

Early American Sunspot Drawings from the “Year without a Summer”

The year of 1816 is commonly referred to as the “Year Without a Summer” due to the abnormally cold temperatures that persisted in the northern hemisphere (Klingaman and Klingaman, 2013). Particularly hard hit by this weather anomaly were the New England states where the lower than average temperatures had a devastating impact on agriculture and, in general, the quality of life. We have now come to an understanding that the natural decrease in temperature towards the end of the Little Ice Age (1300-1850) [Fagan, 2001] was exasperated by the April 1815 volcanic eruption of Mount Tambora in Indonesia. However not knowing this connection gentleman scientists at the time naturally considered that the sun may have played a role in the extreme temperatures particularly in light of the dearth of sunspots observed during what is now referred to as the Dalton Minimum (1790-1830) [McCracken and Beer, 2014].

The Reverend Jonathan Fisher was a Congregational minister who spent the bulk of his adult life serving the tiny coastal hamlet of Blue Hill in northern Maine [Murphy, 2010, Cathey, 2015]. He was a well-educated man with a profound love of science. Fisher made valuable contributions to the practical and intellectual developments of the eastern frontier in the early 19th century. In 1816 he experienced this dire summer and made continual reference to the cold weather in his journals. During the summer and into 1817 he also included in his journals sketches of “spots on the rising sun.” Figure 1 is a composite image of the solar drawings made by Fisher for the summer of 1816 and into the winter of 1816-1817. These simple sketches are, to the best of our knowledge, the earliest sunspot drawings from the Americas. The fact that Reverend Fisher’s journals were found to still exist is a story in and of itself which we will leave to others to relate. The Jonathan Fisher House society now maintains the historical home and records of Reverend Fisher. For the space weather community the existence of these early sunspot drawings is nevertheless an interesting piece of history. Fisher’s sunspot drawings are available online at <https://www.ngdc.noaa.gov/stp/spaceweather.html>.

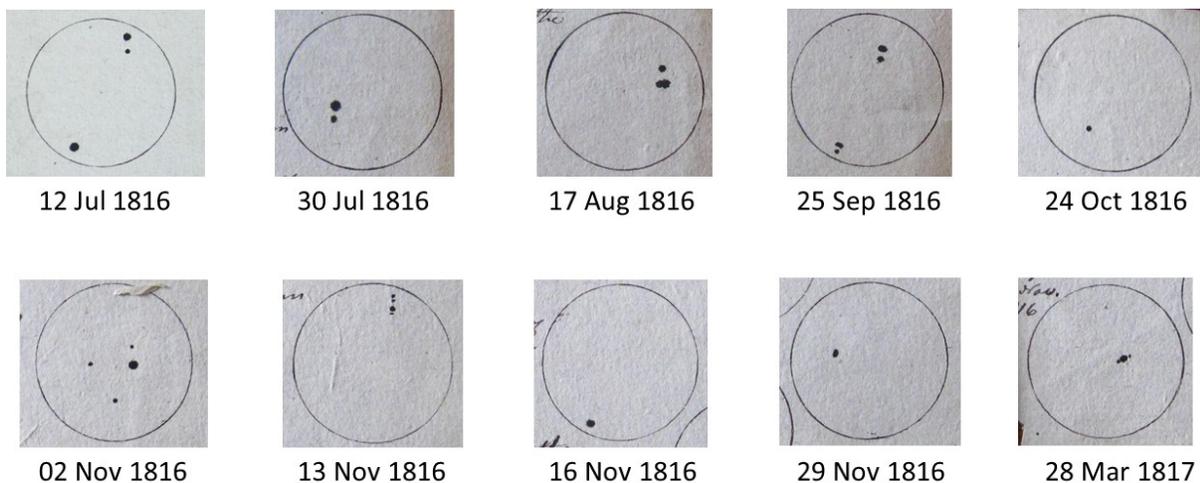


Figure 1. Sunspot Drawings from the Journals of the Reverend Jonathan Fisher.

Submitted to the *Space Weather Journal* as a News Item or Commentary by W.F. Denig¹ and M.R. McVaugh²

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Submitted: 13 April 2017

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