QUATERLY REPORT OF THE REGIONAL SUBPROJECT

PERIOD: March to May 2007

Tanzania Meteorological Agency

1. HIGHLIGHTS OVER THE PERIOD (MAM)

- The months of March and April 2007 did not have occurrences of severe weather that could fit in the criteria.
- Most of the occurrences were during the month of May.
- Zanzibar received the highest rainfall ever recorded in May since 1954.

2. OVERVIEW OF PRODUCTS

a. Usefulness of RSMC-Pretoria guidance

During the period of March to May 2007, the NMC continued to make use of RSMC - Pretoria guidance products. These products were very useful as they guided forecasters in their activities which included issuance of warning well in advance. As reported in the first report, these products have guided forecasters to find areas of possible activities of severe weather. The guidance products however continued to underestimate/overestimate in some cases and also not being able to pick meso-scale cases.

b. Usefulness of SWFDP NWP/EPS Products received from each global centre and RSMC UM-SA12

As explained above, the SWFDP products received from the global centres are still very useful as they continued to assist forecasters to be able to predict areas of severe storms well in time. These products have increased the confidence level of forecasters because the accuracy and reliability of the products have also improved.

3. PROJECT EVALUATION AGAINST SWFDP GOALS

SWFDP GOAL	PROGRESS AGAINST GOALS
To improve the ability of NMCs to forecast severe weather events	The Deterministic and EPS products have continued to improve the visibility of the NMC. Continued training within NMC has helped improve the understanding of forecasters in forecasting severe weather events.
To improve the lead time of alerting these events	As an important tool for alerting the public from severe weather, it is very important to improve lead time for the events. Forecasters in the NMC have continued to make use of lead time improvement in order to alert the public on severe weather events.
To improve the interaction of NMCs with Disaster Management and Civil Protection authorities before, during and after severe weather events	The interaction with the DMCPA has continued to grow while the project has continued to help NMC to build its confidence more than it was in the first quarter of the project. The products produced by NMC including alerts and warnings are taken seriously by the Disaster Management units and the public.
To identify gaps and areas for improvements	The models were still at some occasions underestimate/overestimate the intensity of the precipitation. As indicated in the first quarterly report, that since the models are global, they will not be able to predict localized events such as strong winds due to convection.
To improve the skill of products from Global Centres through feedback from NMCs	Other Global (ECMWF etc.) models could follow the UK Met (ALAM) to give unified models.

4. EVALUATION OF WEATHER WARNINGS:

A) feedback from the public

The public continued to appreciate warnings and advisories given by the NMC on severe weather and thus tremendously enhancing its visibility. However, the public was still wish to see that the NMC issued warning of strong winds which in some cases were localized and not well captured by global models.

B) feedback from the DMCPA to include comments of the timeliness and usefulness of the warnings

Feedback was now being received by NMC from DMCPA at least on regular basis. This was as a result of determination and good work on the part of the forecasters who were now able to give advisories and warnings to a higher degree of confidence.

C) Warning verification by the NMCs

As stated above, NMC also used these products in order to perform validation of its products as well. In the process the given warning was also verified and in most cases after the predicted time had elapsed. The Disaster Management Department (DMD) was one of the key players in warning verification because they were closer to the public on disaster issues. They used their District Disaster Management committees who reported to DMD on regular basis. The report of these committees would include performance of reported severe weather warnings.

5. SUMMARY (general comments, challenges, etc, details in Annex 1)

- It still remained a challenge to issue warnings due to localized strong winds from convection.
- Broadband width for better reception of the products.
- Continuity was necessary to the success of this project..

6. CASE STUDY (PowerPoint Presentation to include guidance products (RSMC and NWP), satellite imagery, warnings issued, impact evidence etc)

7. ANNEX 1 – Quarterly Evaluation Table (to be fulfilled according to the Severe Weather Evaluation Form)

Starting date of the event	**SWFDP Evaluation Form Event Number**	**Type of event** **Heavy Precipitation or Strong Wind**	**Region affected**	**Highest observed value**	**RSMC Guidance**		**Which NWP/EPS forecast product(s) used by NMC**		**Local warnings issued?**	**Impact of the event**	**Impact of the warning**
dd/mm/yy		Indicate if extreme phenomena are the consequence of severe convection		(mm/period or kts, according to the phenomenon)	Amount predicted (same unit as in the preceding column)	Usefulness from 1 to 4 1- Misleading 2- Not useful 3 - Useful 4 - Very useful	(RSMC UM-SA12 ECMWF, Met-Office, NCEP)	Usefulness from 1 to 4 1- Misleading 2- Not useful 3 - Useful 4 - Very useful			
02.05.2007	1	Heavy precipitation	Northern coast (Zanzibar)	191.1 mm/24h	>50 mm	3	DET (ECMWF) NCEP 1 COLA	3 3 3	Warning was issued	Floods in some areas	Mitigated negative effects
06.05.2007	2	Heavy precipitation	Lake Victoria Basin (Bukoba)	91.7 mm/24h	Used but no figures indicated	3	ALAM COLA NCEP	3 3 3	Warning was issued	Localised floods	Mitigated negative effects
17.05.2007	3	Heavy precipitation	Northern coast (Pemba)	90.6 mm/24h	>50 mm	4	COLA NCEP ALAM	4 3 3	Warning was issued	Floods on the streets	Mitigated negative effects
24.05.2007	4	Heavy precipitation	Northern coast (Tanga)	92.1 mm/24h	Used but with no figures indicated	2	COLA NCEP ALAM	3 3 1	Warning was issued	Floods in many streets	Mitigated negative effects
31.05.2007	5	Heavy precipitation	Northern coast (Tanga)	181.4 mm/24h	>50 mm	3	COLA NCEP ALAM	3 3 3	Warning was issued	• Floods in the streets/houses • 1 student died • Destruction of roads	People were moved