



# America's First Great Eclipse: How Scientists, Tourists, and the Rocky Mountain Eclipse of 1878 Changed Astronomy Forever

*Steve Ruskin*

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**Based on a decade of research, *America's First Great Eclipse* takes readers on a thrilling historical journey, revealing that nineteenth-century Americans were just as excited about a total solar eclipse as we are today ... and, like us, were willing to travel thousands of miles to see it.**

The upcoming total solar eclipse on August 21, 2017 is being called the Great American Eclipse. But it is not the first eclipse to deserve that title. In the summer of 1878, when the American West was still wild, hundreds of astronomers and thousands of tourists traveled by train to Wyoming, Colorado, and Texas to witness America's first "Great Eclipse."

*America's First Great Eclipse* tells the story of a country, and its scientists, on the brink of a new era. Near the end of the nineteenth century, when the United States was barely a hundred years old, American astronomers were taking the lead in a science that Europeans had dominated for centuries. Scientists like Samuel Langley, Henry Draper, Maria Mitchell, and even the inventor Thomas Edison, were putting America at the forefront of what was being called the "new astronomy."

On July 29, 1878, having braved treacherous storms, debilitating altitude sickness, and the threat of Indian attacks, they joined thousands of East-coast tourists and Western pioneers as they spread out across the Great Plains and climbed to the top of 14,000-foot Pikes Peak, all to glimpse one of nature's grandest spectacles: a total solar eclipse.

It was the first time in history so many astronomers observed together from higher elevations. The Rocky Mountain eclipse of 1878 was not only a turning point in American science, but it was also the beginning of high-altitude astronomy, without which our current understanding of the Universe would be impossible.

22 illustrations.

## America's First Great Eclipse: How Scientists, Tourists, and the Rocky Mountain Eclipse of 1878 Changed Astronomy Forever Details

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## **From Reader Review America's First Great Eclipse: How Scientists, Tourists, and the Rocky Mountain Eclipse of 1878 Changed Astronomy Forever for online ebook**

### **Joan Richards says**

The writing about the 1878 eclipse was descriptive and informative, particularly from a historical perspective. This was particularly relevant and interesting to read in 2017, as another eclipse darkened the early afternoon sky here last month.

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### **Ben Vogel says**

Interesting account of the popular excitement and science of that occurred around this astronomical event. I'm glad I read it before our trip to see the eclipse of Aug 21, 2017.

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### **Stephen Wendell says**

Steve Ruskin turns the story of a solar eclipse into an informative tour of the science of stargazing at a turning point. Earlier astronomy was all about finding stars in the night sky in order to locate one's position on the globe. With mid-19th century technological advancements in photography and spectroscopy, astronomers were able to analyze star light to discover that they're made of the same stuff as the Earth. Ruskin provides the history that leads up to the development of this "new" astronomy in early chapters. But that's just the back story. The coincidence of a total solar eclipse over the Rocky Mountains gave astronomers an opportunity to test the yet unproven theory that observing stars at higher elevations gives better results. Through the eclipse story, the author describes the trials of stargazing in the extreme environment at 14,000 feet, details Thomas Edison's "tasimeter," and showcases pioneering female astronomer Maria Mitchell. Other highlights are the search for the mysterious planet Vulcan, the speed of the Moon's shadow, and how to make your own eclipse-viewing glasses!

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### **Mia Kleve says**

*America's First Great Eclipse* is the perfect guide to the 1878 eclipse giving the reader a picture of the types of people who came west to Colorado and Wyoming which were located on the patch which expected to see the full eclipse. The scientists and recreational viewers were also hoping the increased altitude would provide them with the ability to get better observational results.

This is a great primer for more experienced eclipse viewers, but not so much science that the average reader will get discouraged. It's a great, quick read.

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## James Crabtree says

This is a great book about the 1878 eclipse. This major astronomical event saw the area of totality (total eclipse) move across the American West, placing parts of Texas, Colorado, Wyoming and Montana in total darkness. This was an interesting time of contrasts: the astronomers who wanted to observe the eclipse primarily went to Colorado in part due to its accessibility by railroad. Montana, in contrast, had no astronomical expeditions because not only had the iron rails not reached the territory but the destruction of Custer's command at the Little Big Horn had taken place there in 1876.

Ruskin does an excellent job of describing some of the quirks of this event and describes many of the personalities involved, including an all-female expedition and inventor Thomas Edison's attempt to use one of his inventions to study the eclipse. Ruskin discusses the changes then taking place in the field of astronomy and how the Great Eclipse helped to firmly establish America's place in the field. Well-illustrated.

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## Daniel says

On August 21, 2017, Americans will be able to see a total solar eclipse as the moon will pass between the earth and the sun, darkening skies for a few minutes across a great swath of the nation and making visible the solar corona. Hotels are already booked in cities near the path of this eclipse. Hundreds of thousands, perhaps millions of America, are looking forward to observing this celestial phenomenon.

And though we may think that in our age of instant communication and easy transportation, Americans today can do what our forebears could not, in this book, Steve Ruskin shows that our forebears were similarly fascinated in July 1878 when an eclipse also crossed a great swath of the nation. Then, as now, hotels were packed. Billiard tables were converted into beds.

Thomas Edison traveled to Rawlins, Wyoming to watch. Maria Mitchell, the world's first female professor of Astronomy led an all-woman team to study the phenomenon. Before the cog railway was completed, others lugged the highest tech of the day up Pikes Peak where they braved the elements to observe the heavens.

In the process, astronomers, professional as well as amateur, learned about the benefits of setting telescopes and building observatories at high altitudes.

This book is a good read and reminds me of Erik Larson's books (minus the murder) with a nice blend of information about the history and culture of the period as well as insights into the (then-)latest scientific advances. So absorbed was I in reading the book while doing cardio at the gym that I never once needed look up at the TV monitors.

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## Sean Golden says

This is a wonderful book, and a great way to get excitement up for this summer's total eclipse. The author has a great voice, and intersperses history, science and an interesting narrative very well. It's a great summer read, especially this summer.

### **Sarah Holton says**

I was hoping for more of a scientific book on eclipses and what we knew of them up at the 1878 eclipse, but this was more of a run down of 1878 eclipse historically. i was not really looking for how many hotels Denver had at the time of the eclipse, nor of the exact route Edison took to get to Wyoming. To be fair, I didn't really read the summary or title super well, I just saw that a book about eclipses was on sale and I was all up on the 2017 eclipse hype so I bought it. It was much more interesting in thinking back over it, than it was when i was listening to it. but I think thats because while I was listening I just kept waiting for it get to get deep in the weeds with science.

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### **Susan says**

Interesting little book about the 1878 total solar eclipse. Told from accounts by scientists, amateur astronomers and interested citizens the book provides easily readable observations and some local Colorado history.

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