

South Carolina SOLAR ECLIPSE

2017 Solar Eclipse

On Monday August 21, 2017 a total eclipse crossed **transcontinentally** for the first time since **1918**. The total eclipse itself took close to one hour and 40 minutes to cross from **Oregon** to **South Carolina**.

The total solar eclipse began close to Lincoln City, Oregon, at 1:15 p.m. EDT. and passed over McClellanville, South Carolina at 2:48 p.m. before heading over the Atlantic ocean. Prior to 2017, the last two total solar eclipses visible from South Carolina were in **1900** and **1970** and the next two total solar eclipses visible from South Carolina will be in **2052** and **2078**.

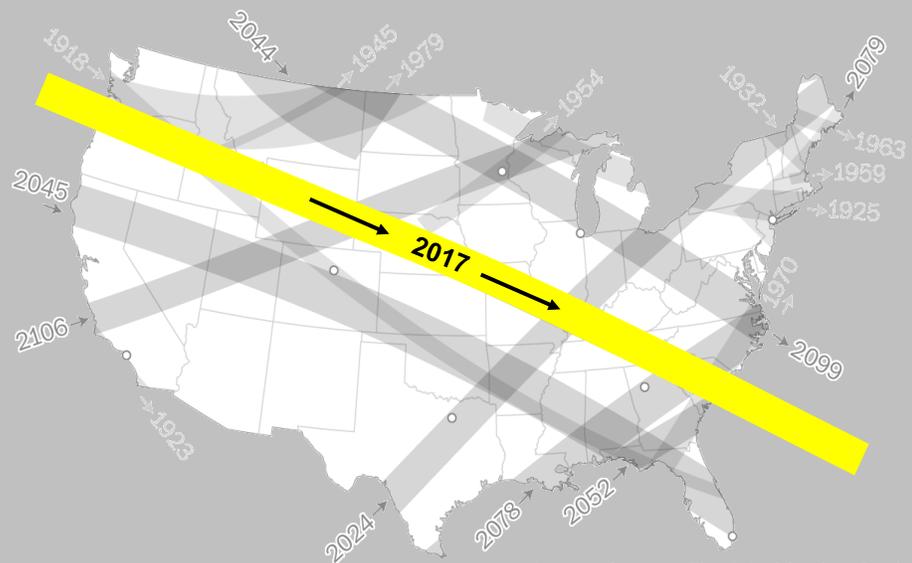


Image Source: The Washington Post

Solar Eclipse Overview and Historic Perspective

▶ 1900 Historic Event Overview and Re-creation

PAGE 02-03

South Carolina State Eclipse Event

▶ Graphical Representation of the 2017 Solar Eclipse

PAGE 04-07

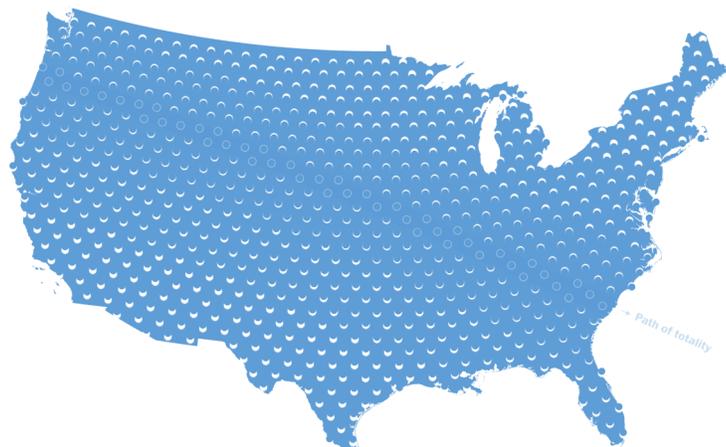
Richland County, SC Eclipse Event

▶ Graphical Representation of the 2017 Solar Eclipse

PAGE 08-09

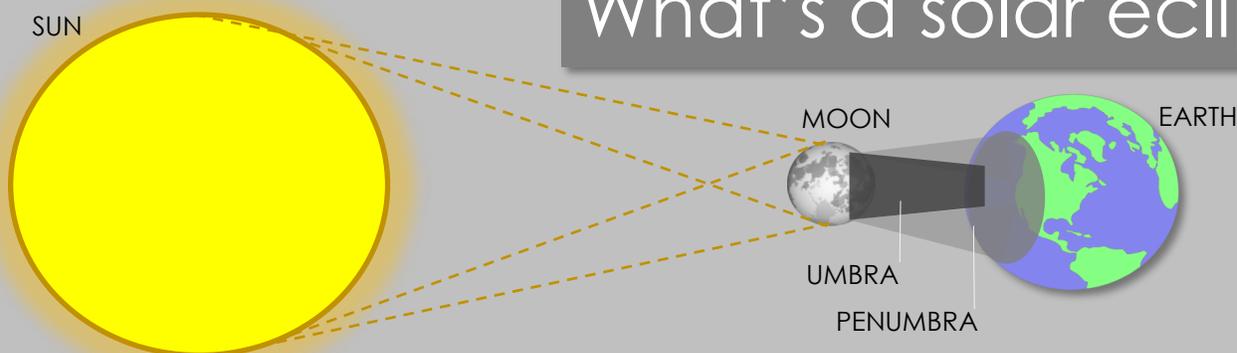
SOLAR ECLIPSE OVERVIEW

What the total solar eclipse in **August '17** looked like **throughout** the U.S.



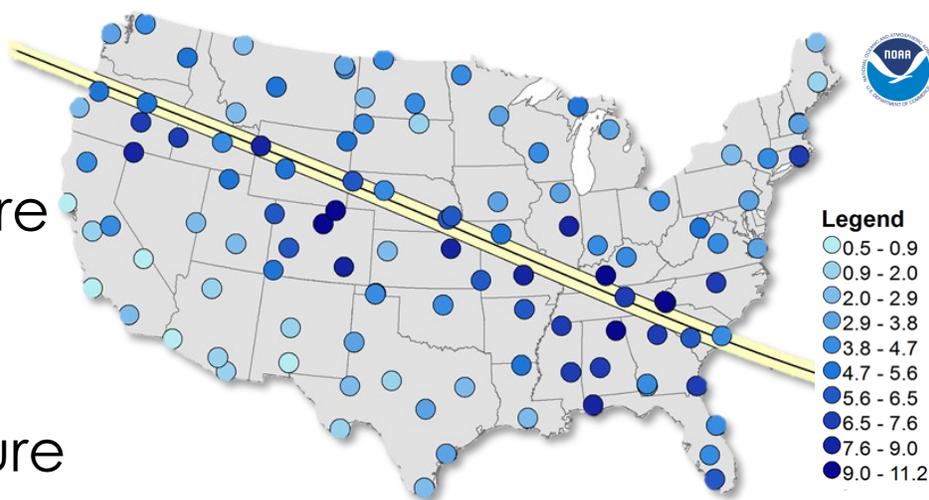
Picture Source: The Washington Post

What's a solar eclipse?



A solar eclipse occurs when the moon passes between the sun and the Earth. As the moon blocks the light from the sun, a shadow is cast on Earth. This phenomenon only happens by coincidence, as the sun is 400 times wider than the moon, but it is also 400 times farther away. Thus, both moon and sun appear to be the same size in the sky.

Here is how much air temperature changed from before the **2017 SOLAR ECLIPSE** to the eclipse temperature minimum

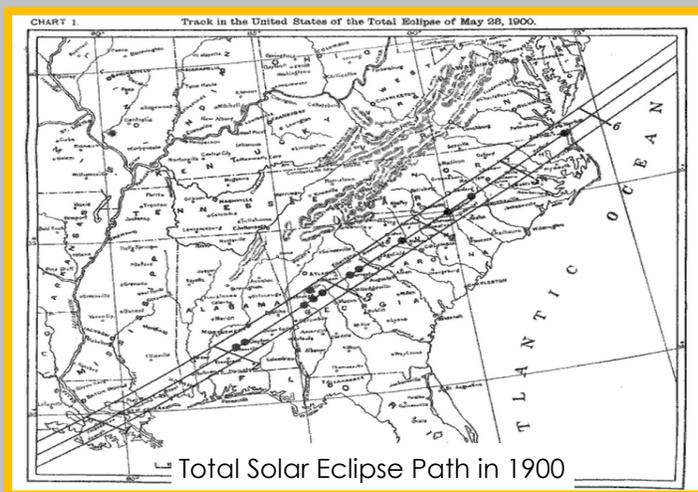


For more information on the changes in Air Temperature, Relative Humidity, and Surface Infrared Temperature in the USCRN Network during the Eclipse of August 21, 2017

visit: <http://www.atdd.noaa.gov/crn-eclipse/>

Historical Perspective

The following historical perspective and re-creation of the historical solar eclipse was written and provided by NWS WFO Columbia



The 1900 expedition consisted of Cleveland Abbe, Frank Bigelow, Roberdeau Buchanan, Walter Scott Harshman, James Page, Miss Jane Wilkes, Miss Lindsay, W.K. Sligh, J.Z. Salter. The expedition chose to set up on the grounds of the home of Dr. W.G. Houseal at 722 Caldwell Street in Newberry. The path of the total eclipse crossed from New Orleans to Norfolk, with Newberry near the center-line of totality. The time of totality was approximately 1 ½ minutes.

The U.S. Weather Bureau sent a team of meteorologist to study the total solar eclipse of May 28th, 1900. There was much interest at the turn of the century among scientists about the effects of the moon's shadow up on the earth's atmosphere. Because of the technology of the day, this was the only time scientists could actually look directly at the sun to make observations. The U.S. Weather Bureau expedition consisted of 11 people traveling to the town of Newberry, SC for the eclipse.



House of Dr. W.G. Houseal- Photo courtesy of Turner Photography and Restoration

Eclipse Re-creation



The National Weather Service partnered with Tom English, Director of the Cline Observatory at Guilford Technical Community College in Jamestown, NC near Greensboro, NC and Sam Zaidy, director of the Newberry County Library. Warren Page, the current owner of Dr. Houseal's home, gave NWS WFO Columbia permission to conduct observations at the original 1900 Expedition site. Leonard Vaughan, Service Hydrologist, and Hunter Coleman, Lead Forecaster at WFO Columbia conducted the observations. Leonard even dressed the part for the re-creation wearing clothing from around 1900.

Check out the report at www.weather.gov/cae/newberryeclipse.html

South Carolina 2017 Solar Eclipse Highlights

► **Sassafras Mt., S.C.**

Duration of the solar eclipse was **2 minutes and 5 seconds**. The partial eclipse started at **1:08 PM** and ended at **4:02 PM**. Total eclipse occurred between **2:37 – 2:39 PM**.

► **Blackville, S.C.**

The partial eclipse started at **1:13 PM** and ended at **4:07 PM**. Total eclipse occurred at **2:43 PM** and the duration of the solar eclipse lasted **32 seconds**.

► **Newberry, S.C.**

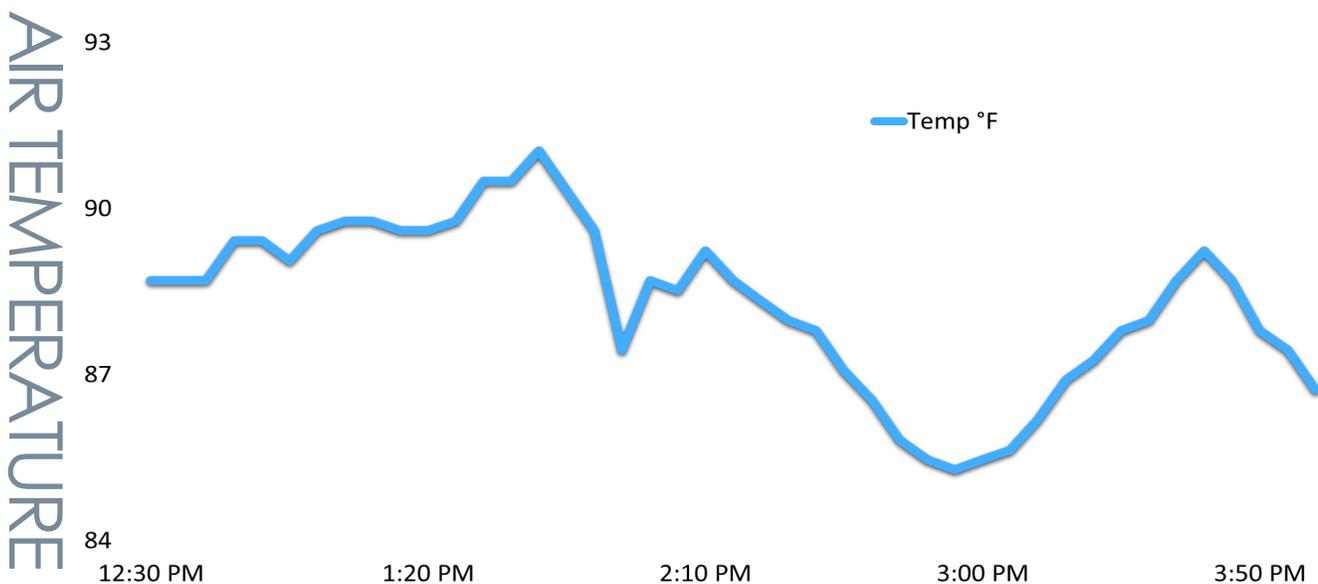
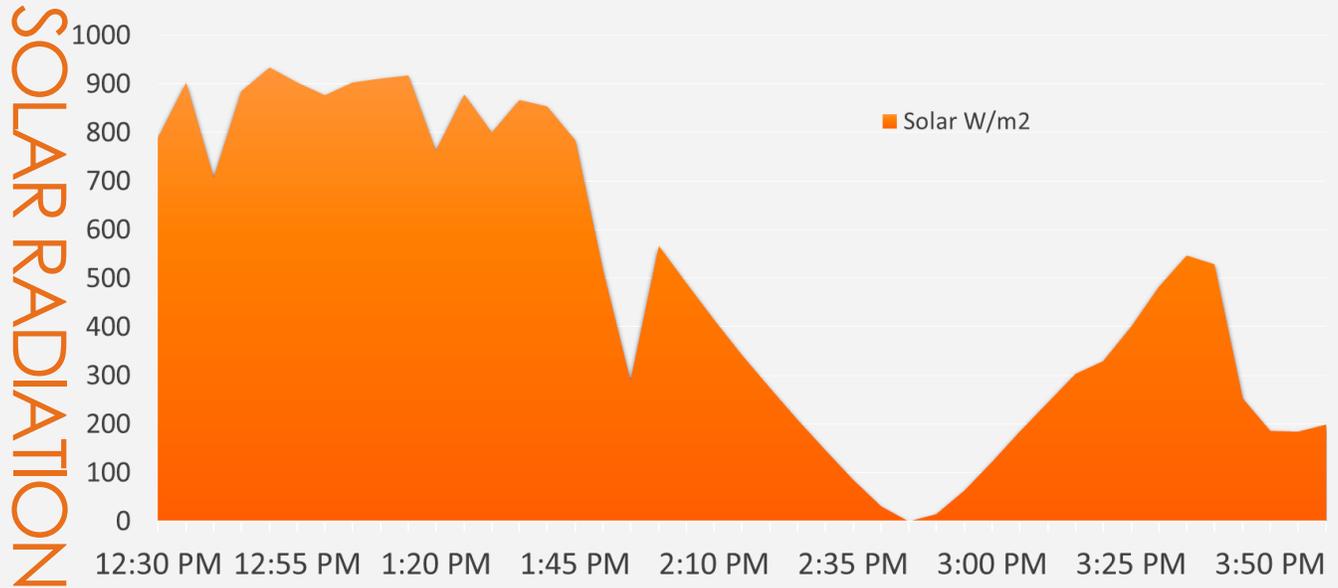
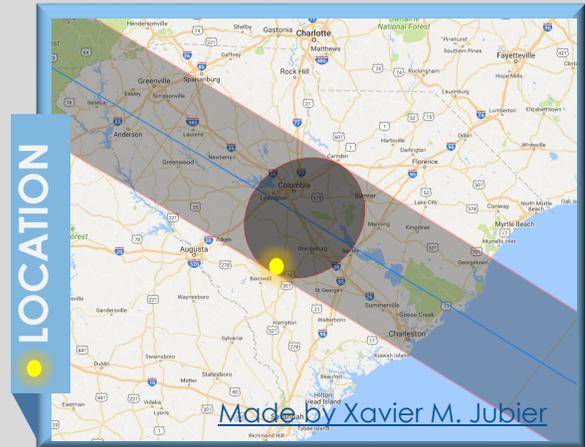
Duration of the solar eclipse was **2 minutes and 31.8 seconds**. The partial eclipse started at **1:11 PM** and ended at **4:05 PM**. Total eclipse occurred between **2:40 – 2:42 PM** and a air temperature decrease of **4°F** was recorded.

► **McClellanville, S.C.**

Duration of the solar eclipse was **2 minutes and 28.9 seconds**. The partial eclipse started at **1:17 PM** and ended at **4:10 PM**. Total eclipse occurred between **2:46 – 2:48 PM** and a air temperature decrease of **4.3°F** was recorded.

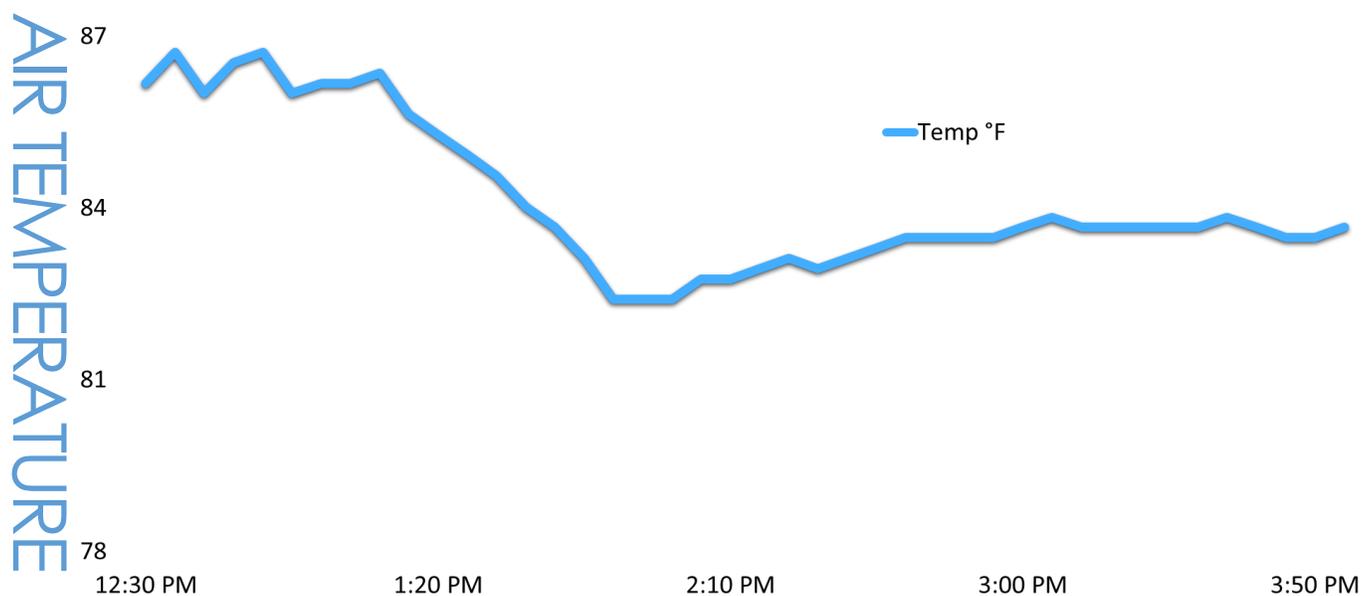
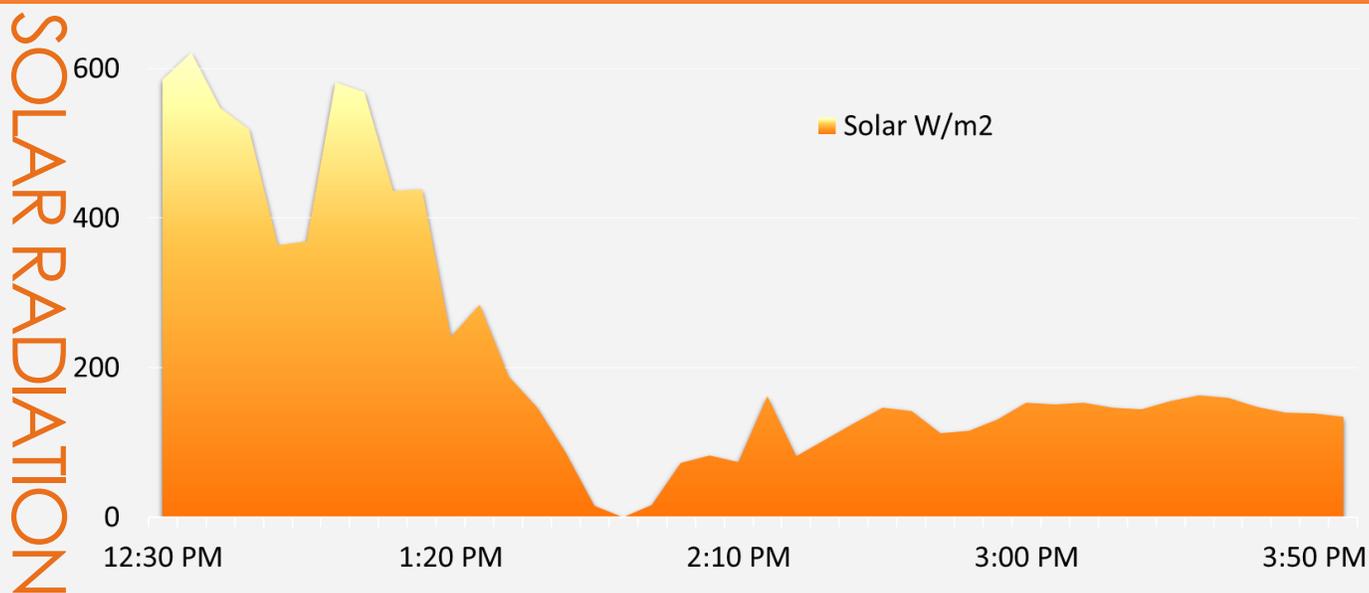
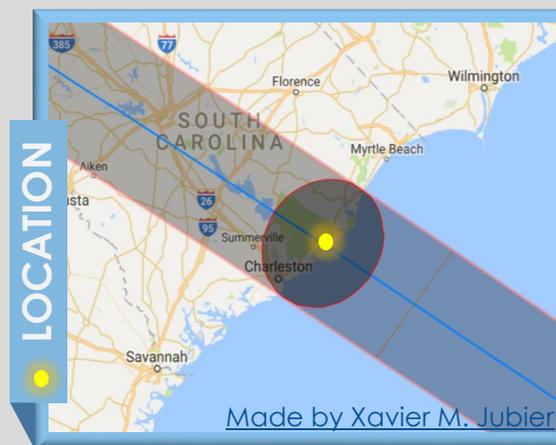
BLACKVILLE, SOUTH CAROLINA

[CLICK HERE TO
VIEW THE
CLOUD COVER
ANIMATION](#)



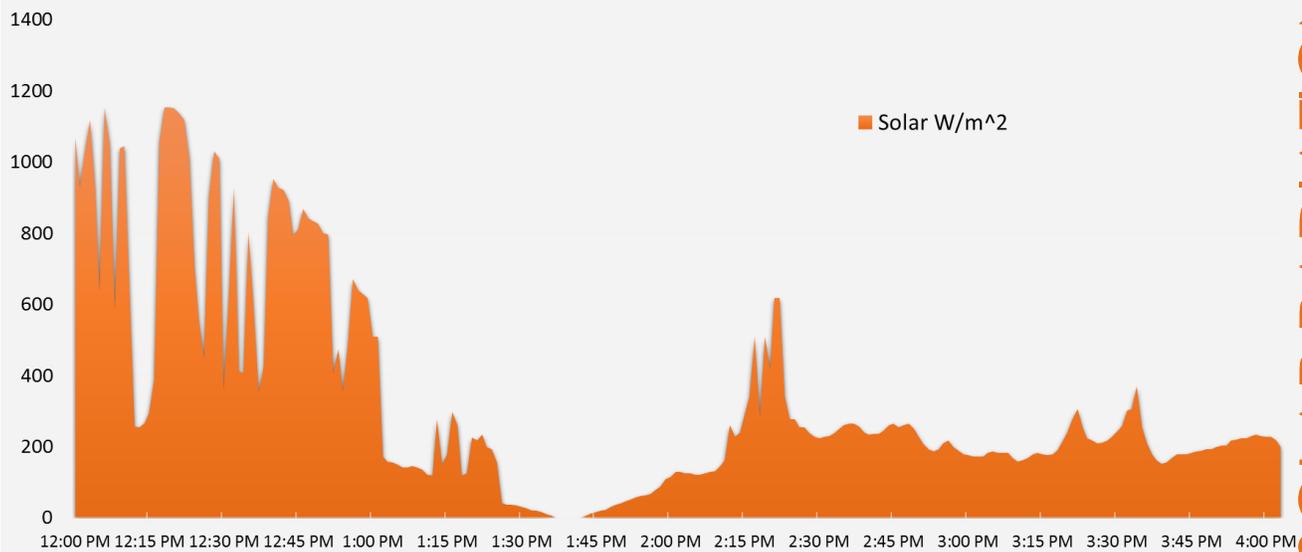
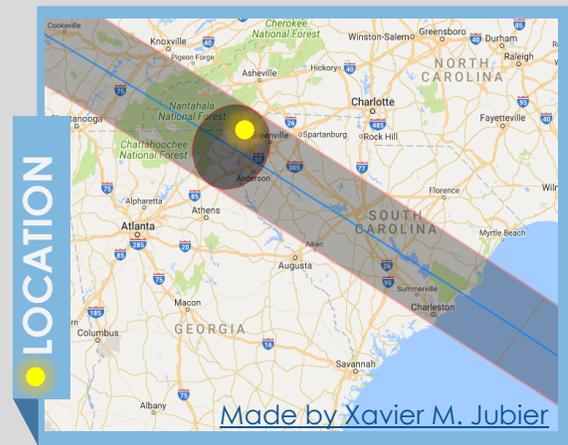
MCCELLENVILLE, SOUTH CAROLINA

[CLICK HERE TO
VIEW THE
CLOUD COVER
ANIMATION](#)

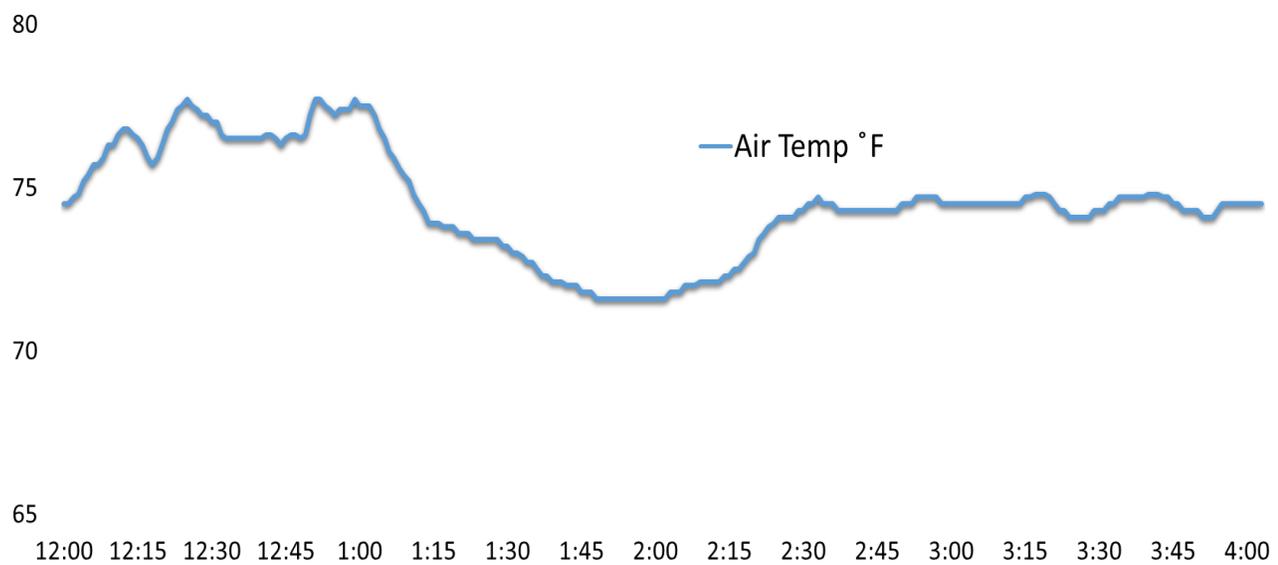


SASSAFRASS MT, SOUTH CAROLINA

[CLICK HERE TO
VIEW THE
CLOUD COVER
ANIMATION](#)

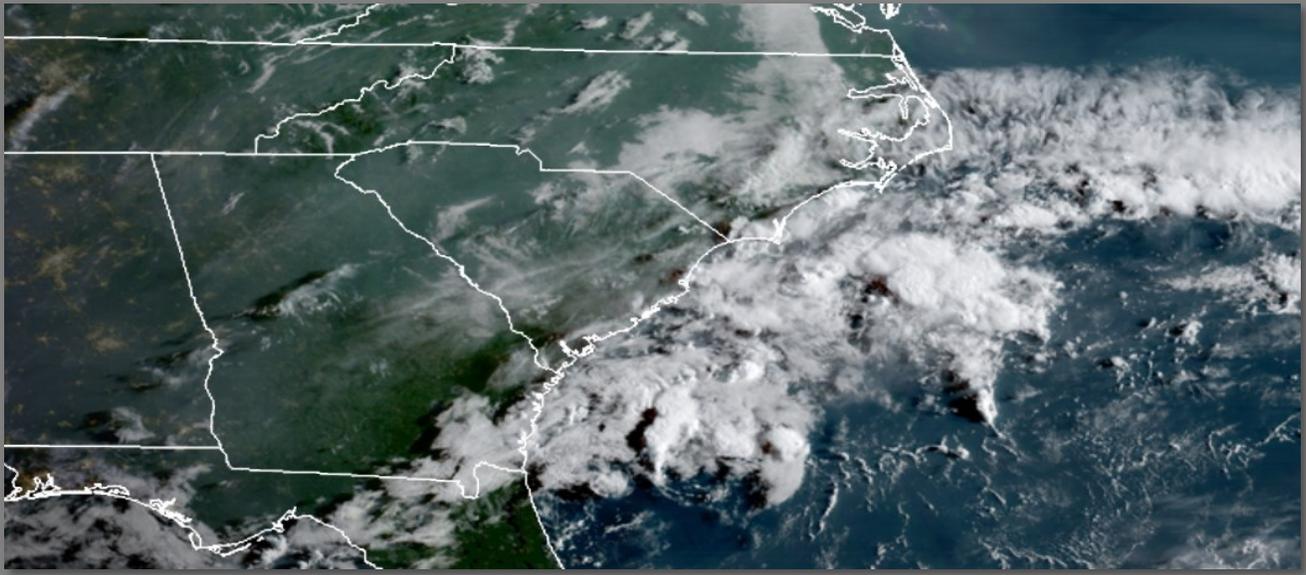


SOLAR RADIATION



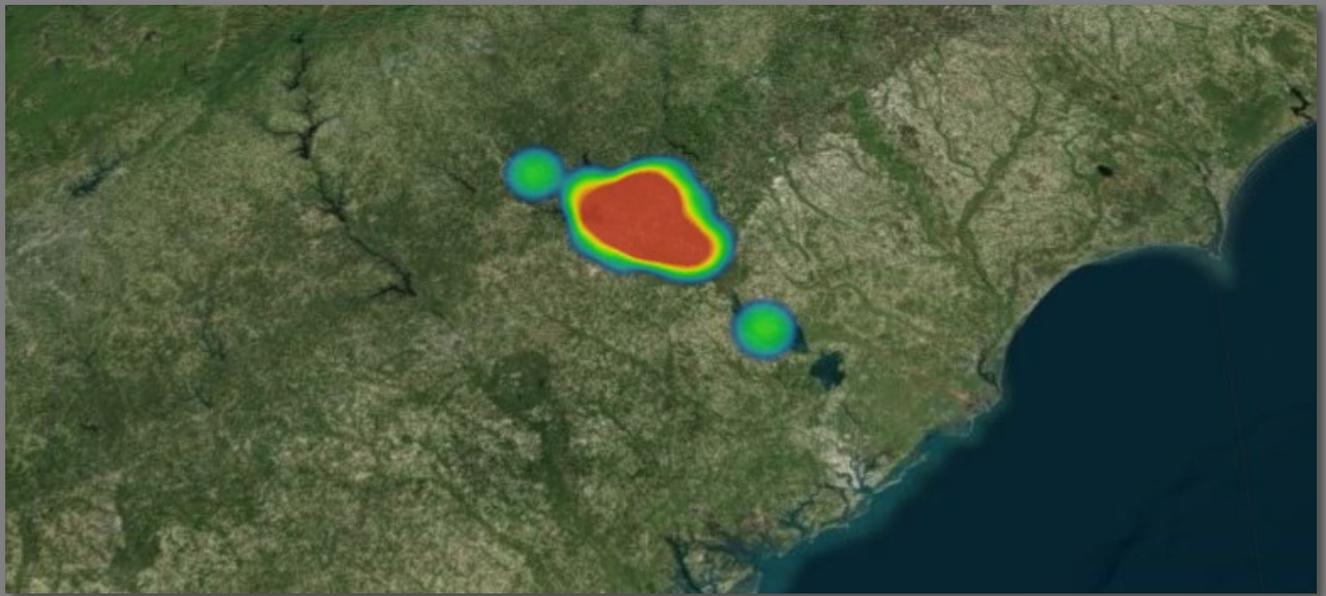
AIR TEMPERATURE

Richland County Cloud Cover Time-Lapse



[CLICK HERE TO VIEW CLOUD COVER ANIMATION](#)

Richland County Solar Radiation Time-Lapse



[CLICK HERE TO VIEW SOLAR RADIATION 12PM-4PM](#)

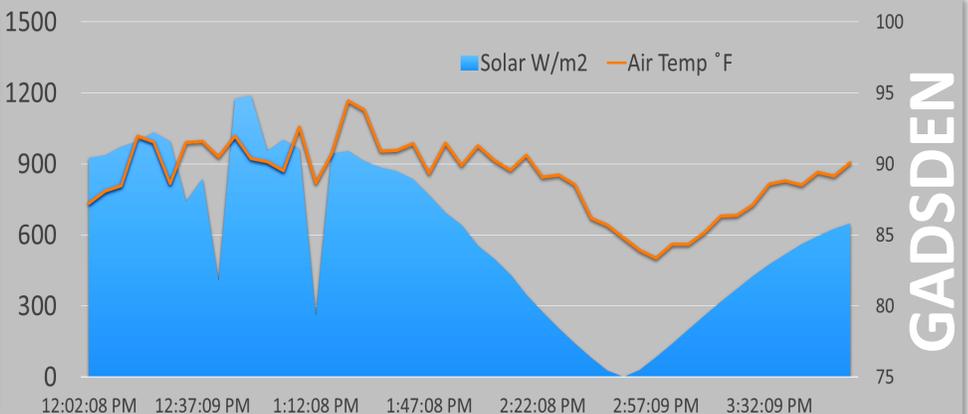
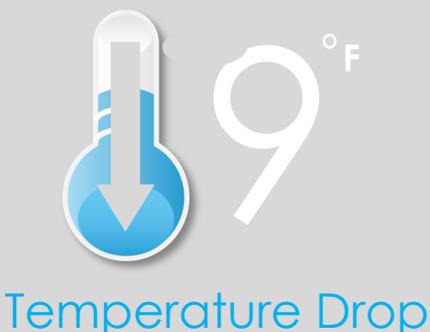
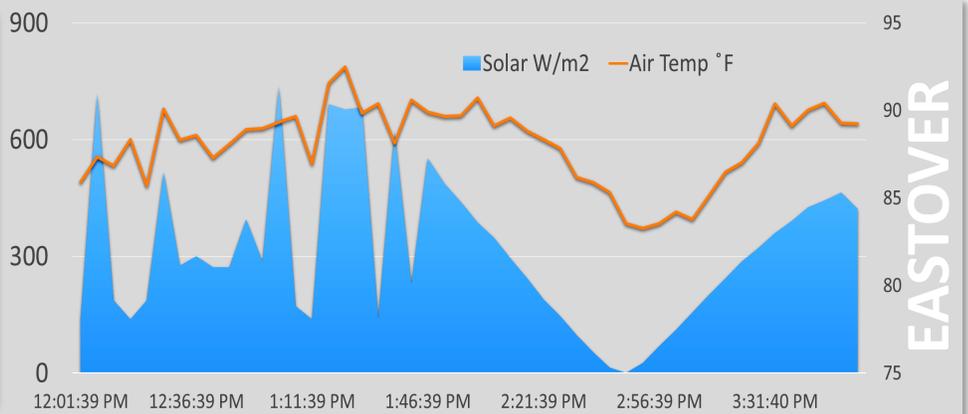
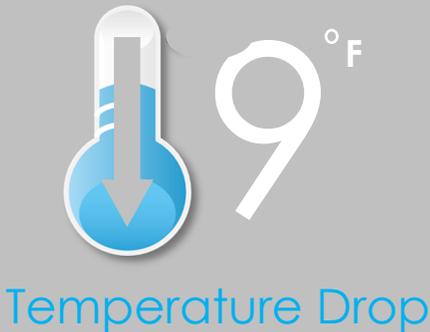
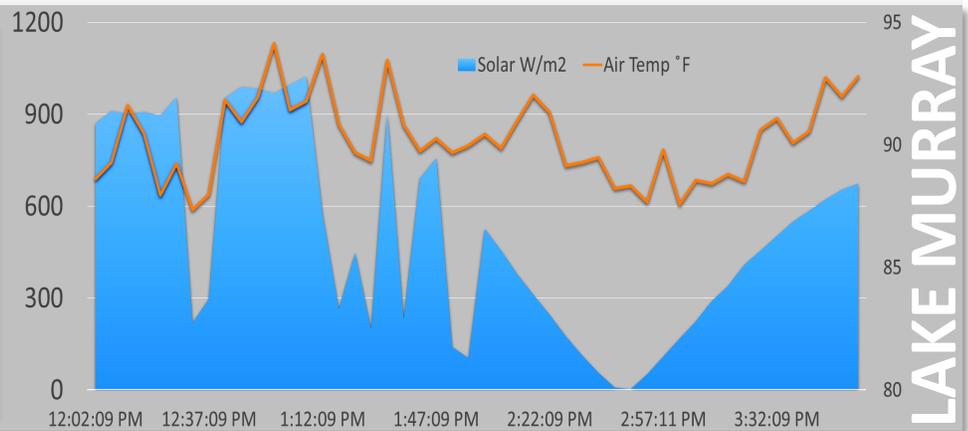
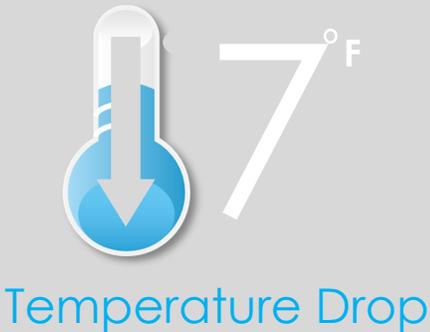
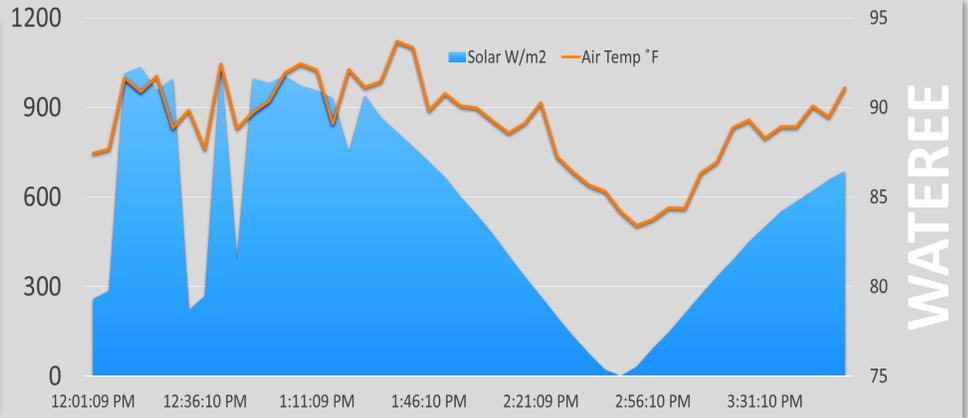
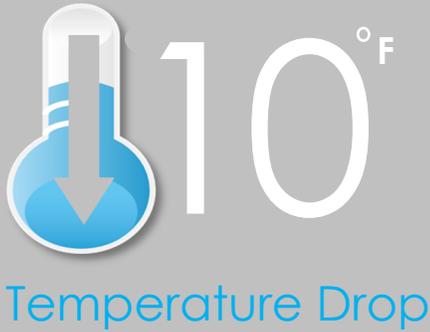
South Carolina Climate office would like to credit and thank RC Winds for providing all data used in making of both solar radiation and air temperature graphs featured on the following page. Richland County Weather Information Network Data System is a reliable network of professional grade, automated weather monitoring stations located throughout Richland County.

For more information visit : www.rcwinds.com

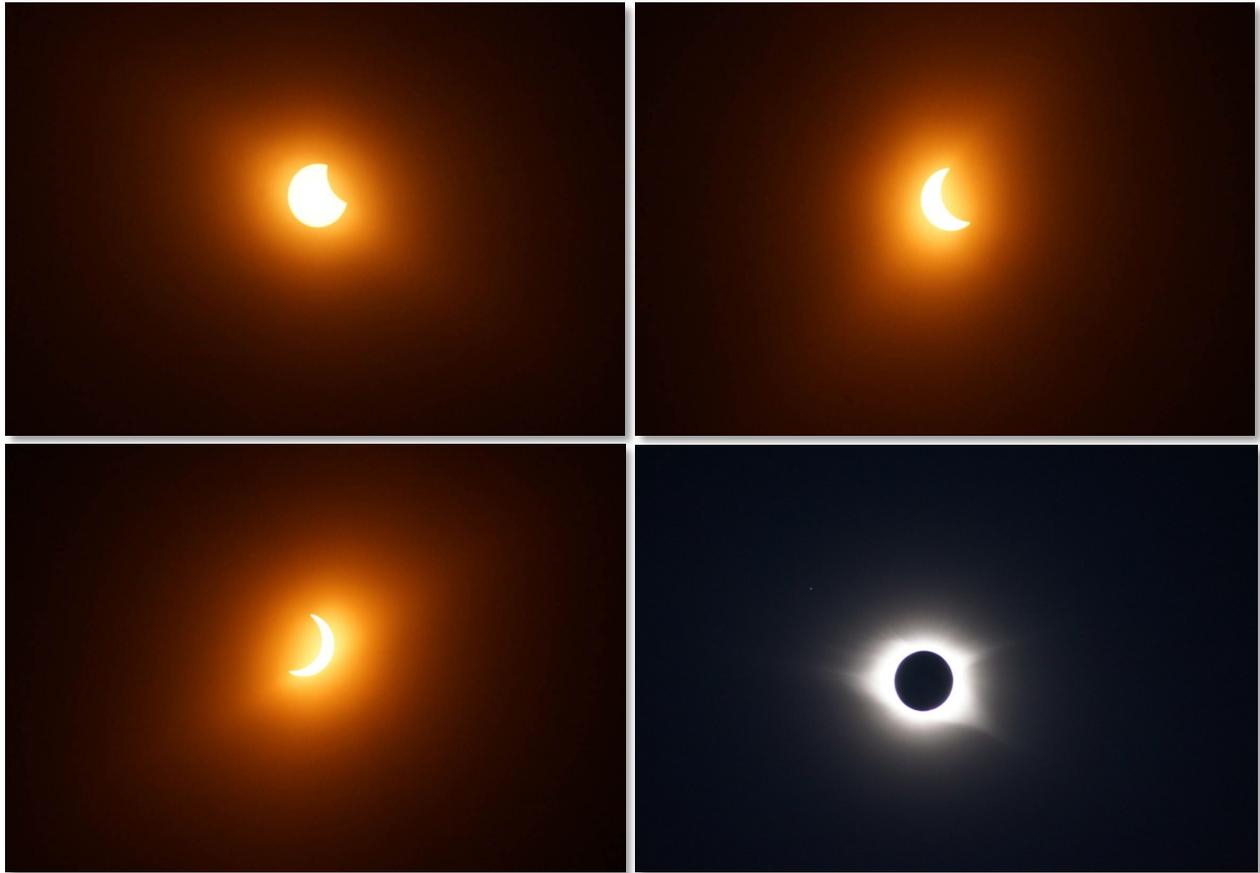
Richland County Solar and Temperature Graphs

The total temperature drop recorded between 12:00 PM and 4:00 PM

Due to cloud cover passing over South Carolina, temperature fluctuates throughout the day



A GLIMPSE OF THE ECLIPSE



LOCATION:

Westminster, SC

PHOTOGRAPHER:

Doug Young

Over the years Doug has graciously shared countless photos with the SC State Climate Office (SCSCO) and the above photos were the last he shared. Sadly on September 7 Doug passed away. Doug was an advocate for the protection of our State's natural resources. He was a champion for the work of the SCSCO and the SC Department of Natural Resources.

LOCATION:
Columbia, SC
PHOTOGRAPHER:
Wes Tyler



A GLIMPSE OF THE ECLIPSE

2017 Eclipse Contributors

Louisa Schandera , South Carolina State Climatology Office Intern

Hope Mizzell, PhD, SC State Climatologist

Matt Polkowsky, SCDNR Assistant Webmaster

