

## Ten year Rainfall Sheets (physical history)

The Ten Year rainfall books are an independent data series held in the National Meteorological Archive and were historically maintained by the Rainfall Branch of the Meteorological Office (Craddock, 1976).<sup>1</sup> The books were actually Kalamazoo files and the pages inside have now been transferred to archival files to ensure their long term preservation. Each file consists of loose-leaf pages which followed a design laid out by Symons (1871, 1872). Each pre-printed form gives the monthly and annual rainfall totals for the relevant decadal period and has space for metadata on the type and site of the rain gauge and some location data. This metadata is not always completed. Stations were initially arranged within each file by county and the files themselves were formed into decadal blocks. From 1910 each station was given a number which brought stations within each catchment area together and this concept was further improved in 1951 but prior to 1910 stations could be found anywhere within the relevant county.

The data falls into two sets comprising data from 1677 – 1886 and data from 1860 – 1970. The first series is compiled from a number of different published and unpublished sources including Luke Howard's 'Climate of London', the *Gentleman's Magazine*, the *Philosophical Transactions* of the Royal Society and the *Manchester Memoires* (Craddock, 1976). The second series consists of data received directly into the Meteorological Office from observing stations and completed by Office staff.

Data collected for, and sent directly to, the Meteorological Office was subject to a level of quality control and verification although where records have been amended or added there is rarely a record of when or by whom. There is a greater risk of inaccuracy in data drawn from materials first published elsewhere for which the original observations cannot be verified (Craddock, 1976). This accounts for almost all of the pre 1820 data. Whilst references to the original source are often given Craddock notes that in many cases metadata on the rain gauge site was not transcribed. To reduce this loss he created an index of pre 1820 sites giving all available information on the source, site or observer and this index is held in the National Meteorological Archive. Craddock discusses several of the challenges in creating homogeneous series from data before and after 1820 (1976, pp.825-830)

The physical arrangement of the data, resulting in observations from a single station being spread through the entire series of files, has made it extremely difficult to exploit this unique data source.<sup>2</sup> The potential for analysis after digitisation made it an excellent candidate for digitisation and the series was identified as a priority for scanning by the National Meteorological Archive in 2018. Scanning of all data and the Craddock index was completed in 2019 and the records uploaded to the Met Office Digital Library and Archive (Met Office Library and Archive, 2020) [https://digital.nmla.metoffice.gov.uk/SO\\_d383374a-91c3-4a7b-ba96-41b81cfb9d67/](https://digital.nmla.metoffice.gov.uk/SO_d383374a-91c3-4a7b-ba96-41b81cfb9d67/).

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<sup>1</sup> The series is catalogued in the National Meteorological Library and Archive catalogue under parent record Ten year rainfall books MET/2/4/1/1/b/5 <https://library.metoffice.gov.uk/Portal/Default/en-GB/RecordView/Index/624356>

<sup>2</sup> Only two serious attempts are known: Glasspool in the late 1920's and early 1930's and Craddock in the mid-1970s whilst creating a series of homogenous rainfall records representing different districts of Britain for a collaboration between the Climate Research Unit at the University of East Anglia and the National Environment Research Council (NERC).

## Bibliography

Craddock, J. (1976), 'Annual rainfall in England since 1725', *Quarterly Journal of the Royal Meteorological Society*, 102(434), pp.823-840

Glasspool, J. (1928) 'Two centuries of rain', *Meteorological Magazine*, 63(745), pp.1-6

Met Office Digital Library and Archive (2020), Available at [https://digital.nmla.metoffice.gov.uk/SO\\_d383374a-91c3-4a7b-ba96-41b81cfb9d67/](https://digital.nmla.metoffice.gov.uk/SO_d383374a-91c3-4a7b-ba96-41b81cfb9d67/) (Accessed 24 November 2020)

Nicholas, F. and Glasspoole, J. (1931) 'General monthly rainfall over England and Wales 1727 – 1931' *British Rainfall*, 71(4) pp.299-305

Symons, G. (1870) *Symons British Rainfall*, 1871, pp.53-58

Symons, G. (1871) *Symons British Rainfall*, 1872, pp.58-68