Report on the Royal Navy Remark Books
Held at the Hydrographic Office, Taunton UK

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The Royal Navy Remarks Books[1] are presently held at the Hydrographic Office in Taunton. They are an under-used resource in the fields of naval and maritime history and climate research. The bulk of remarks books were kept on vessels engaged in exploration and hydrographic survey and they are most often associated with the development of marine charting and coastal mapping, but their scope goes well beyond this. For climate studies almost all of the remarks books after 1850, and a modest number before that date, contain frequent, usually sub-daily, observations of air pressure (SLP), air temperature (AT), and sea-surface temperature (SST). Along with this are observations of wind direction, wind force, and notes on ocean currents. Less frequently recorded were humidity and the specific gravity (density) of seawater. These remarks books therefore constitute an important source of early meteorological and oceanographic data.

Aside from the observational data, the Remarks Books are also an invaluable resource for social and maritime historians, containing detailed accounts of voyages, trade, and interaction with other cultures. Not limited to navigational and meteorological recording, many of the accompanying narratives are eloquent, descriptive and personal; describing in detail the strange and wonderful places the ships visited, offering accounts of local politics, economics, religion and cultural exchange. Frequently punctuated with sketches and newspaper clippings, the Remarks Books offer a rich and unique archival resource for understanding colonial perspectives, Britain as a world power, communication and cultural interaction across one of the most exciting periods of seafaring history.

1. History, Organization and Binding

Once completed, a remarks book was sent to the Admiralty along with the various journals of a voyage kept by the captain and master (or navigating officer). These documents were proof that a commission had been completed, and as such form part of the extensive body of documents generated by the state bureaucracy. The officers' and ships' journals along with the remarks books constitute a complete record of the voyage, and as such would have been archived and consulted together. However the

remarks books became part of the Hydrographic Office Archive, and the journals or logbooks eventually left the Admiralty to be housed at the Public Record Office (now National Archives). The separation of these collections was logical, given the importance of the remarks books in the compilation of charts and sailing directions. However this division has resulted in the relative neglect of the remarks books by the majority of maritime and naval historians, except for those with an interest in hydrographic work and exploration. A part of this collection, (those items superseded by later hydrographic documents) is to be transferred to the National Archives, Kew, thus bringing the two collections together again. This major maritime archive will then be more accessible and therefore enrich future maritime research and history

The earliest remarks books date from the period of the Seven Years War (1756-1763) and it was about this time that the Admiralty instructed commanders of Royal Navy vessels to keep a book recording details of ports and coasts. This was not a requirement of every officer or vessel, and was usually confined to those ships operating on distant stations, or to those officers who took a particular professional interest in such matters. Specifically they were required to observe:

1. Time and place of observation
2. Soundings in and around ports along with navigational marks for rocks and shoals, tides and compass variation (declination).
3. Navigational marks for anchoring
4. Description of places for wooding, watering and provisioning
5. Descriptions of fortifications and landing places.

As such the remarks books contain a wealth of 'local' information and intelligence. Many officers exceeded the original Admiralty requirements by commenting on all manner of subjects from native populations to items of scientific curiosity. In the latter case they were encouraged to do so, and by the mid 19th century were provided with guidance and instruction by the *Manual of Scientific Enquiry prepared for the use of Officers in Her Majesty's Navy and Travellers in General*, written by Sir John Herschel and published in 1859. By this time, most remarks books recorded meteorological and oceanographic data.

The collection of remarks books is arranged into three distinct series, the Miscellaneous Papers, a series of bound volumes, and then a series of individually bound remarks books.

A. Miscellaneous Papers

This series of remarks books consists of 5,542 items bound into 114 volumes. The first 29 volumes covering the 1760s to 1780s are arranged alphabetically according to the name of the ship. Volumes 30 to 106 are arranged according to 14 different geographic regions, while volumes 107 and 108 consist of items not bound in the geographic sequence. Volumes 30-108 cover the period 1790s to 1830. Volumes 109 to 114 are arranged alphabetically by ship name but confined to the North American and West India Stations 1825-1853.

B. Bound Volumes (Composite Remarks Books)

This group consists of remarks books bound into years or sets of years from 1834 to 1861. A separate volume contains items for the period 1851-1871 not bound with the

other sets. There are 39 volumes of which 3 contain single remarks books. In this series there are 1,582 remarks books.

C. Individual Volumes

The individual volumes consist of 3,944 sets of remarks books covering the period 1861-1909. Most of these are single volumes, but there are multiple volumes for some vessels, with remarks books being produced by both the captain and master, and towards the end of the series, by the navigating officer. These duplicate books are not identical and can vary in quality and content.

D. Additional Items

Seven additional remarks books are to be found in the OD series, along with a handful of journals and meteorological registers. Additionally, the HD series (Hydrographic Department publications) has a series of volumes containing deep-sea soundings and temperatures. Details of these can be found in the additional document Archive Visit Report 2008/04 .

Geographic and Temporal Range

The geographic and temporal range of the remarks books for the period 1800-1909 is given in Fig. 1. These figures represent the total numbers of books not necessarily those that contain meteorological data.

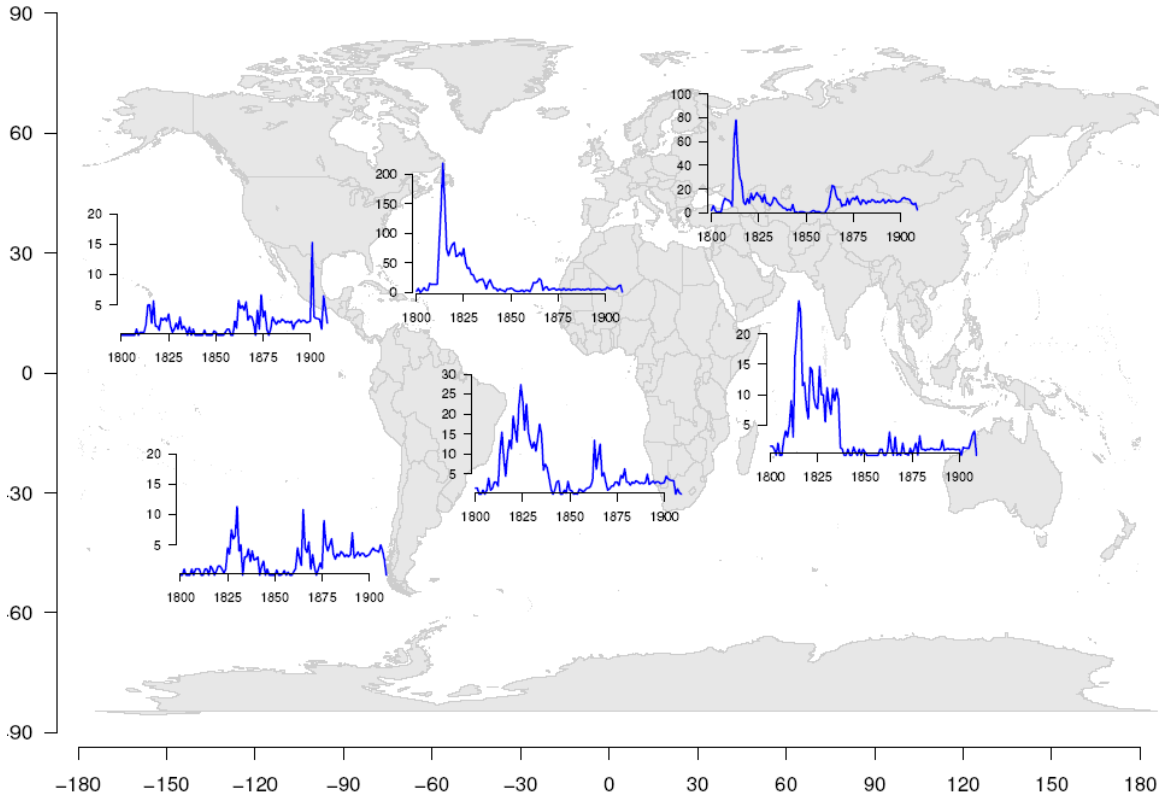

Fig.1 Range of Remarks Books (Philip Brohan, Hadley Centre)

2. Meteorological and Oceanographic Data

The earliest remarks book to contain meteorological data (and the only set of recordings found for the 18th century) was the *Caneceaux*, August 1766-July 1767. The vessel was operating off Anticosti Island, Gulf of St. Lawrence and recorded air temperatures. There are no further observations in the remarks books until 1816, although it is clear that some officers did make regular meteorological observations, recording them in their journals or elsewhere. These are not however to be found here.[2]

Typically, from 1816, the most common observations to be found in the remarks books are barometric pressure, air temperature and sea surface temperature, wind direction and force, and current weather. These are usually daily observations taken at noon, but sub-daily observations can frequently be found, usually three, four, six or more observations per day at set times or intervals. (See fig. 2) Less frequently recorded were wet and dry bulb temperature observations, hygrometer (humidity) readings, specific gravity (density) of seawater, and sub-surface sea temperatures. Information on the type and positioning of the various instruments became common in the remarks book during the 1880s, mirroring similar information provided in ship's journals.[3]

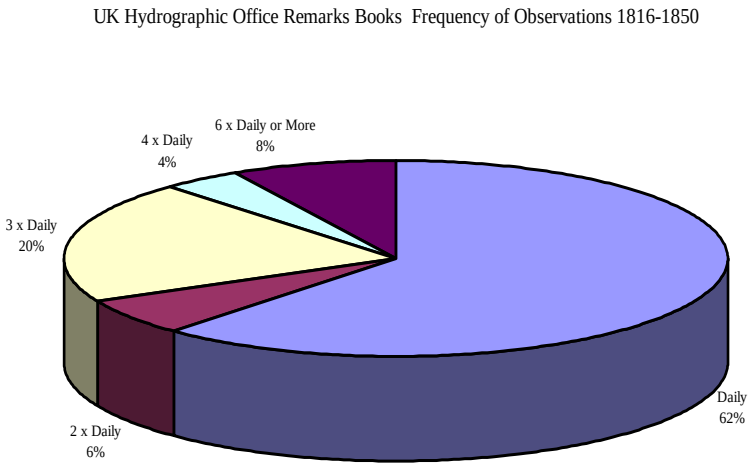

Fig.2 Frequency of Observation 1816-1850

Statistics showing the type and quantity of meteorological and oceanographic data are best presented in two groups, first the miscellaneous papers and bound composite remarks books 1816-1871, and secondly the individual remarks books from 1862-1909.

3. Miscellaneous and Composite Remarks Books 1816-1871

Daily Records

Estimates of the number of daily records with observations of pressure, temperature and SST are given in figures 3-5. These are daily records and do not include the number of sub-daily observations. (see figure 2 above) The totals of daily records have been calculated from the range of months found in the remarks book. These have then been adjusted downwards to: a) account for part-months at the beginning and end being treated as whole months, and b) to account for periods in port where observations may not have been taken (in particular SST). The amount of adjustment

is –25%. The totals in figures 3-5 therefore represent 75% of the total number of days recorded in the remarks books.

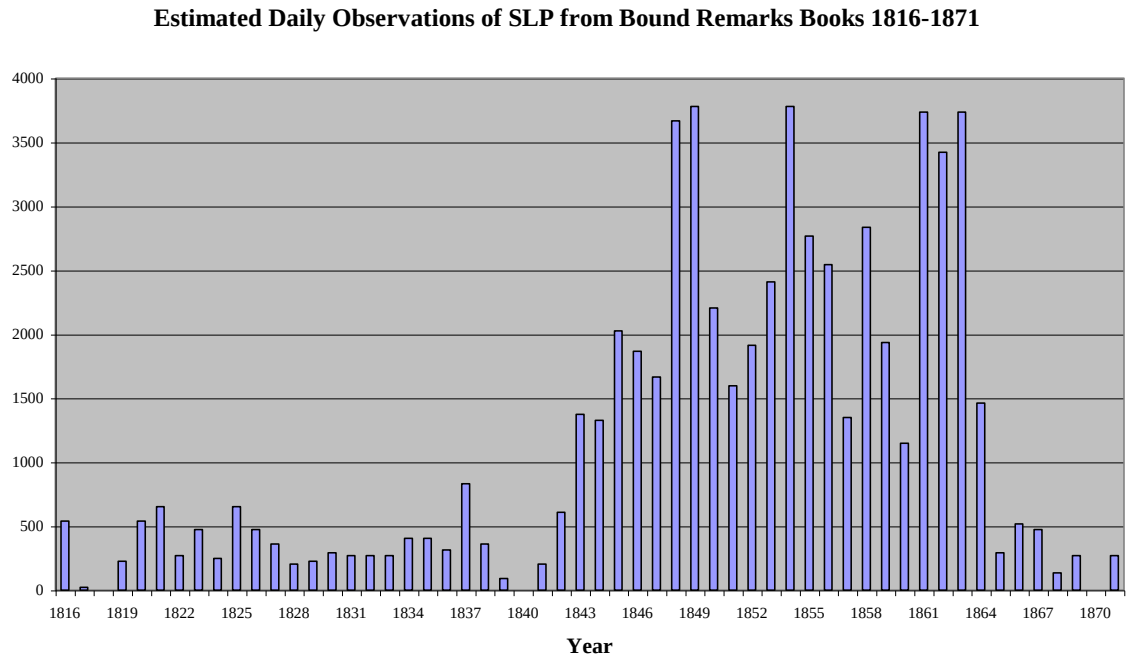

Fig. 3 Daily Records of Pressure 1816-1871

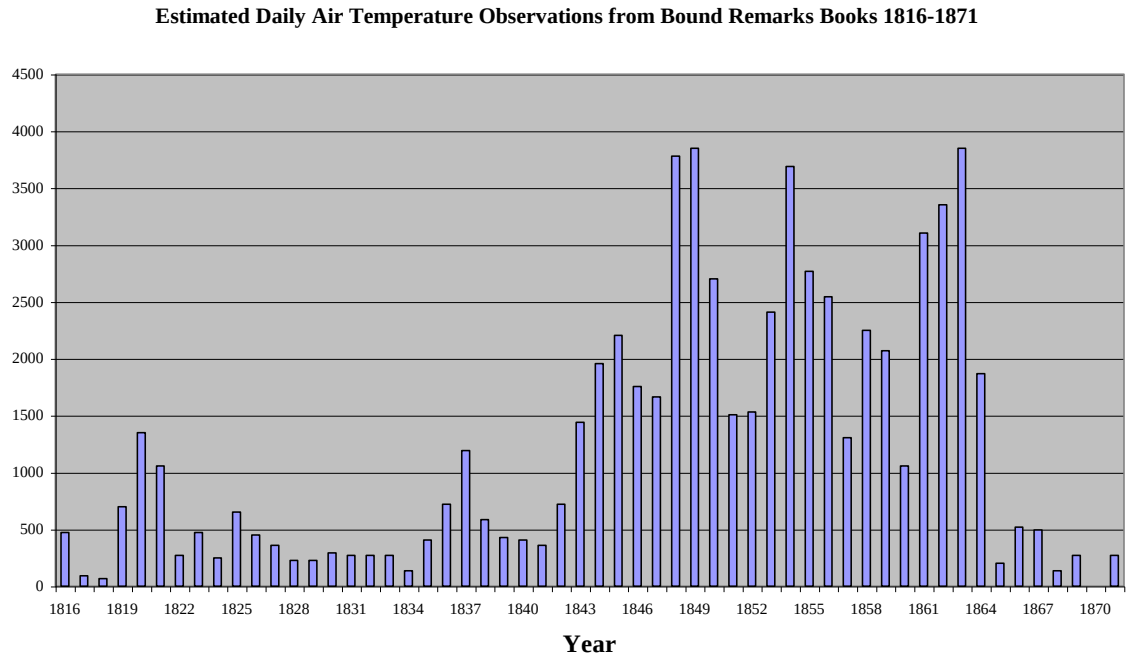

Fig. 4 Daily Records of Temperature 1816-71

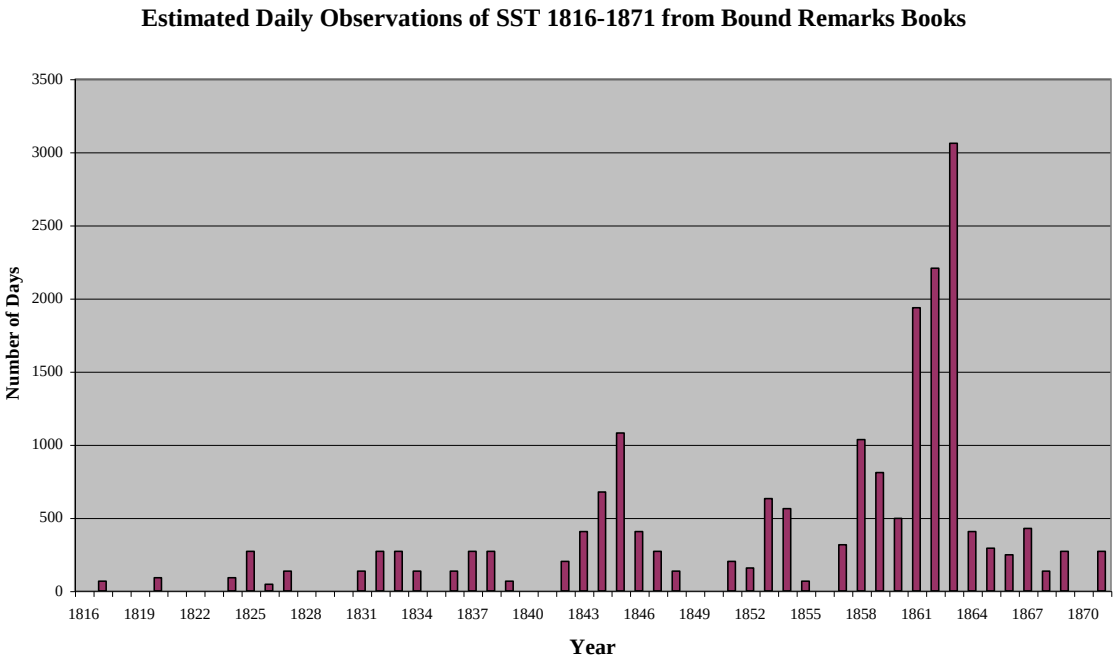

Fig. 5 Daily Records of SST 1816-1871

Geographic Distribution

The geographic distribution of the records in figures 3-5 is given in the corresponding figures 6-8. Again an adjustment has been made as the distribution has been based on the destination or operating area of the vessel and some account is needed of the passage of other oceans in order to reach that destination. This adjustment has been achieved by deducting 20% of the days recorded for the Pacific and Indian Oceans. This result has then been distributed equally between the North and South Atlantic Oceans. The Mediterranean has not been adjusted.

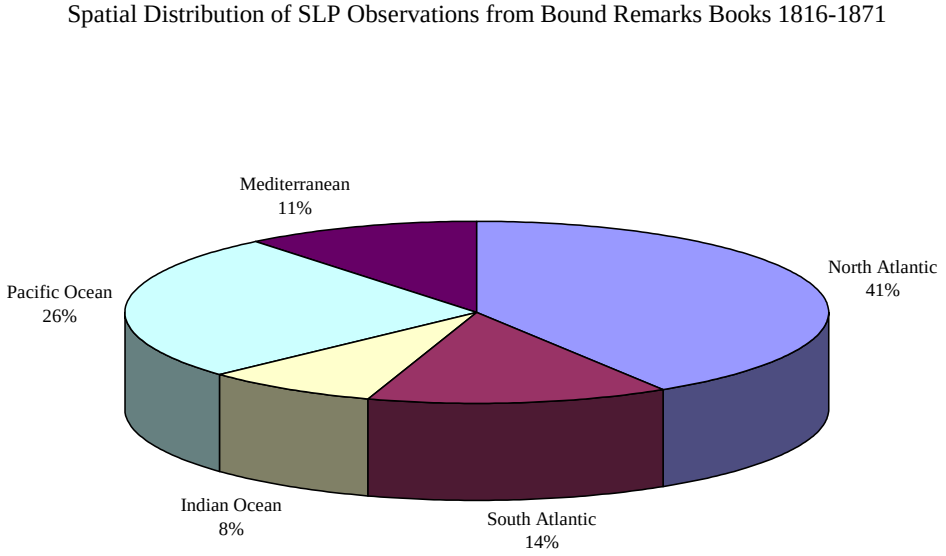

Fig. 6 SLP Spatial Distribution 1816-1871

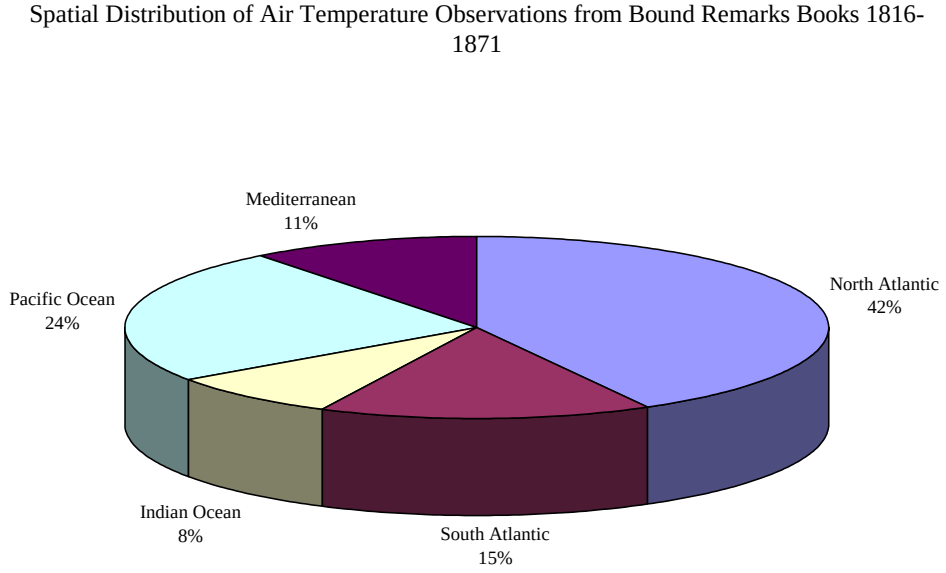

Fig. 7 Air Temperature Spatial Distribution 1816-1871

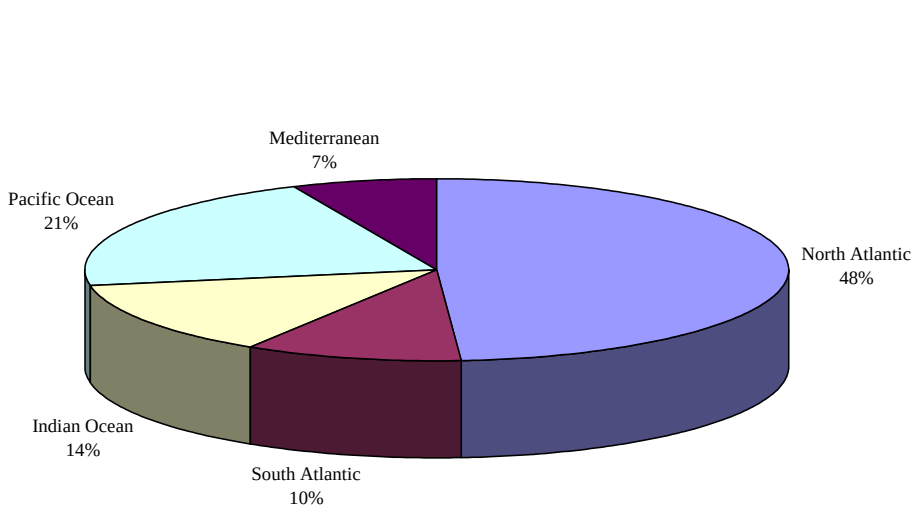

Fig. 8 SST Spatial Distribution 1816-1871

The number of images required to capture this data is approximately 5,600. This represents the imaging of the meteorological and oceanographic data alone. To image the entire remarks books, for those containing tabulated observational data, would require an estimated minimum of 40-50,000 images.

4. Individual Remarks Books 1861-1909

Daily Records

Of the 3,944 sets of individual remarks books (excluding duplicates) 3,764 record barometric pressure, 3,758 record air temperature and 3,386 record SST. Estimates of

the number of daily records with observations of pressure, temperature and SST are given in figures 9-11. These are daily records and do not include the number of sub-daily observations. The number of sub-daily observations has not been determined, but most of the individual remarks books have three or more observations per day.

The numbers of daily records have been calculated for the years 1861-1880, 1891, 1901, and 1907-1909. The years 1881-1890, 1892-1900, and 1902-1905 have been estimated. The estimated years refer to all of the remarks books that could not be individually examined. All of the estimated years are assumed to have remarks book of six months duration and to have all recorded pressure, temperature and SST for the entire six months. The totals of daily records have been calculated from the range of months found in the remarks book. These have then been adjusted downwards to: a) account for part-months at the beginning and end being treated as whole months, and b) account for periods in port where observations may not have been taken (in particular SST). The amount of adjustment is –25%. The totals in figures 9-11 therefore represent 75% of the total number of days recorded in the remarks books. Any remarks books clearly unsuitable for imaging, either due to condition or content, were omitted

The total number of daily records 1861-1909 are:

	Calculated	Estimated	Total
Air Pressure	417,038	332,130	749,168
Air Temperature	415,305	332,130	747,435
SST	345,314	332,130	677,444

An estimate of sub-daily observations would increase the above figures by at least a factor of three.

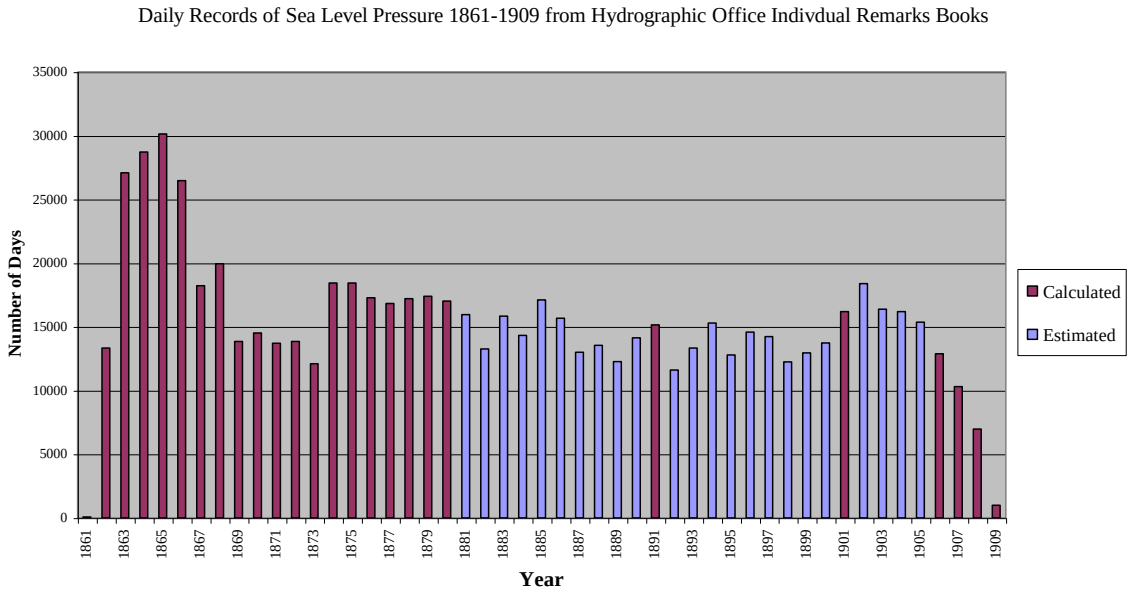

Fig. 9 Daily Records of SLP 1861-1909

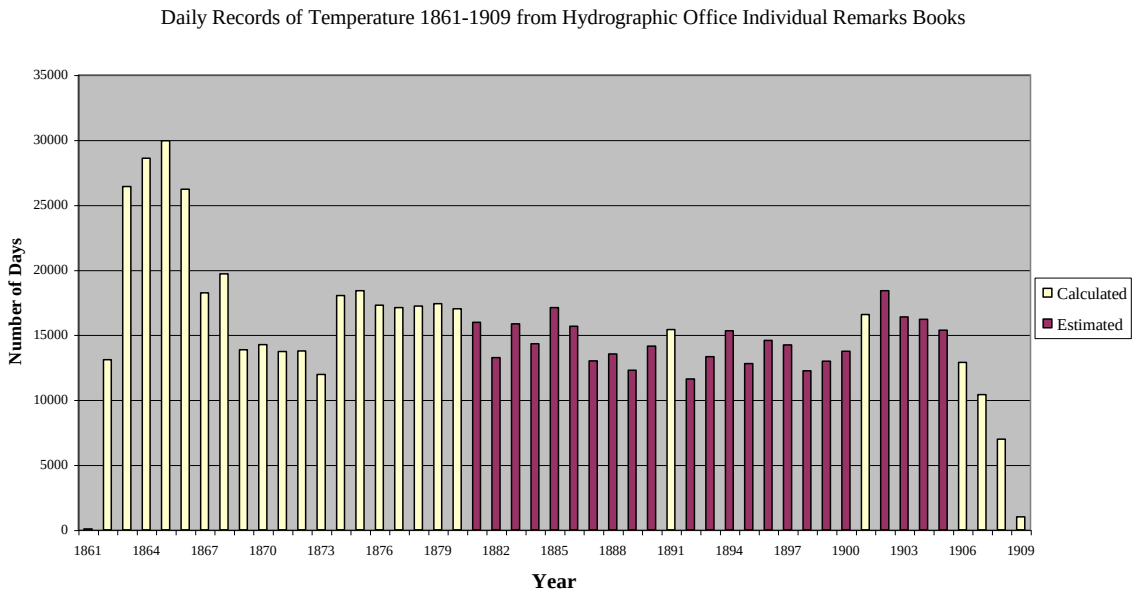

Fig. 10 Daily Records of Temperature 1861-1909

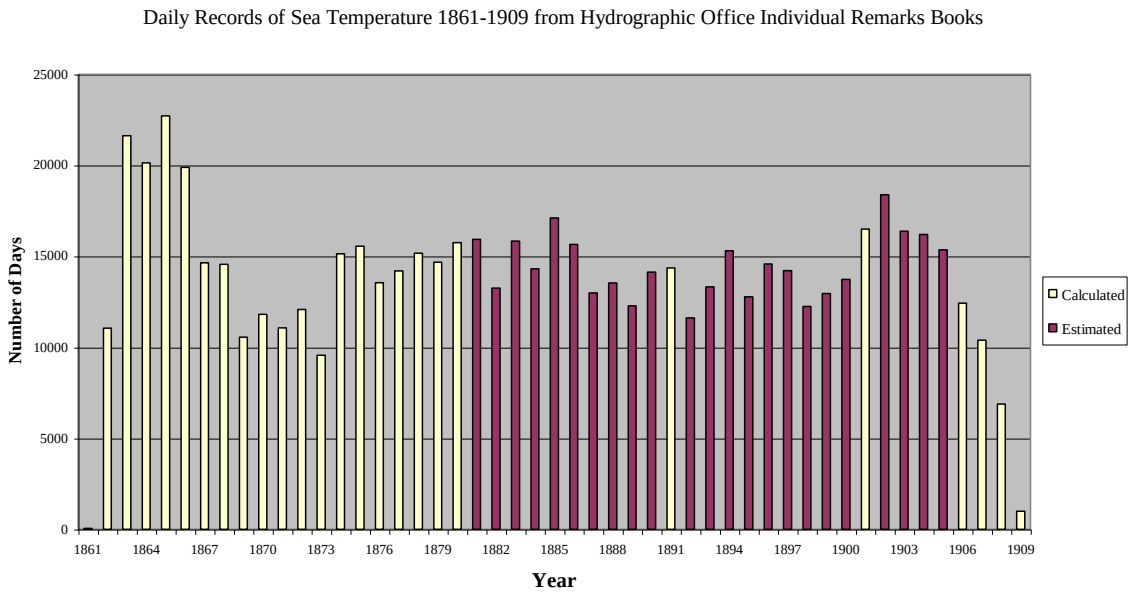

Fig. 11 Daily Records of SST 1861-1909

Geographic Distribution

The geographic distribution of this data involves a degree of estimation due to the number of remarks books not examined. However the distribution of pressure observations in figure 12 gives a sufficient impression of distribution and emphasized the global nature of the observations.

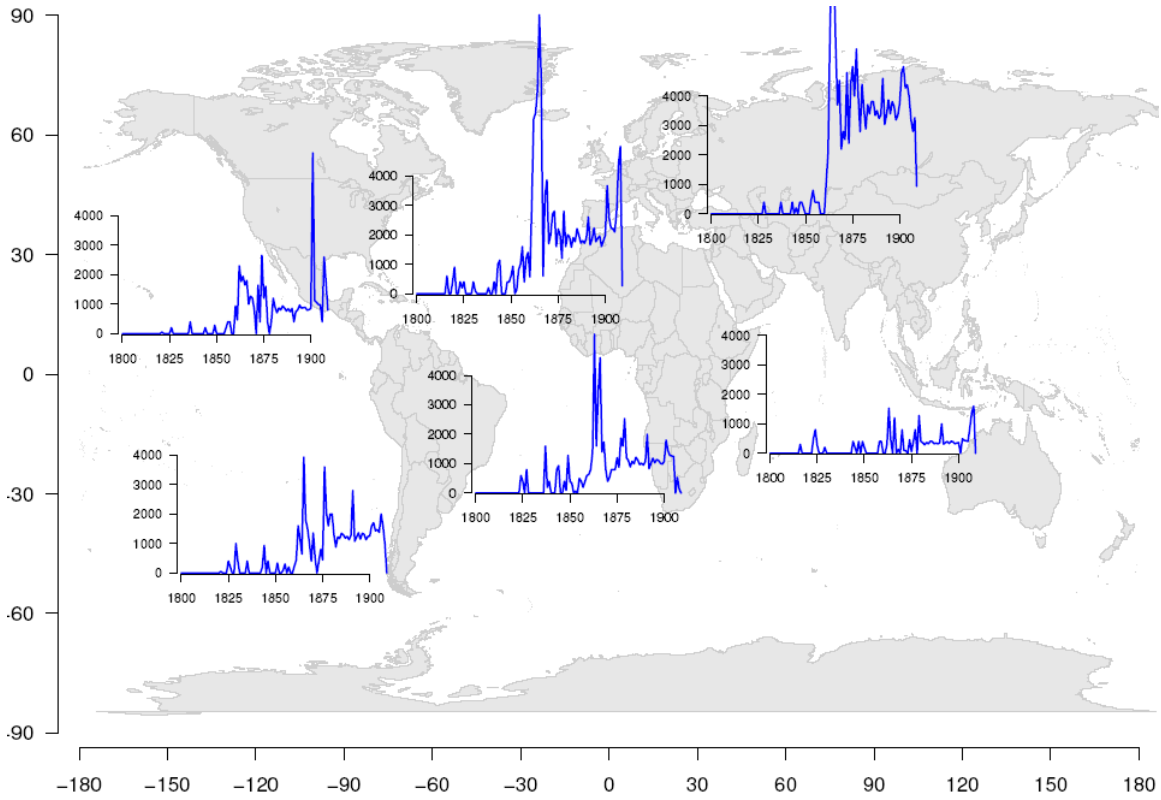

Fig. 12 Global Distribution of Pressure Observations (Philip Brohan, Hadley Centre)

The number of images required to capture this data is at least 190,000. This assumes that the remarks books that were not examined will have at least sixty pages, a generous estimate. Of those examined, the number of pages varied from 20 to 180, the latter figure being confined to the years1862-4, and 20-30 pages being more common. The complete imaging of the individual remarks books is therefore unlikely to exceed about 220,000 images.

Sample images of the format and content of the remarks books can be found in 'UK Hydrographic Office: Remarks Books Inventory' a separate report by Catharine Ward and Fiona Williamson who carried out the main work in examining the collection and preparing the documentation. Additional images of selected remarks books can be found on the RECLAIM and ACRE websites. (images forthcoming 2008)

Recommendations

The remarks books represent value for money, as up to ten days or more of data can be obtained from one image. By comparison, the ADM 53 ships' journals will only usually provide one and not more that two days of data per image. The two categories of remarks books (individual and composite/bound) should be handled as separate projects. The individual remarks books will yield over ¾ million daily records for an estimated 220k images and should be imaged, digitized and funded as a scientific project.

The bound/composite remarks books present a different set of circumstances. The tabulated met data is only a small part of the entire remarks book, which itself has

value as a historical document. To image the entire remarks book to obtain the meteorological data might not be cost effective. Furthermore to image the meteorological data alone would remove the observations from their broader context and do a disservice to the maritime historical community. The imaging and capture of this data should therefore be undertaken as part of a separately funded inter-disciplinary research project.

The bid by Exeter University Maritime Studies to image 19th century Royal Navy logbooks and journals to study the navy's operations history is an excellent example of how the requirements of both communities can be combined. Given that the ships' and officers' journals (ADM 51, 52 & 53), when combined with the corresponding remarks book, provide a complete account of a voyage or commission, it would make sense to image those remarks books (with meteorological data) as a part of the wider project that Exeter propose to undertake. This has the further advantage of providing the scientific community with images of the corresponding ship's journals, and further sets of journals, providing much additional meteorological data. It might be proposed therefore that the sciences undertake the imaging of selected remarks books (whether or not they contain tabulated meteorological data) while the historical community undertakes to fund the imaging of ships journals. Both would therefore benefit from the combination of funding and other resources.

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[1] A printed list of the remarks books is contained in *A Provisional Catalogue of Logs, Journals, documents, Letters, Record copies of Books and Pamphlets published by the Hydrographic Department* (1974). This is held in the research room in Taunton. The Remarks Books are to be moved to the National Archives, Kew at a future date.

[2] Observations are to be found in ADM 55 and occasionally in other sets of captains', masters' and ships' journals (ADM 51, 52 & 53). The National Maritime Museum's collection of officers' journals also has some observations, for instance the journals of Captain Philip Beaver in the RUSI collection. Approximately 900 East India Company journals from 1785-1835, archived in the India Office Collection at the British Library, contain observations of barometric pressure and temperature. These latter records have been imaged and digitized (2008-9)

[3] National Archives series ADM 53.