Installation and training on MCH DBMS in Republic Hydrometeorological Service
Banja Luka, Republic of Srpska, Bosnia and Herzegovina
3 – 7 February 2014

MISSION REPORT

SUMMARY

The mission to Banja Luka was carried out from 3 to 7 February 2014 by Dr. José Antonio Guijarro (Spanish Meteorological Agency) and Mr Nirina Ravalitera (WMO Secretariat) within the framework of the IPA 2012 project “Building resilience to disasters in Western Balkans and Turkey”, funded by the European Commission (IPA project task: 3.1.2).

The main objective of the mission was to install the English version of the Meteorological, Climatological and Hydrological (MCH) Database Management System (DBMS) in Republic Hydrometeorological Service of Republic of Srpska (RHMZ) and provide the related training to the users. The training has been given by Dr. José Antonio Guijarro (AEMET) and Mr Nirina Ravalitera (WMO Secretariat) and was attended by 14 participants.

MCH DBMS has been successfully installed and considered as a very valuable solution to digitize historical data and to store them on a unique platform. This platform will also allow studying and comparing the data.

The computer skills of the participants enabled to provide a more advanced training on the use of MCH DBMS, such as using maps and generating isolines.

The main recommendation is the further transmission of the digitized historical data from the Federal Hydrometeorological Service located in Sarajevo.

Introduction

The main objective of the mission was to install and train the participants on the English version of the Meteorological, Climatological and Hydrological (MCH) Database Management System (DBMS) in Republic Hydrometeorological Service of Republic of Srpska (RHMZ), within the framework of the IPA 2012 project “Building resilience to disasters in Western Balkans and Turkey”, funded by the European Commission (project task: 3.1.2).

The training has been attended by 13 participants from the Republic Hydrometeorological Service and one from the Federal Hydrometeorological Service. The list of participants is attached.

1. Activities

1.1 Installation and training on MCH (Meteorological, Climatological and Hydrological database Management System)

- Welcome meeting with the director Mr Zoran Bozovic.
- Installation of MCH on all the computers and/or laptops, in total MCH has been installed on 10 computers mostly running under 32 bits systems.
- Training on the stations definitions interfaces.
- Training on the “definitions of the variables” interfaces.
- Presentation of the importation and exportation interfaces.
- Preparation of importation files and data formatting.
- Importation of precipitation, temperature, min and max temperature and water level data.
- Graphical interfaces (detection of anomalies and missing data).
- Presentation of data homogenisation principles by Dr Guijarro.
- Introduction to the isolines module and orographic models.

2. Major issues and outcomes

2.1 Political and institutional situation

Mr Zoran Bozovic (director) explained us briefly the political and institutional situation in Bosnia-Herzegovina. Bosnia-Herzegovina has two National Hydrometeorological Services, the Federal Hydrometeorological Service in Sarajevo (Federation of Bosnia and Herzegovina, FHMZ) and the Republic Hydrometeorological Service in Banja Luka (Republic of Srpska, RHMZ). Due to this situation, most international projects, including human and technical assistance, are going to Sarajevo. In this regard, Mr Bozovic was very pleased that we implemented MCH DBMS in Banja Luka and thanked WMO for this support.

2.2 Historical data

The mission was informed that the historical data from Belgrade have been sent to the Hydrometeorological Service in Sarajevo. Before being sent to the Republic Hydrometeorological Service in Banja Luka, these data have to be scanned (digitized), which is delaying the transfer process.

2.3 Database management System used in the service

The current DBMS used in the Hydrometeorological Service is CLICOM. This DBMS is managed only by Ms Nada Rudan and has now become obsolete. During the training Ms Nada Rudan noted that she is very pleased with the functionalities and graphical interfaces of MCH DBMS. During the training Ms Rudan presented an application that she developed to generate wind roses.

The session on 06 March 2014 was a Webex session, held with MS Rudan, Dr Guijarro and Ms Etna Cervantes. It had the purpose to go through the Excel based application developed by Ms Rudan (drawing wind roses) and to see the different steps needed to extract the data from CLICOM (using DataEase runing under DOS version 5.11) and import them into the Excel spreadsheet. Ms Rudan prepared a document presenting the steps required to extract the data from CLICOM and import them into Excel. In parallel to that work, Dr Guijarro wrote a function in R to compute wind frequencies and drew the windrose which reads the data directly from MCH DBMS.

2.4 Discussion about homogenization procedures

Both Ms Djordjevic and Ms Rudan had attended the workshop on Data Rescue and Homogenization previously held in Skopje, but the latter was not very much convinced about the ACMANT method because she would like to know the reasons of the breaks diagnosed by that program. Following that discussion, Dr Guijarro gave a brief presentation about the importance of homogenizing the series before any assessment on climate variability, and showed the web site located at http://www.climatol.eu/DARE/ and the various methodologies described in it. Finally, he made an application example of the Climatol package homogenizing the monthly precipitation series from Banja Luka provided to populate the MCH DBMS installations.

3. Findings and problems encountered

3.1 Minor bugs detected during the training

A bug due to the translation of the software has been detected in the “Comparison of several stations for one variable” interface. Indeed by running this function, a message error “No data nothing to compare” appeared. This Bug has been solved during the training with the help of the developers and the latest updates are available on the website of the MCH DBMS user Community.

4 Conclusions and recommendations

The installation of the software has been successful and has been quickly installed without major issues. As result of the training the participants could easily define stations and variables, capture data and use the graphical interfaces of MCH DBMS as well as displaying stations and data on a map.

A great interest has been expressed especially regarding the different graphical interfaces, which give a quick overview on anomalies or gaps on large series of data.

The good computer skills of the participants enabled to provide a more advanced training on the use of MCH DBMS, such as generating isolines and others. It has also revealed some bugs due to the translation of MCH DBMS. These bugs have been corrected with the help of the programmers of MCH DBMS and the updated versions of the executable are available for download on the user Community website.

Recommendations:

Historical Data digitization

- Follow up the transfer of digitized data from Sarajevo to Banja Luka.

There is a need:

- To evaluate the progress on the transmission of historical data to the Republic Hydrometeorological Service in Banja Luka,
- To provide an additional tutorial for the sketch map module (especially needed for hydrology). This tutorial will be uploaded on the MCH DBMS user community website: http://www.wmo.int/chy/communities/course/view.php?id=3.
- To provide a solution to generate a report with all maximum temperatures for one specific month for every year.

Annex

List of participants

Nr	Full names:
1	Igor Kovačić
2	Nada Rudan
3	Darko Borojević
4	Dragan Despot
5	Dejan Supić
6	Željko Ratković
7	Vladimir Trkulja
8	Slavica Štrbac
9	Milica Đorđević
10	Slobodan Kljajić
11	Velimir Vranić
12	Vladimir Petrović
13	Dragan Macura
14	Edin Pišmo