

Maury and the German Involvement in the Marine Meteorological Observation Scheme



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In 1853 a large number of states existed in Central Europe; in 1867 the

„Norddeutscher Bund“ was created; in the map its „Sea States“ are marked



1a

1853 - 55:

Austria, Prussia, Hamburg and Bremen joined the Brussels Convention but:

no resources for establishing any support unit!

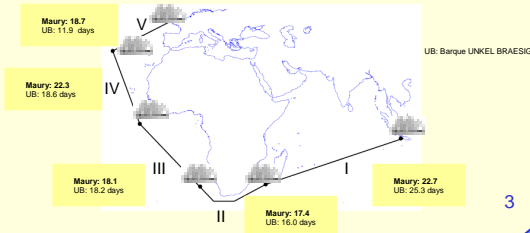
1868

basic progress after foundation of the Norddeutsche Seewarte

2

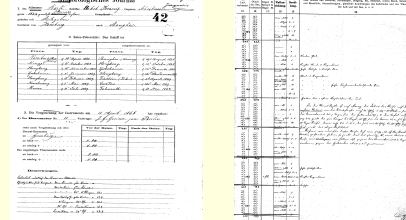
Example for the application of Maury's Pilot Charts:

On her voyage from Macao via Strait of Sunda to Falmouth the German barque "Unkel Braesig", Captain W. Scheibner, made a detailed comparison between the conditions encountered enroute and Maury's notes



3

Meteorological Journal: "Unkel Braesig" - Capt. W. Scheibner

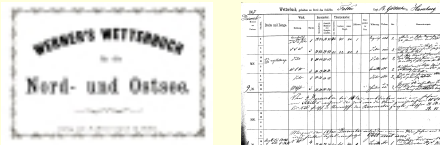


Original Comparison Maury / Scheibner in the "Comments" column

4

Werner's Wetterbuch

- Issued around 1868 and used in the Baltic and North Sea area, initiated by businessmen from Stettin
- Early promotion system by granting awards for Journals completed with special care



- discontinued after 1871 (Foundation of Germany) and 1875 (Foundation of the Deutsche Seewarte)

5

Political situation in Northern Germany early in the second half of the 19th century

Fig. 1, 2

although some German states joined the Brussels Convention by 1855, there was no official logistics to serve the vessels

German captains tested Maury's pilot charts quite early

Fig. 3, 4

Example from the German barque UNKEL BRAESIG

Independent regional approach for a weather observing scheme

Fig. 5

WERNER'S Wetterbuch, similar to Maury's idea

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1868:

Norddeutsche Seewarte (Northern German Marine Observatory)

Wilhelm von Freeden, the director of the nautical college in Eilsfeldt, Northern Germany, promoted the ideas of Maury and founded the „Norddeutsche Seewarte“ in Hamburg.

Contribution of his personal assets, promotion by the Chambers of Commerce of Hamburg and Bremen and 28 ship owners

Procurement and use of precision instruments for calibration

The number of ships at those times was more than 5.000, mostly sailing ships with home ports around the German Baltic and North Sea coasts, substantiating the potential need for this kind of service.



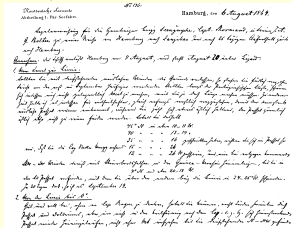
6a

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Norddeutsche Seewarte (1868 - 75) (Northern German Marine Observatory)

850 Sailing instructions

1.193 Meteorological Journals coming back from mariners



7a

7

1875:

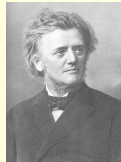
Deutsche Seewarte (German Marine Observatory)

Promotion by national budget (Cost burdens were too high for private initiatives)

Director: Georg von Neumayer



8a



8b

8

Deutsche Seewarte (1875 - 1945)

37.100 Meteorological Journals from sailing ships and steamers

still available in the German Marine Meteorological Archive, Hamburg



9a



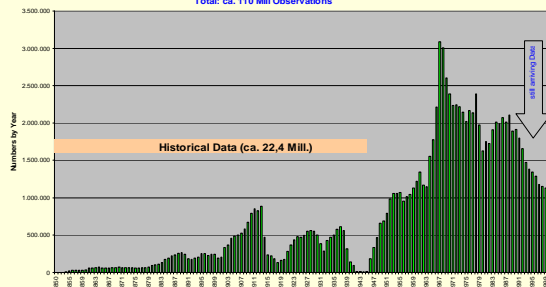
9b



9c

9

German Marine Meteorological Archive: Available Data
Total: ca. 110 Mill Observations



10

Eventually a German Marine Observatory was established starting with private initiatives - ending with the foundation of the Deutsche Seewarte in 1875

Fig. 6, 7, 8, 9, 10

Maury and the German Involvement in the Marine Meteorological Observation Scheme

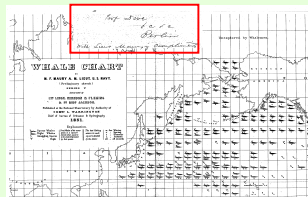


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Bilateral Co-operation USA / Germany

There was an early co-operation between the Deutsche Seewarte and the Maury Institute in Washington. German Maury Abstract Logs were sent to Washington for evaluation and afterwards returned to Hamburg.

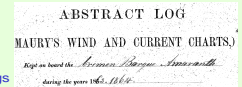
There were also personal scientific relations between the German Prof. Dove and Maury, documented by personal regards on a presentation copy of the first Whale Charts



11a

11

German Maury Collection:



Presently available: 806 Abstract Logs

These Meteorological Journals were made available to Washington for evaluation and then shipped back to Hamburg

12

Bilateral Co-operation USA / Germany

The latest Joint Venture was in 2000 - 2002 between Deutscher Wetterdienst and NCGC/NOAA in scanning all German Maury Abstract Logs (ca. 800)

Next step: Typing of the data (planned)

German Contributions of data from the historical collection to I-COADS. Contributions were made in the context of the HSSTD Programme already in the 1960ies and are continued with recently typed data

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Traditional American/German co-operation in the field of marine climatology, historical and modern Fig. 11, 12, 13

Maury's principal ideas: What remained? Fig. 14



Maury and the German Involvement in the Marine Meteorological Observation Scheme

The poster titled “Maury and the German Involvement in the Marine Meteorological Observation Scheme” presents historical aspects of German marine weather observation in the middle of the 19th century as well as institutional structures that developed in the following years.

The political situation around 1853 in Central Europe was characterized by a large number of states. In 1867 the Norddeutscher Bund was created. In fig. 1 its so-called “Seestaaten”, “Sea States”, are marked.

An example of the application of Maury’s pilot charts by German captains is shown in fig. 3, 4.

For some years in the 60ies and 70ies of the 19th century there was a scheme similar to Maury’s, used in the North Sea and Baltic Sea: Werner’s Wetterbuch, a regional approach initiated by businessmen from Stettin. An example is shown in fig. 5.

The first German institution dedicated to marine observation and climatological support to mariners was the Norddeutsche Seewarte, Northern German Marine Observatory. It was founded in 1868 in Hamburg by private initiatives and personal assets of Wilhelm von Freeden, promoted by the Chambers of Commerce of Hamburg and Bremen as well as by quite a number of ship owners (fig. 6). This private Institution adopted Maury’s concepts to enhance the data coverage over the oceans and to improve the safety and efficiency of navigation. It provided meteorological journals and precision instruments to the mariners. Based on the observations of the sailors ca. 850 individual sailing instructions were elaborated and given to the captains (fig. 7), taking into account the observed weather data, currents, tides and magnetic declination. Nearly 1.200 meteorological journals were archived.

In 1875, the Norddeutsche Seewarte was transformed into a government institution with national budget, named Deutsche Seewarte, the German Marine Observatory (fig. 8). Its first director was the famous Georg von Neumayer.

It became one of the leading institutes in the world in the fields of marine meteorology, oceanography and related sciences. During the years until 1945, when the Deutsche Seewarte ceased to exist, a big volume of meteorological journals was gathered from the oceans and today there is an amount of ca. 37.000 of them stored in Hamburg. These books came from sailing vessels and steam ships (fig. 9). Typing of the data began in 1940 and there is still a considerable contingent left, which is being worked upon within a special project of Deutscher Wetterdienst. The presently available volume of German historic data comprises about 22,4 Mill. data sets (fig. 10) and it is extended by ongoing typing and quality checking efforts in order to make these valuable data accessible for the benefit of climate research.

In the days of Maury and further on up to today there was and is traditionally a good co-operation in marine climatology between the United States of America and Germany, demonstrated in some examples on the poster (fig. 11, 12, 13).

Finally the question is posed: Did Maury’s principles survive?

The answer is “yes”, convincingly demonstrated by comparison of the principles as they looked like in the 19th century with those of our days (fig. 14). Maury started his scheme on a very personal basis in contacting the mariners by himself. During the years a big organizational structure evolved to handle this scheme, Germany co-operating in this system through the Deutscher Wetterdienst and the Bundesamt für Seeschifffahrt und Hydrographie. Internationally the scheme is co-ordinated by WMO/JCOMM today. The basic functions of the system, such as contacting the mariners, providing instruments, documentation and training, reports and service, basically did not change very much since the days of Maury..

So the conclusion can be drawn:

Maury’s conception of observing the oceans definitely is a universal approach.