

Total Solar Eclipse, 24 June 1778, in the Carolina Piedmont

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Introduction

From about 8:00 a.m. to 10:00 a.m., 24 June 1778, a total solar eclipse passed over much of central Georgia, South Carolina and North Carolina. Many towns were within the zone of totality, including: Augusta, Ninety Six, Orangeburg, Camden, Charlotte, Cross Creek (later Fayetteville), Salem (later Winston-Salem), Hillsborough, New Bern, Edenton, Norfolk, and Williamsburg. Its track ran along the Carolina Piedmont about 25 miles south of and parallel to present-day highway I85. Totality was experienced within 50 miles on both sides of that track. Along the centerline, total darkness lasted about 4 minutes.



Total Solar Eclipse, Zone of Totality, 24 June 1778 (NASA 2012)

Such an extraordinary event must have been recorded. So, I initiated a search. I first asked the many members of the Charlotte History Roundtable, an association of librarians, museum staff, docents, genealogists, and historical specialists. Librarian Shelia Bumgarner found a record of a Moravian, probably at Bethabara or Bethania settlement on the edge of the zone of totality, who recorded:

Beginning shortly before 9 o'clock in the morning there was an almost total eclipse of the sun. At the peak of the eclipse the sun was under a cloud, and for some minutes it

was necessary to light the candles, stars peeped out here and there, and no one can remember to have seen the like before. The reapers returned from the field about 9 o'clock, and did not go out again until afternoon. (RMNC 1922, III:1237) (Bumgarner 2014)

Pension Applications

In addition, I searched pension applications of American Revolution soldiers for any mention of this solar eclipse. Over 20,000 such applications have been transcribed from court records by Will Graves and Leon Harris (Graves and Harris 2005–2017). See webpage <http://revwarapps.org>. A search criteria of “eclipse” yielded 17 pension applications. Many of these references merely specify the date of other events. In particular, see the pension applications of: Benjamin Hester, Aquila Blakley, and John Kelley. Several other applications refer to an American military expedition to British East Florida in which the combined American force of Colonel Samuel Elbert’s Georgia Continentals, South Carolina Continentals commanded by Colonel Charles Cotesworth Pinckney, reinforced by South Carolina backcountry militiamen under Colonel Andrew Williamson, and Georgia militiamen commanded by Governor John Houston were near the Satilla River preparing to make the third and final attempt to capture British East Florida (Baxley 2008–2017).

Newspaper Account

On 26 June 1778, the *North Carolina Gazette*, in New Bern, published:

On Wednesday last, the great eclipse of the sun, as calculated by astronomers in the almanacks, and said to happen in this latitude, and be visible here, was observed with great attention, and some surprise to the ignorant, the weather being tolerably clear, and the moon's passage over the sun's disk being distinctly seen during the whole immersion. This was the greatest eclipse of the sun ever seen here by the eldest people now living among us, and exhibited a scene truly awful. The gradual obscurity of the sun, the decrease of her light, the sickly face of nature, and at last the total darkness which ensued, the stars appearing as at midnight, and the fowls seeking for their nightly shelter, caused a solemnity truly great, and, tho' proceeding from a natural cause, the moon's passing between the sun and our earth, which she must necessarily do in certain periods in different latitudes, was beheld with astonishment and gratitude to the supreme Ruler of the universe, by whose almighty power the motions of such vast bodies are regular and uniform, and the delightful system of the world kept entire and complete. (NCSR 1895, XIII:450) (Poteet 2009–2017)

Thomas Jefferson’s Reaction

Another interesting aside was Thomas Jefferson’s reaction to the total solar eclipse which illustrated his astonishing range of interests even during a time of war. In a 19 July 1778 letter to David Rittenhouse at

the College of Philadelphia, Jefferson described what was observed at Monticello and asked for a more precise clock.

I sincerely congratulate you on the recovery of Philadelphia [from the British], and wish it may be found uninjured by the enemy. How far the interests of literature may have suffered by the injury or removal of the Orrery (as it is miscalled) [planetarium constructed by Rittenhouse] the publick libraries, your papers and implements, are doubts which still excite anxiety. We were much disappointed in Virginia generally on the day of the great eclipse, which proved to be cloudy. In Williamsburgh, where it was total, I understand only the beginning was seen. At this place which is in Lat. $38^{\circ} 8'$ and Longitude West from Williamsburgh about $1^{\circ} 45'$ as is conjectured, eleven digits only were supposed to be covered. It was not seen at all till the moon had advanced nearly one third over the sun's disc. Afterwards it was seen at intervals through the whole. The egress particularly was visible. It proved however of little use to me for want of a time peice that could be depended on; which circumstance, together with the subsequent restoration of Philadelphia to you, has induced me to trouble you with this letter to remind you of your kind promise of making me an accurate clock, which being intended for astronomical purposes only, I would have divested of all apparatus for striking or for any other purpose, which by increasing it's complication might disturb it's accuracy. A companion to it, for keeping seconds, and which might be moved easily, would greatly add to it's value. The theodolite, for which I spoke to you also, I can now dispense with, having since purchased a most excellent one. (Jefferson 1778)

Conclusion

It is noteworthy that no reference to this solar eclipse resorted to superstition. Apparently, by 1780, the scientific explanation of the moon passing in front of the sun was universally accepted. No reference indicated any significance to military movements or tactics.

As yet, no description about this total solar eclipse passing over Mecklenburg County has been found. However, the event could not have gone unnoticed since even if the weather was cloudy, it would have been as dark as night for several minutes.

History and Near Future of Total Solar Eclipses in Carolinas

Portions of the Carolinas, most South Carolina, will again experience a total solar eclipse at about 2:40pm EDT on 21 August 2017. Although the zone of totality does not pass over Mecklenburg County, it is within easy driving distance.

Solar eclipses occur periodically. However, because each is a projection of a shadow on a curved spinning earth at various inclinations, depending on the time of year, eclipses appear to occur randomly.

I examined all 252 total solar eclipses during years 1778 to 2153 and discovered that the zone of totality passes over Charlotte, Mecklenburg County, on:

- 24 June 1778, <https://eclipse.gsfc.nasa.gov/SEsearch/SEsearchmap.php?Ecl=17780624>
- 7 August 1869, <https://eclipse.gsfc.nasa.gov/SEsearch/SEsearchmap.php?Ecl=18690807>
- 11 May 2078, <https://eclipse.gsfc.nasa.gov/SEsearch/SEsearchmap.php?Ecl=20780511>
- 17 October 2153, <https://eclipse.gsfc.nasa.gov/SEsearch/SEsearchmap.php?Ecl=21531017>

In addition, those that pass over any part of North Carolina or South Carolina include:

- 30 November 1834, <https://eclipse.gsfc.nasa.gov/SEsearch/SEsearchmap.php?Ecl=18341130>
- 28 May 1900, <https://eclipse.gsfc.nasa.gov/SEsearch/SEsearchmap.php?Ecl=19000528>
- 7 March 1970, <https://eclipse.gsfc.nasa.gov/SEsearch/SEsearchmap.php?Ecl=19700307>
- 21 August 2017, <https://eclipse.gsfc.nasa.gov/SEsearch/SEsearchmap.php?Ecl=20170821>
- 30 March 2052, <https://eclipse.gsfc.nasa.gov/SEsearch/SEsearchmap.php?Ecl=20520330>
- 14 September 2099, <https://eclipse.gsfc.nasa.gov/SEsearch/SEsearchmap.php?Ecl=20990914>

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