

Ongoing and future climate data rescue activities at the Meteorological Service of Catalonia

Marc Prohom (mprohom@meteo.cat) and Mònica Herrero (mherrero@meteo.cat)

Area of Climatology - Meteorological Service of Catalonia

QUICK OVERVIEW

Since the restoration of the Meteorological Service of Catalonia (SMC) in 2003, data rescue, quality control and homogeneity analysis of climate series have received especial attention, for a proper and reliable characterization of climate change and variability over Catalonia. To reach this objective constant data rescue activities are being carried out. Here we describe five ongoing and future projects promoted at the SMC in this field.

Data identification from private archives

Several private archives, mainly religious (Jesuits and Piarists) and corporative (such as hydroelectric power companies) have been catalogued in recent years by SMC. As a result, the main Spanish electric company (**ENDESA**) has transferred completely its meteorological documentary archive in Catalonia to SMC: more than **20,000 sheets** of data (1920-1983), especially from sites located in the Pyrenees and with new data from **snow and ice depth**, among others.

Example of an observational notebook from Cabdella Lakes (2100 m asl) in the Catalan Pyrenees, with snow and ice depth observations, 18 Dec. 1932. Source: ENDESA archive



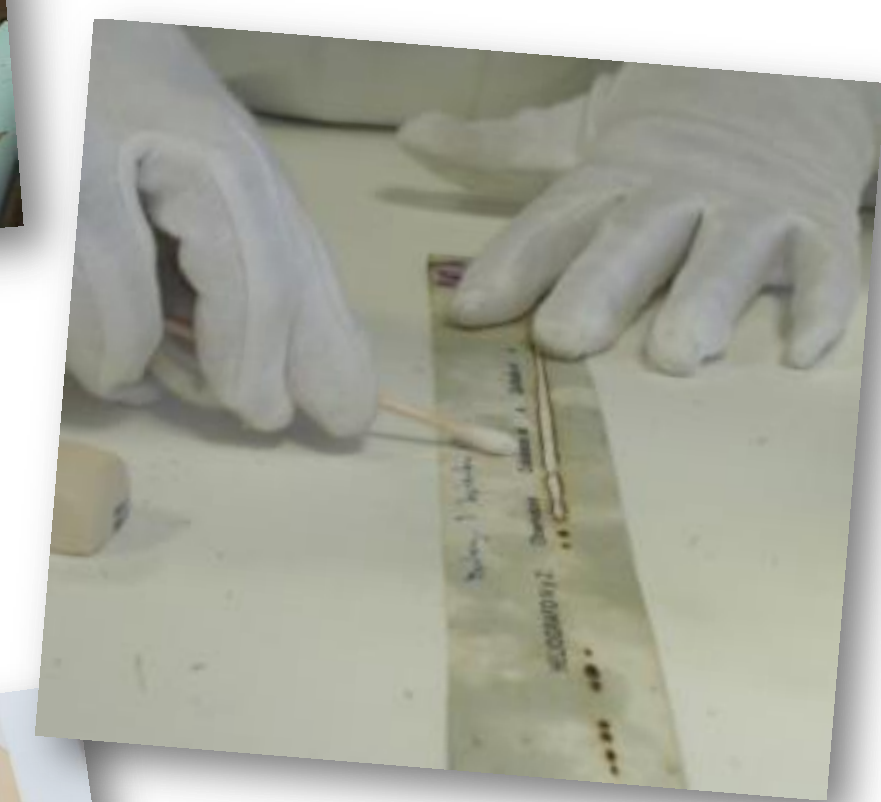
ENDESA documentary archive

Preservation of historical documentation

The SMC does not have resources and room to properly house bibliographic or documentary climate collections. For this reason, an agreement with the **School of Conservation and Restoration of Cultural Property in Catalonia** and the **National Archive of Catalonia** has been recently signed. The first institution cleans and restore the documents received, while the second one preserves and catalogue them. By now three complete documentary collections from three meteorological stations have been preserved.

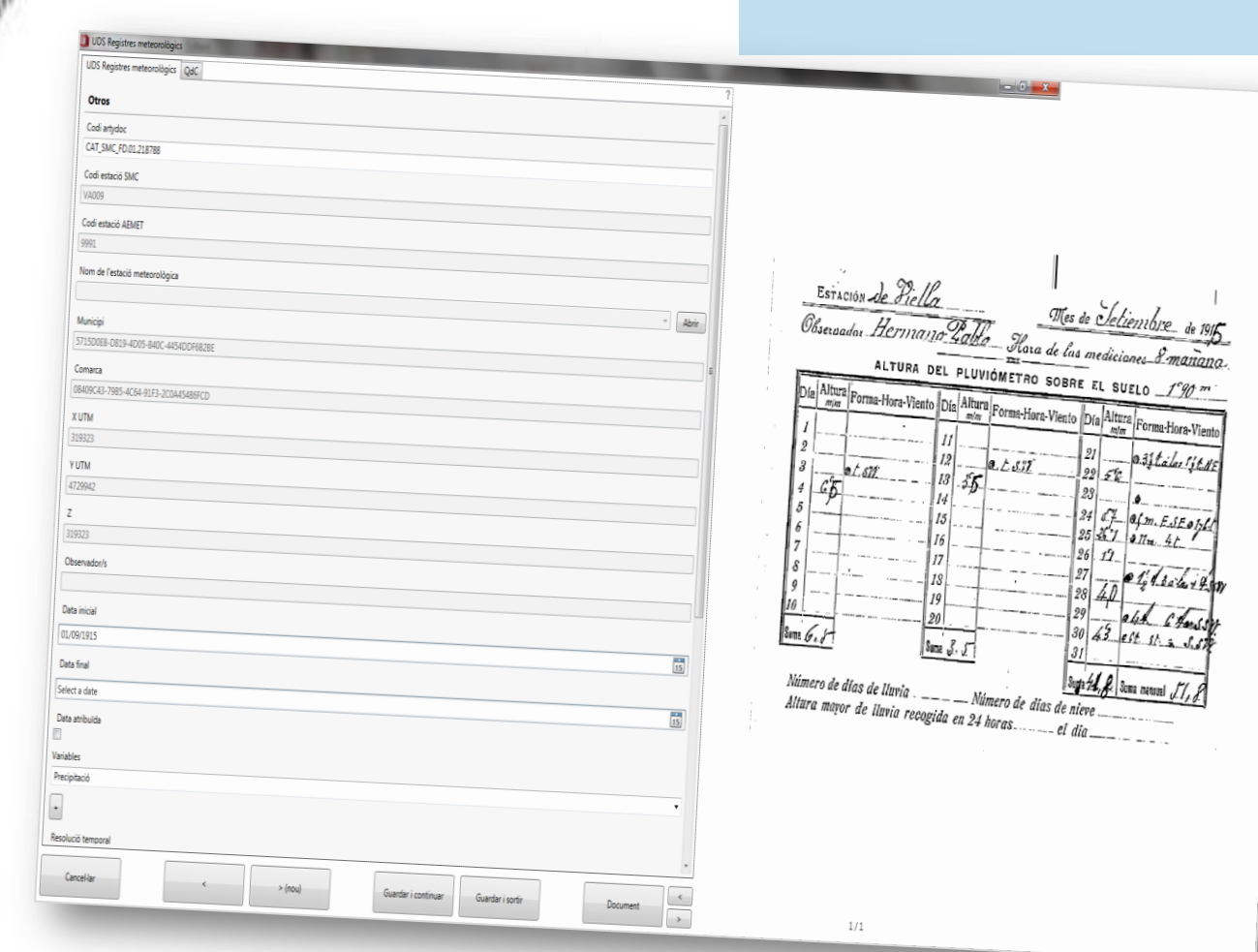


Several examples of restoration and cleaning activities made at one of the collections: Turó de l'Home (1952-1994)



The ARTYDOC project

For many years SMC has carried out several internal projects of **imaging meteorological documentation**. So far, preservation and consultation of this funds is controversial both as represents a huge volume of data (more than 12 Tera bytes) and there is no a unique storage support to save it (external disks, DVDs and CDs). **ARTYDOC** is a digital tool being implemented that will permit storage, catalogue, and easily searching of the images for a better consultation, with the possibility of opening access to the climate community.



Screen capture of an ARTYDOC sheet from Viella, September 1915

Data rescue from historical press

A database of Catalan digitized historical newspapers containing climate data has been created **PREHISMET**. The source of data are public local, county and provincial archives with open access trough the net.

By now (August 2016) **176 publications** have been identified, encompassing the period 1808-2001, and information has been extracted from **55** of them.

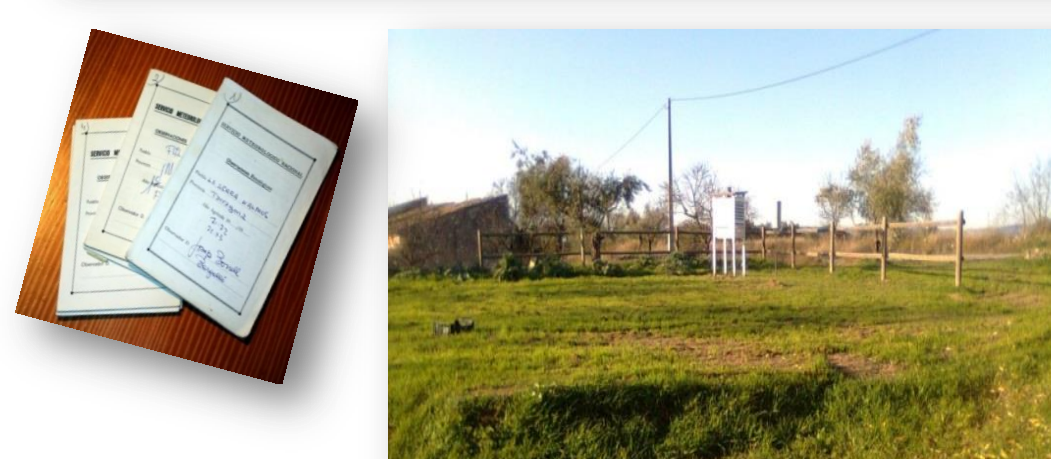
Name and place of publication

Period of the publication containing climate data

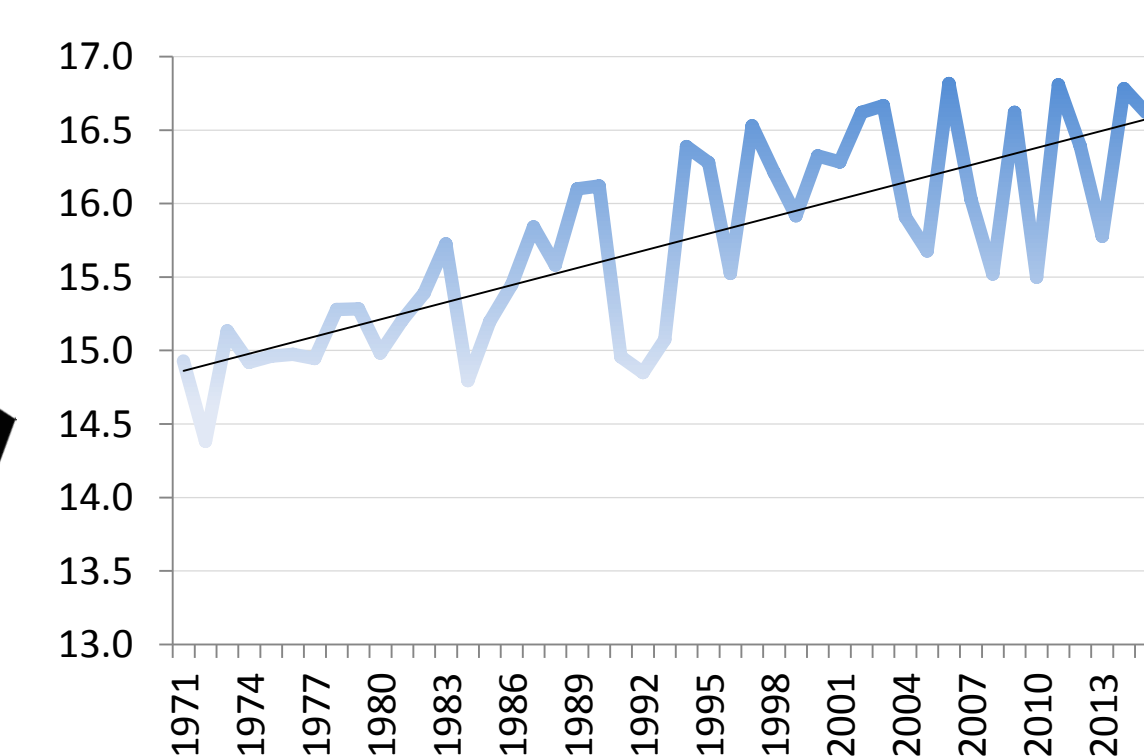
Formats, placement within the publications, temporal resolution of data, climate variables, metadata...

Improving data coverage and quality of recent data

Data rescue activities focuses often on recovering ancient observations, forgetting that there are many problems in the continuity of the **more recent records**. To solve this problem, SMC is doing collaboration with observers to fill gaps and in exchange returning the material digitized, scanned and quality controlled.



An example of a visit to a meteorological observer in Serra d'Almos (Tarragona) made by two SMC technicians. Thanks to the visit, daily temperature and rainfall data from 28 months were recovered. Now the series is continuous (1971-2015) as seen in the mean annual temperature graph for the site.



DATA RESCUE TREE AT SMC