

Volume 44.11

November 2024

Desert Sky Observer

Antelope Valley Astronomy Club



Desert Sky Observer

www.avastronomyclub.org

November 2024

Upcoming Events

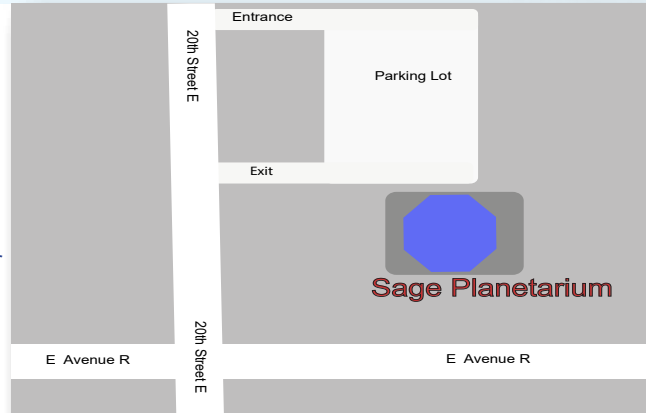
November 1: Star Party @ College of the Canyons 6:00 9:30 pm
November 2: DSSP at Red Cliffs
November 5: Election Day -- VOTE!
November 8: Club Meeting
November 16: Moonwalk @ PDW starts at 5:30 pm

Every clear night: Personal Star Party

December 7: Moonwalk @ PDW (no telescopes)
December 7: Club Christmas Party @ Gino's 6:00 - 9:30 pm
January 10: Club Meeting
January 25: Moonwalk @ PDW 6:00 pm



AVAC Calendar



Board Members

President: Phil Wriedt (661) 917-4874
president@avastronomyclub.org

Vice-President: Matt Leone (661) 713-1894
vice-president@avastronomyclub.org

Secretary: Rose Moore (661) 972-1953
secretary@avastronomyclub.org

Treasurer: Rod Girard (661) 803-7838
treasurer@avastronomyclub.org

Director of Community Development:
Christian Amaya (661) 972-0091
community@avastronomyclub.org

Appointed Positions

Newsletter Editor: Phil Wriedt (661) 917-4874
dso@avastronomyclub.org

Equipment & Library:
John VanEvera 661-754-1819
library@avastronomyclub.org

Club Historian: vacant
history@avastronomyclub.org

Webmaster: Steve Trotta (661) 269-5428
webmaster@avastronomyclub.org

Night Sky Coordinator:
Rose Moore (661) 972-1953

Astronomical League Coordinator:
Phil Wriedt (661) 917-4874
al@avastronomyclub.org



Monthly Meetings

Monthly meetings are held at the **S.A.G.E. Planetarium** in Palmdale, the second Friday of each month except December. The meeting location is at the northeast corner of Avenue R and 20th Street East. Meetings start at 7 p.m. and are open to the public. *Please note that food and drink are not allowed in the planetarium.*

Membership

Membership in the Antelope Valley Astronomy Club is open to any individual or family.

The Club has three categories of membership.

- Family membership at \$30.00 per year.
- Individual membership at \$25.00 per year.
- Junior membership at \$15.00 per year.

Membership entitles you to ...

- The Desert Sky Observer -- monthly newsletter
- The AVAC Membership Manual.
- To borrow club equipment, books, videos, and other items.

AVAC
PO Box 8545
Lancaster, CA 93539-8545



www.avastronomyclub.org

Visit the Antelope Valley Astronomy Club website at www.avastronomyclub.org/
www.instagram.com/av_astronomyclub

The Antelope Valley Astronomy Club, Inc. is a 26 USC §503(c)(3) California Non-Profit Corporation.

President's Message

By Phil Wriedt

Hi There!

As I write this, I'm hoping all went well at the College of the Canyons star party. I hope it doesn't rain or high winds blow the DSSP at Red Cliffs off the map. For those considering Chuchupate as an alternative site the forecast is 40% rain showers and a low of 21°.

Our last Moonwalk on the 26th of October had about 46 members of the public and 2 telescopes and 2 club members. Our last Moonwalk of the year will be on the 16th. (Jeremy will do a short Moonwalk the night of our Christmas party, but we won't be setting up any scopes). Come on out and enjoy a night under the stars, bring your scope, meet the public.

Our meeting on October 11th was our mandatory yearly business meeting. The minimum quorum was determined to have attended; and as required we held an election of Officers for 2025. The entire Board was unanimously reelected to continue in their present positions. Due to the planetarium construction, we held the meeting *al fresco* (so we could watch the scopes) and have the Parking Lot Star Party after the election.

Keep watching for *T Coronae Borealis*. This is a recurrent nova in Corona Borealis. It's a binary variable-star normally at mag. 10. The last time it went nova was February 9, 1946. It's was due again between March and September of this year. If you really want to see it, you'll have to get up before Sunrise.

See you at the next meeting on the 8th, and the Christmas Party on December 7th.

Keep Looking Up, Phil

On The Cover

Please note: North is 26.4° left of vertical RA: 21h 46' 38.18" DEC: -21° 15' 5.98" Distance:60 Kly (Capricorn)

Panta rhei is a simplified version of the famous greek philosopher Heraclitus' teachings. It basically means, everything flows. And everything in the Universe is indeed continually on the move, spiralling and shifting through space.

Some cosmic objects move a little further than others — take the subject of this NASA/ESA Hubble Space Telescope image, a globular cluster of stars known as Palomar 12.

Although it currently lies on the outskirts of the Milky Way's halo, Palomar 12 was not born here. When astronomers first studied this cluster, they were puzzled by its strangely young age when compared to the other clusters in the galaxy. It appeared to be around 30% younger than other Milky Way globulars. Surely if it had been born within our galaxy, it would have sprung to life at a similar time to its cluster companions?

A bit more digging revealed that Palomar 12 was actually ripped from its initial home, the Sagittarius Dwarf Elliptical galaxy, around 1.7 billion years ago via tidal interactions between its former home and our galaxy. The dwarf galaxy that Palomar 12 once called home is a satellite galaxy to ours, and closely orbits around us — even occasionally passing through the plane of our galaxy. In fact, it is being slowly torn apart and consumed by the Milky Way.

The sparkling stars in this picture were imaged by Hubble's Advanced Camera for Surveys. Credit: ESA/Hubble & NASA

From the Secretary

By Rose Moore

Members:

We have a few events coming up for the November and December. Come on out and enjoy!

Thank you to all the members who came to the October Business Meeting and public star party, Prime Desert, and to those who came out the Tehachapi Airport Star Party!

Congratulations to the current Board members being re-elected to their positions! We had no new nominations, and those in attendance voted to keep members in their current roles. At the Board meeting, Ann made the suggestion for a message chat for members, to help with communications with any last minute changes to events. If you want to be on this list, please let Ann know!

We will be having a dark sky star party on Saturday Nov. 2nd at Red Cliffs. An email will be sent out prior to the event for those that want to attend.

We have a club meeting on Friday November 8th at 7pm. Please come out and support your club! We are not sure if we'll have a speaker, or if Jeremy will be presenting a video.

There will be a Prime Desert Woodland Moon Walk with Jeremy on Saturday November 16th starting at 6:30pm. We need members with telescopes! Weather permitting. Free and open to the public. Further info to follow.

We are taking sign ups for the Christmas Party! If you are planning to attend, please contact Rose or Rod by email as soon as possible, so we can have an accurate head count. We also need a minimum of 30 people to have use of the large room at Gino's. We need to give Gino's a head count by the last week in November.

Our club Christmas Party is scheduled for Saturday December 7th at Gino's Restaurant from 6:00 to 9:30pm. Start time is 6:00pm, buffet starting at 6:30pm. You may dress casual. We will be having a raffle and a grand prize. You can donate a gift for the raffle, it does not have to be astronomy related. Please wrap in holiday paper, or place in a gift bag. Buffet: chicken parmigiana, penne pasta primavera, baked lasagna with meat sauce, garden salad, garlic bread; ice tea, lemonade, coffee, and soft drinks. Alcoholic drinks are extra. The cost will be \$35 per member and each guest(s), \$17.50 per child 12 and under. Location: Gino's Ristorante, Lancaster Marketplace, 44960 Vly Central Wy, Lancaster, 93536. You may pay at the November meeting, cash or check, or pay via PayPal. Link: <http://www.avastronomyclub.org/christmas>

Steve has also put the link near the top of the home page on our website. There are directions on the website to pay by PayPal. If you want to pay by credit card, follow the directions for paying by PayPal, and it will give you a link to pay by credit card.

Everyone have a wonderful Thanksgiving!

Rose

For sale: 4 inch Celestron Equatorial telescope. Includes mount, solar filter, finder scope, eyepieces, two inch diagonal, carrying bag. Few scratches on finish. Price: \$250. Email either Duane (gurba1826@gmail.com) or Rose (rmorion1@bak.rr.com)

C/2023 A3 (Tsuchinshan-ATLAS)



Rose Moore, 10/15/2024, 19:19, iPhone 16Pro Max
f/1.8, ½ sec, ISO 5000, 48mm(35mm eq)



Christian Amaya, 10 inch telescope, 48x
Oct 15?



Phil Wriedt, 10/14/2024, 19:31 iPhone 15 Pro Max
f/1.78, ½sec, ISO 4000, 73mm(35mm eq)

Snowballs from Space

by Kat Troche, Astronomy Society of the Pacific, NASA Night Sky Network

If you spotted comet C/2023 A3 (Tsuchinshan-ATLAS) in person, or seen photos online this October, you might have been inspired to learn more about these visitors from the outer Solar System. Get ready for the next comet and find out how comets are connected to some of our favorite annual astronomy events.

Comet Composition

A comet is defined as an icy body that is small in size and can develop a 'tail' of gas as it approaches the Sun from the outer Solar System. The key traits of a comet are its nucleus, coma, and tail.

The nucleus of the comet is comprised of ice, gas, dust, and rock. This central structure can be up to 80 miles wide in some instances, as [recorded by the Hubble Space Telescope in 2022](#) – large for a comet but too small to see with a telescope. As the comet reaches the inner Solar System, the ice from the nucleus starts to vaporize, converting into gas. The gas cloud that forms around the comet as it approaches the Sun is called the coma. This helps give the comet its glow. But beware: much like Icarus, sometimes these bodies don't survive their journey around the Sun and can fall apart the closer it gets.

The most prominent feature is the tail of the comet. Under moderately dark skies, the brightest comets show a dust tail, pointed away from the Sun. When photographing comets, you can sometimes resolve the second tail, made of ionized gases that have been electronically charged by solar radiation. These ion tails can appear bluish, in comparison to the white color of the dust tail. The ion tail is also always pointed away from the Sun. In 2007, NASA's STEREO mission [captured images of C/2006 P1 McNaught and its dust tail](#), stretching over 100 million miles. Studies of those images revealed that solar wind influenced both the ion and dust tail, creating striations – bands – giving both tails a feather appearance in the night sky.

Coming and Going

Comets appear from beyond Uranus, in the Kuiper Belt, and may even come from as far as the Oort Cloud. These visitors



Comet McNaught over the Pacific Ocean. Image taken from Paranal Observatory in January 2007. Credits: ESO/Sebastian Deiries

Additional Skywatching Resources

Plan your skywatching with help from our planner page, featuring daily stargazing tips courtesy EarthSky monthly sky maps, and videos from NASA/JPL. You can even find out how to spot the International Space Station! Both Astronomy and Sky and Telescope magazines offer regular stargazing guides to readers, both in print and online. Want to join a group of folks for a star party? Find clubs and astronomy events near you, and may you have clear skies!

can be short-period comets like Halley's Comet, returning every 76 years. This may seem long to us, but long-period comets like Comet Hale-Bopp, observed from 1996-1997 won't return to the inner Solar System until the year 4385. Other types include non-periodic comets like NEOWISE, which only pass through our Solar System once.

But our experiences of these comets are not limited to the occasional fluffy snowball. As comets orbit the Sun, they can leave a trail of rocky debris in its orbital path. When Earth finds itself passing through one of these debris fields, we experience meteor showers! The most well-known of these is the Perseid meteor shower, caused by Comet 109P/Swift-Tuttle. While this meteor shower happens every August in the northern hemisphere, we won't see Comet Swift-Tuttle again until the year 2126.

See how many comets (and asteroids!) have been discovered on [NASA's Comets](#) page, learn how you can [cook up a comet](#), and check out our mid-month article where we'll provide tips on how to take astrophotos with your smartphone!

ADDITIONAL LINKS:

- <https://science.nasa.gov/missions/hubble/hubble-confirms-largest-comet-nucleus-ever-seen/>
- <https://www.nasa.gov/solar-system/new-insights-on-comet-tails-are-blowing-in-the-solar-wind/>
- <https://science.nasa.gov/solar-system/comets/>
- <https://nightsky.jpl.nasa.gov/news/401/>



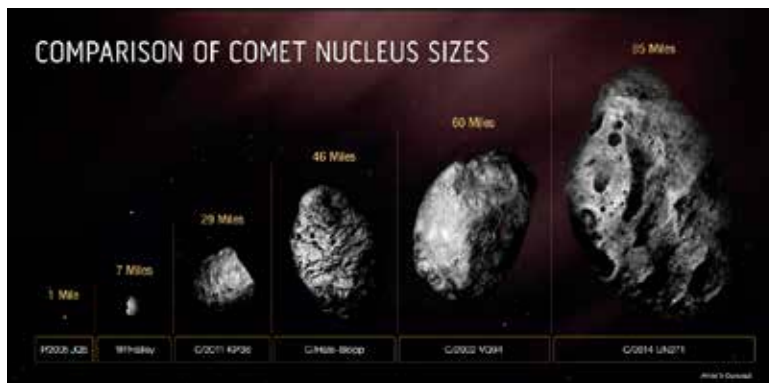
A view of the 2023 Perseid meteor shower from the southernmost part of Sequoia National Forest, near Piute Peak. Debris from comet Swift-Tuttle creates the Perseids. Credit: NASA/Preston Dyches

IMAGE CREDITS:

Comet McNaught: <https://www.nasa.gov/wp-content/uploads/2018/11/mcnaught34large.jpg>

Perseid Meteor Shower: <https://science.nasa.gov/wp-content/uploads/2017/10/perseids-2023-preston-dyches-6048x4024-1.jpg>

BONUS IMAGE - Comet Nucleus Sizes: https://science.nasa.gov/wp-content/uploads/2023/04/hubble_comet_c_2014_un271_nucleus-comparison.png



This article is distributed by NASA Night Sky Network
The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach.
Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!

Space News

News from around the Net

Webb Finds Dozens Of Supernovae Remnants In The Triangulum Galaxy

Infrared astronomy has revealed so much about the Universe, ranging from protoplanetary disks and nebulae to brown dwarfs, aurorae, and volcanoes on together celestial bodies. Looking to the future, astronomers hope to conduct infrared studies of supernova remnants (SNRs), which will provide vital information about the physics of these explosions. While studies in the near-to-mid infrared (NIR-MIR) spectrum are expected to provide data on the atomic makeup of SNRs, mid-to-far IR (MIR-FIR) studies should provide a detailed look at heated dust grains they eject into the interstellar medium (ISM). . . .(continued at <https://www.universetoday.com/168913/webb-finds-dozens-of-supernovae-remnants-in-the-triangulum-galaxy/#more-168913>)



A New Generation Of Telescopes Will Probe The ‘Unknown Unknowns’ That Could Transform Our Knowledge Of The Universe

In recent decades, we’ve learned huge amounts about the universe and its history. The rapidly developing technology of telescopes—both on Earth and in space—has been a key part of this process, and those that are due to start operating over the next two decades should push the boundaries of our understanding of cosmology much further. All observatories have a list of science objectives before they switch on, but it is their unexpected discoveries that can have the biggest impact. Many surprise advances in cosmology were driven by new technology, and the next telescopes have powerful capabilities. . . . (continued at <https://phys.org/news/2024-10-generation-telescopes-probe-unknown-unknowns.html>)



Betelgeuse Betelgeuse? Bright Star Betelgeuse Likely Has A ‘Betelbuddy’ Stellar Companion

One of the brightest stars in the night sky, Betelgeuse, may not be on the brink of exploding as a supernova, according to a new study of the star’s brightening and dimming. Instead, recent research shows that the observed pulsing of the starlight is probably caused by an unseen companion star orbiting Betelgeuse. Formally named Alpha Ori B, the “Betelbuddy” (as astrophysicist Jared Goldberg calls it) acts like a snowplow as it orbits Betelgeuse, pushing light-blocking dust out of the way and temporarily making Betelgeuse . . . (continued at <https://phys.org/news/2024-10-betelgeuse-bright-star-betelbuddy-stellar.html>)



Webb Finds Candidates For First Young Brown Dwarfs Outside The Milky Way

Near the outskirts of the Small Magellanic Cloud, a satellite galaxy roughly 200,000 light-years from Earth, lies the young star cluster NGC 602. The local environment of this cluster is a close analog of what existed in the early universe, with very low abundances of elements heavier than hydrogen and helium. The existence of dark clouds of dense dust and the fact that the cluster is rich in ionized gas also suggest the presence of ongoing star formation processes. Together with its associated HII region N90, which contains clouds of ionized atomic hydrogen,. . . (continued at <https://phys.org/news/2024-10-webb-candidates-young-brown-dwarfs.html>)



Saturn’s Moon Titan Has Insulating Methane-Rich Crust Up To Six Miles Thick

Saturn’s largest moon, Titan, is the only place other than Earth known to have an atmosphere and liquids in the form of rivers, lakes and seas on its surface. Because of its extremely cold temperature, the liquids on Titan are made of hydrocarbons like methane and ethane, and the surface is made of solid water ice. A new study published in The Planetary Science Journal, led by planetary scientists at the University of Hawai’i at Mānoa, revealed that methane gas may also be trapped within the ice, forming a distinct crust up to six miles thick, which warms the underlying ice shell and may also explain Titan’s methane-rich atmosphere. . . . (continued at <https://phys.org/news/2024-10-saturn-moon-titan-insulating-methane.html>)



Space News

News from around the Net

Black Hole Eats One Star, The Remains Pummel A Second One

In 2019 a supermassive black hole ate a star. It's incredible that such an incredible event is now commonplace — not in individual galaxies, where such stellar meals happen only every 10,000 to 100,000 years, but in our telescopes, through which astronomers can monitor millions of galaxies to observe their feeding habits. But in the course of studying this particular stellar feast, Matt Nicholl (Queen's University Belfast, UK) and colleagues discovered something else: bright spikes of X-rays that recurred roughly every 48 hours. . . . (continued at <https://skyandtelescope.org/astronomy-news/black-hole-eats-one-star-the-remains-pummel-a-second-one/>)



NASA Delays Budget-Cut Decision About Hubble And Chandra Space Telescopes

NASA is delaying making a final decision about potential cost cuts that will determine the fate of the Chandra X-ray Observatory and affect the Hubble Space Telescope's science program. Although no official word has been given for the reason behind this delay, it seems NASA is keeping its options open until confirming its budget for the new fiscal year. In what has become a long-running saga, Chandra's neck remains on the chopping block. Together, the Hubble Space Telescope and Chandra X-ray Observatory make up 10% of NASA's astrophysics budget. . . . (continued at <https://www.space.com/space-exploration/missions/nasa-delays-budget-cut-decision-about-hubble-and-chandra-space-telescopes>)



Rocky Planets Orbiting Small Stars Could Have Stable Atmospheres Needed To Support Life

Since its launch in late 2021, NASA's James Webb Space Telescope has raised the possibility that we could detect signs of life on exoplanets, or planets outside our solar system. Top candidates in this search are rocky, rather than gaseous, planets orbiting low-mass stars called M-dwarfs -- easily the most common stars in the universe. One nearby M-dwarf is TRAPPIST-1, a star about 40 light years away that hosts a system of orbiting planets under intense scrutiny in the search for life on planets orbiting stars other than the sun. Previous research questioned the habitability of planets orbiting TRAPPIST-1, finding that intense UV rays would burn away their surface water. . . . (continued at <https://www.sciencedaily.com/releases/2024/10/241023131045.htm>)



NASA Faces Tough Decisions On Orion Capsule's Heat Shield For Artemis Moon Missions

NASA remains in an ongoing test mode to determine what's behind the ablative thermal protective material that chipped away unexpectedly from the Artemis 1 Orion heat shield during its reentry into Earth's atmosphere back on Dec. 11, 2022. The Orion spacecraft for the Artemis 1 mission splashed down in the Pacific Ocean after a 25.5-day mission. During the high-speed, 25,000 miles per hour return from lunar distance, the thermal protection system of Orion's crew module must endure blistering temperatures to keep crew members safe. . . . (continued at <https://www.space.com/space-exploration/artemis/artemis-ii-orion-heat-shield-issues-decision-forthcoming>)



There's Another Ocean Moon Candidate: Uranus' Tiny Moon Miranda

The Solar System's hundreds of moons are like puzzle pieces. Together, they make a picture of all the forces that can create and modify them and the forces that shape our Solar System. One of them is Miranda, one of 28 known moons that orbit the ice giant Uranus. Miranda is its smallest major moon, at 471 km in diameter. New research shows that this relatively small, distant moon may be hiding something: a subsurface ocean. Miranda stands out from the other moons for one reason: its surface is a bizarre patchwork of jumbled terrain. There are cratered areas, rough scarps, and grooved regions. It may have the tallest cliff in the Solar System, a 20 km drop named Verona Rupes. . . . (continued at <https://www.universetoday.com/169058/theres-another-ocean-moon-candidate-uranus-tiny-moon-miranda/>)



Dark Sky Observing Sites

The Chuchupate parking lot is a half a mile beyond the Mt Pinos ranger station (on some maps The Chuchupate Ranger Sta.), the parking lot is also called Frazier Mountain trailhead.

To get there, take the Frazier Mountain Park RD east about 7 miles from I-5, to Lake Of The Woods, Turn left on Lockwood Valley Rd. (If you see Mike’s Pizza on your left you missed the turn) In less than a mile there is a road to the left, go past the ranger station, the parking lot is on the right. The Club gathers in the upper end of the lot. The Elevation is 5430 feet. There is a vault toilet.



Mt Pinos is a parking lot at 8350 feet for the “Mt Pinos Nordic Base.” There is a vault toilet 300 yds to the east in the Chula Vista campground.

To get there: From I-5, get off at Frazier Mountain Park Rd and drive west about 7 miles to Mike’s Pizza/Market Deli at Lockwood Valley Rd. Keep on the main roadway (don’t turn left to go to Chuchupate). Continue past Mike’s Pizza on Cuddy Valley Rd (the road’s new name) about 5 miles. Continue straight (do not turn right on to Mil Potrero Hwy) for another 8 1/2 miles to the parking area.

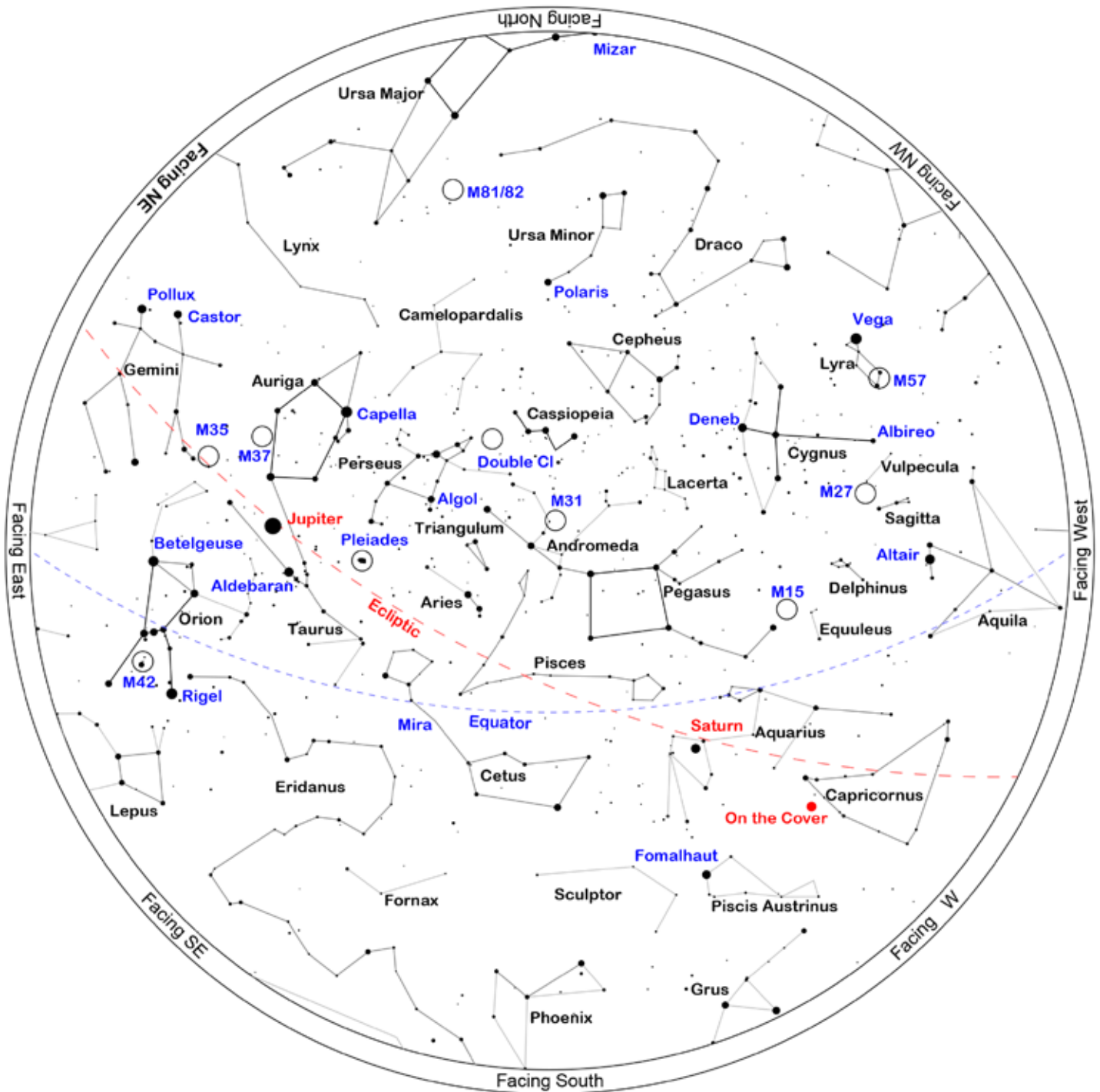
Note: The entire drive from I-5 is uphill.

The Red Cliffs Natural Area is part of **Red Rock Canyon State Park** is a day use area and is not for use by the public after dark. The Club gets a special permit for a star party and pays a fee.

To get there: Take the CA-14 north 25 miles past Mojave. You will see giant red cliffs on the right side and a small sign that says “Red Cliffs Natural Area” and a dirt road. (If you see the large sign for the Ricardo campground, you drove a mile too far). Follow the road to the large parking lot (that hasn’t been graded in a long time). Elevation is 2410 feet. There is a vault toilet.



Sky Chart



Location: Set from geolocation service
Latitude: 34° 39' N, longitude: 118° 10' W
Time: 2024 November 30, 20:00 (UTC -08:00)

Powered by: Heavens-Above.com

Solar System Summary

The **Sun** starts the month in western Libra, passing through western Scorpius ending the month in Ophiuchus.

The Planets

Mercury continues rising in the fading sunset until the 16th, at mag -0.3, when it arrives at greatest elongation east. Thereafter falling back toward the Sun, fading to Mag 2.1.

Venus continues to be very prominent moving from Ophiuchus to Sagittarius after Sunset, slowly brightening from -4.01 to -4.17 at months end.

Mars rising before midnight, spends the month moving east in Cancer. As the month progresses it brightens from 0.1 to -0.5 by months end.

Jupiter now rising a few hours after sunset, continuing getting brighter as the month progresses. All the while staying in central Taurus in retrograde motion till mid-February. The full moon passes by the evening of the 16th.

Saturn is still in retrograde motion in Aquarius, that will last till the 16th. The 70% waxing Moon passes less than 1/2° south at sunset on the 10th.

Uranus moving in retrograde in Taurus, at mag 5.7, where it will remain till the end of the year, about 5° south of the Pleiades.

Neptune is moving in retrograde near the southern border in Pisces at 7.8. On the 11th the Moon occludes Neptune just before 6pm.

Dwarf Planets

134340 Pluto spends the month in normal motion, on the western edge of Capricorn, south of M75 at mag 14.4.

1 Ceres spends the month moving from central Sagittarius moving east dimming to mag 9.1. By the end of the month is 4 1/2° south of Pluto.

2 Pallas in normal motion passing through northern Ophiuchus at magnitude 10.35.

3 Juno continues moving east north of the ecliptic. By the end of month it is at mag 11.3, still in Virgo.

4 Vesta spends the month moving east Virgo in the morning twilight less than 5° north of the ecliptic.

Moon Phases



First Qtr
Nov 8

Full
Nov 15

Third Qtr
Nov 22

New
Nov 1 & 30

Sun and Moon Rise and Set*

Date	Moonrise	Moonset	Sunrise	Sunset
11/1/2024	07:27	17:56	07:13	17:58
11/5/2024	10:27	19:50	06:17	16:54
11/10/2024	13:49	00:16	06:22	16:50
11/15/2024	16:32	16:17	06:27	16:47
11/20/2024	21:33	11:27	06:31	16:44
11/25/2024	01:29	13:43	06:36	16:43
11/30/2024	06:19	16:07	06:41	16:41

Planet Data*

November 1

	Rise	Transit	Set	Mag	Phase%
Mercury	08:51	13:50	18:49	-0.29	85.1
Venus	10:25	15:14	20:03	-4.03	76.7
Mars	23:05	06:14	13:20	0.07	88.8
Jupiter	20:14	03:26	10:34	-2.72	99.6
Saturn	15:27	21:05	02:47	0.80	99.8

November 15

	Rise	Transit	Set	Mag	Phase%
Mercury	08:24	13:11	17:57	-0.26	63.7
Venus	09:47	14:33	19:19	-4.09	72.6
Mars	21:29	04:37	11:41	-0.18	90.3
Jupiter	18:14	01:25	08:33	-2.78	99.5
Saturn	13:32	19:09	00:51	0.87	99.7

November 30

	Rise	Transit	Set	Mag	Phase%
Mercury	07:40	12:31	17:23	2.13	9.6
Venus	09:59	14:51	19:43	-4.16	67.7
Mars	20:41	03:49	10:53	-0.50	92.7
Jupiter	17:07	00:18	07:26	-2.81	99.9
Saturn	12:33	18:11	23:49	0.94	99.7

*All time mentioned are local and approximate.

*Sun, Moon and Planetary date based on Quartz Hill, CA

Desert Sky Observer

www.avastronomyclub.org

November 2024

Suggested Observing List

The list below contains objects that will be visible on the night of the AVAC Deep Sky Star Party or the Saturday nearest the New Moon, in this case November 2, 2024. The list is sorted by the transit time of the object.

ID	Common Name	Type	Const	RA	Dec	Mag	Rise	Transit	Set
M57	Ring Nebula	P Neb	Lyr	18h 53m 35s	+33° 01.7'	9.5	09:11	17:03	00:54
Barnard117	B117	DkNeb	Sct	18h 53m 43s	-07° 24.0'		11:21	17:03	22:45
NGC6715		Globular	Sgr	18h 55m 03s	-30° 28.7'	7.7	12:37	17:04	21:31
NGC6717	III-143	Globular	Sgr	18h 55m 06s	-22° 42.0'	9.2	12:09	17:04	22:00
Barnard122	B122	DkNeb	Sct	18h 56m 48s	-04° 45.0'		11:16	17:06	22:55
Barnard123	B123	DkNeb	Sct	18h 57m 39s	-04° 43.0'		11:17	17:07	22:56
NGC6723		Globular	Sgr	18h 59m 33s	-36° 37.9'	7.3	13:09	17:09	21:08
Barnard128	B128	DkNeb	Aql	19h 01m 40s	-04° 34.0'		11:21	17:11	23:01
NGC6729	C68	BrNeb	CrA	19h 01m 54s	-36° 57.0'		13:13	17:11	21:09
Barnard326	B326	DkNeb	Aql	19h 03m 00s	-00° 23.0'		11:10	17:12	23:14
NGC6749		Globular	Aql	19h 05m 15s	+01° 54.0'	11.1	11:06	17:14	23:22
Barnard329	B329	DkNeb	Aql	19h 06m 59s	+03° 11.0'		11:04	17:16	23:28
NGC6760		Globular	Aql	19h 11m 12s	+01° 01.8'	9.1	11:15	17:20	23:26
Abell56		P Neb	Aql	19h 13m 07s	+02° 52.8'	12.4	11:11	17:22	23:33
NGC6772		P Neb	Aql	19h 14m 36s	-02° 42.4'	14.0	11:28	17:24	23:19
Barnard138	B138	DkNeb	Aql	19h 16m 00s	+00° 13.0'		11:22	17:25	23:28
M56	NGC6779	Globular	Lyr	19h 16m 36s	+30° 11.0'	9.5	09:47	17:26	01:04
NGC6778		P Neb	Aql	19h 18m 25s	-01° 35.7'	13.0	11:29	17:27	23:26
Abell61		P Neb	Cyg	19h 19m 10s	+46° 14.5'	13.0	08:16	17:28	02:40
NGC6790		P Neb	Aql	19h 22m 57s	+01° 30.8'	10.0	11:25	17:32	23:39
NGC6803		P Neb	Aql	19h 31m 16s	+10° 03.3'	11.0	11:09	17:40	00:11
NGC6804		P Neb	Aql	19h 31m 35s	+09° 13.5'	12.0	11:12	17:41	00:09
Abell62		P Neb	Aql	19h 33m 18s	+10° 37.0'	13.0	11:10	17:42	00:15
NGC6807		P Neb	Aql	19h 34m 34s	+05° 41.0'	14.0	11:25	17:44	00:02
M55	NGC6809	Globular	Sgr	19h 40m 00s	-30° 57.7'	7.0	13:24	17:49	22:14
NGC6813		Neb	Vul	19h 40m 22s	+27° 18.5'		10:22	17:49	01:17
NGC6820		Neb	Vul	19h 42m 28s	+23° 05.2'		10:39	17:51	01:04
NGC6818	Little Gem	P Neb	Sgr	19h 43m 58s	-14° 09.1'	10.0	12:30	17:53	23:15
NGC6826	Blinking Planetary	P Neb	Cyg	19h 44m 48s	+50° 31.0'	8.8	07:55	17:54	03:52
Abell65		P Neb	Sgr	19h 46m 34s	-23° 08.2'	13.1	13:02	17:56	22:50
NGC6838		Globular	Sge	19h 53m 46s	+18° 46.6'	8.3	11:05	18:03	01:00
NGC6842		P Neb	Vul	19h 55m 02s	+29° 17.3'	14.0	10:29	18:04	01:39
HR7619	Psi Cyg	Mult	Cyg	19h 55m 38s	+52° 26.3'	4.9	07:35	18:05	04:34
Abell66		P Neb	Sgr	19h 57m 32s	-21° 36.6'	14.1	13:07	18:07	23:06
Barnard144	Fish on the platter nebula	DkNeb	Cyg	19h 58m 00s	+35° 20.0'		10:05	18:07	02:09
NGC6853	Apple Core Nebula	P Neb	Vul	19h 59m 36s	+22° 43.2'	8.1	10:58	18:09	01:19
NGC6857	III-144	Neb	Cyg	20h 02m 48s	+33° 31.4'	11.4	10:18	18:12	02:05

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ID	Common Name	Type	Const	RA	Dec	Mag	Rise	Transit	Set
IC4954		Neb	Vul	20h 04m 45s	+29° 15.1'		10:39	18:14	01:49
M75	NGC6864	Globular	Sgr	20h 06m 05s	-21° 55.3'	9.5	13:17	18:15	23:13
NGC6885	20 Vulpeculae Cluster	Open	Vul	20h 12m 00s	+26° 29.0'	5.9	10:57	18:21	01:45
NGC6891		P Neb	Del	20h 15m 09s	+12° 42.2'	12.0	11:45	18:24	01:03
NGC6894		P Neb	Cyg	20h 16m 24s	+30° 33.9'	14.0	10:45	18:25	02:06
IC4997		P Neb	Sge	20h 20m 09s	+16° 43.9'	12.0	11:38	18:29	01:20
Barnard345	B345	DkNeb	Cyg	20h 21m 00s	+46° 33.0'		09:15	18:30	03:45
NGC6913	Cooling Tower	Open	Cyg	20h 23m 57s	+38° 30.5'	6.6	10:14	18:33	02:52
Abell70		P Neb	Aql	20h 31m 33s	-07° 05.3'	14.3	12:58	18:41	00:24
Barnard348	B348	DkNeb	Cyg	20h 34m 00s	+42° 05.0'		10:03	18:43	03:23
NGC6940		Open	Vul	20h 34m 26s	+28° 17.0'	6.3	11:12	18:43	02:15
NGC6960	Filamentary Nebula.	Neb	Cyg	20h 45m 58s	+30° 35.6'		11:14	18:55	02:36
IC5068		Neb	Cyg	20h 50m 29s	+42° 28.6'		10:16	18:59	03:42
IC5070	Pelican Nebula [2]	Neb	Cyg	20h 51m 00s	+44° 24.1'		10:03	19:00	03:57
NGC6979	II-206	Neb	Cyg	20h 51m 00s	+32° 09.0'	11.0	11:13	19:00	02:47
NGC6981		Globular	Aqr	20h 53m 28s	-12° 32.2'	9.4	13:35	19:02	00:30
IC5076		Neb	Cyg	20h 55m 33s	+47° 23.7'		09:42	19:05	04:27
IC1340		Neb	Cyg	20h 56m 08s	+31° 02.8'		11:23	19:05	02:48
NGC6992	Cirrus Nebula [2]	Neb	Cyg	20h 56m 19s	+31° 44.6'		11:20	19:05	02:51
NGC6996	VIII-58	Open	Cyg	20h 56m 30s	+44° 38.0'	10.0	10:07	19:05	04:04
NGC6997		Open	Cyg	20h 56m 39s	+44° 37.9'	10.0	10:07	19:06	04:04
Barnard352	B352	DkNeb	Cyg	20h 57m 10s	+45° 53.0'		09:57	19:06	04:15
Barnard354	B354	DkNeb	Cep	20h 58m 00s	+58° 09.0'		Circ	19:07	Circ
NGC7000	Gulf of Mexico	BrNeb	Cyg	20h 58m 48s	+44° 20.0'		10:11	19:08	04:04
M73	NGC6994	Open+Asterism	Aqr	20h 58m 56s	-12° 38.1'	9.0	13:41	19:08	00:35
NGC7006	C42	Globular	Del	21h 01m 30s	+16° 11.0'	10.6	12:21	19:10	02:00
NGC7009	Saturn Nebula	P Neb	Aqr	21h 04m 12s	-11° 22.0'	8.0	13:42	19:13	00:44
NGC7027		P Neb	Cyg	21h 07m 02s	+42° 14.1'	10.0	10:35	19:16	03:57
Barnard151	B151	DkNeb	Cep	21h 08m 13s	+56° 19.0'		Circ	19:17	Circ
IC1369		Open	Cyg	21h 12m 09s	+47° 46.1'	6.8	09:55	19:21	04:48
Barnard153	B153	DkNeb	Cep	21h 21m 03s	+56° 26.0'		Circ	19:30	Circ
NGC7076		Neb	Cep	21h 26m 24s	+62° 53.5'		Circ	19:35	Circ
NGC7078	Great Pegasus Cluster	Globular	Peg	21h 29m 58s	+12° 10.0'	6.4	13:02	19:39	02:16
M39	NGC7092	Open	Cyg	21h 31m 42s	+48° 25.0'	5.5	10:08	19:41	05:14
M2	NGC7089	Globular	Aqr	21h 33m 27s	-00° 49.3'	7.5	13:42	19:42	01:43
NGC7090		Galaxy	Ind	21h 36m 28s	-54° 33.4'	11.0	18:37	19:45	20:54
IC1396	Elephant Trunk	Open	Cep	21h 38m 58s	+57° 29.3'	3.5	Circ	19:48	Circ
NGC7099		Globular	Cap	21h 40m 22s	-23° 10.7'	7.5	14:55	19:49	00:43

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ID	Common Name	Type	Const	RA	Dec	Mag	Rise	Transit	Set
NGC7128		Open	Cyg	21h 43m 57s	+53° 42.9'	9.7	08:52	19:53	06:54
NGC7142		Open	Cep	21h 45m 09s	+65° 46.5'	9.3	Circ	19:54	Circ
NGC7139	III-696	P Neb	Cep	21h 46m 08s	+63° 47.5'	13.3	Circ	19:55	Circ
IC5146	Cocoon Nebula	Open	Cyg	21h 53m 29s	+47° 16.0'	7.2	10:41	20:02	05:24
IC1434		Open	Lac	22h 10m 42s	+52° 51.0'	9.0	09:41	20:20	06:58
NGC7245		Open	Lac	22h 15m 11s	+54° 20.6'	9.2	08:57	20:24	07:51
NGC7232		Galaxy	Gru	22h 15m 38s	-45° 51.0'	13.0	17:22	20:25	23:27
NGC7261		Open	Cep	22h 20m 06s	+58° 03.0'	8.4	Circ	20:29	Circ
NGC7293	Helix Nebula	P Neb	Aqr	22h 29m 36s	-20° 48.0'	7.3	15:37	20:39	01:40
NGC7380		Open	Cep	22h 47m 21s	+58° 07.9'	7.2	Circ	20:56	Circ
C9	Cave Nebula	BrNeb	Cep	22h 56m 48s	+62° 37.0'		Circ	21:06	Circ
IC1470		Neb	Cep	23h 05m 10s	+60° 14.6'		Circ	21:14	Circ
NGC7492		Globular	Aqr	23h 08m 27s	-15° 36.6'	11.5	15:59	21:17	02:36
HR8872	Omi Cep	Triple	Cep	23h 18m 38s	+68° 06.6'	4.8	Circ	21:28	Circ
M52	The Scorpion	Open	Cas	23h 24m 48s	+61° 35.6'	8.0	Circ	21:34	Circ
NGC7662	Blue Snowball	P Neb	And	23h 25m 54s	+42° 33.0'	8.3	12:51	21:35	06:18
NGC7686		Open	And	23h 30m 07s	+49° 08.0'	5.6	11:58	21:39	07:20
IC5332		Galaxy	Scl	23h 34m 27s	-36° 06.0'	10.6	17:41	21:43	01:46
NGC7785		Galaxy	Psc	23h 55m 19s	+05° 54.9'	11.6	15:45	22:04	04:24
HR9071	Sig Cas	Triple	Cas	23h 59m 01s	+55° 45.3'	4.9	Circ	22:08	Circ
NGC7822		Neb	Cep	00h 03m 36s	+67° 09.0'		Circ	22:13	Circ
NGC55	C72	S Gal	Scl	00h 14m 54s	-39° 11.0'	7.9	18:38	22:24	02:10
NGC129		Open	Cas	00h 30m 00s	+60° 13.1'	6.5	Circ	22:39	Circ
NGC133		Open	Cas	00h 31m 19s	+63° 21.0'	9.0	Circ	22:40	Circ
NGC146		Open	Cas	00h 33m 03s	+63° 18.0'	9.1	Circ	22:42	Circ
NGC147	C17	E Gal	Cas	00h 33m 12s	+48° 30.0'	9.3	13:08	22:42	08:16
NGC190		Galaxy	Psc	00h 38m 55s	+07° 03.7'	14.0	16:25	22:48	05:10
M110	Satellite Of Andromeda Galaxy	Galaxy	And	00h 40m 22s	+41° 41.1'	8.9	14:12	22:49	07:27
NGC210		Galaxy	Cet	00h 40m 35s	-13° 52.3'	10.9	17:26	22:50	04:13
NGC206	V-36	Neb	And	00h 40m 36s	+40° 44.0'		14:18	22:50	07:21
Arp168	M32	Galaxy	And	00h 42m 41s	+40° 51.0'	9.0	14:19	22:52	07:24
M32	Satellite Of Andromeda Galaxy	Galaxy	And	00h 42m 42s	+40° 51.9'	9.1	14:19	22:52	07:24
M31	Andromeda Galaxy	Galaxy	And	00h 42m 44s	+41° 16.1'	4.3	14:17	22:52	07:27
NGC246	C56	P Neb	Cet	00h 47m 00s	-11° 53.0'	10.9	17:27	22:56	04:25
NGC254		Galaxy	Scl	00h 47m 28s	-31° 25.2'	11.8	18:33	22:56	03:20
NGC288		Globular	Scl	00h 52m 45s	-26° 35.0'	8.1	18:20	23:02	03:44
NGC281	PacMan Nebula	Open	Cas	00h 52m 54s	+56° 37.4'	7.0	Circ	23:02	Circ

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IC59	Gamma Cassiopeiae Nebula	Neb	Cas	00h 57m 29s	+61° 08.6'		Circ	23:06	Circ
IC63	Gamma Cassiopeiae Nebula	Neb	Cas	00h 59m 29s	+60° 54.7'		Circ	23:08	Circ
NGC474		Galaxy	Psc	01h 20m 07s	+03° 24.9'	11.1	17:17	23:29	05:41
NGC485		Galaxy	Psc	01h 21m 28s	+07° 01.0'	14.0	17:08	23:30	05:53
M103	NGC581	Open	Cas	01h 33m 23s	+60° 39.0'	7.0	Circ	23:42	Circ
NGC598	Triangulum Galaxy	Galaxy	Tri	01h 33m 51s	+30° 39.6'	5.7	16:02	23:43	07:24
NGC604	III-150	Neb	Tri	01h 34m 33s	+30° 47.0'		16:02	23:44	07:25
M74	The Phantom	Galaxy	Psc	01h 36m 42s	+15° 47.0'	9.8	16:57	23:46	06:34
M76	Little Dumbbell Nebula	P Neb	Per	01h 42m 18s	+51° 34.2'	12.0	13:37	23:51	10:06
NGC651	Apple Core Nebula [2]	P Neb	Per	01h 42m 21s	+51° 34.1'	12.2	13:37	23:51	10:06
NGC637		Open	Cas	01h 43m 04s	+64° 02.4'	8.2	Circ	23:52	Circ
NGC654		Open	Cas	01h 44m 00s	+61° 53.0'	6.5	Circ	23:53	Circ
NGC720		Galaxy	Cet	01h 53m 00s	-13° 44.3'	10.2	18:38	00:02	05:26
NGC780		Galaxy	Tri	02h 00m 35s	+28° 13.5'	14.0	16:39	00:10	07:41
NGC784		Galaxy	Tri	02h 01m 17s	+28° 50.2'	11.8	16:37	00:10	07:44
NGC821		Galaxy	Ari	02h 08m 21s	+10° 59.6'	10.8	17:43	00:17	06:51
Baily191	NGC884	Open	Per	02h 22m 18s	+57° 08.1'	4.0	Circ	00:31	Circ
IC1795		Neb	Cas	02h 26m 32s	+62° 02.4'		Circ	00:36	Circ
NGC936		Galaxy	Cet	02h 27m 37s	-01° 09.3'	10.1	18:37	00:37	06:36
NGC943	Arp309	Galaxy	Cet	02h 29m 09s	-10° 49.0'	11.4	19:06	00:38	06:10
NGC956		Open	And	02h 32m 30s	+44° 35.6'	9.0	15:43	00:42	09:40
IC1805	Heart Nebula	Open	Cas	02h 32m 47s	+61° 27.6'	6.5	Circ	00:42	Circ
NGC1052		Galaxy	Cet	02h 41m 05s	-08° 15.3'	10.6	19:10	00:50	06:30
M34	Spiral Cluster	Open	Per	02h 42m 05s	+42° 45.6'	6.0	16:06	00:51	09:36
M77	Cetus A	Galaxy	Cet	02h 42m 41s	-00° 00.8'	9.7	18:49	00:52	06:54
NGC1084		Galaxy	Eri	02h 46m 00s	-07° 34.6'	10.6	19:13	00:55	06:37
IC1848	Soul Nebula	Open	Cas	02h 51m 18s	+60° 24.4'	6.5	Circ	01:00	Circ
NGC1156		Galaxy	Ari	02h 59m 42s	+25° 14.2'	11.7	17:49	01:09	08:28
NGC1201		Galaxy	For	03h 04m 08s	-26° 04.1'	10.6	20:29	01:13	05:57

And - Andromeda
Ant - Antlia
Aps - Apus
Aql - Aquila
Aqr - Aquarius
Ara - Ara
Ari - Aries
Aur - Auriga
Boo - Bootes
Cae - Caelum
Cam - Camelopardis
Cap - Capricornus
Car - Carina
Cas - Cassiopeia
Cen - Centaurus

Cep - Cepheus
Cet - Cetus
Cha - Chamaeleon
Cir - Circinus
CMA - Canis Major
CMi - Canis Minor
Cnc - Cancer
Col - Columba
Com - Coma Berenices
CrA - Corona Australis
CrB - Corona Borealis
Crt - Crater
Cru - Crux
Crv - Corvus
CVn - Canes Venatici

Cyg - Cygnus
Del - Delphinus
Dor - Dorado
Dra - Draco
Equ - Equuleus
Eri - Eridanus
For - Fornax
Gem - Gemini
Gru - Grus
Her - Hercules
Hor - Horologium
Hya - Hydra
Hyi - Hydrus
Ind - Indus
Lac - Lacerta

Leo - Leo
Lep - Lepus
Lib - Libra
LMi - Leo Minor
Lup - Lupus
Lyn - Lynx
Lyr - Lyra
Men - Mensa
Mic - Microscopium
Mon - Monoceros
Mus - Musca
Nor - Norma
Oct - Octans
Oph - Ophiuchus
Ori - Orion

Pav - Pavo
Peg - Pegasus
Per - Perseus
Phe - Phoenix
Pic - Pictor
PsA - Pisces Austrinus
Psc - Pisces
Pup - Puppis
Pyx - Pyxis
Ret - Reticulum
Scl - Sculptor
Sco - Scorpius
Sct - Scutum
Ser - Serpens
Sex - Sextans

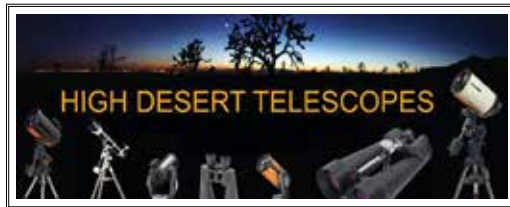
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Sgr - Sagittarius
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Tel - Telescopium
TrA - Triangulum Australe
Tri - Triangulum
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