

# Winslow Homolovi Observatory

Star Party September 17, 2022  
7:00 PM (AZ-MST)



Little Colorado River Valley Astronomy Club



Arizona State Parks and Trails

# Astronomical Information

## Homolovi State Park Time UTC-7 Saturday September 17, 2022

<u>Let There Be Light</u>	<u>Begin</u>	<u>End</u>
Morning Astronomical Twilight	04:49 AM	05:19 AM
Morning Nautical Twilight	05:19 AM	5:48 AM
Morning Civil Twilight	05:48 AM	06:13 AM
Sunrise & Sunset	06:13 AM	6:31 PM
Solar Noon/Transit	12:22 PM	93.426MM
Evening Civil Twilight	6:56 PM	7:25 PM
Evening Nautical Twilight	6:36 PM	7:25 PM
Evening Astronomical Twilight	7:25 PM	7:55 PM
Moon Set & Moon Rise	1:32 PM	11:06 PM
Moon Phase Last Quarter	3 <sup>rd</sup> Qtr. Phase	Illum: 59.03%
Star Party Begin & End	7:00 PM	10:00 PM TBD
Temperature Forecast °F. °C H/L	86°F/30°C	52°F/11°C

**Winslow Homolovi Observatory and Visitor Center:**  
The grounds surrounding the observatory and visitor center is home to many desert creatures. Venomous reptiles and insects inhabit the area. Be aware of your surroundings. Watch children and pets to prevent injury. Report all snake sightings to Ranger on Duty. Help us to keep the park clean and safe for our visitors and wildlife.

<u>Planet</u>	<u>Rise</u>	<u>Set</u>	<u>Meridian</u>	<u>Comment</u>
Mercury	Sat 7:10 am	Sat 6:41 pm	Sat 12:56 pm	Ext difficult to see
Venus	Sat 5:29 am	Sat 6:11 pm	Sat 11:50 am	Slightly difficult to see
Mars	Sat 10:31 pm	Sun 12:38 pm	Sun 5:34 am	Perfect visibility
Jupiter	Sat 6:56 pm	Sun 7:02 am	Sun 12:59 am	Perfect visibility
Saturn	Sat 4:51 pm	Sun 3:27 am	Sat 10:09 pm	Perfect visibility
Uranus	Sat 8:55 pm	Sun 10:32 am	Sun 3:44 am	Average visibility
Neptune	Sat 6:26 pm	Sun 6:11 am	Sun 12:19 am	Slightly difficult to see

**Partners and Information:** The Winslow Homolovi Observatory is a community partnership with the Arizona State Parks and Trails: Homolovi State Park, City of Winslow, Little Colorado River Valley Astronomy Club, NASA Jet Propulsion Laboratory ([www.nightsky.jpl.nasa.gov/clubs-and-events.cfm](http://www.nightsky.jpl.nasa.gov/clubs-and-events.cfm)), Winslow Chamber of Commerce, Hopi Tribe, local Navajo County Businesses and private individuals who have a love and passion for science and astronomy. The Little Colorado River Valley Astronomy Club is a non-profit LLC. Next meeting of the LCRVAC is 9-17-2022 in the Homolovi State Park Visitor Center 5:00 pm AZ-MST. The public is invited to attend, membership applications may be available.

# Little Colorado River Valley



## Astronomy Club



### What is Light Pollution?

Most of us are familiar with air, water, and land pollution, but did you know that light can also be a pollutant? The inappropriate or excessive use of artificial light known as light pollution can have serious environmental consequences for humans, wildlife, and our climate. By joining IDA you can make a difference in protecting our Planet, saving billions of dollars in wasted energy, and connecting future generations with our legacy of starry skies. [www.darksky.org](http://www.darksky.org)



**Star Party Etiquette:** Don't use white lights. Use red lights (put red tape over your flashlight) if you must use a light. ✨ If you come to a star party without a telescope please park away from the observing site to save room for those with heavy equipment to carry. ✨ Please ask permission to touch equipment. ✨ Never touch any glass optical surface. ✨ Don't litter. ✨ Drive very slowly so as to avoid people (especially children) ✨ Watch your step; be especially careful of wires on the ground. Some scopes require power and the use of a battery. ✨ Children — please keep an eye on them and instruct them not to run around or to touch the equipment. ✨ Smoking — no smoking allowed in observation area, please if you smoke, go down wind of telescopes. Homolovi does not offer ashtrays, please do not litter, dispose of extinguished smoking materials properly. ✨ No-aerosol sprays to be used near the telescopes. (Aerosol repellents may drift and leave a film damaging optics). Roll-on repellents recommended. ✨ Green lasers are great tools for pointing out stars, asterisms, and constellations to beginning amateur astronomers. Lasers can ruin long-exposure astrophotos. We ask that green lasers (and any other color of bright laser) be used only for informal sky tours **in the early evening**. Use it sparingly and be prepared to put it away if someone asks. Please stop all laser use after astronomical twilight. ✨ Pets are welcome, but must be supervised and under control. Clean up after your pet. ✨ Homolovi State Park is home to venomous reptiles and insects. Please use caution and be aware of your surroundings. Rattlesnakes are found in and around the observatory.

# Tonight's Astronomy Targets



## **Saturn 7:45 PM- 8:15 PM**

Saturn is the sixth planet from the Sun and the second-largest planet in our solar system. Saturn has been known since ancient times. The planet is named for the Roman god of agriculture and wealth, who was also the father of Jupiter. Saturn's environment is not conducive to life as we know it. Saturn is 9 times wider than Earth. If Earth were the size of a nickel, Saturn would be about as big as a volleyball. Saturn has the second-shortest day in the solar system. One day on Saturn takes only 10.7 hours (the time it takes for Saturn to rotate or spin around once), and Saturn makes a complete orbit around the Sun in about 29.4 Earth years (10,756 Earth days). Saturn has 53 confirmed moons with 29 additional provisional moons awaiting confirmation. Saturn's rings are thought to be pieces of comets, asteroids, or shattered moons that broke up before they reached the planet, torn apart by Saturn's powerful gravity. <https://solarsystem.nasa.gov/planets/saturn/in-depth>

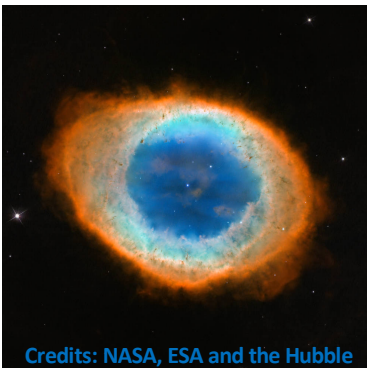


## **Albireo is 2 stars 8:15 PM – 8:45 PM**

Albireo, also known as Beta Cygni, is the second-brightest star in the constellation [Cygnus the Swan](#). At first glance, it doesn't particularly stand out. But viewing this star through a small telescope can take your breath away. It resolves into a striking double, with one component a lovely gold star and the other a dimmer blue close by. Although the two stars appear close in the sky, from our perspective, astronomers still don't know for sure if they're gravitationally bound to each other. It doesn't matter. The color contrast between the two is so striking and so beautiful that Albireo is one of the sky's most beloved stars.

## **Messier 57 (The Ring Nebula) 8:45 PM – 9:15 PM**

M57, or the Ring Nebula, is a planetary nebula, the glowing remains of a sun-like star. The tiny white dot in the center of the nebula is the star's hot core, called a white dwarf. M57 is about 2,000 light-years away in the constellation Lyra. Discovered by the French astronomer Antoine Darquier de Pellepoix in 1779, the Ring Nebula has an apparent magnitude of 8.8. M57 is tilted toward Earth so that astronomers see the ring face-on. This gorgeous, high-resolution Hubble image helped astronomers determine that the nebula's shape is more complicated than initially thought. The blue gas in the nebula's center is actually a football-shaped structure seen end-on that pierces the red, doughnut-shaped material. The inner rim of the ring displays an intricate structure of dark, irregular knots of dense gas that the stellar winds have not yet been able to blow away. This image of M57 has been colorized to illustrate the nebula's chemical composition. The deep blue color in the center represents helium, the light blue color of the inner ring is the glow of hydrogen and oxygen, and the reddish color of the outer ring is from nitrogen and sulfur.



Credits: NASA, ESA and the Hubble Heritage (STScI/AURA)-ESA/Hubble Collaboration

# Tonight's Astronomy Targets



## **Great Globular Cluster (M13) 9:15 PM**

Over 100,000 stars whirl within the globular cluster M13, one of the brightest star clusters visible from the Northern Hemisphere. Located 25,000 light-years from Earth with an apparent magnitude of 5.8, this glittering metropolis of stars in the constellation Hercules can be spotted with a pair of binoculars most easily in July. English astronomer Edmond Halley, best known for recognizing the periodicity of the comet that bears his name, discovered M13 in 1714. When Charles Messier added M13 to his catalog in 1764, he was convinced that the nebulous object did not contain any stars at all. Because they are so densely packed together, the cluster's individual stars were not resolved until 1779.

Credits: NASA, ESA, and the Hubble Heritage Team (STScI/AURA); Acknowledgment: C. Bailyn (Yale University), W. Lewin (Massachusetts Institute of Technology), A. Sarajedini (University of Florida), and W. van Altena (Yale University)



**Image Credit & Copyright: Roberto Colombari**

## **Jupiter 9:45 PM**

Jupiter is the fifth planet from the Sun. Jupiter is the largest of the planets in our solar system being more than twice as massive as all of the other planets combined. Jupiter's familiar stripes and swirls are presumed windy clouds of ammonia and water, floating in an atmosphere of hydrogen and helium. Jupiter's iconic Great Red Spot is a giant storm larger than Earth which has been observed since at least 1831. Jupiter has a faint planetary ring system, eighty moons including four discovered by Galileo Galilei in 1610. The first spacecraft to visit Jupiter was Pioneer 10, launched on March 2, 1972. Pioneer 10 made its closest approach 81,000 miles above the cloud tops in December 1973. In 1989, Galileo Galilei was memorialized with the launch of a Jupiter-bound space probe bearing his name. During its 14-year voyage, the Galileo space probe and its detachable mini-probe, visited Venus, Earth, the asteroid Gaspra, observed the impact of Comet Shoemaker-Levy 9 on Jupiter, Europa, Callisto, IO, and Amalthea.

In order to avoid the possible contamination of one of Jupiter's moons, the Galileo space probe was purposely crashed into Jupiter at the end of its mission in September 2003.

<https://solarsystem.nasa.gov/news/307/galileos-observations-of-the-moon-jupiter-venus-and-the-sun/>



## The Winslow Homolovi Observatory

*Current events: visit*

[www.azstateparks.com/stars](http://www.azstateparks.com/stars)

[https://nightsky.jpl.nasa.gov/event-list.cfm?Club\\_ID=1860](https://nightsky.jpl.nasa.gov/event-list.cfm?Club_ID=1860)

*Next Star Party: October 1, 2022 & November 19, 2022*



# What's Up... SeaSky.Org Sept. 2022



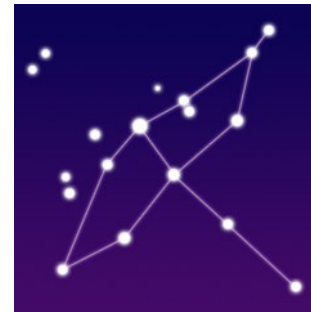
**Vulpecula**  
The Fox



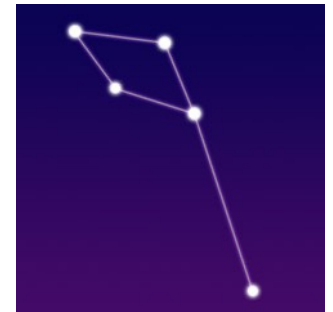
**Aquila**  
The Eagle



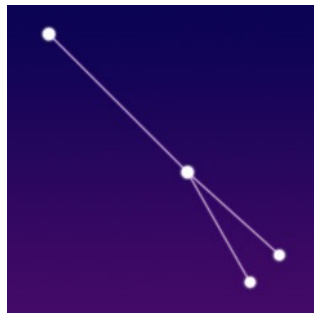
**Capricornus**  
The Sea Goat



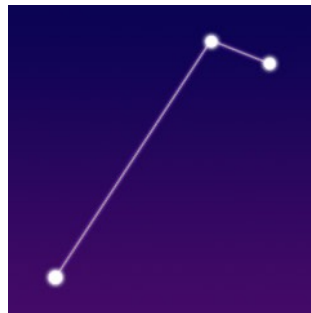
**Cygnus**  
The Swan



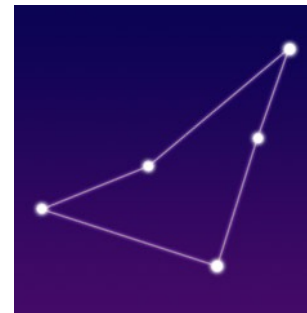
**Delphinus**  
The Dolphin



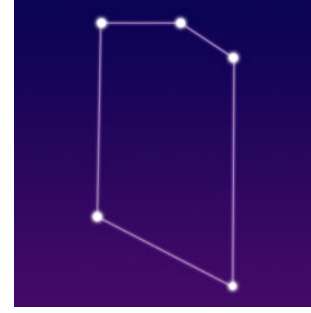
**Sagitta**  
The Arrow



**Equuleus**  
The Little Horse



**Indus**  
The Indian



**Microscopium**  
The Microscope



**Pavo**  
The Peacock

Homolovi State Park Winslow Homolovi Observatory HC 63 Box 5 [www.azstateparks.com/stars](http://www.azstateparks.com/stars)  
(State Route 87 N. milepost 347) I-40 Exit 257 Winslow, Arizona 86047-9402 (928) 289-4106  
Little Colorado River Valley Astronomy Club [https://nightsky.jpl.nasa.gov/eventlist.cfm?Club\\_ID=1860](https://nightsky.jpl.nasa.gov/eventlist.cfm?Club_ID=1860)