



Forecast guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 12th April 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 13th April 2007- 00Z 15th April 2007.

***Highlights:** A persistent deep low system to the further north of the coast of Madagascar, near 8°S 54°E, supported by a low at 500 mb and the presence of a ridge at 200 mb is tracking westward to the southeastern coast of Tanzania, hence thundershowers and intense rainfall over these areas is expected to prevail.*

At 200mb, the GFS, ECMWF and UK-MET models show the following general flow pattern over Southern Africa (South of the Equator). There is a shallow trough over central Mozambican Channel, stretching into southeastern D.R. Congo, hence convergence over these areas. A trough over the southwestern coast of the sub continent is causing convergence over southwestern Namibia and western South Africa. There is a low to the east of the coast of Tanzania (9°S 42°E) inducing convergence over these areas also. Two high pressure systems have their centers located to the northeastern of the coast of Madagascar (10°S 63°E) and over northern D.R. Congo (1°S 21°E), and they are causing divergence over the rest of the sub continent. At T+48 hrs, the shallow trough which was over the central Mozambican Channel has slightly shifted eastward, weakening and the low to the east of the coast of Tanzania has filled up. The trough which was over southwestern coast of the sub continent slightly shifts eastward. Elsewhere divergence prevails. At T+72 hrs, the trough over the southwestern parts of the sub continent has shifted further eastward causing convergence over most of South Africa. The shallow trough which was over northern Mozambique has weakened developing a cut-off low over Zambia/Tanzania border. The high pressure cell which was centered at 1°S 21°E (northern D.R. Congo) has shifted southward causing divergence over the rest of the sub continent.

At 500mb, the GFS models show a shallow trough over western Zambia. There is a trough over the southwestern coast of the sub continent, causing convergence over these areas. Area of convergence is also seen over the northeastern coast of Tanzania, where

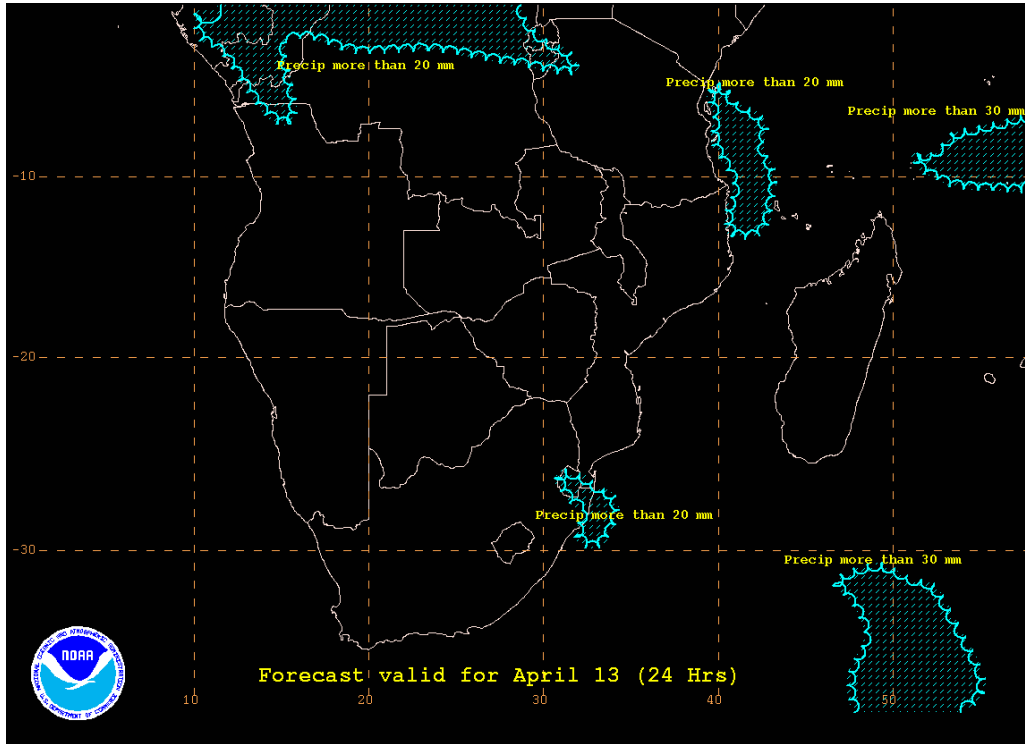
there is a low. The three models show the Mascarene high is centered at 21°S 51°E, ridging most of the eastern parts of the sub continent. The St Helena high has two cells with centers located at 28°S 18°W and at 9°S 8°W, ridging into the northwestern parts of the sub continent. At T+48 hrs, the three models show that the shallow trough which was over western Zambia has weakened as the Mascarene high has shifted northwestward extending a ridge into most parts of the sub continent. The trough which was over the west of the sub continent is causing convergence over most of the western coast. The low over the northeastern coast of Tanzania filled up. Areas which are to the north of 8°S latitude are under slight convergence due to the easterly flow. At T+72 hrs, the trough which was over the southwestern coast of the sub continent is slightly shifting eastward, hence convergence over southern South Africa. There is a low to the east of the coast of Tanzania and further west of the coast of Angola, causing convergence over these areas. Slight convergence over areas which are to the north of 8°S latitude is maintained. The rest of the sub continent is under divergence. The ensemble members of the GFS show a huge spread of the 5700m and 5870m height contours over northwestern Angola, western Zambia, central Mozambican Channel and to the east of the coast of Tanzania at T+24 up to T+72, which implies uncertainty in the position and stretching of the shallow trough over western Zambia and the easterly flow.

At 850mb, there is a deep low lying further northeast of the coast of Madagascar, near 8°S 54°E. There is a trough to the south of the coast of Madagascar. Another trough is lying over the southeastern coast of the sub continent, associated with lows over Botswana/South Africa/Namibia border and over the coast of Namibia, causing convergence over these areas. Convergence is also seen over northwestern Namibia, northern Angola and northeastern D.R. Congo. The St Helene high with its center located at 30°S 4°W is ridging into the extreme southwestern coast of the sub continent. A bud-off high is lying over the southeastern extreme of the coast of Mozambique with the cell centered at 26°S 36°E longitude blocking the deepening of the trough lying over the southeastern coast of the sub continent, associated with lows over Botswana/South Africa/Namibia border and over the coast of Namibia. The Mascarene high with two cells centered at 40°S 66°E and at 30°S 60°E is throwing a ridge over the rest of the sub continent. At T+48 hrs, the deep low which was near 8°S 54°E, is shifting westward, hence intense thundershowers and strong wind to the northern coast of Madagascar. Convergence over southwestern coast of Namibia and South Africa still prevails. The troughs which were to the southeastern parts of the sub continent (to the south of the Mozambican Channel), has shifted further southeastward, weakening as the Mascarene high is throwing a ridge into the most part of the sub continent. Divergence prevails over the rest of the sub continent. At T+72 hrs, there is a trough over the southwestern coast of the sub continent aligned with the low over the coast of Namibia, causing convergence over western coast of the sub continent. The deep low to the east of the coast of Tanzania, tracks westward toward the eastern coast of Tanzania, extending its influence to the coast of Tanzania and southeastern Kenya. Convergence is also seen over northwestern D.R. Congo. The rest of the sub continent is under divergence of the Mascarene high centered at 39°S 52°E.

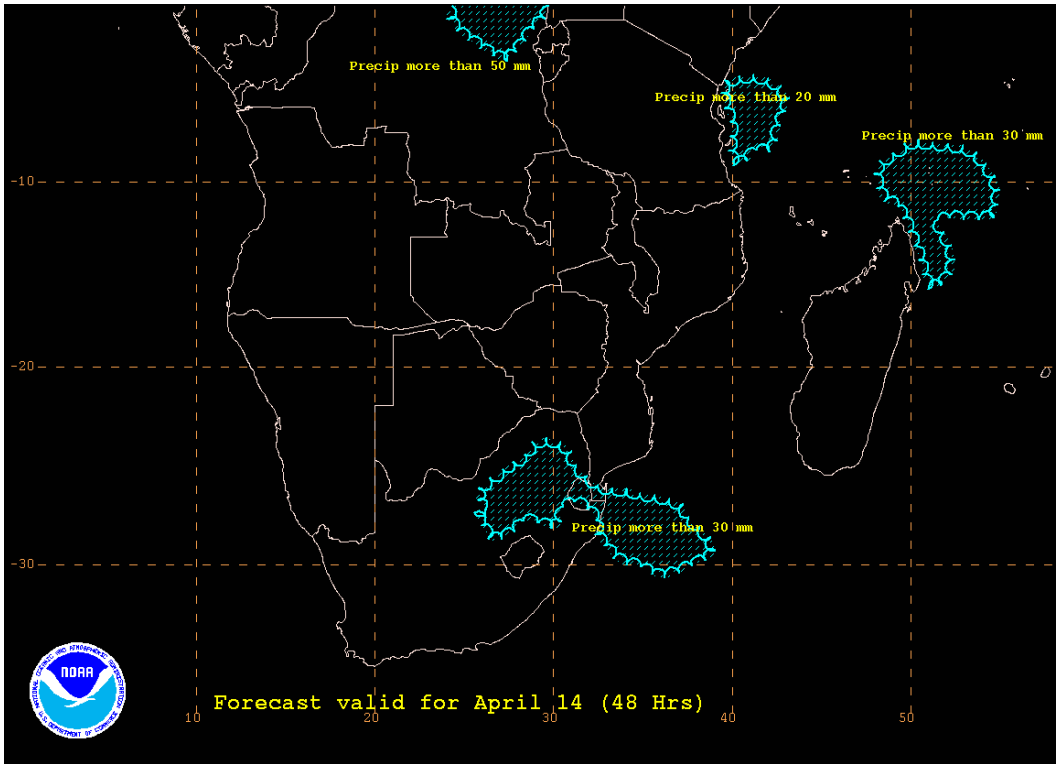
There is a huge spread between the ensemble products of the 50 mm isolines of 6 hourly total precipitations over the southern Mozambique/South Africa border, eastern coast of

Tanzania extending to the north of the coast of Madagascar and northern D.R. Congo at T+24 up to T+48 hrs and northeastern South Africa at T+48 hrs, denoting uncertainty in the intensity of precipitation over these areas.

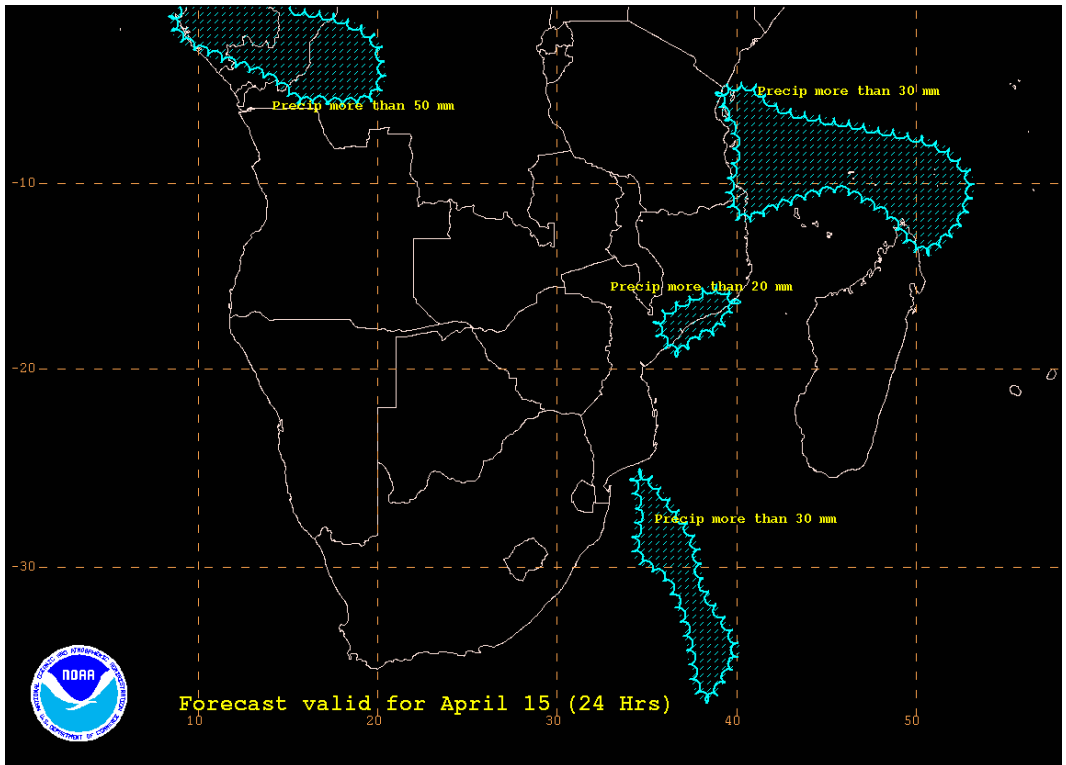
FORECAST MAP FOR DAY 1



FORECAST MAP FOR DAY 2



FORECAST MAP FOR DAY 3



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