



Forecast guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 12th February, 2007

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

FORECAST DISCUSSION 14H00 EST 12th, February, 2007

Valid: 00Z 13th, February, 2007- 00Z 15th, February 2007.

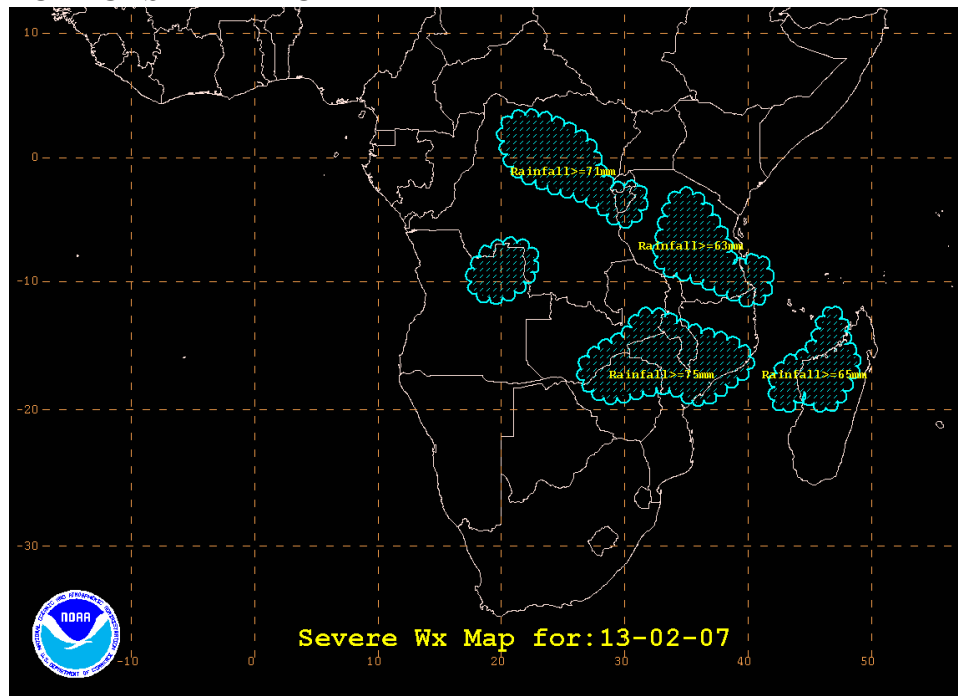
At T+24 hrs, the general flow pattern at 200hpa over Southern Africa (South of the Equator) indicates an upper air trough causing convergence over the southeastern parts of the sub continent. This trough is associated with a cold front at the surface. A short wave trough is causing convergence over southeastern Madagascar. A high pressure system centered at 17°S 36°E is causing divergence over the rest of the sub continent, implying that convergence prevails at the surface over most parts of the sub continent. At T+48 hrs the high pressure system has split into two cells centered at 18°S 8°E and at 15°S 41°E, maintaining divergence over most parts of the sub continent except over the extreme southeastern parts which are under the upper level trough. At T+72 hrs another trough is approaching the southwestern coast of the sub continent and it is lying over 11°E longitude. The trough which was over the extreme southeastern parts of the sub continent has shifted further south of Madagascar. Divergence prevails over the sub continent due to the persistence of the high pressure system.

At 500hpa, the T+24 hrs prognostic chart is depicting a cut-off low at 37°S 32°E, extending a sharp trough over the NE parts of SA, western Zimbabwe, southern part of Zambia as well as the northern parts of Angola. The St Helena high has its center at 28°S 07°E and the Mascarene high at about 11°S 52°E thus the two high are squeezing the trough (cut-off low) such that it moves mainly south-southeastwards. A weak low can be observed along the Angolan coast and another one over southern DRC which maintain the zone of convergence over the central regions as Tropical thunderstorms continue. At T+48 the Mascarene high has weakened considerably as the trough deepens over the subcontinent. The St Helena high has continued to push overland over the western part of S.A. behind the trough, which is creating a strong connection of the Tropical air from the north to the Mid-Latitude from the south. The zone of convergence is thus expected to continue stretching from northern Angola down to the central parts of Mozambique which will bring a line of storms from the north to southern areas. At T+72 the trough has

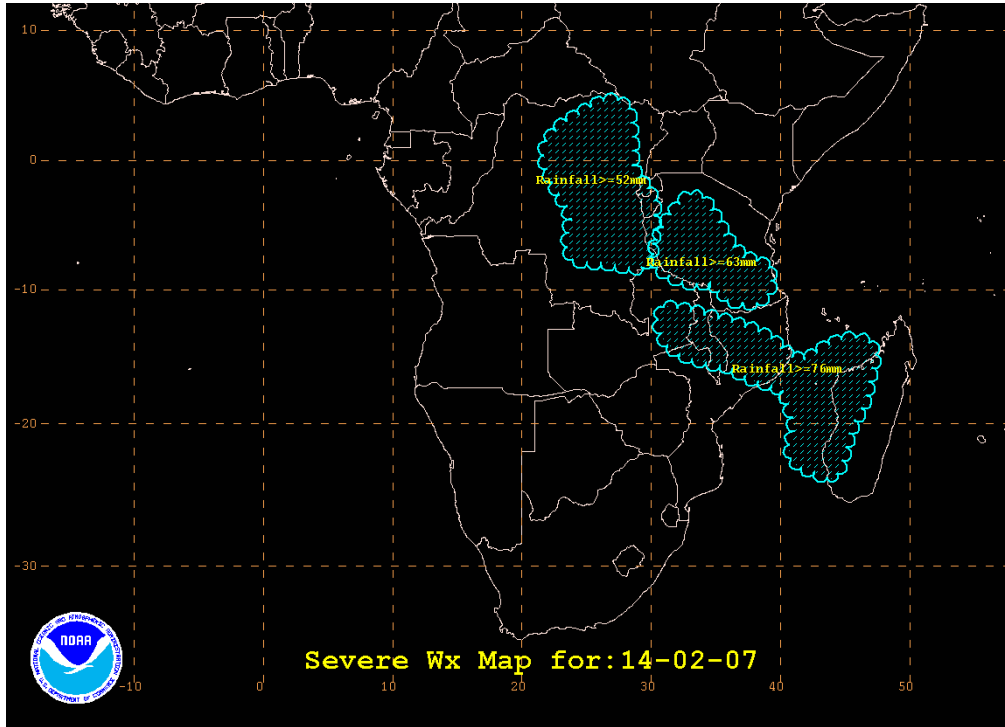
weakened as the combination of the two highs (St Helena & Mascarene) squeezes the trough to the south thus breaking the connection between Tropical air from the north and Mid-Latitude air from the south. Although the connection will still be there, it will be weak compared to T+48 hrs and the thunderstorms band is expected to move to the east affecting northern Mozambique, Zimbabwe, Zambia and DRC.

At 850hPa, the T + 24 hrs prognostic chart shows the St Helena high with its centre located at 33°S 01°W, and it is ridging into the extreme southwestern parts of the sub continent. The Mascarene high has split into three cells, but only the cell located at 11°S 56°E has some influence over the sub continent as it is causing divergence over the extreme northeastern parts of the sub continent stretching into northern Madagascar. An area of convergence can be seen over Uganda due to the influence of Lake Victoria which modifies the weather of areas surrounding the lake. Convergence prevails over the rest of the sub continent due to a trough which is to the south of the sub continent, lying over 34°E longitude, which is in phase with the Meridional arm of the ITCZ lying over the northwestern parts of the sub continent. At T + 48 hrs the general flow pattern is maintained. At T + 72 hrs, the St Helena high has split into two cells, with the cell centered at 8°S 5°E causing divergence over the extreme northwestern parts of the sub continent, while the cell centered at 38°S 16°W is not ridging into the sub continent. The Mascarene high has extended its ridge from the extreme northeastern parts of the sub continent to southern Botswana, hence causing divergence over these areas. Otherwise the general flow pattern has not changed significantly over the rest of the sub continent.

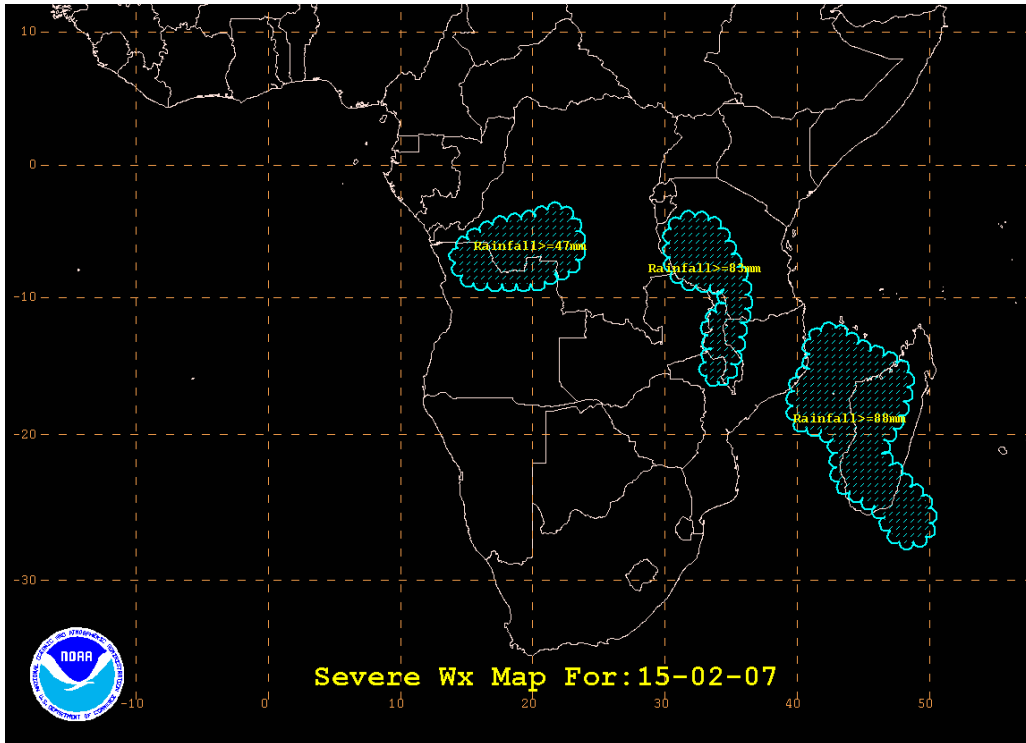
FORECAST MAP FOR DAY1



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