

Astrobiology News August 2017: Eclipse 2017: My Excellent Family Adventure

This month, I'll shift unapologetically from objective science to my subjective experience of what may be the most remarkable natural event on Earth. Note I use the word "experience" because a total solar eclipse is undeniably a multi-sensory event that no images or videos, however impressive, can ever fully capture; and the most awe-inspiring facets are possible only because the Moon and Sun are currently the same angular size in the sky¹.

Twice before, I tried to chase down a total solar eclipse. As a graduate student at the University of Arizona in 1991, I traveled² to a small island a few kilometers off the coast of Mazatlan, Mexico, where it remained clear until 2-3 minutes before totality, after which a cumulus cloud seemingly appeared from nowhere to rudely block our view. In 1999, I co-led an eclipse trip to France with the president of the Chicago Field Museum. Although our eclipse-viewing attempts were a complete washout, touring Paris, along with consuming prodigious amounts of excellent wine and cheese, offered some compensation.



Early in the morning on August 21st, 2017, five of us squeezed into my family's twin-engine Cessna 310 airplane and headed for a small airport in Marshall, Missouri (along the centerline of totality). I hoped against hope that third time would be a charm! Flying VFR (visual flight rules, for the non-pilots among you), we dodged clouds and thunderstorms that put on a magnificent display for us en route. The mostly-clear skies

when we landed at around 9 am CDT gave us hope for excellent viewing, but clouds rolled in about an hour later.



Then, around 1 pm CDT, the western horizon started to clear and the Sun finally became visible through a thin layer of cirrus. Minutes later, it happened – we saw the diamond ring effect and Bailey's beads³, as the last rays of sunlight were extinguished and the sky darkened. The temperature dropped and a few bright stars became visible toward the western horizon, while the Sun disappeared and its glorious corona came into view. Through the sights, feel and eerie quiet of totality, shouts of joy erupted from the gathered crowd, while several dogs gamboled about, encouraged by the excitement of the humans.



The sky cleared during the 2nd half of the eclipse, after the Sun re-emerged as the Moon drifted slowly eastward.



If you have never witnessed a total solar eclipse, I strongly encourage you to put this high on your bucket list, because the experience is so much more than can be conveyed by human words or technology. On August 21, 2017, people across the U.S. gathered together in excitement, joy, and unity, on a scale that, for an all-too-brief period of time, overshadowed the divisiveness and hostility that has so infected our relationships with others and drained our energy and spirits. Would that we all could make it a habit to look up, look out, and appreciate the beauty, fragility, and uniqueness of our world each and every day we possess the gift of life!

Until next month,

Grace

P.S. You may enjoy reading my interview in *Living Lutheran*, where I share some of my own views on science and religion:

<https://www.livinglutheran.org/2017/08/im-lutheran-grace-wolf-chase/>

¹ They won't be a few hundred million years from now, as the Moon recedes from the Earth.

² I took a small boat with other graduate students and then decided to swim back to Mazatlan, sending my things with my friends.

³ A single "jewel" surrounded by bead-like areas of light created by the mountains and valleys on the Moon, which allow the last rays of sunlight to filter through in some places but not others.