GLOSS Data Archaeology Working Group

Laurent Testut on behalf of the working group

Introduction and context

Over the last 20 years GLOSS has been active in promoting the rescue and valorisation of historical sea level data through the investigation of funding sources, guidelines for rescuing sea level data, exploration of citizen science or testing tools to automate the digitization of tidal charts or ledgers.

In March 2020 GLOSS organized the first international Sea Level Data Archaeology Workshop in Paris which brought together experts concerned with sea level data rescue activities. One of the main recommandations was :

> The workshop recommends that the GLOSS Group of Experts establish a Data Rescue Working Group (DRWG) to promote and progress the recommendations and action items. (Until the working group can be formally established, interested (workshop) participants and their institutions may want to advance the activities based on interim organisational arrangements.)

In November 2022 during the GLOSS Seventeenth GE in Paris (XVII). The creation of the WG has been approved

GLOSS Data Archaeology Working Group

In July 2024 first videoconference meeting of the GLOSS DAWG (16 persons)

The WG is open to anyone who want to help

France : Giloy Nathalie (Shom)
Testut Laurent (LIENSs),
UK : Andrew Matthews (PSMSL)
Elizabeth Bradshaw (PSMSL)
Chanmi Kim (PSMSL)
Philip Woodworth (NOC)
Spain : Silvia Costa Gonzalez (IHM)
US : Stefan Talke (Cal-Poly San Luis Obispo, USA),
Italy : Fabio Raicich (CNR-ISMAR),
Sweden : Thomas Hammarklint (SMHI)
Netherlands : Joris Beemster (Wageningen University)
Norway : Oda Roaldsdotter Ravndal (Norwegian Mapping Authority)
USA : Adam Devlin (UHSLC)
Aaron Sweeney (CIRES, NOAA/NCEI),
Australia : Benoit Legresy (CSIRO)
Others : Bernardo Aliaga (GLOSS Technical Secretary, IOC-UNESCO)
Thorkild Aarup (former GLOSS Technical Secretary)

GLOSS Data Archaeology Working Group

During the meeting we established a list of actions :

- ❑ Establish a contact list per country of people interested in the Sea Level Data Archeology activity
- ❑ Create a shared repository to exchange documents (publications, reports, inventories,…)
- ❑ Create a webpage for the group (https://gloss-sealevel.org/data-archaeology)
  - ❑ share experiences, best practices, known difficulties, link to other groups (acre, …)
- ❑ Create a sub Working Group on data inventory
  - ❑ List of metadata needed, format (DD, text, …)
  - ❑ Can we proposed and standard inventory format ?
- ❑ Create a sub Working Group on tools to process sea level data (NUNIAU, Zooniverse, IA …)

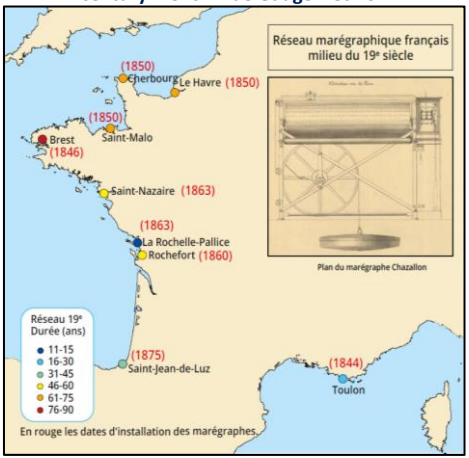
GLOSS Data Archaeology Working Group

https://docs.google.com/spreadsheets/d/1_4TSiOee9goKXlfFLeXWJN70RfioTkh3RRAdbF7d6Es/edit?gid=0#gid=0

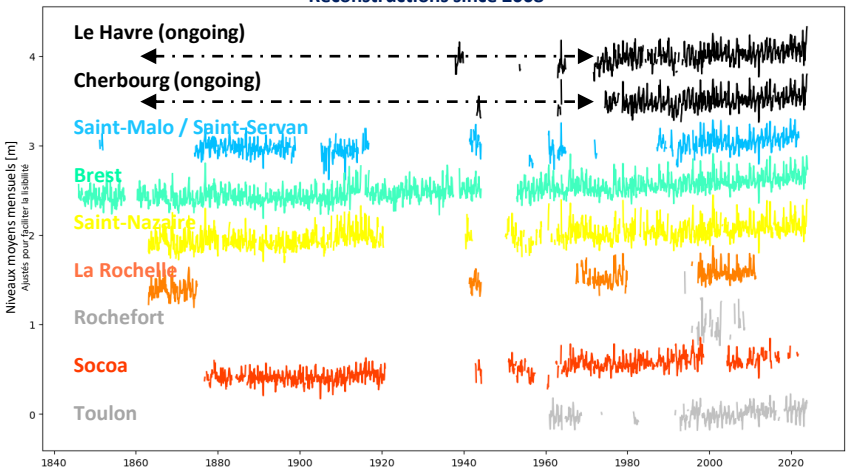
FRANCE

Nathalie Giloy (Shom)

XIX^{e} century French Tide Gauge Network



Reconstructions since 2008



Ongoing work at Shom

- **Gironde (2023-2027):**
  - ★ Pointe de Grave
  - ★ Pauillac
  - ★ Bordeaux

  } **90 years of observations**

- **Le Havre + Cherbourg (2024-2026)**

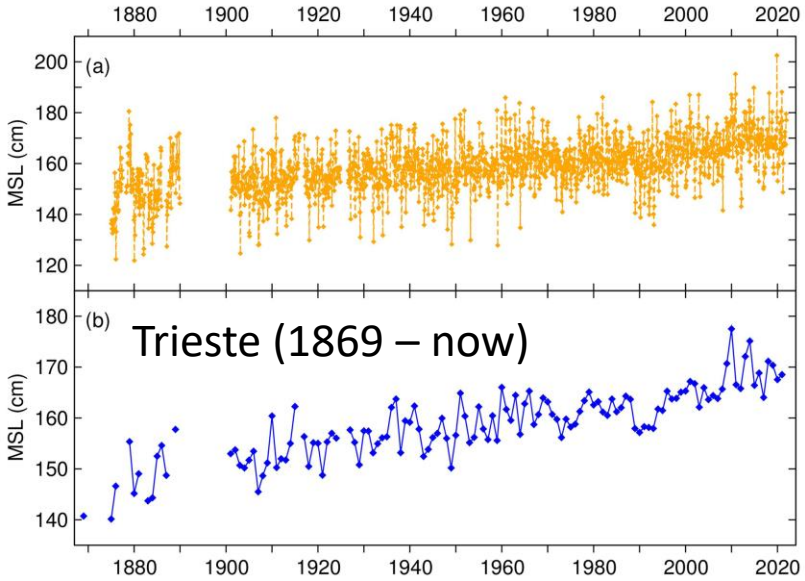
SPAIN

Silvia Costa Gonzalez (IHM)

- IHM has no official data recovery project but they start to organize their archived tidal charts.
- They also start to scan the tidal charts for a set of 30 locations and save them in numerical formats (151 Gb)
- The IHM also have in their archive some data for Morocco and Congo New Guinea.
- They also plan in the future to digitized their scans.
- IHM has also a large amount of hand-written tide ledgers (#1700) which need to be digitized.

ITALY

Fabio Raicich (ISMAR)



Institute of Marine Sciences of CNR involved in

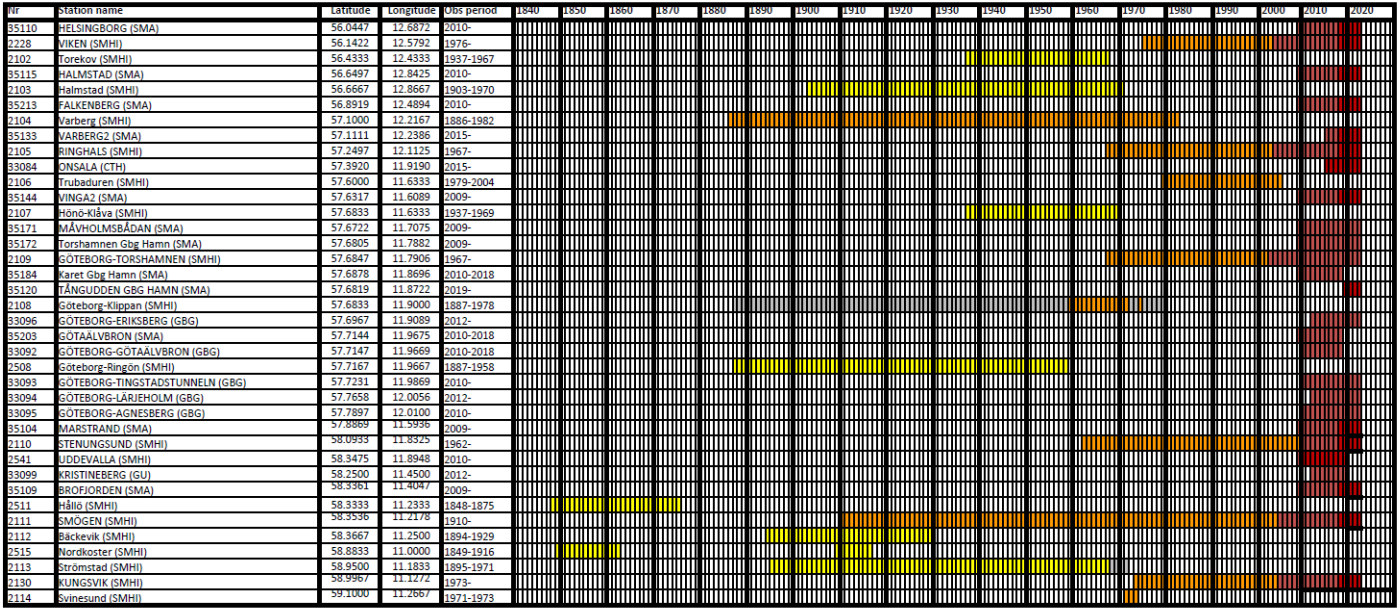
(1) recovering HL waters for Porto Corsini from 1873 to 1922 to build a 150 yr

(2) digitized 1H data of 1917-1938 for Trieste

Raicich, F.: The sea level time series of Trieste, Molo Sartorio, Italy (1869–2021), Earth System Science Data, 15, 1749–1763, https://doi.org/10.5194/essd-15-1749-2023, 2023.

SWEDEN

Thomas Hammarklint (SHMI)



Nr	Station name	Latitude	Longitude	Obs period
35110	HELSINGBORG (SMA)	56.0447	12.6872	2010-
2228	VIKEN (SMHI)	56.1422	12.5792	1976-
2102	Torekov (SMHI)	56.4333	12.4333	1937-1967
35115	HALMSTAD (SMA)	56.6497	12.8425	2010-
2103	Halmstad (SMHI)	56.6667	12.8667	1903-1970
35213	FALKENBERG (SMA)	56.8919	12.4894	2010-
2104	Varberg (SMHI)	57.1000	12.2167	1886-1982
35133	VARBERG2 (SMA)	57.1111	12.2386	2015-
2105	RINGHALS (SMHI)	57.2497	12.1125	1967-
33084	ONSALA (CTH)	57.3920	11.9190	2015-
2106	Trubaduren (SMHI)	57.6000	11.6333	1979-2004
35144	VINGA2 (SMA)	57.6317	11.6089	2009-
2107	Hönö-Klåva (SMHI)	57.6833	11.6333	1937-1969
35171	MÅVHOLMSBÅDAN (SMA)	57.6722	11.7075	2009-
35172	Torshamnen Gbg Hamn (SMA)	57.6805	11.7882	2009-
2109	GÖTEBORG-TORSHAMNEN (SMHI)	57.6847	11.7906	1967-
35184	Karet Gbg Hamn (SMA)	57.6878	11.8696	2010-2018
35120	TÅNGUDDEN GBG HAMN (SMA)	57.6819	11.8722	2019-
2108	Göteborg-Klippan (SMHI)	57.6833	11.9000	1887-1978
33096	GÖTEBORG-ERIKSBERG (GBG)	57.6967	11.9089	2012-
35203	GÖTAÄLVBRON (SMA)	57.7144	11.9675	2010-2018
33092	GÖTEBORG-GÖTAÄLVBRON (GBG)	57.7147	11.9669	2010-2018
2508	Göteborg-Ringön (SMHI)	57.7167	11.9667	1887-1958
33093	GÖTEBORG-TINGSTADSTUNNELN (GBG)	57.7231	11.9869	2010-
33094	GÖTEBORG-LÄRJEHOLM (GBG)	57.7658	12.0056	2012-
33095	GÖTEBORG-AGNESBERG (GBG)	57.7897	12.0100	2010-
35104	MARSTRAND (SMA)	57.8869	11.5936	2009-
2110	STENUNGSUND (SMHI)	58.0933	11.8325	1962-
2541	UDDEVALLA (SMHI)	58.3475	11.8948	2010-
33099	KRISTINEBERG (GU)	58.2500	11.4500	2012-
35109	BROFJORDEN (SMA)	58.3361	11.4047	2009-
2511	Hållö (SMHI)	58.3333	11.2333	1848-1875
2111	SMÖGEN (SMHI)	58.3536	11.2178	1910-
2112	Bäckevik (SMHI)	58.3667	11.2500	1894-1929
2515	Nordkoster (SMHI)	58.8833	11.0000	1849-1916
2113	Strömstad (SMHI)	58.9500	11.1833	1895-1971
2130	KUNGSVIK (SMHI)	58.9967	11.1272	1973-
2114	Svinesund (SMHI)	59.1000	11.2667	1971-1973

Non-digitalized paper charts/sheets (hourly to daily resolution)
Daily values (one record per day)
Hourly values (value every whole hour)
High resolution values (hourly values, 10 minutes mean values and hourly maximum and minimum values)
High resolution values (1 minute mean values)

GLOSS Data Archaeology Working Group

This working group is just getting started, and has a lot to do.

Feel free to join us

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