



Servei Meteorològic
de Catalunya

Potential meteorological data and metadata over Catalonia to be part of a Mediterranean database

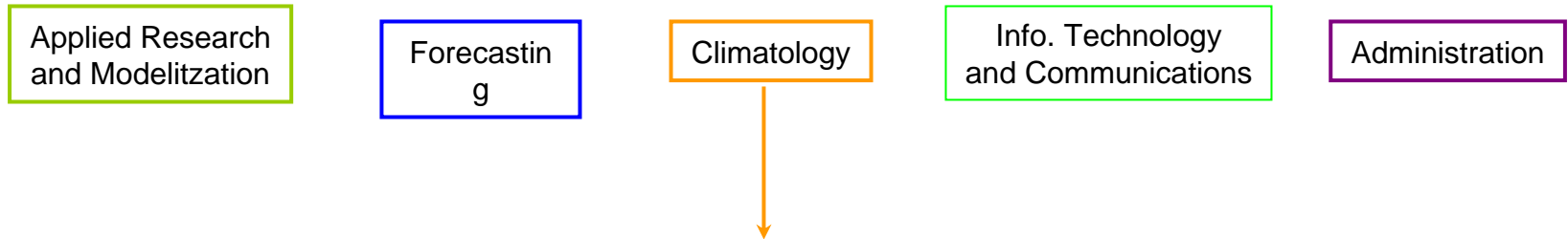
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Area of Climatology – Meteorological Service of Catalonia



Generalitat de Catalunya
**Departament de Medi Ambient
i Habitatge**

The **Meteorological Service of Catalonia** (SMC) was established in 2001 as a public entity of the Generalitat de Catalunya (Catalan Autonomous Government), thus recovering the former SMC that had been very active during the period 1921-1939.

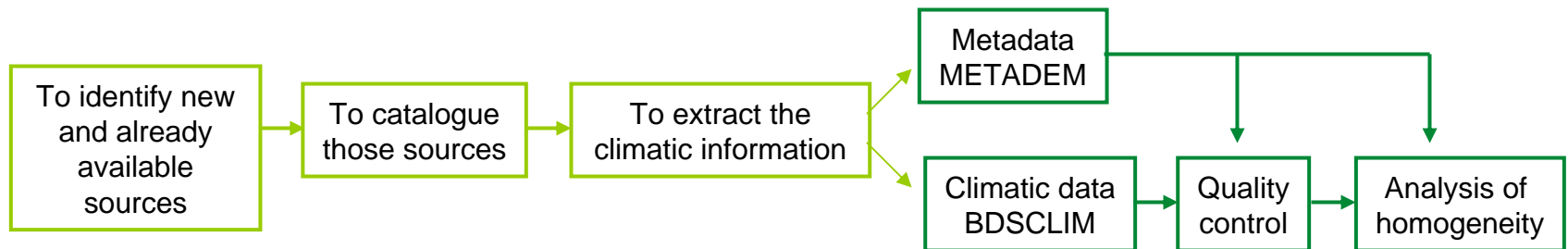
Nowadays it is organized into five different areas:



Among the main functions of the **Area of Climatology** the law of meteorology quotes:

- To maintain the meteorological data base of Catalonia.
- To promote investigational activities with regards to meteorology and climatology, among them data rescue and preservation (digital form).

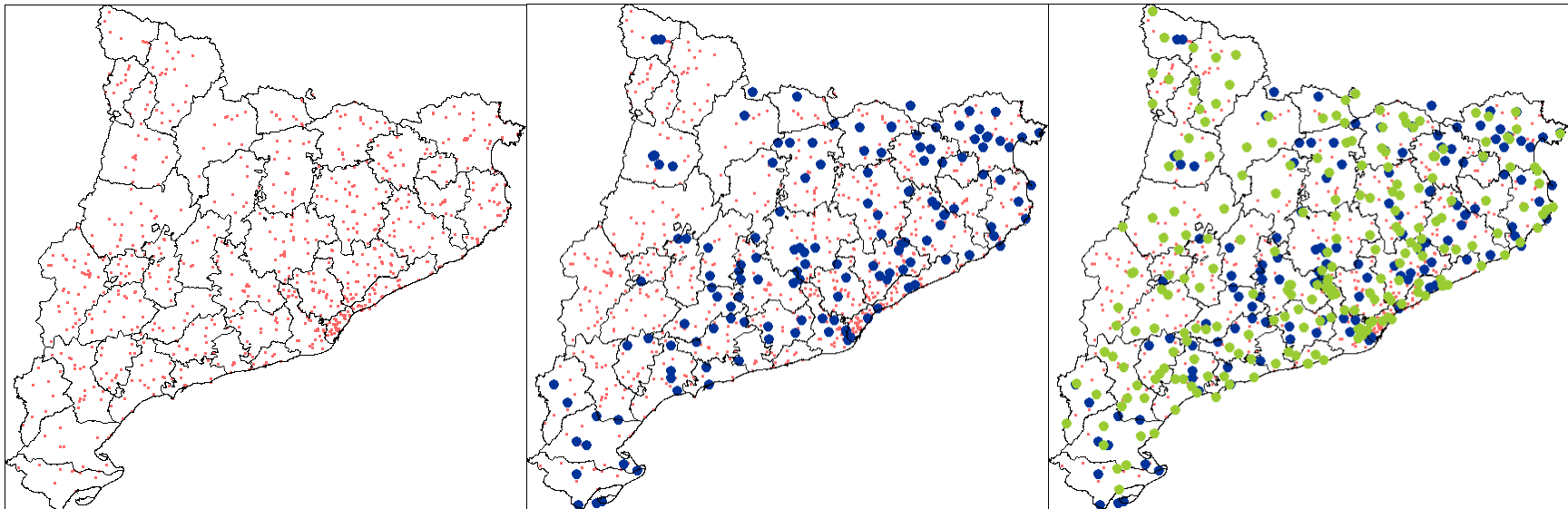
1. To analyze the climatic documentary or digital sources, identifying as many as possible meteorological stations or observatories, and the meteorological series associated to these sites.
2. To create a database of the metadata for each of the sites detected: **METADEM**.
3. To construct a database of quality controlled and homogenised series in a monthly and daily base (mainly temperature and precipitation).



Until now (2010) four different sources have been analysed:

- Source 1: **The National Database from the Spanish Meteorological Office (Aemet)**
- Source 2: **The database of the former Meteorological Service of Catalonia (1895-1939)**
- Source 3: **The Royal Academy of Sciences and Arts of Barcelona (RACAB) and the Royal Academy of Medicine (RAM)**
- Source 4: **A set of bibliographic sources: bulletins of different institutions, climatic atlas, newspapers,...**

- Improvements on the available dataset (Tx, Tn and PPT)



Meteorological sites previous to the project

New meteorological sites detected (blue)

Meteorological sites that has a wider temporal coverage (green)

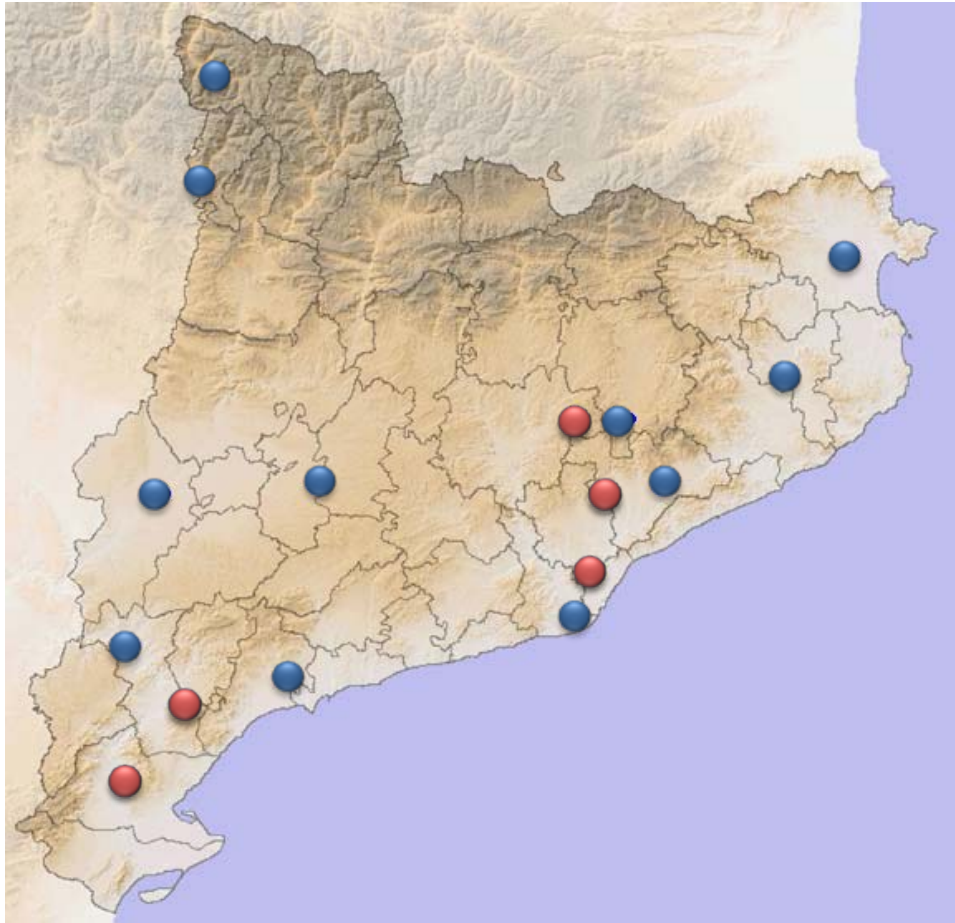
Most of the work devoted to **“clean” the series** (one site, one time series, no composites of series under one ID code), **filling gaps** from the original sources (critical period, 1995-2001 due to change in the format the data was sent) and **metadata collection**.



DATA

- **Temperature**

- 16 daily tx and tn series for the common period 1950-2009, almost continuous series (>85%) and quality controlled.
- 16 mean monthly tx and tn series for the common period 1950-2009, quality controlled, continuous (gaps filled) and homogeneous (by Caussinus-Mestre methodology).
- 5 long daily tx and tn series: 3 (1905-2009) + 2 (1915-2009), almost continuous (>90%), and quality controlled.
- Longest daily and subdaily temperature series: Barcelona (1780-2009), almost all digitized, but not yet qc'd and analyzed for homogenization (earlier period, 1780-1883).

Which data can be offered from Catalonia (SMC)? - T



16 daily Tx and Tn series (1950-2009) 
5 daily Tx and Tn series (1915-2009) 

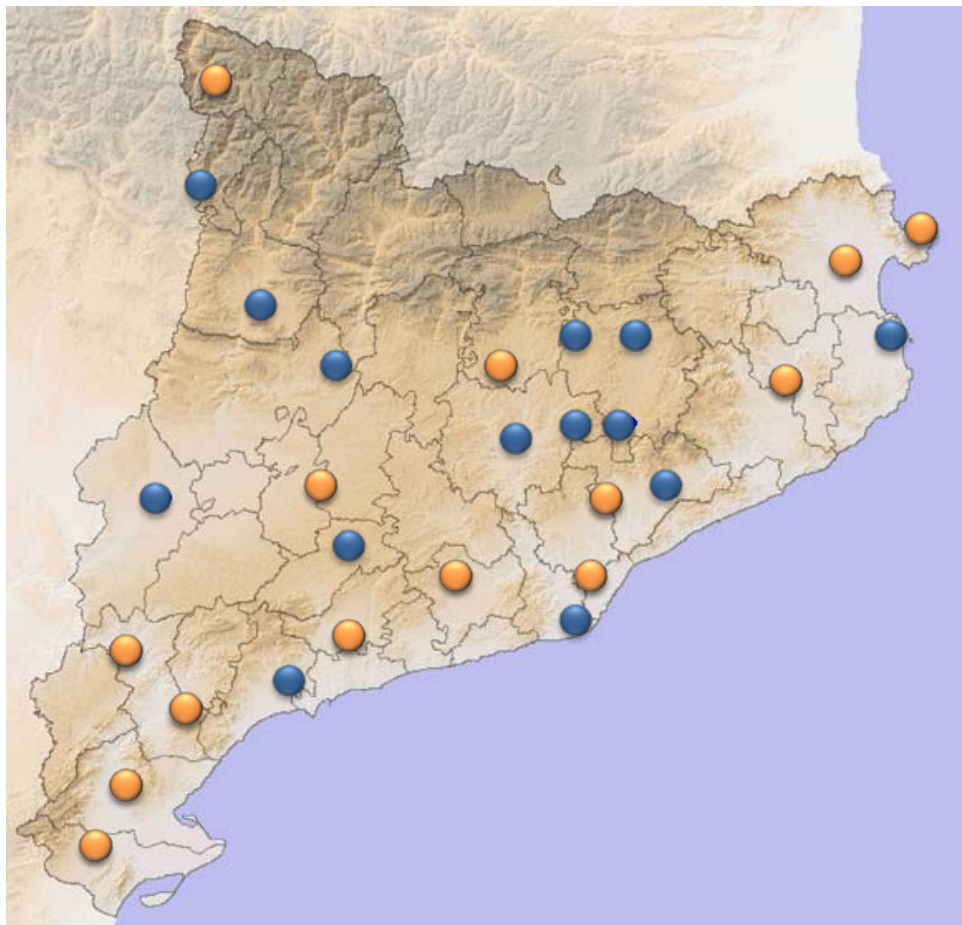


DATA

- **Precipitation**

- 28 daily and monthly precipitation series for the common period 1940-2009, widely continuous (less than 15% of gaps) and quality controlled.
-
- 14 daily and monthly precipitation series for the common period 1917-2009, widely continuous (less than 15% of gaps) and quality controlled.
- Barcelona daily and monthly series for the period 1800-2009, almost all digitized, but not yet qc'd and analyzed for homogenization (offers some gaps 1808-1813).

Which data can be offered from Catalonia (SMC)? - PPT



28 daily and monthly PPT series (1940-2009)



14 daily and monthly PPT series (1917-2009)



The Mediterranean Basin



ADDITIONAL DATA

- **Pressure**
 - 1 very long daily and subdaily time series of pressure is available for Barcelona, covering the period 1780-2009, mostly digitized, and without many gaps. Monthly homogenised series is available thanks to EU Advice project.

METADATA: Metadata is available for all the sites..., but still more to be done on this issue

Geographical information

Who is/was in charge?

Observers

Location description

Temperature observations: period covered, screens used, instruments, units, documentary sources,...

Precipitation observations: instruments used, documentary sources

Additional information

Codi: <input type="text" value="AEO38"/>	Municipi: <input type="text" value="Figueres"/>	X: <input type="text" value="496632"/>	Y: <input type="text" value="4678852"/>	Z: <input type="text" value="40"/>
Nom: <input type="text" value="Figueres - 1"/>	Comarca: <input type="text" value="Alt Empordà"/>	Lat: <input type="text" value="421540"/>	Lon: <input type="text" value="025733"/>	
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Referent a la gestió de l'EM				
Instal·lada per: <input type="text" value="Particular"/>	període: <input type="text" value="1896-1904"/>	Gestió posterior: <input type="text"/>		
Referent al/s observador/s				
Observador/s (Nom i període)				
<input type="text" value="Jaume Bertran i Ros (director de l'Institut Provincial), 1896-1904"/> Durant el període de vacances confiava les observacions a un amic				
Referent a l'emplaçament:				
Descripció:				
<input type="text" value="Casa particular. Consta que durant 1904 l'observador va canviar de domicili i possiblement amb ell l'emplaçament dels aparells."/>				
Material gràfic? <input type="text" value="No"/>				
Referent a les observacions termomètriques (T)				
TD des de:	<input type="text" value="11/06/1896"/>	a	<input type="text" value="30/06/1904"/>	% amb dades: <input type="text" value="88"/>
TM des de:	<input type="text" value="11/06/1896"/>	a	<input type="text" value="30/06/1894"/>	% amb dades: <input type="text" value="88"/>
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Altra informació T:	<input type="text" value="Jun 1896, l'observador rep els termòmetres. El set de 1903, rep nous termòmetres essent inserible el de màxima"/>			
Referent a les fonts consultades				
<input type="text" value="FHSMC, 206-D / FHSMC, 206-G / FEB"/>				
Referent a les observacions pluviomètriques (PPT)				
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PM des de:	<input type="text" value="01/10/1896"/>	a	<input type="text" value="30/11/1904"/>	% amb dades: <input type="text" value="97"/>
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PD Font 2:	<input type="text"/>		PM Font 2:	<input type="text" value="FHSMC"/>
PD Font 3:	<input type="text"/>		PM Font 3:	<input type="text"/>
PD Font 4:	<input type="text"/>		PM Font 4:	<input type="text"/>
Pluviòmetre 1:	<input type="text" value="7"/>	Altura boca:	<input type="text"/>	diàm: <input type="text"/>
		Període:	<input type="text"/>	
Pluviòmetre 2:	<input type="text"/>	Altura boca:	<input type="text"/>	diàm: <input type="text"/>
		Període:	<input type="text"/>	
Informació addicional PPT:	<input type="text" value="Les dades de PPT són molt baixes. És possible que no es tracti de mm."/>			
Informació complementària				
<input type="text" value="EM pertanyent a la Xarxa de la Granja de Barcelona. Al FHSMC es conserven valors diaris de VV, DV, P, Ev (des de jul 1903) i Nv (des de nov 1902)."/>				



GRÀCIES – THANK YOU !!

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