The Brussels Conference and its legacy

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The 1853 Brussels Conference set the first international standard in systemizing the observation practices over sea. As we know now, this standard persists till the present day. The Conference was instigated by Lt Maury from the US, but got input from 9 European countries, including the Netherlands.

The initiative of the Conference came from marine meteorology rather that from science. The attendees of the Conference were chiefly marine officers. This is less surprising than one would think. The merchant and military navies had a centuries-long tradition of systematic observing from ships as part of their official duties. Almost without exception, all ship logbooks from the early 17th century onward contain weather observations taken with a military discipline at a frequency of at least once a day. Figure 1 shows, as typical example, a page of a ship logbook of 1699 with daily wind and weather observations recorded in the last two columns.

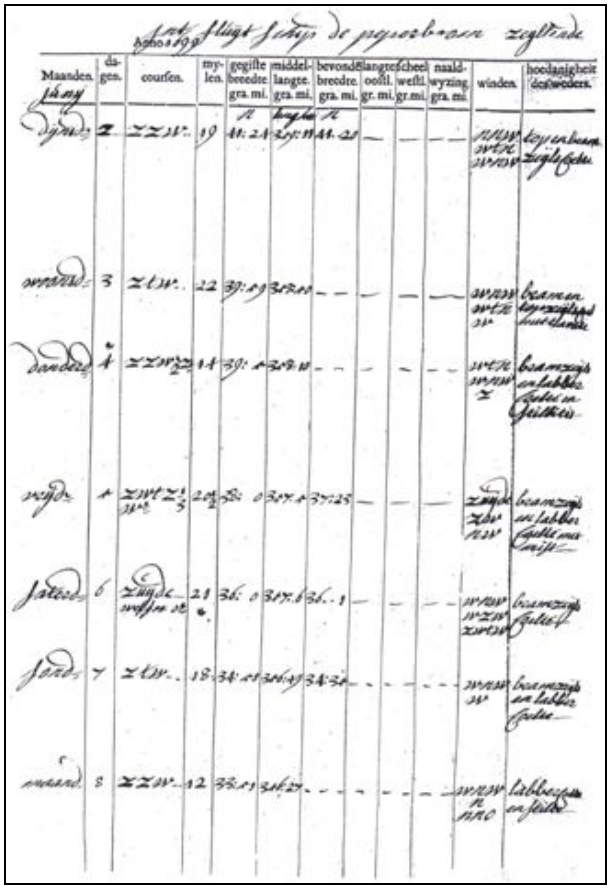


Figure 1. Logbook page of the Dutch East Indian Company ship *De Peperboom*, covering the period 2-8 June 1699. The last two columns contain wind direction and wind force.

By the mid 19th century, the argument came up to collect weather data over the oceans in order to make shipping more cost-effective. It was used to convince the governments to establish meteorological institutes to coordinate the analyses. The undertaking called for a better standardization of meteorological observation practices from ships.

In the preparation of the Conference, Maury collaborated closely with Marin Henry Jansen (Figure 2), a Belgium-born Dutch Navy officer. During 1852 Jansen stayed for a while at Maury's place, developing a close friendship with Maury as well as with the latter's niece. The Maury-Jansen friendship persisted for years: one of Maury's grandsons was even named after Jansen. In the field of marine meteorology, the ideas of Maury and Jansen were also parallel. The time was ripe to standardize the practices and the preparation to the Brussels Conference could be started.

Figure 2. Portrait of M.H. Jansen (1817-1893)

Maury and Jansen agreed on the preparation of an experimental model universal logbook, which was tested during the summer of 1853 on board of the vessel *Prince of Orange*. In the summer of 2003 the original of this logbook was found back in the KNMI archives by H. Wallbrink. The experimental universal logbook bears a great resemblance with the standardized logbooks from all countries since.

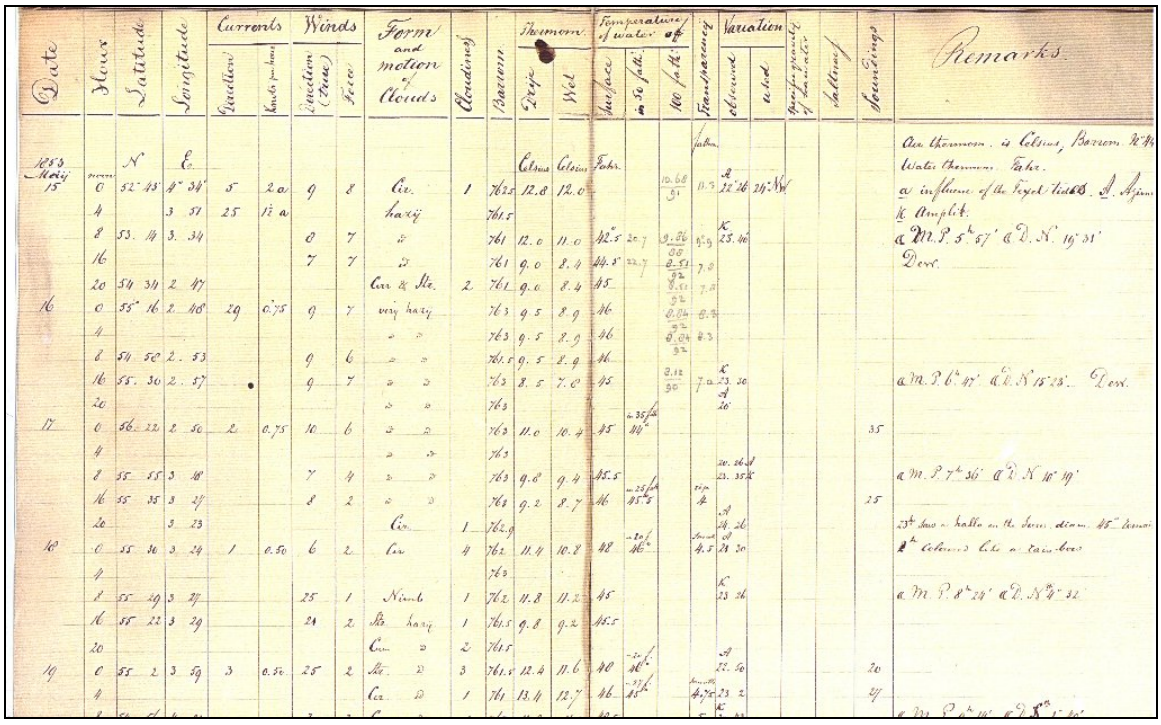


Figure 3. Page of the experimental universal logbook of the *Prince of Orange*, covering the period 15-19 May 1853. The logbook, designed by Maury and Jansen, was tested in practice during this trip of this ship. This happened in the preparation of the Brussels Conference in November 1853.

The Conference adopted the proposed logbook with only slight modifications. The other recommendations adopted by the Conference included:

- Use of calibrated instruments in ship's observations
- No readings of aneroid barometers should be included in the reports
- Next to national temperature scales, the Celsius scale should be applied to accustom the observers with the - soon to be introduced – new international standard.

It is interesting to note that, apart from the last one, all recommendations were almost instantaneously implemented.

The logbook standardization basically persisted since. With hindsight, this decision was the break though that led to usable climatological databases over the world's oceans. The participants of the Brussels Conference never foresaw this legacy. Figure 4 show the result after 100 years. The ICOADS database contains for the period 1854-1950, 50

million of observations (0.5 M/yr); in the second part of the 20th century another 190 M (4M/yr) were added. Figure 4 illustrate that the Dutch were immediately excited about the idea, as they made up the bulk of the 19th century observations, while many other countries followed afterward.

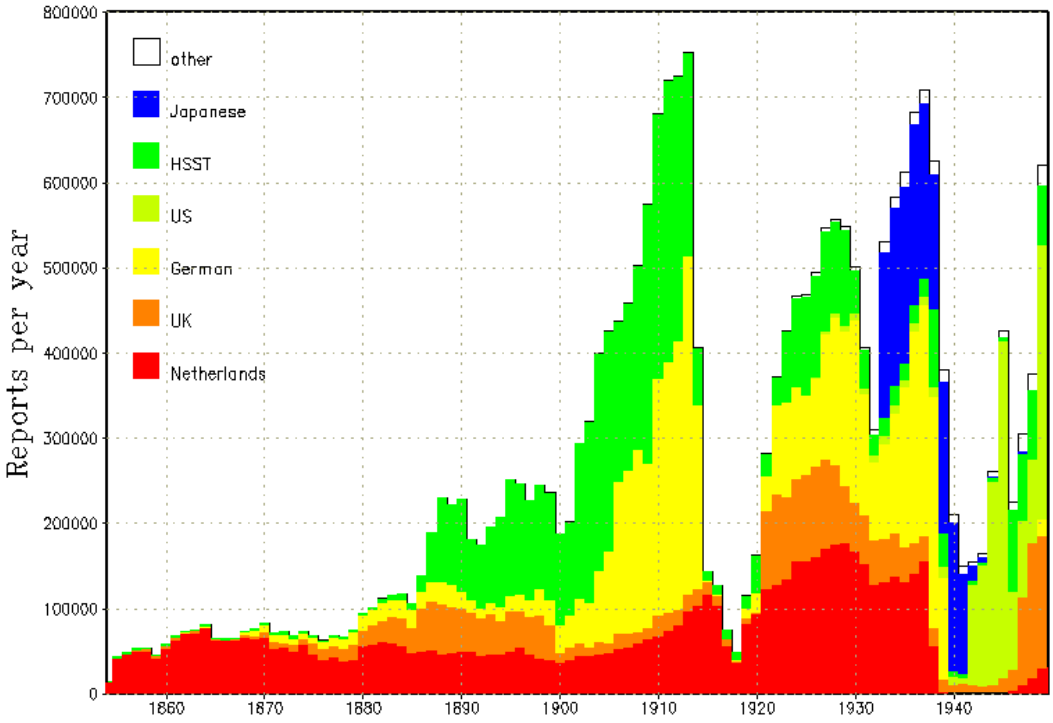
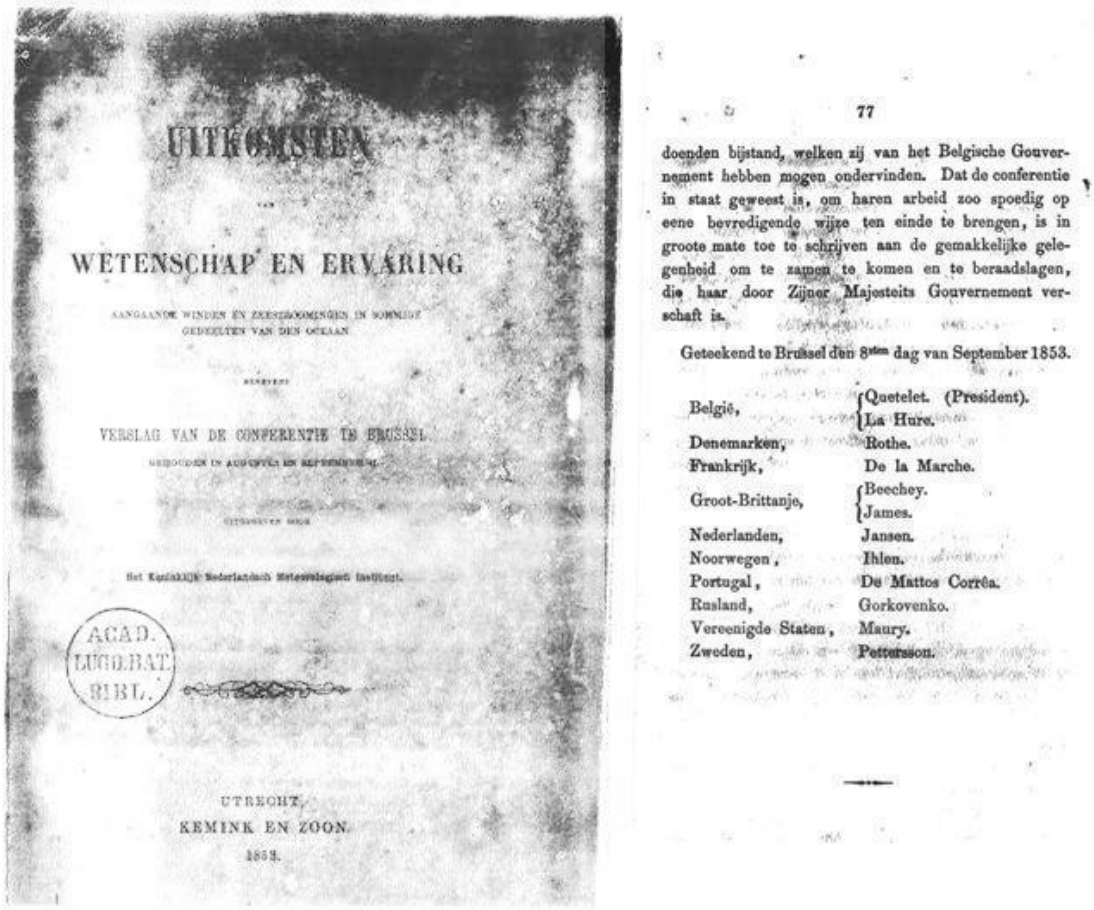


Figure 4. Number of data in ICOADS Release 1

In the present discussion about climate variability and greenhouse warming the ocean data are indispensable. Only by virtue of their existence the global mean temperature could be reconstructed with a certain level of accuracy for the past 150 years. This is perhaps the greatest legacy of the 1853 Brussels Conference.

Figure 5 shows the minutes of the Conference in Dutch, published only a couple of weeks later. Its last page shows the list of participants. Compared to the present-day standards, the number of participants (12) is only small. However, its legacy – particularly if expressed in output per participant – is unmatched in the 20th century.



UITKOMSTEN

VAN

WETENSCHAP EN ERVARING

VERSLAG VAN DE CONFERENTIE TE BRUSSEL

UTRECHT,
KEMINK EN ZOON.
1853.

ACAD. LUGD. BAT. BIBL.

doenden bijstand, welken zij van het Belgische Gouvernement hebben mogen ondervinden. Dat de conferentie in staat geweest is, om haren arbeid zoo spoedig op eene bevredigende wijze ten einde te brengen, is in groote mate toe te schrijven aan de gemakkelijke gelegenheid om te zamen te komen en te beraadslagen, die haar door Zijner Majesteits Gouvernement verschaft is.

Geteekend te Brussel den 8sten dag van September 1853.

België,	Quetelet. (President).
	La Hure.
Denemarken,	Rothe.
Frankrijk,	De la Marche.
Groot-Brittanje,	Beechey.
	James.
Nederlanden,	Jansen.
Noorwegen,	Ihlen.
Portugal,	De Mattos Corrêa.
Rusland,	Gorkovenko.
Vereenigde Staten,	Maury.
Zweden,	Pettersson.

Figure 5. Minutes of the Brussels Conference: cover page and list of participants.