

UNA Planetarium Newsletter September 2017

The Great American Eclipse has come and gone. We did our outreach efforts before the event and then sent people off to enjoy the spectacle with family friends and in some cases complete strangers. For the day of the eclipse I joined a friend's family up in Tennessee, not far from the center line of the eclipse, where we enjoyed 2.5 minutes of spectacular totality. There was the diamond ring effect, stars in the daytime which followed a 360 degree sunset. The glorious corona of the Sun glowing like an electric blue butterfly. All the things that I had seen pictures of for years as I waited for my chance to see a total eclipse were happened. It was a dream come true for me, and I can still see it when I close my eyes. The waiting was over.

One of the things that really struck me was how the event took over everyone's imagination for a short time. Everywhere I went people were relooking forward to the eclipse, there was a mania for eclipse glasses to view it, and we fielded hundreds of calls a day and had to turn away people at our programs.

On the way back from Tennessee I stopped at the rest stop just on the Alabama side of the Tennessee border. Everyone was talking about the eclipse. No matter their religion, political views or country of origin, everyone was united in the awe of what they had just witnessed. This is one of my favorite things about astronomy; it has the power to bring people together like almost nothing else. We are all together on a little mote of dust in the vast universe, and we should stick together and help one another. As our fellow human beings struggle around the world, such as those in Texas who are hurting right now, let's keep in mind that just like the Great Eclipse brought us together to share nature's beauty, we are all also in this together when nature turns against us. Be kind.

Mel Blake, Department of Physics and Earth Science.

Image of the Month



This is a photo of the total solar eclipse which I obtained August 21st observing from northern Tennessee. The photo shows the Moon covering the Sun completely. This allows the hot outer atmosphere of the Sun, called the corona, to be seen. The corona has a temperature of several million degrees and appeared as a blueish-white in the sky. One of the mysteries of the Sun is that the corona lies above the photosphere of the sun, the visible disk, which is only 5780 degrees. The layer of the Sun under the photosphere is hotter than the photosphere. It is not clear how the energy travels from the hot layers through the photosphere to maintain the corona's temperature. The star Regulus can be seen above and to the left of the Sun. UNA photographer Shannon Wells helped me edit the photo to improve contrast. Photo: Mel Blake. 1 second exposure with a Cannon EOS Rebel camera at f/5.6 and 100X telephoto lens.

***Astro Quote** "Space is for everybody. It's not just for a few people in science or math, or for a select group of astronauts. That's our new frontier out there, and it's everybody's business to know about space." Christa McAuliffe,*

Astronomical Events September 2017

Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
					1 Pioneer 11 performs first ever Saturn flyby. 1979. Asteroid 3 Juno discovered, 1804.	2 Astronaut Christa McAuliffe born 1948. Perished in Challenger explosion.
3 Viking 2 lands on Mars, 1976.	4	5 UNA Planetarium Public Night. 7:30 p.m. Voyager 1 launched, 1977.	6 Full Moon	7 James van Allen, discoverer of radiation belts around Earth born, 1914.	8	9
10	11 Mars Global Surveyor reaches orbit around Mars, 1997.	12 UNA Planetarium Public Night. 7:30 p.m.	13 3 rd Quarter Moon	14	15 Cassini Farewell Celebration 7 p.m.	16
17 Apollo 14 astronaut Edgar Mitchell born, 1930.	18	19 UNA Planetarium Public Night. 7:30 p.m.	20 New Moon	21	22 Autumnal Equinox, start of Autumn.	23
24	25 Mars Observer launched, 1992.	26 UNA Planetarium Public Night. 7:30 p.m.	27 Dawn asteroid mission to Vesta and Ceres launched, 2007	28 1 st Quarter Moon	29 Shuttle Discovery launches, first after Challenger disaster, 1988.	30

Astronomical Events for September 2017

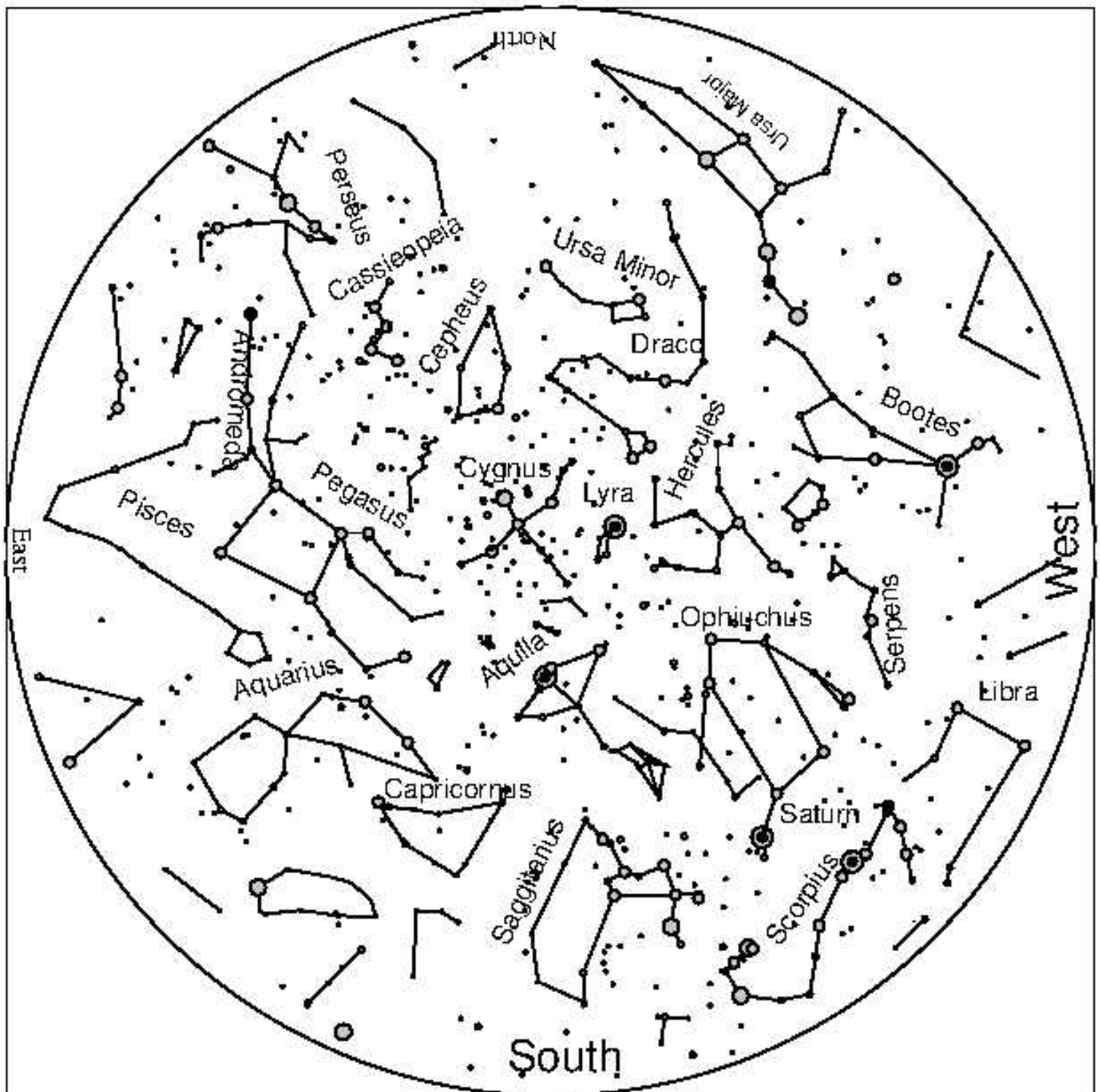
Saturn stands out all month in the constellation Sagittarius, just east of the bright star Antares towards the south after sunset.

Jupiter is seen in the south west after sunset, setting about an hour after sunset as the month progresses.

Venus is blazing away in the morning sky in the east for the early risers, while **Mercury** reaches its maximum brightness in the morning sky around September 16/17th. This is a good time to spot the elusive planet since it is farthest from the Sun for the month. The bright star Regulus lies near the planet, making a nice pair.

September 22 marks the **Autumnal Equinox**. This is the first day of autumn, when the Sun lies on the celestial equator, the line separating the north and south parts of sky. The days and nights are even in length. The Sun will continue to go south in the sky, with the days growing shorter and the temperature cooling.

The Sky for September 2017



How to use this Chart: the sky is shown for 9 pm, September 15th. The center of the chart is the zenith, and the edge of the chart is the horizon. So something half-way between the center and edge of the chart is half-way up in the sky. Hold the chart so that the direction you are facing is down towards your feet and then up-down, right and left on the chart will be as you see them on the sky. Start with a constellation with a bright star such as Lyra which has Vega, and use it to find fainter constellations. Chart produced by R. M. Blake. Permission is granted to reproduce this chart for non-commercial purposes as long as it is credited to the author and UNA Planetarium.

The August 21st Total Solar Eclipse

The total solar eclipse was the busiest time at UNA Planetarium for many years. Literally thousands of people were reached by our planetarium lectures, programs at local schools, the Florence Library, the Children's Museum and First Fridays. I have to thank the Shoals Astronomy Club for partnering at First Fridays, the staff at Florence Public Library, and Jennifer Keeton in particular who organized the event which fielded hundreds of calls for the programs there, and volunteer student Stacy Verros who helped out the week before the eclipse as we became overwhelmed. The success was not possible without one unsung heroine, our Department of Physics and Earth Science administrative assistant Sarah Beth Humphries who over the two week period before at the eclipse handled hundreds of inquiries and helped book schools for the events while getting our department ready for the start the term the next week.. Mistakes were made by myself on crowd control, and how to handle the massive volume of emails, phone calls and messages so that I could not call or reply back to everyone. I understood the frustration people wanting just one pair of eclipse glasses and being told I could not give them one because when we only had enough for the programs that were booked. One eclipse glasses probably did not seem like much but when hundreds are asking, we would have had to cancel programs as a result. If I had to send you away without them I apologize, but the massive interest was simply more than we could have prepared for and when people were calling from Mississippi. Lessons were learned for the future! I hope everyone got to see the eclipse and had a great time doing so.



The cover slide for the Florence Public Library lecture, Wednesday, August 16th, 2017.



The public waits for the lecture to begin.



The Children's Museum of the Shoals hosted an event Saturday, August 19th where the kids made pin-hole projectors for safely viewing the eclipse.





Supported by the NASA Museum Alliance and the NASA Night Sky Network, UNA Planetarium and the Shoals Astronomy club distributed over 800 pairs of eclipse glasses and pin-hole projectors at the First Friday events in July and August. Pictured on the bottom left are club president Eric Geater and member Mike Worthy, and bottom left Scott Aldridge. Club members Matthew Sherrill, Rocky Stone and others contributed their time. The Shoals Astronomy Club meets at UNA Planetarium the last Thursday of each month. They are on Facebook and have website where you can follow our activities. [http:// http://shoalsastro.com/](http://http://shoalsastro.com/)

Donate those Eclipse Glasses to Astronomers Without Borders



There are now thousands of eclipse glasses around the Shoals area, and the next solar eclipse visible from here will be in 2024. Rather than throw them out, send them to us! Astronomers Without Borders (AWB) does astronomy educational outreach globally (<https://astronomerswithoutborders.org/>). The next eclipse will be seen in South America where many people live that can't afford eclipse glasses. So AWB is collecting used eclipse glasses that will be sent to organizations that will distribute the eclipse glasses to those who need them. UNA Planetarium is acting as a hub to collect them so you can send them to use and we will make sure they are passed on to AWB. For those on UNA campus you can send them to me through internal mail, UNA box 5263, or you can contact me and I will come and get them. I will also have a box at the planetarium on our public nights where you can drop them off. Contact me at 256-765-4284, or rmlake@una.edu. You can also send them to the corporate collection hub below.

AWB Eclipse Glasses Donation Program



Explore Scientific
1010 S. 48th Street
Springdale, AR 72762

The Cassini Farewell Program Sept 15th, 7 p.m.

The Cassini mission has been in orbit around Saturn for more than 20 years. As its fuel for maneuvering is running out, NASA is doing one final investigation with the spacecraft. It is slowly being spiraled into the atmosphere of Saturn, collecting data as it goes. The mission will end September 15th, and UNA Planetarium will be doing a special night to celebrate the end of the Cassini era, with a NASA video presentation called "Ringworld", which covers the mission's successes, NASA TV coverage and if the weather cooperates we will use the UNA observatory to view the ringed planet itself. We will have buttons and NASA handouts available for people to learn more. The program will start at 7 pm, and end at 9 pm. The observing part of the program is weather dependent.

