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# A community of Irish rain: mapping the development of the volunteer rainfall network in Ireland (1860-1870).

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Background

The rainfall network was a community of volunteers scattered across Britain and Ireland who, from the late 1850s onward, measured and recorded rainfall in their locality and returned their data to a central office in London. There the data were collated and verified under the authority of another volunteer, G.J. Symons (1893-1900), who published the results in an annual periodical called 'British Rainfall'. In 1860 there were 13 volunteer rainfall stations in Ireland. By 1870 there were 74 such stations.

Objectives

This presentation seeks to examine the development of the volunteer rainfall network in Ireland through the treatment of primary source material in a digital environment. There are two interrelated objectives. The first is to present a 'proof of concept' for building a digital dataset from historical data. The second is to present a historical investigation of the geographic, social and cultural construct of the rainfall network in nineteenth-century Ireland. Who were these people? Why did they volunteer as rainfall observers? As a volunteer community of science, the rainfall network offers an opportunity to examine themes that are familiar to the history of Victorian science such as widespread popular engagement and the variety of scientific pursuit.

Methodology

This investigation introduces a new perspective by exploring these themes along a spatial paradigm through the use of Geographical Information System (GIS) technologies. The intention is to embrace the opportunities offered by digital tools to analyse archival material, but to do so in a way that is aware of (and critical of) the impact that technology has on the historical research process. A source-oriented approach is adopted when transcribing data from 'British Rainfall' and various controls are used to handle anomalies in naming people and locations. Historical GIS can be problematic because it demands more than primary source material usually allows. This can lead to inaccuracy and error so an uncertainty model (UTEM) is used to assist with categorising the level of uncertainty in geo-referencing the location of rain-gauges.

Outcomes

Analysis of the dataset through visualisation uncovers spatial patterns or 'clusters' of activity in certain areas. Closer examination reveals individuals with various motivations for volunteering as part of Symons' scientific community. One example is John Smyth Jun., a linen manufacturer, who maintained three rain-gauges in the Bann Valley from 1862. Rainfall data were of significant importance to his industry, which relied heavily on water-powered mills. Smyth was also a published member of many prominent scientific societies and is famed for inventing an apparatus known as an 'ozonometer', used for measuring ozone in the atmosphere. A second volunteer in the same region was Thomas Waring (1828-1898), a barrister and Conservative Member of Parliament, who, as a Protestant landowner, is identifiable as a typical Victorian male pursuing science as a means of self-improvement or leisure. The results of the investigation will demonstrate that the rainfall network was a model of collective science, one that did not distinguish between science as a specialist, professional activity and science as a recreational activity.

References

Plewe, B. (2002). The Nature of Uncertainty in Historical Geographic Information, Transactions in GIS 6 (4), 431–456.
Registers of Daily Rainfall in Ireland. (1863 - 1940). MÉ/RR/D. Met Éireann Library, Dublin, Ireland.
Symons, G. J. (Ed.). British Rainfall. 40 vols. London: Edward Stanford.