Forecasting guidance for Sever Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 19TH DECEMBER 2007

AFRICAN DESK
CLIMATE PREDICTION CENTRE
National Centers for Environmental Predictions
National Weather Service
NOAA
Camp Spring MD 20746

FORECAST DISCUSSION 14H00 EST, 19th DECEMBER 2007
Valid: 00Z 20th DECEMBER 2007-OOZ 22nd DECEMBER 2007

1: 24HR RAINFALL FORECAST

DAY 1: 20TH DEC 2007

During the period, 40-60mm is expected over central to western Mozambique, southern Malawi, northern Zimbabwe, central Zambia, extreme southern DRC; 20-40mm over eastern Tanzania; 5-30mm over southern and northern Mozambique, southern Zimbabwe, western and northern Zambia, northern Malawi, southern and southwestern DRC, northern Angola, southern, western and central Tanzania.

DAY 2: 21ST DEC 2007

During this period, 25-40mm is expected over Zimbabwe, central Zambia and southern Mozambique; 05-30mm over eastern Tanzania, northern Mozambique, northern Zambia, extreme northern Botswana and southern DRC.

DAY 3: 22ND DEC 2007

During this period, 15-40mm is expected over southern Malawi, southern and central Mozambique, northern Zimbabwe and central Zambia; 5-20mm over northern Mozambique, northern and eastern Zambia, southern Zimbabwe and northern Malawi.

2: MODELS DISCUSSION:

Models comparison (Valid from 00Z; 14th Dec 2007): There is an agreement of UK MET, ECMWF and GFS models. There are no major discrepancies between them.

FLOW AT 850MB

At T+24, a St Helena high pressure system has situated to the west at 30S 15W, ridging south of South Africa. A Mascarine high pressure system has centered at 38S 38E and causing onshore flow on southern Mozambique coast. There is a Low pressure system extending from Angola and Namibia through Zambia to Mozambique, causing convergence over the areas. Also, a significant convergence is evident over the southern DRC, central to southern Tanzania.

At T+48, a St Helena high pressure system has two cells, one centered at 25S 18W and another at 35S 2W ridging south of South Africa. A Mascarine high pressure has slightly shifted to the east, centered at 38S 45E and causing a slight convergence over the southern Mozambique. A significant convergence is evident over Zambia, Angola and northern Zimbabwe otherwise a weak divergence dominates central/southern DRC and great part of Tanzania

At T+72, a St Helena high pressure system has retrograted to the west, now centered at 25S 19W while a Mascarine high pressure continues to shift to the east, now centered at 38S 46E causing an onshore flow associated with convergence on southern Mozambique. A weak convergence is over Zimbabwe, Angola and Zambia otherwise slight divergence continues to prevail over Tanzania and DRC

FLOW AT 500MB

At T+24, wind convergence is evident over Zambia, southern DRC, Malawi and northern Zimbabwe while divergence dominates Tanzania. There is no significant flow over the rest of the sub continent.

At T+48, convergence continues to dominate Zambia, southern DRC and northern Angola. A new sub tropical high pressure has developed over Madagascar, centered at 18S 45E and extends a ridge over Tanzania.

At T+72, a sub tropical high pressure which was over Madagascar has relaxed and replaced by southeasterly flow which dominates the eastern part of the sub continent. A weak convergence continues to dominate Zambia and eastern Angola, otherwise divergence over DRC

FLOW AT 200MB

At T+24, a high pressure sits over Zimbabwe at 23S 30E causing divergence over the area. Divergence pattern is also evident over northern Zambia and southwestern Tanzania. There is a trough system situated to the west of South Africa, together with a high pressure system over Zimbabwe, they contribute to strong northwesterly wind reaching 65Kts over South Africa.

At T+48, a trough system has slightly retrograted to the west. A high pressure system which was over Zimbabwe, has shifted to the east, now centered at 22S 41E and intensified. These two systems contribute to strong northwesterly Jet Stream with a maximum speed of 80Kts over South Africa. Strong southeasterlies-easterlies dominate northern part of the sub continent.

At T+72, both trough and high pressure systems have almost maintained their positions and continues to contribute towards strong northwesterly wind reaching 60Kts over South Africa. Strong Southeasterlies-easterlies continues to dominate northern part of the sub continent.

Author: Augustino Nduganda (Tanzania Meteorological Service and African Desk)