MOZAMBIQUE NATIONAL INSTITUTE OF METEOROLOGY

CLIMAT

Performance of the GSN and GUAN stations under the Mozambique CBS Lead Centre concerning the CLIMAT flux

I. Introduction

CLIMAT is a code for reporting monthly climatological data assembled at land-based meteorological surface observation sites to data centers. CLIMAT-coded messages contain information on several meteorological variables that are important to monitor characteristics, changes, and variability of climate. Usually these messages are sent and exchanged via the Global Telecommunication System (GTS) of the World Meteorological Organization (WMO). The world is divided by WMO in 9 regions and Mozambique is in region I and also hosts a CBS Lead Centre.

II. Objectives

- Performance of the GSN and GUAN station concerning the CLIMAT flux
- Main errors that have been detected in CLIMAT reports.

III. Performance of the CLIMAT

Region 1 has 354 RBCN stations from 28 countries, where 82 stations are part of GCOS and which are overseen by Mozambique. The monitoring results for these stations are shown from January to December 2012 (Table a1): some countries sent all CLIMAT

reports, other countries sent some, and there countries did not send even one CLIMAT report.

Table a1. Stations of region I

Country	RBCN			GSN		
	Number of Stations	Number of CLIMATs	Percentage (%)	Number of Stations	Number of CLIMATs	Percentage (%)
Angola	17	11	5	8	11	11
Botswana	12	0	0	1	0	0
Burundi	2	0	0	1	0	0
Canary Islands	8	94	98	2	24	100
Democratic Republic of the Congo	29	15	4	3	0	0
Djibouti	1	0	0	0	0	0
Eritrea	2	0	0	1	0	0
Ethiopia	16	20	10	4	7	15
Kenya	18	86	40	6	64	89
Lesotho	3	0	0	0	0	0
Malawi	3	0	0	1	0	0
Mauritius	6	60	83	4	48	100
Mozambique	15	83	46	4	39	81
Namibia	13	19	12	3	14	39
St. Helena Islands	1	12	100	1	12	100
Ascension Island	1	8	67	1	8	67
Martin de Vivies (ile amsterdam)	8	96	100	4	48	100
Iles Crozet	8	96	100	4	48	100
Iles Kerguelen	8	96	100	4	48	100
Rwanda	1	0	0	0	0	0
Seychelles	3	9	25	1	9	75
Somalia	14	0	0	0	0	0
South Africa	95	186	16	17	186	91
Swaziland	1	0	0	0	0	0
Uganda	8	0	0	0	0	0
United Republic of Tanzania	15	60	33	4	40	83
Zambia	28	5	1	6	0	0
Zimbabwe	18	32	15	2	18	75
Total/Average	**354**	**988**	**31**	**82**	**624**	**44**

$$Percentage = \frac{Number\ of\ \ sent\ CLIMATs}{Max\ number\ \ possible\ of\ \ CLIMATs} * 100\%$$

We can see that a lot of countries concentrate more on GSN Stations, sending more data from only those stations

The more efficient countries, which send between 90 to 100% of CLIMAT reports, are: CANARY ISLANDS, ST. HELENA ISLANDS, MARTIN DE VIVIES (ILE AMSTERDAM), ILES CROZET AND ILES KERGUELEN.

The countries that do not send any CLIMAT reports are: BURUNDI, BOTWANA, DJIBOUTI, ERITREA, LESOTHO, MALAWI, RWANDA, SOMALIA, UGANDA AND SWAZILAND.

In Mozambique, we have had difficulties in sending CLIMAT reports for circulation via the GTS and we have used as an alternative the German Meteorological Service, DWD. We send all CLIMAT reports by e-mail to Germany and they insert our CLIMAT reports into the GTS circulation.

The main errors that have been detected in CLIMAT reports

3.1. Missing number of the digits in groups like:

- Mean monthly value and standard deviation of mean daily temperature (3**S**$_n$$\overline{TTT_t}$ **s**$_t$**s**$_t$**s**$_t$), where instead of 8 digits they have codified 7 digits forgetting one digit of the standard deviation.

  This kind of errors we have verified in the group of monthly sunshine regime ($7S_1S_1S_1p_sp_sp_S$)

3.2. Wrong codification of precipitation groups

They have been making confusion in codification of monthly precipitation regime ($6R_1R_1R_1R_1R_dn_rn_r$**),** *where we have to use integer numbers,* with group of highest precipitation amount of the month ($4R_xR_xR_xR_xy_ry_r$), where the value is expressed in tenths of mm.

3.3. Actions to overcome those errors

- We have send information to our provincial delegation, reporting those errors, detailing the correct way to code.
- We have been recommended that during the codification of CLIMAT, the person should use de manual of codes and before sending, a second person has to do a quality control.

Maputo, April 2013