Forecast guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 5th January, 2007

Valid 00:00z 6th January 2007 - 00z 8th January 2007

The general pattern at 200hpa over the Southern Africa (South of the Equator) indicates an upper level near-equatorial ridge centered over central Zimbabwe and weak trough moving out over the NE part of S.A. Another trough is approaching from the southwest with a jet-stream of 110kt passing south of S.A. The flow overland is mainly westerly to northwesterly 15 to 95 knots south of 20S and SE to E 15 to 45knots north of 20S. Upper level divergence indicated mainly over northern Madagascar due to a low at the surface over this area. At T+48 the trough moves through over the southern part of S.A. and another one also moves over southern Madagascar where strong divergence is indicated. The centre of the high is expected to shift northwards to near the Caprivi Strip area due to the passage of the trough over southern Madagascar. At T+72 a secondary trough develops behind the initial one over southern parts of S.A. and the centre of the high is expected to be over central Mozambique. The UK- Met and ECMWF models are similar to GFS in terms of positioning the systems at this level and there are no major discrepancies.

At 500hpa a trough associated with a cold front at the surface is making its way over the southern part of S.A. whilst a high pressure system centered over southern Botswana is expected to shift northwards as the trough moves through. A closed low develops over the southern Mozambique Channel at T+48 and is expected to affect mainly the southern part of Madagascar. The trough is expected to affect the extreme southern of S.A. as the cold slides southwards and its tail brushes the southern extremities of S.A. Strong vertical uplift coupled with moisture over eastern Madagascar, east of the developing low over the channel. At T+72 the low over southern Madagascar weakens considerably as it is caught up by the trough passing south. A secondary trough develops to the west of S.A. and behind this trough a high pressure system extends a ridge over the central regions of Southern Africa. The UK-MET and ECMWF models handle the situation similar and no major discrepancies between these models and GFS.

At 850hpa a cold front is moving over the southern parts of S.A. with an Atlantic high pressure system ridging closely behind it. A closed low pressure system is sitting over the central part of the Mozambique Channel and east of it, strong vorticity advection indicated mostly over southern Madagascar where vertical uplift as well as moisture are present. A tropical low spinning over the southern Angola and another one over the Caprivi Strip will cause continued thunderstorm activity over the central regions of Southern Africa. At T+48 the cold front will move to the central part of S.A. as the high behind it ridges over the southern part. The low over the Mozambique Channel moves

slightly south with still strong cyclonic circulation around its vicinity as confirmed by the high values of absolute vorticity especially over southern Madagascar. At T+72 the low over the channel slowly moves southeastwards and touches the southern tip of Madagascar as the cold front slides further to the south. Strong NE winds are expected over southern Madagascar at the interface between the low and the Indian Ocean high which intensifies in east with the GFS model suggesting winds of up to 45knots. Both the UK-MET & ECMWF models agree with GFS and both models are seeing the low over Mozambique channel and the stronger winds particularly over southern Madagascar from tomorrow onwards.

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SUMMARY TABLES FOR RISK AREAS

DAY 1: Saturday 6th January 2007

	HEAVY PRECIPITATION				STRONG WINDS			
RISK	**No risk**	**Low risk**	**Medium risk**	**High risk**	**No risk**	**Low risk**	**Medium risk**	**High risk**
Botswana	**X**				**X**			
Madagascar				**East & Extr West**				**South**
Mozambique	**X**						**Coast & Adj. interior**	
Tanzania	**X**				**X**			
Zimbabwe	**X**				**X**			

DAY 2: Sunday 7th January 2007

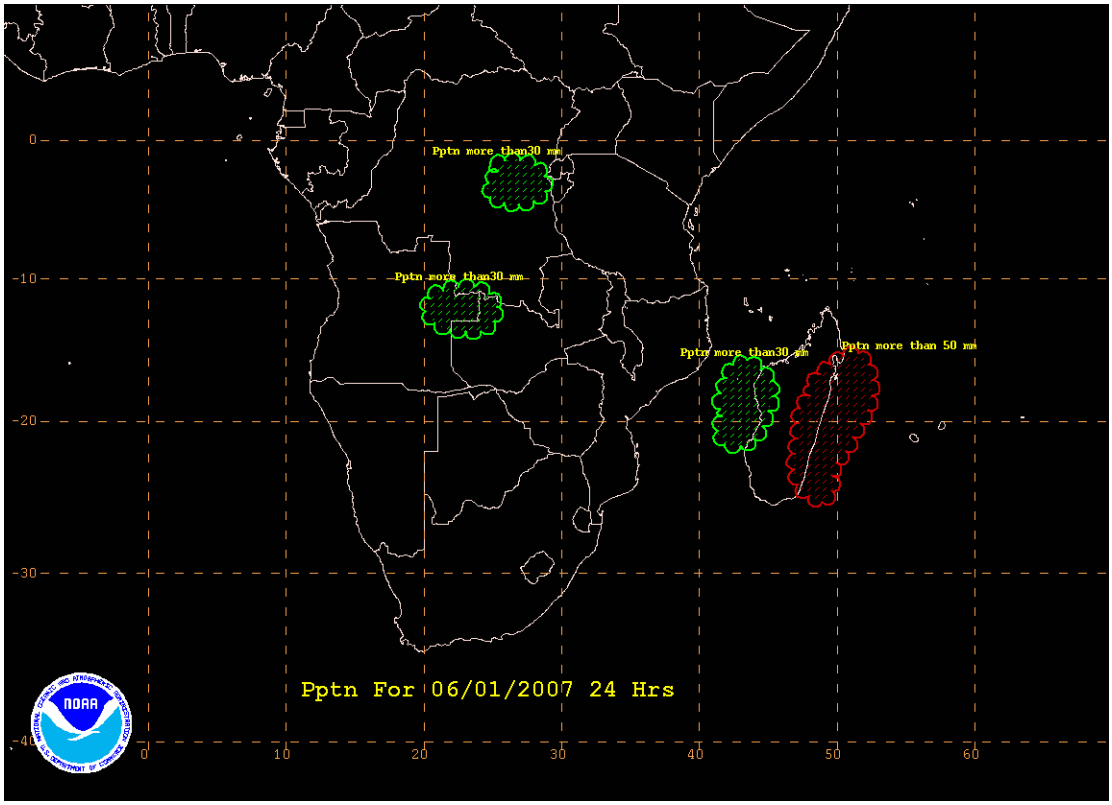
	HEAVY PRECIPITATION				STRONG WINDS			
RISK	**No risk**	**Low risk**	**Medium risk**	**High risk**	**No risk**	**Low risk**	**Medium risk**	**High risk**
Botswana	**X**				**X**			
Madagascar				**In the east & South**				**South & East**
Mozambique	**X**				**X**			
Tanzania	**X**				**X**			
Zimbabwe		**Extreme north**			**X**			

DAY 3: Monday 8th January 2007

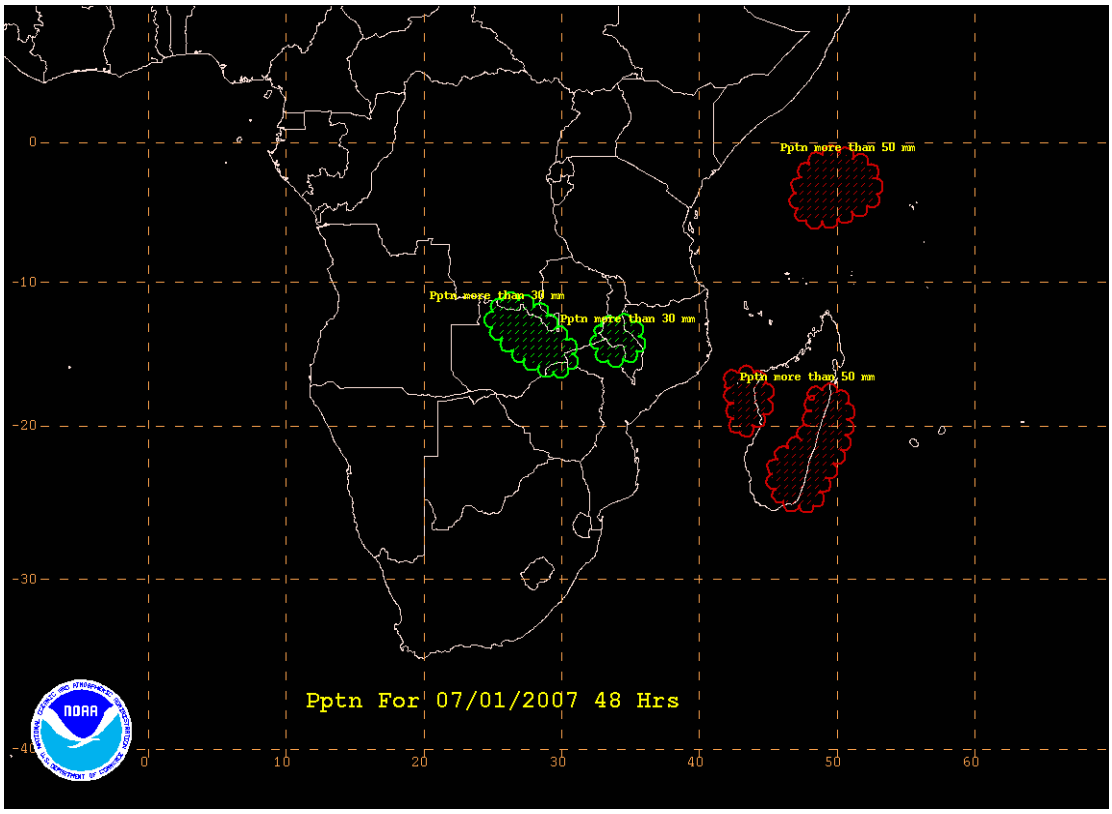
	HEAVY PRECIPITATION				STRONG WINDS			
RISK	**No risk**	**Low risk**	**Medium risk**	**High risk**	**No risk**	**Low risk**	**Medium risk**	**High risk**
Botswana	**X**				**X**			

Madagascar				In the S & W				S & SE
Mozambique	X				X			
Tanzania	X				X			
Zimbabwe	X				X			

FORECAST FOR DAY1



FORECAST FOR DAY 2



FORECAST FOR DAY3