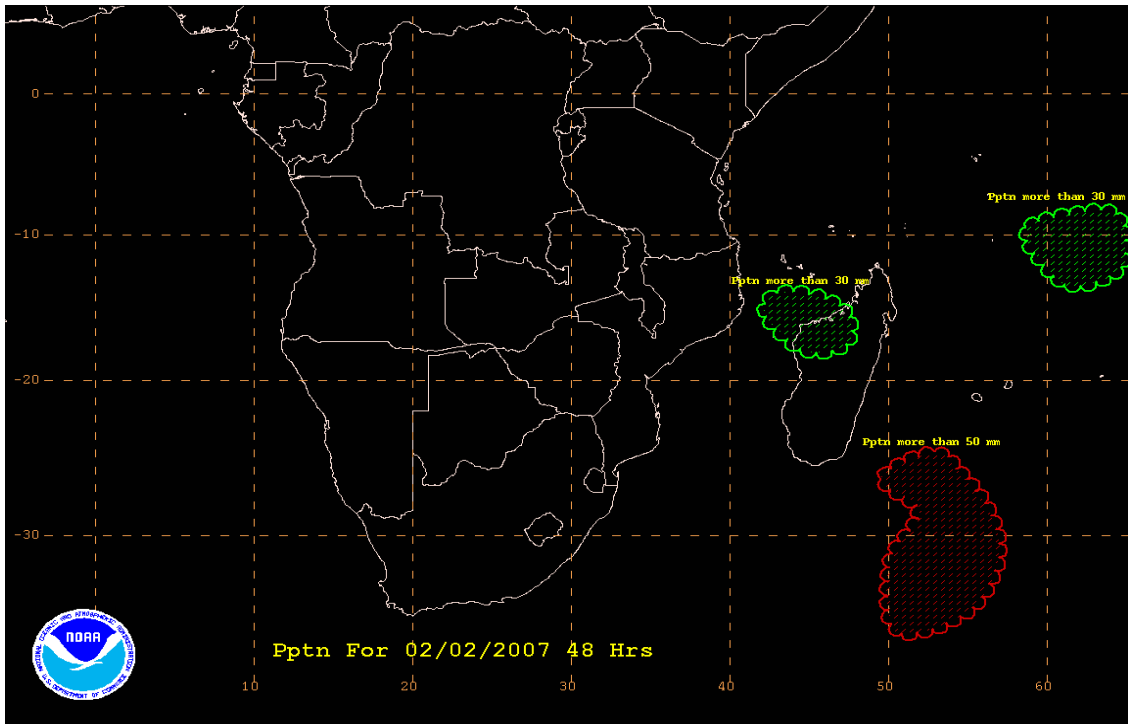
At 850 hPa, T + 24 Hrs St. Helena high centre is at 25°S 10°W and the Mascarine high has its centre at 33°S 66°E with a ridge enclosing two cutoff highs at 24°S 30°E and 40°S 48°E respectively with a southeast curved axis extending upto Malawi, between these two cells the St. Helena high and the Mascarine high there is a trough from the south in phase with the meridional arm of the ITCZ. Area of convergence can be seen over northern Tanzania due to the influence of Lake Victoria and cyclonic circulations can be seen over Angola, Madagascar and the Tropical cyclone at 15°S 63°E. At T + 48 Hrs St. Helena high has intensified with its centre at 25°S 12°W also has a back hanging ridge extending upto Botswana with a southwest curved axis engulfing a low pressure area over Namibia also pushing the Meridional arm of the ITCZ to the north. The Mascarine high has its centre at 34°S 66°E, between St. Helena high and the Mascarine high there is a trough from the south which has been pushed eastward by the St. Helena ridge. Areas of linear convergence can be seen over DR Congo, Malawi and Angola, and cyclonic circulations can be seen over Angola, Botswana, southeast of Madagascar and the Tropical cyclone at 16°S 64°E. At T + 72 Hrs St. Helena high has relaxed and its centre is located at 28°S 10°W with a cutoff high over the eastern coast of South Africa and the Mascarine high has its centre beyond 70°E and can not be seen in the chart, between St. Helena high and the Mascarine high there is a very shallow trough from the south enclosing a low. Area of convergence can be seen over eastern DR Congo and cyclonic circulations can be seen over Angola, Namibia, Madagascar and the Tropical cyclone at 18°S 65°E.

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.

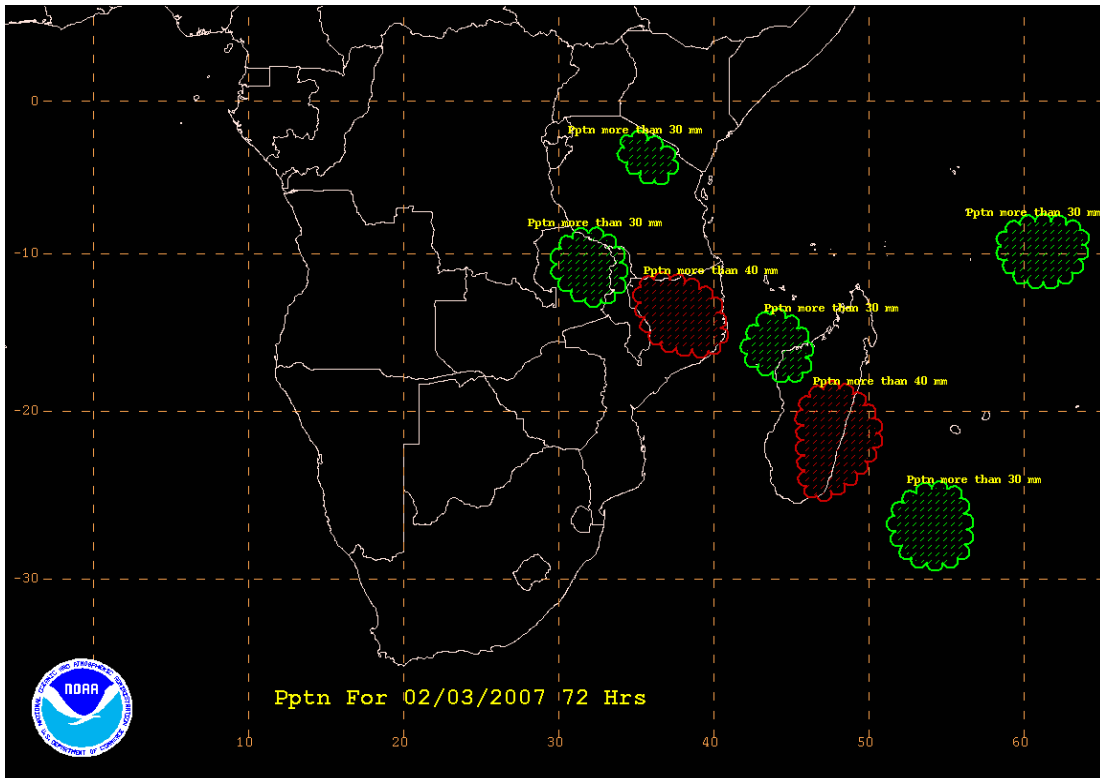
FORECASTMAPFORDAY1



FORECAST MAP FOR DAY2



FORECAST FOR DAY 3



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