Forecasting guidance for Severe Weather Forecasting Demonstration Project (SWFDP)

SHORT RANGE FORECAST DISCUSSION 14H00 EST 10TH MARCH 2008

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

FORECAST DISCUSSION 14H00 EST, 10TH MARCH 2008
Valid: 00Z 11TH MARCH 2008-00Z 13TH MARCH 2008

1: TROPICAL CYCLONE WARNING:

Tropical cyclone JOKWE, now a category 2 storm, is located in the central Mozambican Channel heading in southward direction, with sustained winds of 85 knots (98 mph/157 kph). It is expected to maintain its current formation through 11 March due its warm core and ocean heat content. As it moves further south into colder ocean waters it is expected to be downgraded to a tropical storm.

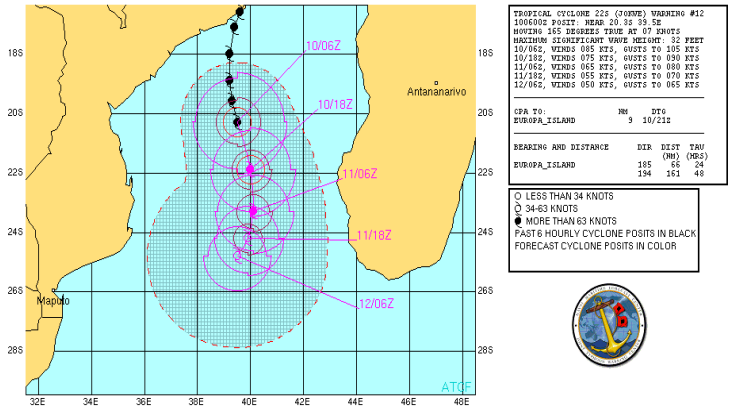

Figure 1: Forecasted track of Tropical Cyclone JOKWE
Source: http://www.cpc.ncep.noaa.gov/products/precip/CWlink/MJO/index.primjo.html

2: 24 HR RAINFALL FORECAST

Areas showing Probability Of Precipitation (POP) exceeding significant thresholds as shown in figures 2 – 4 for the dates of 11 to 13 march 2008 respectively.

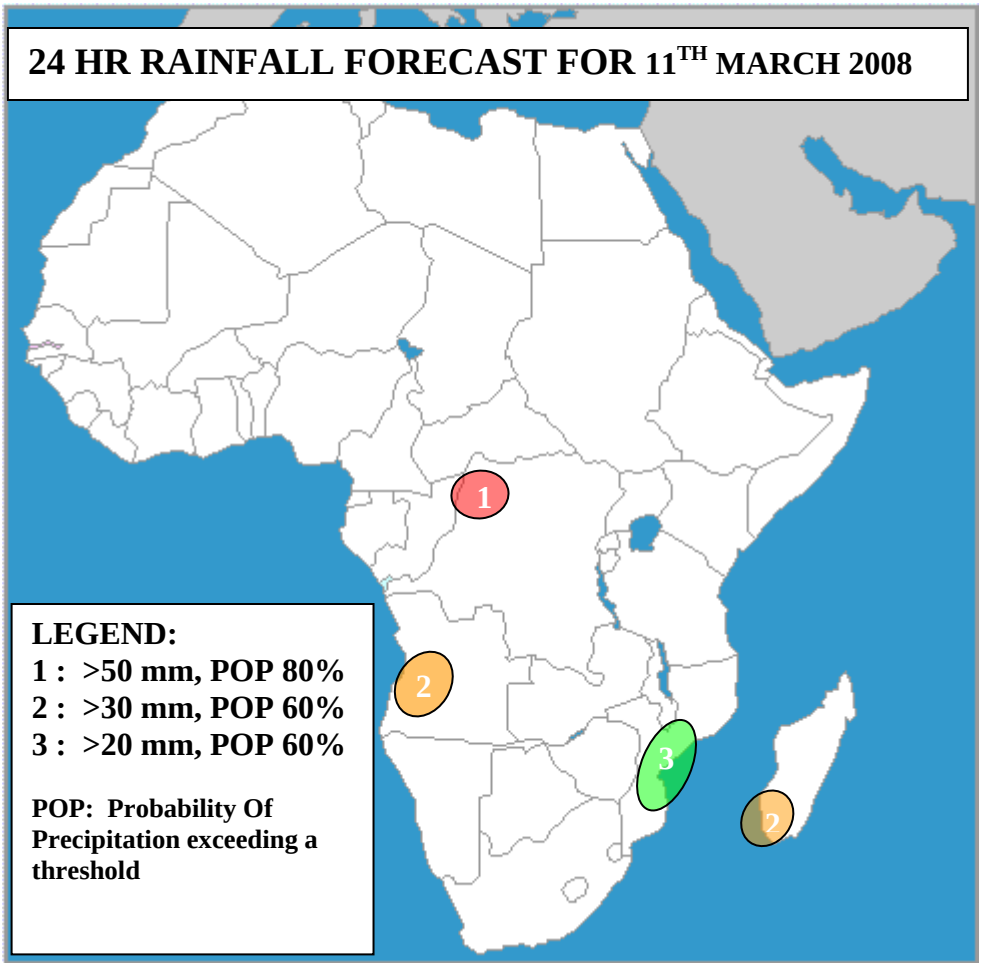

Figure 2: Areas of probability of precipitation for 11th march 2008.

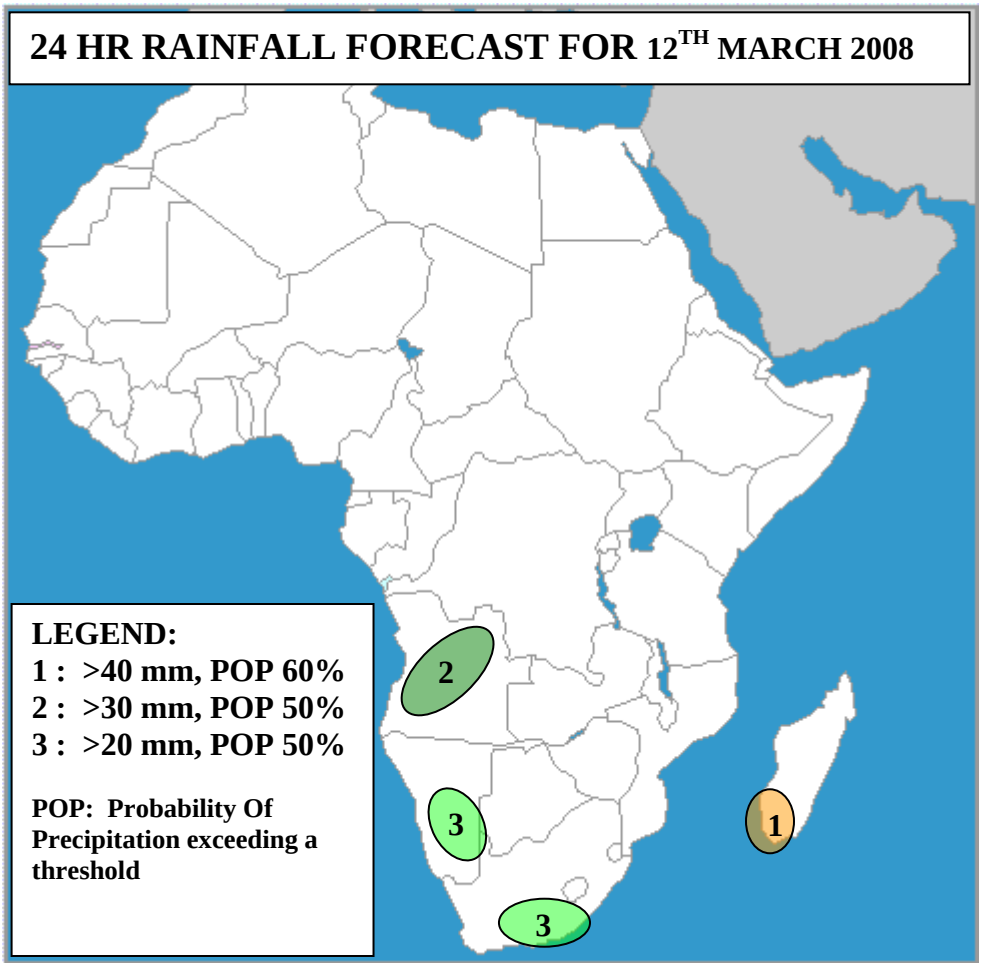

Figure 3: Areas of probability of precipitation for 12th march 2008.

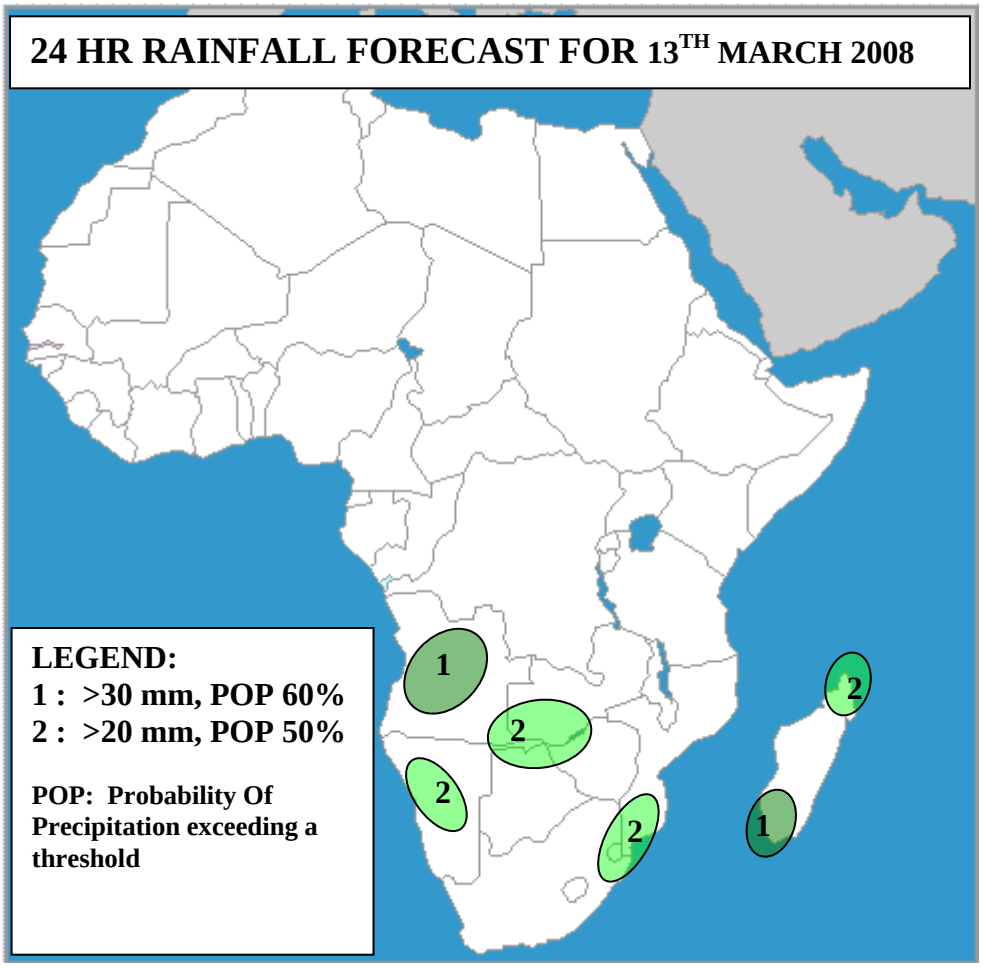

Figure 4: Areas of probability of precipitation for 13th march 2008.

2: MODELS DISCUSSION:

Models comparison (Valid from 00Z; 10th March 2008): In general, there is an agreement of UK MET, ECMWF and GFS models in the forecast track of the tropical cyclone JOKWE.

FLOW AT 850MB

At T+24, the Mascarine high pressure system is expected to be centered at 50E, 38S and ridge towards Northeast Madagascar and Southeast Tanzania slowing Jokwe in its southward movement. The eastward movement of St. Helena high pressure system will weaken the through over the western part of the region (Namibia and western part of Botswana, South Africa) and over the oceanic part of Southern Africa, thus reducing convergence and the convective activity in the region. The convergence flow pattern over Gabon, Congo Brazaville, Northern DRC and lake Victoria Basin will prevail and therefore maintain the convective activity over there.

T+48, the Mascarine high pressure system and the ridging will continue to dominate over Northeast Madagascar and Southeast Tanzania, while the St Helena high pressure to the west is expected to ridge south of South Africa to join the Mascarine high. This system will cause Jokwe to stay put, fill up the low pressure system over the oceanic region of South Africa. The low pressure system and convergence over Angola, northern Namibia,

southwestern Botswana is expected to prevail and extend west of Angola into the Atlantic ocean. Tropical cyclone Jokwe will maintain a strong converge flow and convective activity over southern Mozambique.

T+72, the St Helena ridge is expected to weaken and the Mascarine high to prevail, resulting in the development of a trough southeast of Southern Africa causing Jokwe to move south southwest toward this trough. The low pressure area over west of Angola, Northern Namibia and western Zambia is expected to prevail and maintain convergence over the area. Converge over the lake Victoria basin is expected to prevail.

FLOW AT 500MB

At T+24, a high pressure system is expected to dominate over northern Madagascar, northern Mozambique, southern Zambia and Zimbabwe, while a low pressure system (due to Jokwe) is expected over the Mozambican channel and southern Madagascar. This system is expected to cause an easterly flow over Tanzania through northern Zambia and DRC. A convergent flow pattern is expected to prevail over southern Angola due to the existence of the low pressure system at 850hPa. A St Helena high is expected to be centered at 13W 22S while a Mascarine high is expected to be centered at 47E 42S causing a development of a trough over southwest of South Africa.

At T+48, a high pressure area is expected to prevail across northern Madagascar, northern Mozambique, Zambia, Zimbabwe, northern Namibia and southern Angola maintaining the easterly flow over Tanzania and DRC. A low pressure system is expected to dominate over southern Mozambique and southern Madagascar due to the presence of Jokwe in the vicinity. A trough system is expected to dominate over the southern part of South Africa including the nearby maritime region.

At T+72, the Jokwe trough is expected to stretch eastward and southward causing St Helena high pressure to retreat southward, and the high pressure area over most of the northern sub-region to expand southeast toward the Mascarine high. The trough over southern Africa is expected to stretch in a northwest/southeast orientation to the west of Namibia and southern Africa.

FLOW AT 200MB

At T+24, a high pressure system is expected to dominate over most of the subcontinent, while a high pressure system is expected to prevail over the Lake Victoria basin and a divergent flow over northern DRC. A westerly flow is expected to dominate the southern part of the subcontinent.

At T+48, a high pressure system is expected to dominate over the whole region causing a general easterly flow to the north and westerly flow to the south.

At T+72, a high pressure system is expected to be centered over the subcontinent with a northwest/southeast orientation, causing southeast flow over the north and northwest flow over the southern Africa.

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