Forecast guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 05th February, 2007

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

FORECAST DISCUSSION 14H00 EST 05th, February, 2007
Valid: 00Z 06th, February, 2007- 00Z 08th, February 2007.

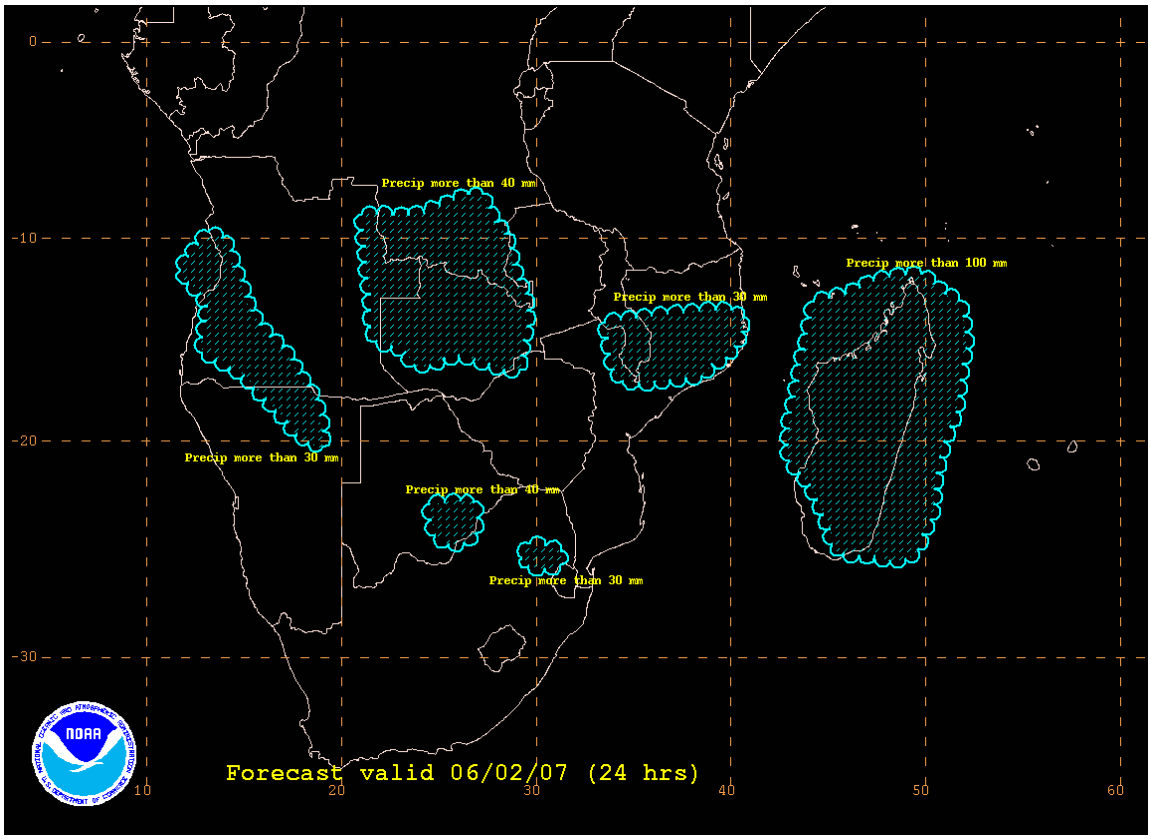
At T+24 hrs, the general flow pattern at 200hpa over Southern Africa (South of the Equator) shows that there is an anticyclone or high pressure that has two centers located at 16°S 30°E and 16°S 50°E, and is causing divergence motion over the northeastern parts of the sub continent mainly in Madagascar and Zambia where the centers are located. Two short wave troughs are passing the sub-continent, one situated over the western interior of S.A. and extending right up to southern Angola and the other one over the central Mozambique Channel affecting the southern part of Madagascar. At T+ 48 hrs the two high pressure cells combine and form a single one huge cell centered at about 17°S 44°E and a short wave trough is moving over the central part of S.A. and extends right up to northern Namibia. At T+72 Hrs the anticyclone or high pressure has slightly shifted to the east with its main center located at 16°S 33°E in northern part of Mozambique and the short wave trough which moved over the subcontinent earlier is well to the east of Madagascar as a new trough approaches S.A. fro the west.

At 500hpa, the St Helena high has its center at 27°S 03°W with a ridge extending over the central regions of Southern Africa and the trough extends from central Mozambique up to the northern part of Angola. The Mascarine high centre is at about 42°S 51° and it has a cutoff high located at 03°S 51°E in Madagascar which is a clear indication that the high pressure at 200hPa exist up to this level causing divergence over Madagascar, a back hanging trough with its northwest axis can be seen between the cutoff high of Mascarine and Mascarine itself in the Indian ocean. At T+48 hrs St Helena high has slightly relaxed at the same time split into two cells with their centers located at 23°S 01°W and 39°S 63°E, for the Mascarine high in the Indian ocean there is no significant change. At T+72 hrs the St Helena high has intensified, its center is at 24°S 24°E with a zonal axis ridge extending up to the southeastern coast of South Africa. The Mascarine high has also intensified and it has two centers located at 30°S 52°E in Madagascar this shows that the high pressure at 200hPa exist up to this level causing divergence over

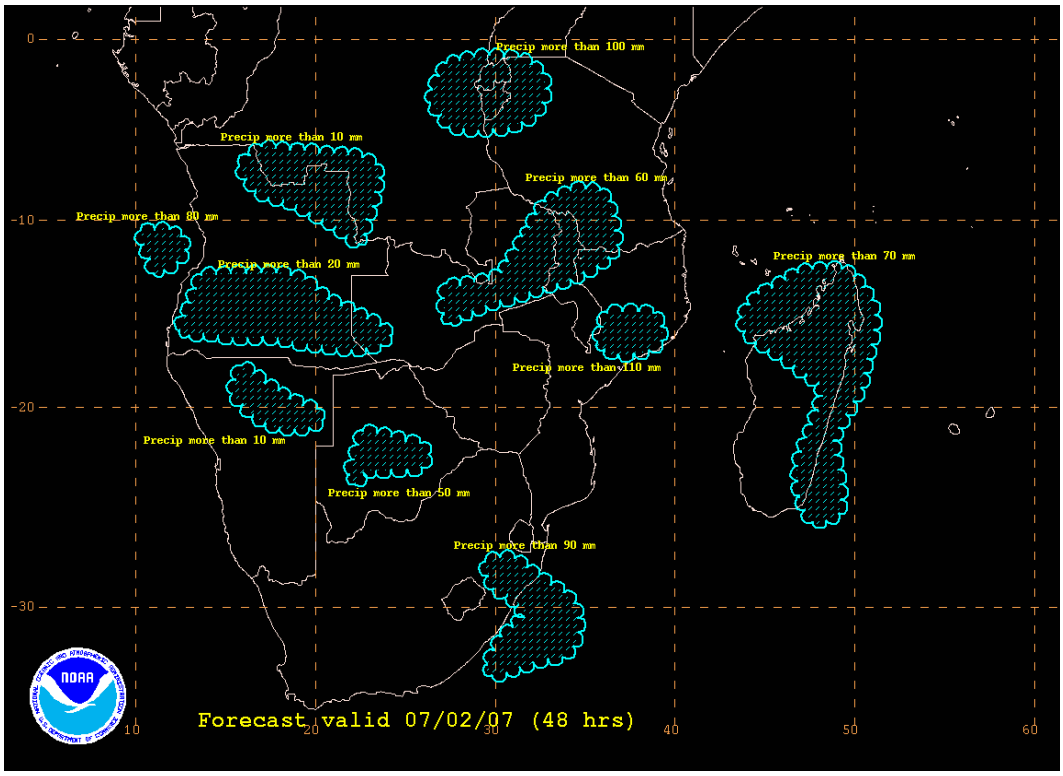
Madagascar and the other centre is located at 40°S 38°E with a cutoff high located at 09°S 38°E, between the two cells there is a narrow back hanging trough with a curved axis in phase with the Merdional Arm of the ITCZ. There is a cyclonic circulation over Uganda north of Lake Victoria and southeastern DR Congo.

At 850hPa, the T + 24 Hrs chart shows the St Helena high with its centre located at 30°S 12°W, but it is not ridging into the sub continent. The meridional arm of the ITCZ is lying over northern D.R. Congo. Over Namibia, Angola, Zambia stretching into Madagascar, there is a trough with lows located 17°S 16°E, 21°S 20°E and at 24°S 42°E. This trough is in line with a back hanging westerly trough which is to the south of the sub continent, lying over the 20°E longitude. The Mascarine high has split into two cells, with the cell lying at 5°S 70°E ridging into the extreme northeastern parts of the sub continent, while the cell lying at 40°S 58°E is ridging into the extreme southeastern parts. Area of convergence can be seen over Uganda due to the influence of Lake Victoria which modifies the weather of areas surrounding the lake. At T + 48 Hrs the back hanging westerly trough to the south of the sub continent has flatted, otherwise the general flow pattern over the sub continent has not changed significantly. At T + 72 Hrs a back hanging westerly trough is approaching the southwestern coast of the sub continent with its northwest axis lying at 28S 5°E and its southeast axis lying at 60S 17°E. Otherwise the general flow pattern is similar to that at T+48 hrs.

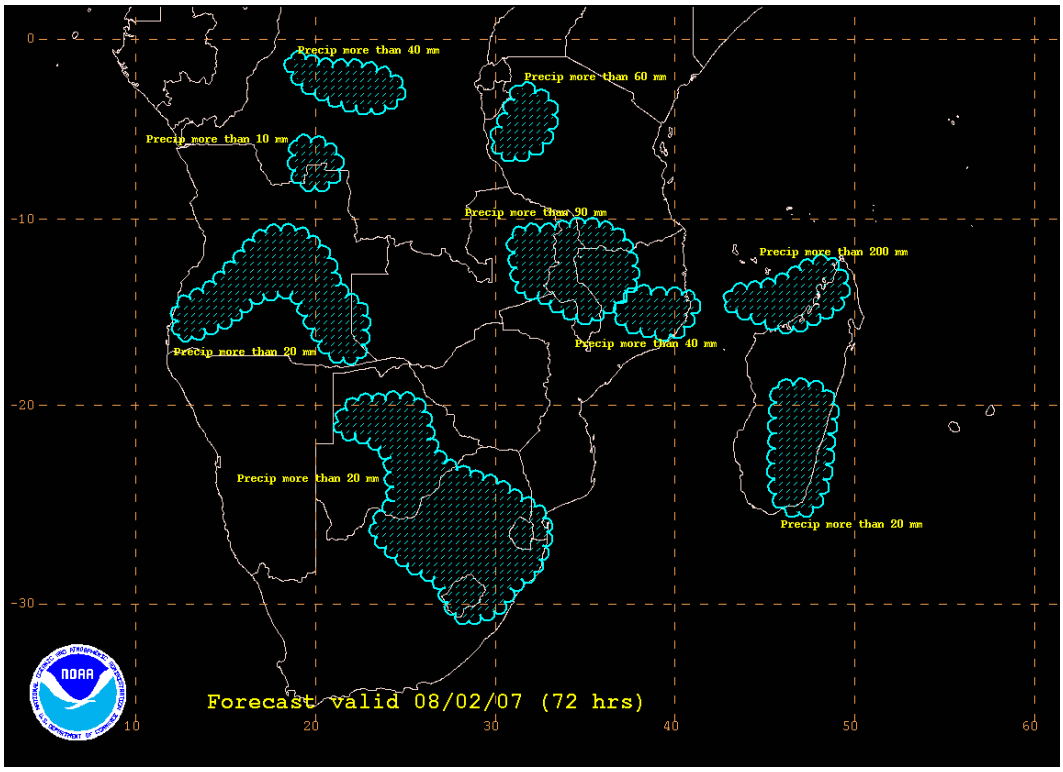
FORECAST MAP FOR DAY1



FORECAST MAP FOR DAY2



FORECAST FOR DAY 3



Authors :

Oliver Moses:- Botswana Meteorological Services and African Desk
Siyabonga F. Mthethwa:- South African Weather Service and African Desk
Francis K. Gumbo:- Tanzania Meteorological Services and African Desk
Wassila Thiaw:- African Desk