

ADDITIONAL LOG BOOK DATA
1854 to 1899

Martin Rhodes, July 1995

INTRODUCTION

1. The ship's Deck Log started as a notebook to aid navigation, principally in calculating dead reckoning but evolved to become a formal record of the ship's activities. From its earliest inception the Deck Log included weather observations, an example is at annex A. The Deck Log was kept and filled in every day at sea and in harbour. When completed warship Deck Logs were sent to the Public Record Office Kew, merchant ship Deck Logs were sent to Company Offices.
 2. The Meteorological Log came later in the middle of the 19th century when the Meteorological Department was established in the Department of Trade under Admiral Fitzroy. Fitzroy had been on the Darwin Expedition in HMS Beagle. The Fitzroy Barometer still found in antique shops, consists of a mercury barometer giving atmospheric pressure, a camphor tube indicating static charge in the atmosphere and an alcohol filled thermometer.
 3. Selected merchant ships were provided with a printed Met Log and unlike the Deck Log, the Met Log usually only kept on passage at sea. An example is at annex B.
 4. In this period some warships, mostly ships on hydrographic duties also kept Met Logs. Later, in the early twentieth century and onwards larger warships kept Met Logs as well as Deck Logs.
 5. There are 6,965 Ship's Meteorological Log Books at Bracknell and 11,089 (Warship) Deck Logs at Kew.
 6. Some earlier merchant ship Deck Logs found their way to Bracknell. The oldest log found on the shelves at Bracknell was from the Barque Chatham for a voyage from Liverpool to Jamaica in 1836. This was handwritten on blank pages (see annex C). The first log where entries are recorded in a printed Log is from the Royal Naval Survey Vessel Herald, in August 1845. These printed Logs contained several months observations.
 7. Warship Deck Logs stored in the archives at Kew date from early eighteen hundreds. At both Kew and Bracknell there is an abundant amount of weather information recorded from all parts of the world between 1854 and 1899.
- MARITIME ACTIVITY 1854 to 1899
8. In Naval warfare the level of naval action was high throughout the western hemisphere in conflicts such as the American Civil War, Franco-Prussian War, Crimean War, South American Wars, Franco-German War, Russo-Turkish War and in the Mediterranean where Naval bombardment was used to steer the direction of political events.
 9. This period saw the change from sail to steam, wood to iron and the early development of battleships - Ironclads.
 10. UK Merchant vessels traversed trading routes and supported

battle campaigns. The Declaration of Paris after the Crimean campaign had far reaching consequences for Britain, when she abandoned the right to stop neutral ships carrying contraband and accepted that the nationality of a ship covered her cargo.

11. Weather observations throughout this period were meticulously recorded. Annex A shows where the Logs are stored at the archive in Bracknell and annex B shows an example of the clear and precise record remaining some one hundred and fifty years later.

METEOROLOGICAL LOG BOOKS

12. There are 10,687 Met Log Books recorded in the registers for this period but only 6,965 remain on the shelves of the archive at Bracknell, 597 are from warships.

13. The oldest purpose designed and printed Met Log on the shelves at Bracknell is from 1845. In 1870 these Logs changed to a slimmed down version containing just one month's observations. Records from selected merchant ships started on 1st November 1854. The register records receiving 29 Met Logs from different ships in 1854. None of these could be found on the shelves but there is a considerable amount of data from these logs recorded in the Marine Data Bank.

14. Studies were made of one in twenty Logs. Data in the Marine Data Bank for this period showed that only four or five sets of observations are recorded from many of the Logs whereas there are many more observations available from the same Log. Most Logs are flush with information. An example is at annex B.

15. The Data Bank records just over one million observations for this period. There are twice that number not keyed.

16. Weather observations were invariably only recorded with the ship underway on passage. Very few are recorded at anchor. There is clear evidence that readings were written into rough Logs and copied into 'fair' Logs at a convenient time. One or two 'rough' Logs have found their way onto the shelves of the archive.

17. The 'fair' Logs are very neatly written and the same sense of pride and care is likely to have been taken when observing and recording data. Within the accuracy of their instruments the data will have a high degree of accuracy.

18. The observations are often supported by detailed comment and narrative in the remarks column. In one, descriptions of typhoon conditions are reported at length in cuttings from the Hong Kong 'daily' pasted in the Log (see annex D).

19. The majority of the bindings and cover edges are badly frayed. The Logs are very tightly packed with on average one hundred to a section on each shelf. Towards the end of the period some are parcelled in brown paper in batches of 20 to 30.

20. Such unique records deserve more careful stowage and the

system of boxing used at Kew Public Records Office if adopted at Bracknell would ensure easier access and better preservation. Restacking in this manner would require about 30% more shelf space.

21. Voyages in this period were to North America, South Africa, Mediterranean, India and Australia, via Cape Horn or Cape of Good Hope.

DECK LOGS AT KEW

22. There are 11,089 Warship Deck Logs, volume numbers 5,560 to 16,649, filed in ADM3 series. Two registers cover the period. Vessels are recorded in alphabetical order and not by date order as in later periods. Some entries record vessels with only two or three Logs for one ship, others with fifteen to twenty. Deck Logs in this period covered up to one year's voyages.

23. A printed format came into common use just before the start of the period in about 1840. The layout of this first Deck Log covered twelve hour periods as shown in annex E. Later the layout changed to cover a twenty four hour period on one page.

24. This later Deck Log had one hundred and eighty pages. Each page recorded:

A. Course and distance run for the day (24 hours), mid-day Latitude and longitude (Dead Reckoning and Observed), Bearing and Distance at noon (from a fixed point of land).

B. For each hour:

Speed in knots, course steered, Lee Way in points, compass deviation.

C. Also, spaces for every hour, but usually only recorded at the end of each watch:

Wind, wind force, weather, barometer or sympiesometer, thermometer.

25. In later years the Lee Way column disappeared, wet and dry temperatures were recorded and sea temperature was taken and recorded from about 1864.

26. Beaufort wind scale was used and a code to denote the state of the weather. This code continues in use today:

i.e. "q p d l t - very hard squalls, showers of drizzle accompanied by lightening with very heavy thunder."

27. A log requiring more information was brought out for coal burning vessels it recorded in addition:

A. Every 12 hours:

Temperatures of Sea Water, Atmospheric temperature of Fore Stoke Hold, Aft Stoke Hold and Coal Boxes.

B. Every 24 hours:

Expenditure of coal for engines, ship expenditure of oil, tallow and ocham.

28. The majority of the Logs are stoutly bound with one hundred and eighty pages. They were produced by Waterlow & Sons of London Wall, London. It must have been a valued contract and Waterlow hung on to their monopoly throughout this period. Earlier editions are adaptations as the front cover is marked "Accounting Book".

29. In 1884 a reprint gave sea temperature its own column.

30. All entries are clearly and neatly written in black ink.

31. As in other periods there is often only one geographical position recorded each day at noon but up to seven sets of weather observations, one at the end of each watch, 0400, 0800, 1200, 1600, 1800, 2000 and 2359.

32. A single Deck Log covered many months and time at sea is fully documented with weather observations meticulously recorded. Earlier Logs do not describe the instrument used or its position in the ship but a reprint of the Deck Log in 1875 added this requirement to the front cover. An example is given at annex F.

33. The Deck Logs are stored in boxes on the shelves two to three to a box. A thorough inspection of one Log every twenty revealed one hundred and eighty pages each with up to seven sets of observations taken at 0400, 0800, 1200, 1600, 1800, 2000 and 2359.

34. Not all logs had all one hundred and eighty pages completed. Also unlike the ship's Meteorological Log weather observations in this period continued at anchor and in harbour. Nevertheless with over a thousand observations in most Logs, from 11,089 Logs it is estimated that there are some six million observations of good quality taken at sea from oceans throughout the world that could be added to the Marine Data Base.

35. Random checks with the Marine Data Base show that non of the readings from Warship Deck Logs in this period has been keyed into the Marine Data Base.

36. The 597 warships submitting Met Logs (para 12) simultaneously may have duplicated material. These vessel can be easily identified in the archive registers and left out of any future processing if necessary.

ADDITIONAL OBSERVATIONS AVAILABLE

37. Due to the significant amount of additional material available in this period to add to the Data Base only a broad estimation of the quantity has been made. At a conservative calculation this is as follows:

Meteorological Log Books - 2 million

Warship Deck Logs - 6 million

38. Estimate of global areas covered by the observations in this period:

	Atlantic		Med	Indian Ocean		Pacific	
	North	South		North	South	North	South
Met Logs	42%	10%	15%	8%	12%	2%	11%
Deck Logs	40%	12%	15%	6%	13%	2%	12%

39. Several boxes of Log Books could be taken at a time for keying. Because of the clarity of record a manual keying operator would only require a short period of training. This will need to include a simple written decode for some conventions used in the Logs. In the example at annex E for example, wind direction is shown in a cross, i.e. $\frac{4}{11}$ means the wind is from 225 or South West. Each number represents one point of the compass or eleven and a quarter degrees. In the example therefore $4 \times 11 \frac{1}{4}$ in the 180 - 270 degree sector or $180 + 45 = 225$ degrees.

40. The new wing of the Public Records Office is almost completed and this doubles the capacity of their archives. Reorganisation into the extended building starts next month and is programmed to complete at the end of 1996. The entire stock of Warship Deck Logs has been moved from the third floor to the basement of the old block.

41. This new area gives marginally more space but by far the easiest and quickest method of extracting data from these Logs is to remove them in their boxes in batches to a convenient processing site. This would require exceptional approval but in view of the fact that this enormous amount of information is readily available, lying unused and rarely drawn for public use approval is likely to be given.

42. Such use to our forecasting organisation would validate the many hours and meticulous care past generations of seafarers took in recording this data.



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- Annex A Location Met Office Archives
- B Example Met Log
- C Barque Chatham sample page 1836
- D Example detailed remarks Met Log
- E Example 12 hour Log
- F Example instrument details