



Meteorological observations in Lisbon in the first half of the 19th century: exploring Franzini series

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After the early meteorological observations of the 1770s to the 1790s in continental Portugal, there were hardly any until 1815. Marino Miguel Franzini's meteorological observations started in December 1815 at the suggestion of Doctor Bernardino Gomes, who needed meteorological data to study public health in the city of Lisbon. Franzini was a member of the Lisbon Academy of Sciences (founded in 1799) and had contact with foreign Academies and other European scientists.

His instruments were carefully constructed and described, including graduation scales, and the three locations of the Lisbon station were indicated. Data from the first two years observations was published in the Academy of Sciences Memoirs. From 1818 until 1826 and from 1835 until 1856 data was divulged in journals and newspapers, such as the "Journal of Medical Sciences", together with data on necrology in some of Lisbon parishes; meteorological data and information about agriculture was also published in the "Lisbon Gazette". Two series of monthly data were compiled: 1815-1825 and 1836-1854 and preliminary analysis shows that they are not statistically different. The gap between 1826 and 1835 was due to the political activities in which Franzini was involved: the civil war disrupted scientific research in Portugal.

Unfortunately, there are hardly any daily data, as Franzini grouped most of his records according to weather types. Although this represents a problem for the series reconstruction, it shows that the notion of weather types was already perceived by Franzini (before most of the studies on this subject, namely Julius Hann's definition of climate in 1883. We will explore Franzini's data and refer to some extreme weather events.

Official meteorological observations began in Lisbon in December 1854, in a site not far away from one of Franzini's station. The long series of Lisbon includes the 1835-54 Franzini's series.