Climate Data Rescue Implementation Plan for the Department of Meteorological Services Botswana

1st of December 2015 Jens Riede, PhD DWD / SASSCAL

A) Introduction

As part of the SASSCAL initiative the German meteorological Service is collaborating with several institutions in the southern African Region so the Department of Meteorological Service in Botswana. This collaboration is focused on historical and ongoing data management within the SASSCAL Task 123. Between 2014 and 2015 the collaboration has started with several working visits in Botswana. During the first meeting there has been a discussion how to organize data recue activities in Botswana.

B) Current Situation

In early 2014 the recorded data were stored in several databases these data bases were messed up. In case of customer request, data have been provided be the data processing unit to the climatology units, the climatology units have tried to fill the gaps using the paper archive. The paper archive is located in three different rooms, two at second floor in the Headquarter in Gaborone, at second room is in an unused building close to the head quarter.









Figure 32 Third archive room outside the main building.

In the first to rooms there is documentation about stations and time on each shelves (Figure 1, Figure 2), however there is no current inventory about which document is typed into the climsoft database. Currently different units are using the paper work to fill gaps in case of customer request, however this work is unorganized and the filled gaps are not entered into the database.

To address the efforts around data rescue at the DMS, one competence team including 4 members of different units has been created. This team has written the costing plan for the next steps of data rescue. During my working visit in the week from the 16.11-19.11.2015 we discussed about what is the most efficient way to get support for the DARE activities.

In one former costing plan DMS applied for two different mobile cabinet one 6 bay and one 36 bay mobile cabinet to address the limitation of space within the two archive rooms and one Epson ELP-DC06.

The reason for the mobile cabinet is the record form Bmet 6 (Figure 4 & 5), I estimate the quantity of this form to 30 linear meters paper work. To store this document a hanging filing frame would be the best way.

However all other documents could be stored in paper box and in normal heavy weight shelve. To address the limitation of space DMS will provide an additional room close to the archive. This room is recommended for the digitizing work, using the two existing rooms mainly for the archive.



Figure 3. B Met 6 format, in total round about 30 linear meter paperwork

C) Recommendation for climate data rescue in Botswana

The first basic step is to preserve paper copies of climate data in Botswana. There shelves are needed to store all documents in shelves. The used of the 6 bay mobile cabinets for the Bmet6 forms seems to be the best solution, however in advance of buying these systems it should be clarified if the installation at the first floor is possible for this kind of system. For all other document I would recommend the cheaper solution with heavy weight shelve and paper boxes.

Recommendation 1: Purchase one 6 bay file cabinets, store loose Bmet6 formats if installation in the current archive rooms is possible.

Recommendation 2: Purchase several heavy weight shelves and enough paper boxes to store all other documents.

For the digitizing work it was planned to use the Epson ELP-DC06, however during the discussion with the DARE team in Botswana, we figured out that the ELP-DC06 might be not the best solution for the digitizing process, main reason is the limited resolution of 4 mpx.

Recommendation 3: Purchase two compact cameras with at least 10mpx, an advance would be a swivel display, connectivity to a PC via USB-cable or WLAN, plus a remote control. Furthermore buy two copy stands to work with the camera

Example for camera and copy stand:

- Nikon Coolpix P610 (Amazon Germany ~ 350,-€)
- Nikon remote control (~ 6,-€)
- Copy stand (Kaiser Repro-kid or Novoflex Magic Studio Macro-Reproschine) (~ 200,-€)

In total, about 1100,-€ for two cameras, two copy stand and two remote control

Photographing is the best way to image most of the files. However there are many stripes and loose DIN A4 sheets to increase the digitizing speed, I would recommend a scanner. In Germany we use the Epson DS 520 Scanner. This scanner is cheap and can digitize 90cm long paper, it also can scan paper stacks.

Recommendation 4: Purchase one scanner with options to scan stripes and paper stacks.

Example pricing Epson DS ~ 500,-€ (Amazon Germany)

With the equipment the first step is done, however there is manpower needed to start activities.

Recommendation 5: Define one responsible person for the data rescue activity, write a management plan including inventory of already digitized climate files, calculate the documents needed to be digitized, start with photographing those documents which are not digitized yet, employ students or former staff member to do the photographing work.

D) SASSCAL contribution

Supporting this initiative is in terms of the SASSCAL initiative. Therefore a data rescue training would be provided within the task 123 and scheduled to one working visits of Dr. Jens Riede to the DMS in Botswana.

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