ASTRONOMY CLUB OF TULSA

OBSERVER

MARCH 2025

Bringing Stars to the eyes of Tulsa since 1937

Editor – John Land

Our annual Messier Marathon will be March 28, 2025

Above are just Four of the 110 objects in Charles Messier's Catalog of celestial sights. All four images are from Tim Gilliland's wonderful collection of astrophotos taking from his observatory near Keystone Lake.

Top Left M 65 & 66
Top Right M 101
Bottom Left M 1 *Crab Nebula*
Bottom Right M 57 *Ring Nebula*

Special Events -

Saturday Mar 8 - 10:30 AM to 2:00 PM Telescope 101 Workshop

Do you have a New Telescope ? (Or an older one gathering dust) Want some help learning to use your telescope more affectively? Bring your telescope and let one of our astronomy club members assist you in a 30 min individualized hands-on help session.
Preregistrations required by March 5th

Saturday Mar 8 - 5:30 to 9:00 PM Public Astronomy night

at the Sand Springs Case Community Center 1050 W Wekiwa Rd, Sand Springs
Volunteers arrive at 5:30 to set up – Public will join us for stargazing at 6:00 PM

Friday March 28 Messier Marathon 6:50 PM to Dawn at the Observatory

This is a member's event in which participants challenge themselves to locate and log as many Messier objects as possible in a single night. - See details on page

Friday March 7 - Club Meeting - 7:00 PM Jenks High School

Join us **Friday March 7** as amateur astronomer **Liam Yanulis** presents **X-Ray Astronomy: Taking a Picture with Bullets**. Liam will be speaking in person about his research and the challenges of observational X-ray astronomy, investigating how more exotic wavelengths of light change how astronomers see the night sky.

Liam has a substantial background in astronomy research and science outreach. He received his Bachelor of Science with Honors in Astronomy and Physics from the University of Massachusetts Amherst, where he was the President of the Five Colleges Astronomy Club. At UMass, Liam conducted research in extragalactic X-ray astronomy under the supervision of Prof. Daniel Wang, a world expert in X-ray astrophysics. After graduation, he worked as an astronomy tour guide at Dark Ranger Telescope Tours, a premier private observatory near Bryce Canyon National Park, where he led stargazing tours for the public. Liam is now an Optical Engineer in Tulsa, operating telescopes for defense by day and for astrophotography by night.

Stargazing Nights and Observatory Nights

Our GUESTS & Members nights are open to anyone. We do ask guests to try to RSVP.
Large groups need to make separate arrangements.

Members Only Nights are Open to members and their family
Details, Times and Direction Maps are posted on our Website
https://www.astrotulsa.com/events

Guest and member Observatory nights

Come enjoy an evening of star gazing at our observatory
located in dark rural skies SW of Tulsa
See details and directions on our Website Events Page
Guests are requested to RSVP

Saturday Mar 22 - 7:00 PM Guest & Members Observatory Night

Saturday April 19 - 7:30 PM Guest & Members Observatory Night

Astronomy Club Members Nights

Our members are invited to come work on their observing goals, do some Astro imaging and share ideas.

Friday Mar 28 - 6:50 PM to Dawn
Our annual Messier Object Marathon **See pages 10 & 15**

Friday Apr 25 - 7:30 PM Members Observatory Night

If a Friday event must be cancelled due to weather, we will try on Saturday 30 minutes before sunset - Always check the website for event updates

In Town Astronomy Club meetings at Jenks High School planetarium

Open to Guests and Members

Friday Mar 7 – 7:00 PM Jenks High School Planetarium

Friday Apr 4 – 7:00 PM Jenks High School Planetarium

Located at 105 East B St, Jenks, OK

DAYLIGHT SAVINGS TIME BEGINS SUNDAY MARCH 9
We lose an hour of evening observing.

Happy 95th Birthday Pluto ! Feb. 18, 2025 marked the 95th anniversary of the discovery of Pluto by Clyde Tombaugh at Lowell Observatory. Read his first-person narration about his passion for astronomy which put him on the path to Lowell Observatory where he discovered Pluto.
Http://bit.ly/tombaugh

2025 ASTRONOMY CONFERENCES and STAR PARTIES

Are you looking for a way to combine a bit of vacation time and enjoy learning more about astronomy? A regional of national astronomy conference may be just the thing for you. You can make friends with likeminded astronomy enthusiast and also get to hear some interesting presentations on a variety of topics. The door prize give aways are also an extra little bonus.

2025 MidStates Regional Astronomy Conference June 13 to 15

The 2025 MSRAL Conference will be on the Little Rock University of Arkansas campus. This year's host is the Central Arkansas Astronomical Society. Our Tulsa club hosted the June 2023 MSRAL Conference. They already have an impressive lineup of 15 speakers and activities posted on their website. The Friday evening "*Pisces Fry*" meal is going to be held at their River Ridge Observatory along with some observing. The Saturday and Sunday presentations and workshops will be on the U of AR campus.
I corresponded with their treasurer who told me registration and lodging information will be posted to the website soon. https://msral2025.caasastro.org/index.php

2025 National Astronomical League convention June 25 to 28

The ALCON 2025 will be located in the scenic Bryce Canyon National Park of Utah.
The convention is taking place during the new moon so guests can enjoy the incredible dark skies of Bryce Canyon. In addition to the dark skies Bryce Canyon is noted for its beautiful unique geological landscape features. They have a several notable speakers lined up as well as some interesting workshops. Several astronomy equipment vendors will likely have displays set up.
Check out the details at https://astrocon2025.org/ **Reservation space is limited.**
Most recent posting indicates 150 reservation slots still available

Texas Star Party April 20 – 27 https://texasstarparty.org/

Texas Star Party is located on the Prude Guest Ranch in far SW Texas near Fort Davis.
Located at 31 degrees south its dark bortle 2 skies give observers a chance to see some southern target like Omega Centauri not visible from Tulsa. Its location in the dry semi-desert mountains give incredible views. Also, since it is held in April observers can enjoy tracking down the many spring sky galaxies. I've been there a couple of times and it's amazing to see stars shining clearly down to the horizon. You also have the option to schedule a trip to visit the nearby McDonald Observatory and the Hobby-Eberly 433-inch multimirror telescope. Registration is limited to 550 participants. On site accommodations are available on a first come first served basis. It's about 750 miles drive one way.

Okie-Tex Star Party Sept 19 – 27 https://www.okie-tex.com/index.php

Several of our Tulsa area astronomers enjoy going to the Okie-Tex Star Party in the autumn. Each year about 500 astronomers arrive from all over the nation for a week-long feast of starlight. Th Okie-Tex is held on a spacious observing area just west of the Black Mesa State Park at the far western end of the Oklahoma Panhandle. Its bortle 1 dark skies are acclaimed as some of the darkest on the planet. Each time I go I am overwhelmed by the late summer Milky Way flowing overhead like a river of stars engulfing the sky. You need to register and reserve your meal choices by August 31, 2025

President's Message
Jonathan Fussell

Salutations all,

February has been a cold one for our state! I'm sure many of you have been keeping warm by heaters and under blankets, dreaming of clear skies and warmer weather. Unfortunately, the winter chill put a damper on some of our club events, including our in-person meeting and Guest Night. But not to worry! Dr. Lau has expressed interest in rescheduling, and we have plenty of exciting events coming up in March to satisfy your volunteer and astronomy appetites.

Our next club meeting will be on Friday, March 7, where our very own Liam Yanulis will be giving a fascinating talk on X-ray astronomy. This promises to be an insightful discussion, and I encourage you all to attend. The following day, Saturday, March 8, we have two great events planned. In the morning, from 10:30 AM to 2:00 PM, we will be hosting a Telescope 101 Workshop. If you have a telescope but aren't quite sure how to use it, this is a perfect opportunity to get hands-on guidance from experienced club members. Later that evening, from 6:00 PM to 9:00 PM, we invite you to join us for a Public Astronomy Telescope Viewing Night at the Case Community Center in Sand Springs. Whether you bring your own telescope or just come to enjoy the night sky, it will be a wonderful opportunity to stargaze with fellow astronomy enthusiasts.

To close out the month, we will be hosting our annual Messier Marathon on Saturday, March 29. This event, celebrated by astronomy clubs across the country, challenges participants to locate all 110 Messier objects in a single night. Our Messier Marathon will be an all-night event, complete with a potluck, so bring your best snacks, finger foods, blankets, and telescopes for a night of adventure under the stars. Last year, I was only able to find 47 Messier objects, but this year, I'm determined to push myself and reach all 110! Let's see who can take home bragging rights as the ultimate Messier Marathon champion.

I look forward to seeing all of you at these upcoming events. Until then, stay warm and keep looking up.

Clear skies!

Astronomy Club of Tulsa

"Bringing Stars to the Eyes of Tulsa since 1937"

Jonathan Fussell - President

Back in Time

by John Land

Our Astronomy Club's Motto is *"Bringing Stars to the Eyes of Tulsa since 1937"*

The success of our club is a testament to the dedication of generations of astronomy enthusiasts who have volunteered countless hours to ensure our continued success.

At our January meeting we were pleased to recognize our oldest member, Judy Lieser, as she celebrated her 89th birthday. Judy has been a member of the club since 1977 along with her late husband Bob and their son Bob Jr.

We also would like to recognize our longest continuously active member, Richie Shroff. Richie joined the club in 1962 and has served the club in a number of roles including doing our newsletter when it was still a printed mail out.

For many years the club met in a Sound Recording Studio owned by Art Sweeny located on S. Columbia Ave a couple blocks north of I 44. In the yard was a large 8" reflecting telescope on a bulky German Equatorial mount. Meetings often featured a presentation by one or our members or if we were fortunate, a film on an astronomy topic. One of the members from the 70's went on to work with the Hubble Space Telescope wide field imaging camera. If the weather was good members would go out to a rural dark site for some late night observing. We didn't have a permanent site so it may be by at the lake or someone's field.

One favorite activity each year was a mirror grinding class conducted by our long time treasurer, Nick Pottorf. Before the era of readily available commercial telescopes, astronomers would meticulously grind and polish their own telescope mirrors. Each fall Nick would start a new 6" f 8 mirror. We would come early to watch him demonstrate the grinding strokes and if you were lucky, he would let you do a few strokes yourself. Each successive meeting, we would see the progress of the mirror and then at Christmas time there would be a drawing for a lucky member to win the mirror to make into a telescope. In the late 80's we began observing on the parking lot next to the old AT&T building at our present site. Some members got together to make plans to build an observatory. The club was officially formed into a 501c3 non-profit organization and began raising funds for construction. In the summer of 1991, the Ronald McDonald Children's Charity fund donated $ 25,000. That along with other donations for individuals and companies led to construction beginning in the spring of 1992. Almost all the work was

done by club volunteers. Member James Liley donated a 16" f 6 reflector on a massive homemade equatorial mount. Observing through it involved climbing a tall ladder and leaning over to peak into the eyepiece. You can still see the tube hanging in the observatory hallway and the mount base on the floor.

Below is a Tulsa World article from October 1993 describing the observatory dedication.

Local Astronomers Starry-Eyed

Observatory Will Show Visitors the Milky Way

By Mona Shoup
World Staff Writer

MOUNDS — The Astronomy Club of Tulsa will hold a ribbon-cutting ceremony Thursday for the grand opening of its observatory near here.

Club members, contributors, fourth-graders from Mayo Demonstration School of Science and Technology, the media and even Ronald McDonald will attend.

The observatory is a stellar example of a community-wide effort to promote science education, said Blake Champlin, observatory operations director and an attorney at the firm of Shipley, Inhofe & Strecker.

Plans for the observatory began in 1986, after a large, research-grade telescope was donated by club member James Liley. Fund raising began three years ago and construction of the 1,200-square-foot observatory and classroom took nearly two years to complete, he said.

Most of the construction was done by club members, with more than half the membership participating and donating time, talent, money and materials, he said.

"This project was certainly a Herculean effort for an organization of our type and size. We are looking forward to putting the observatory into use," Champlin said.

"Viewing the night sky at a dark site such as this is awe-inspiring. Astronomy is a hands-on type of scientific activity which has many different subparts," he said. "This makes astronomy a fun science with something for everyone."

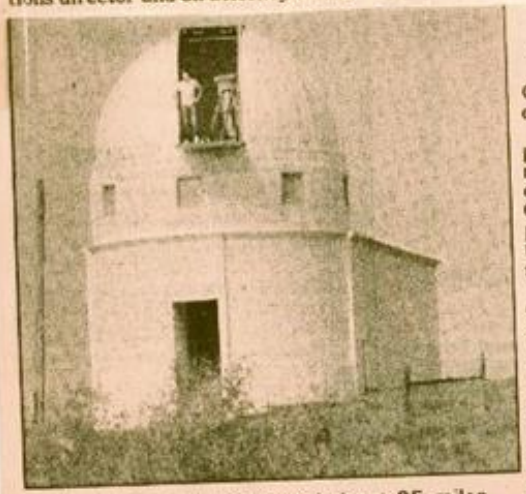
The facility is named The Ronald McDonald Children's Charities Observatory and is located about 25 miles southwest of Tulsa near Mounds.

The observatory will be available to the general public through group sessions by reservation. Its classroom is equipped with audio-visual equipment to provide a quality experience for schools and civic groups. Solar filters for viewing the sun make daytime field trips possible, Champlin said.

The telescope, originally built for Oklahoma State University, is 16 inches in diameter, 8 feet long, and weighs about 1,000 pounds, he said.

"You really need to go as far away as Kansas City or Houston to find a facility in the same league. We believe it will make a unique

See Observatory on News 3



The observatory is located about 25 miles southwest of Tulsa near Mounds.

. . .Observatory

Continued from News 1

contribution to this area," Champlin said.

More than 150 donors contributed to the project, mostly with in-kind services and materials. The club owes the project's success to Ronald McDonald Children's Charities. Fund-raising efforts didn't appear successful until 1991 when the charity granted $25,000 to the club, Champlin said.

The charity funds programs which benefit young people in the areas of education and the arts, social and civic concerns and health care and medical research, including the Ronald McDonald House.

The astronomy club and Ronald McDonald Children's Charities share a common mission to promote science education, said Bob Wagner, a McDonald's owner and operator instrumental in getting the grant.

Tulsa didn't have a public observatory and it seemed necessary for children to be able to study the universe without having to travel elsewhere, he said.

Another boost for the club came from the Pearl M. and Julia J. Harmon Foundation with a $15,000 interest-free loan. The Harmon foundation is also funding a $2 million hands-on science museum to be built at 41st Street and Hudson Avenue.

Other donors include American Tank & Construction Co., the Double W Ranch and the Patricia Wheeler family, Transok Inc., K&A Energy Consultants Inc., Cuesta Foundation, Warren Petroleum Co., Amoco Corp., Exxon, Willbros USA Inc., AT&T, Manhattan Construction Co., Urban Design Group, Mr. and Mrs. John Windler, and Mr. and Mrs. Mark Darrah.

The Astronomy Club of Tulsa, formed in 1937, is a non-profit, educational organization.

For information on observatory star parties and events, call the club at 636-NOVA.

***** The NEW CLEAR OUTSIDE icon above is a link to an extensive site showing cloud cover %,**

Seeing, Transparency, Moon Phase, Temp in ^{O} C and many other useful tools

GOT A NEW TELESCOPE? Here are some sites to help you get started with you telescope.

Getting Started with Your New Telescope
https://skyandtelescope.org/astronomy-news/getting-started-with-your-new-telescope-2/

Astronomy for Beginners | Night Sky Facts, FAQs & Resources
https://skyandtelescope.org/astronomy-information/

What to Know Before Buying a Telescope
https://skyandtelescope.org/astronomy-news/what-to-know-before-buying-a-telescope/

See Website Observation Station for a collection of Interactive Sky Watching Tools
Moon phases - Sun rise & Set - Make your own custom interactive sky chart and more
Great website for printable Finder Charts of Solar System objects https://in-the-sky.org/

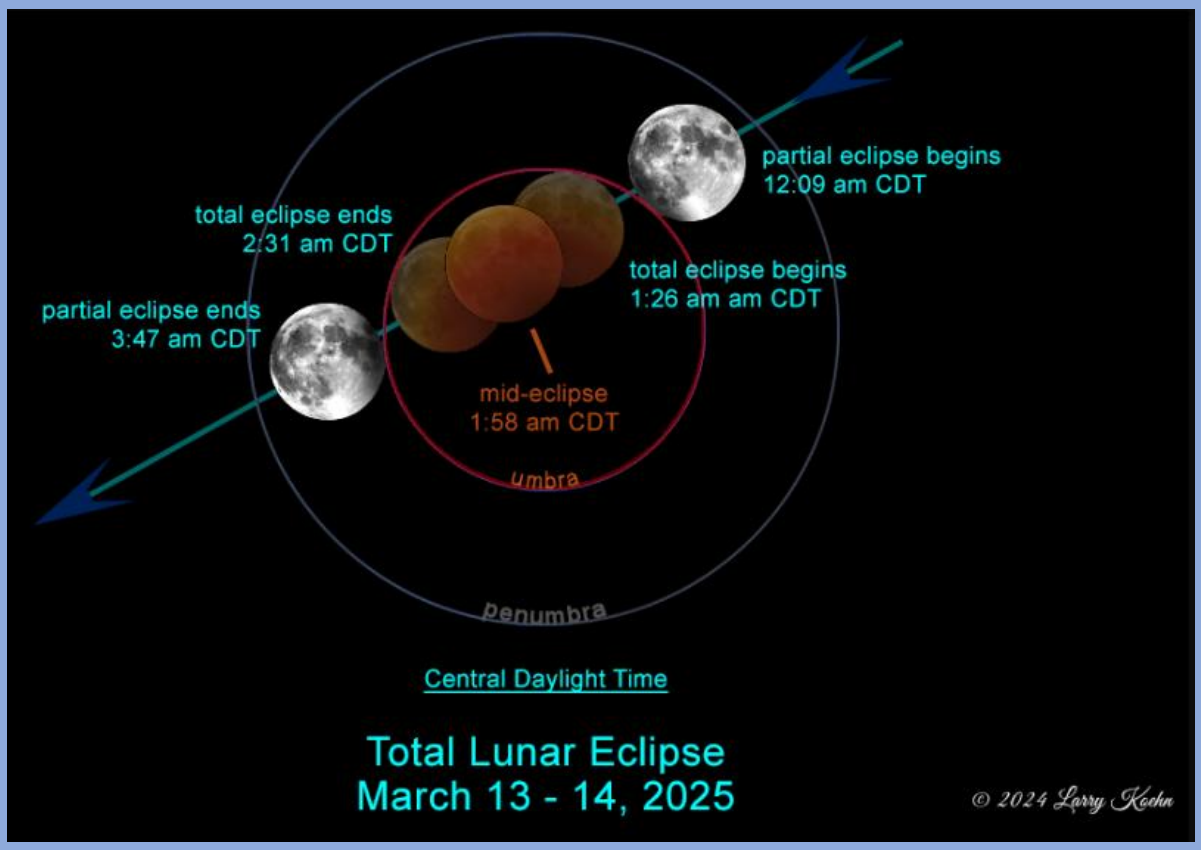
March - Moon Phases - -
1st Q Thurs Mar 6 - - Full Fri AM Mar 14 - - 3rd Q - - Sat Mar 22 - - New Sat Mar 29
Mark your calendar for a Total Lunar Eclipse night of March 13-14

Lunar conjunctions – Venus Mar 1, Jupiter Mar 5, Mars Mar 8

VENUS has been our bright evening planet since September. It will pass between Earth and the Sun on March 23 (inferior conjunction) then reappear before dawn in April. Direct your telescope toward Venus now to see it as a thin bright crescent. Galileo argued that the only way Venus could have a full range of phases like the moon was that it must orbit the Sun not the Earth. MERCURY will make a brief appearance in the low in the western evening sky the first 3 weeks of March. Use binoculars to search for it within 6 degrees from Venus from the 9th to the 16th. JUPITER can be found high in the SSW sky in the horns of the constellation Taurus. It four bright Galilean moons and cloud bands are always a pleasant sight. As March begins MARS can be found forming a nice triangle with the Gemini stars Pollux and Castor. On March 8 the gibbous moon passes just 1.5 degrees for Mars. Mars has resumed its eastward (prograde) motion among the stars. Take note of how its position changes during the month. SATURN if search carefully near the western horizon the that last week of February you may still be able to find Saturn near the planet Mercury on Feb. 24 & 25. Its rings appear now nearly edge on as a thin line. It is in superior conjunction behind the Sun on March 12 and will reappear in the morning sky by mid-April.

The Vernal Equinox is March 20 at 5:01 AM CDT
On that date the Sun crosses the celestial equator moving north.

See **Astronomy 2025 sky events YouTube** video link in the Astronomy in the News section for more events this year.



See animation version of eclipse at https://www.shadowandsubstance.com/

On the night of Thursday March 13 into the early AM hours of March 14 you can observe a Total Lunar Eclipse. A lunar eclipse occurs when the full moon passes through the Earth's shadow. Unlike a solar eclipse you don't have to travel to see the eclipse. If the moon is up where you live the eclipse will be visible. As the partial phase of the eclipse begins you can find the moon in the SE about 50 degrees up between the constellations of Leo and Virgo.

You won't need special equipment or dark skies to enjoy the eclipse. However, a binoculars or a small telescope will enhance your view. Watch as the moon slips into the Earth's inner shadow – the umbra – as a "nibble" on its low left side. The moon will continue to darken and take on a reddish-brown color as the eclipse continues. As totality begins at 1:28 AM take note of how its color changes as it slips further into the shadow. The color of the eclipse is caused by the Earth's atmosphere bending the light of all its sunrises and sunsets around the planet. Depending on how much dust is in the air it may appear bright copper orange, dusky brick red or even dim gray. Since the whole event lasts over 3.5 hours you don't need to stand out in the cold all night. You can duck in or out to see what is happening. Learn more about Lunar Eclipses from NASA

If you are planning to take some images of the eclipse, practice a few nights earlier. Modern smart phones will work nicely but you may want to mount the phone to keep it steady. Telescope imagers should have their scope set up and sharply focused earlier in the evening. Maybe bracket your exposures for best results. If your phone of camera has a remote that will help. PS. You are likely to see something on the Internet about a sunrise partial Solar Eclipse on March 29. Unfortunately, the sun is still below our horizon as it ends.

Are you up for the challenge of the annual

Messier Marathon Friday Mar 28

Each spring near the Spring Equinox it is possible to find all 110 objects in Charles Messier's Catalogue of Deep Sky Treasures during a single night. Hundreds of amateur astronomers turn their telescopes eagerly toward the sky searching for star clusters, nebula and galaxies hidden in the canopy of the night sky. The quest begins at dusk to catch the ones soon to set it the west. Then proceeds checking off the many objects of the winter and circumpolar sky. You'll need a power snack before tackling the vast denizens of Virgo cluster galaxies. Stave off drowsiness with numerous cups of coffee as the Summer Milky Way rises in the east after midnight. Only the most hardy observers preserve to catch the objects of the autumn sky before they are swallowed up by the brightening dawn.

The Messier Marathon is a night that club members get together to encourage each other to find as many of the Messier Objects as they can in a single night. Whether you find a few dozen or nearly 100 it's an experience all will enjoy.

The week or so prior to the March New Moon is great time to get started honing your observing skills. Choose a couple of the charts in the links below and try to locate all the objects on that chart. Many of them can be found from suburban skies. Try turning off your GoTo features and find them yourself using the star charts. Our **April 2021 Newsletter** has a good article explaining how to find the Field of View in your telescope eyepieces. Then "Star Hop" from a known star to locate your desired object. Just manually use your controls to move the scope until you find the Deep Sky object. Take a bit of time to look observe its details. Maybe even make a sketch of it. If you've never done the **Messier Certificate program** this is good time to start but you'll want to spend more time recording your observations for the certificate. Print Off Charts 3,4 & 5 in the link below and see how many you can find.

THE MESSIER MARATHON – extensive page of the history and objects of the marathon
http://www.messier.seds.org/xtra/marathon/marathon.html Bottom of the page has links to years.

Excellent Explanation and strategy for planning your observation Sequence

- **Note- The resources at the end can now be found online.**

http://www.richardbell.net/marathon.html

Single Page printout of the Sequence search list
http://www.richardbell.net/files/messier_list.pdf

Messier Marathon Packet - Made in 2016 – Object list works for any year in March
https://okmcd.com/pub/MessierMarathonCharts.pdf
Only the first or last M Objects may vary a bit.
Printable PDF charts or ones that can be stored on a computer.

7 pages of Log sheets to check off your progress arranged by sequence and Suggested times for conducting your search.
17 pages of detailed charts showing the location of each object. Identified by sequence number.

Three Page Log sheets -
http://www.astunit.com/tonkinsastro/messier/messmara.pdf
For observers using different instruments during the night - this one has columns to identify which instrument

Observing Chairman
Brad Young

Signs of Spring

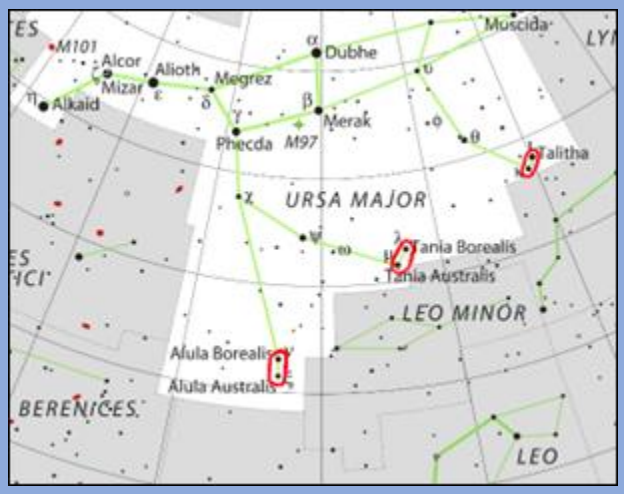
Everyone enjoys seeing winter end and the warmth and sunshine of spring returning each year. We all have signs that we are looking for to indicate the renewal of life that attends each cycle. Many of these occur during daytime, such as the return of birds from the south, the first daffodils and clover fields, and that first morning when, stepping outside, you realize the last frigid day is behind you.

There are also many signs in the night sky that show us that the season of renewal has begun. Some of these have old sayings attached to them, such as “March comes in like a lion and goes out like a lamb,” referring both to the weather and perhaps to Leo rising in the east while Aries sits in the west at night. Here are a few other ones to look for to let you know that things will be better soon.

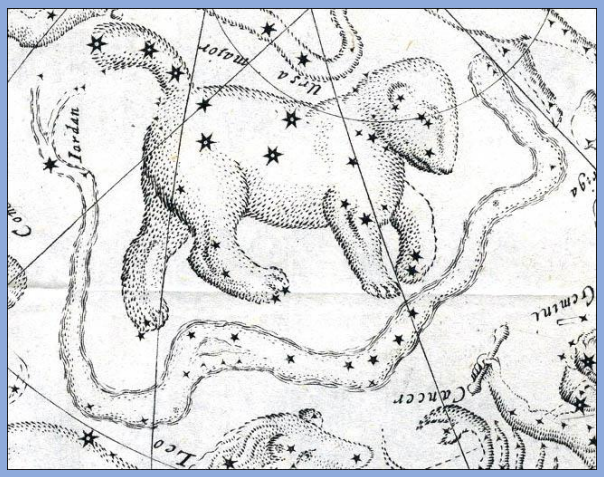
In evening twilight, the zodiacal light is always a sure sign of spring coming around. Although bright Venus has dampened the effect in late winter, as she exits the sky, March and April will better show the cone of faint light coming up from the sunset point about an hour after the sun goes down. This is the light shining back at us from uncountable particles of dust strewn along the ecliptic from past comets and other debris. Images often show it brighter than it appears to the eye, but if you are in a relatively dark, moonless sky, you may see it unaided. When the crescent Moon returns to the sky the first week of March, notice how it has its horns pointed nearly straight up, indicating the high tilt of the ecliptic this time of year. My wife calls this the “Chesire Cat Moon”, from the Lewis Carroll character.

This is another sure sign of spring, and often there is a good appearance of Mercury in the sunset sky in March. This year, Mercury becomes visible just before March begins and will be seen about 40 minutes after sunset low in the west until the third week of the month.

As the constellations begin to come out with the end of twilight, several signs that spring is coming are readily apparent. The descent into the western sky of Orion, Taurus, and the rest of the winter Milky Way is a sure indicator that warmer days are just around the corner. As mentioned, the last autumnal zodiac constellation Aries sets early, while the first spring zodiac constellation Leo begins to rise when it gets dark. And, if you look in the northeast, the Big Dipper, after appearing low in the sky all winter, is now beginning to rise bowl first and, according to legend, begins to pour out the water it accumulated which represents our spring showers.

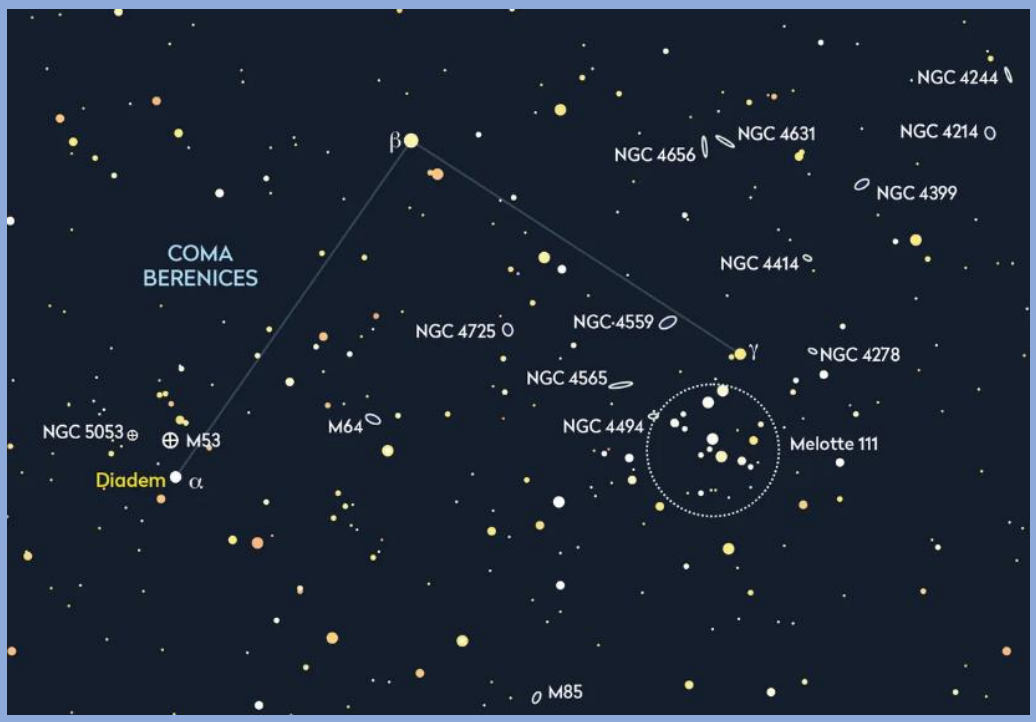


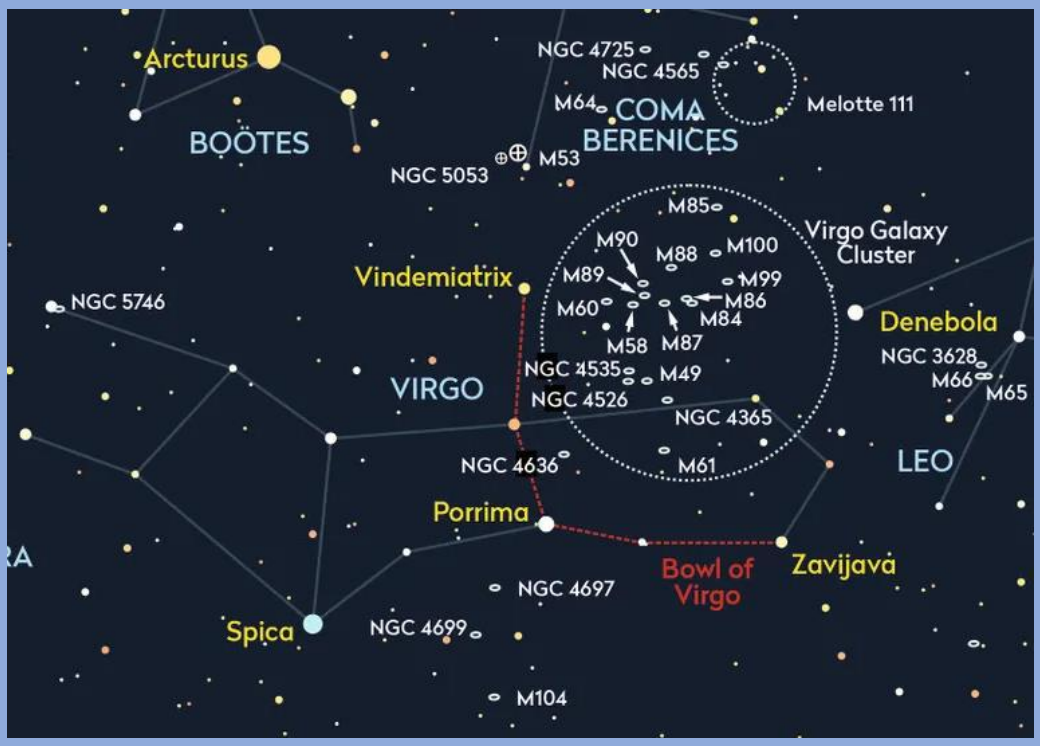
Also in Ursa Major, the Three Leaps of the Gazelle, a collection of sets of wide pairs of stars, begin to be seen again in the evening. If you have dark skies, you may even catch the lines of stars of Lynx, to the northwest of the Leaps. These meanderings represent a defunct constellation that once represented the *River Jordan*. Jordanus was created by Dutch astronomer and cartographer Petrus Plancius for his celestial globe of 1612. Later, this lovely and lengthy constellation was broken into Canes Venatici, Leo Minor, and Lynx by Hevelius.

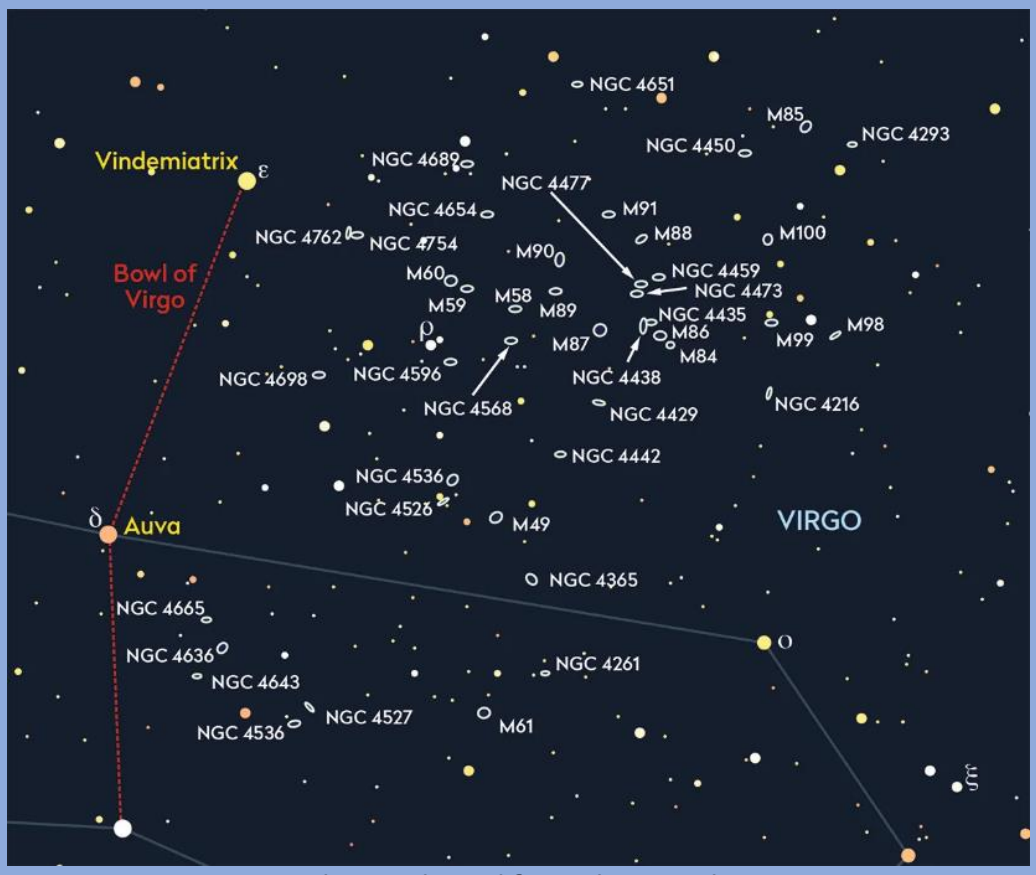


The solar system also gets into the act, beginning of course with the Sun itself. When the Sun appears to cross the equator in the sky on March 20th at 5:01 AM CDT, we have our vernal equinox, vernal meaning spring. It's not quite the date of actual equal day and night, which occurs this year on March 16th, when sunrise occurs at 7:32 a.m. and sunset at 7:32 p.m. The date is different because sunrise and sunset are earlier and later respectively due to refraction by the atmosphere. But you get the picture, Earth is tilted so that both hemispheres get about the same amount of sunshine each day at this point. Meanwhile, the planets we've been watching all winter have now stopped their retrograde motion as they fall behind the Earth in their orbits and begin to move eastward again and start to fade. Saturn has already left the evening sky, Venus will soon, and all the outer planets have become dimmer.

The magnificence of the winter Milky Way may be starting to go away in the west, but that opens our view north of the Milky Way towards the multitude of galaxies and galaxy groups visible this time of year. Here are charts for the main galactic targets you may wish to see:







Charts adapted from Sky at Night

This is the time of year when you will hear about Messier Marathons and other galaxy hunting adventures. For instance, our club is having a Messier Marathon on March 28 this year. There are a few winter sights still available, but soon attention will be more focused on the faint fuzzies that abound in springtime skies.

Other indicators are more subtle, such as the flaring up of the geosynchronous satellites that orbit the Earth around its equator. See my previous article on **page 6 of our** **March 2021 newsletter** for more information. And don't dawdle in looking for items in the spring sky, as I mentioned in an article on **page 9 of our** **April 2019 newsletter** the lengthening days and shortening nights will catch you if you don't look out, and you may not be able to see your target by the time the next dark of the Moon rolls around.

One not so welcome sign of spring is our artificial imposition of Daylight-Saving Time. I suppose all signs, good and bad, point to warm weather, so it should be included. But there's nothing sillier than watching it get dark later when it's too cold and dreary to enjoy the outdoors after work, and you can no longer get in several hours of observation before bedtime.

It may not seem so, but soon we will be outdoors again, observing the stars in elements much more comfortable and inviting. Springtime is a wonderful time to observe at night and to experience in general. Although I'm not thrilled with the sniffles and sneezing of allergies, they are a level up from the cold biting winds of winter. Before you know it, the temperature will be 100°F by 10:00 a.m. at which time I will begin to complain about how hot it is and wish one of those cool breezes would come back - just for a few moments.

Our observing chairman Brad Young has published a couple of books you might interested in reading – Both are available on Amazon.

The Citizen Astronomers Manifesto ***Observers of the World Unite***
An overview of Citizen Science and what the amateurs should know to make their experience positive.

"Take What the Night Gives You"
An anthology of several of Brad's astronomy articles appearing in several magazines and newsletters. It includes several memories of our astronomy club events.

Astronomy in the News

This is a selection of astronomy related news articles that come to my attention is recent weeks.
I tried to select ones that seem credible but cannot vouch for complete accuracy.
(Not responsible for any Ads that pop up in some of the links)

Security camera captures a meteorite smashing into a sidewalk on Pince-Edward Island

Newly Discovered Asteroid Has Slight Chance of Earth Impact in 2032 - Sky & Telescope
This has been in the news all month - Calculation had risen to about 3% but latest observations have moved it back to 0.36%
Also, News on Solar Max activity
https://spaceweather.com/archive.php?view=1&day=21&month=02&year=2025

NASA Spent 10 Years Reconstructing This Breathtaking 417 Megapixel Image of M 31 Galaxy

Parisian photographer produces phenomenal, perfectly-proportioned 'planetary parade'

"Solar Family Portrait" from Hubble Space Telescope

Einstein Was Right – Euclid Just Captured Space-Time Warping in a Perfect Cosmic Ring

Events for 2025, Tulsa

New Moon	First Qtr	Full Moon	Last Qtr
29 January	6 January	13 January	21 January
27 February	4 February	12 February	20 February
29 March	6 March	14 March	22 March
27 April	4 April	12 April	20 April
26 May	4 May	12 May	20 May
25 June	3 June	11 June	18 June
24 July	2 July	10 July	17 July
23 August	31 August	8 August	15 August
21 September	29 September	7 September	13 September
21 October	29 October	6 October	13 October
20 November	28 November	5 November	12 November
19 December	27 December	4 December	11 December

Leaving Pluto in the dust: New Horizons probe gearing up for epic crossing of 'termination shock' | Space

Spacecraft buzzes Mercury's north pole and beams back stunning photos

Clear evidence of liquid water, not just frozen ice, found on Mars - Earth.com

Unprecedented Starlink Reentries changing Earth's upper atmosphere

Daily Moon Guide | Observe – Moon: NASA Science

Daily Moon Guide | Observe – Moon: NASA Science

Treasurer Report
Cathy Grounds

As of February 20, 2025, we have 171 members with 8 new members so far this year! Please welcome our newest members Mike Hearn and Matthew Patrick.
The club has had 25 guest website contacts.

Accounts as of Feb. 20, 2025:
Checking: $ 3,316.14
Savings: $ 5,692.83
Investments: $39,742.80 (fluctuates with markets).

Don't forget these EASY METHODS of Joining or Renewing your membership:
ONLINE - JOIN or RENEW memberships using ANY MAJOR CREDIT CARD
Transactions are processed through PayPal, but you DO NOT need a PayPal account.
A modest processing fee is added to online transactions.
MAIL IN a check or money order to Astronomy Club of Tulsa, PO Box 470611, Tulsa, OK 74147
Or Direct your bank's bill pay service to send payment to the PO Box above.
PAY CASH at any club event or swipe a credit card (there is roughly a 3% card service charge).
To start click the JOIN / RENEW TAB -https://www.astrotulsa.com/join and fill out the registration forms. Submit them online, mail them in or bring them in person.

Membership rates are as follows: All memberships include Astronomical League Membership.
REGULAR: $ 50 per year
SENIOR: $ 40 per year - 65 or older
STUDENT: $ 40 per year
Additional Family membership $ 30 per year

See Full Description of Membership types at ACT Membership Bylaws

As always if you have any questions or concerns or if your contact information (Email, Phone or Postal address) has changed please email me: AstroTulsa.Tres@gmail.com

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A subscription to an astronomy related magazine is a great way to learn more about the many aspects of our hobby. -
Scientific articles, sky events, equipment reviews, imaging techniques and more
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This article is distributed by NASA's Night Sky Network (NSN).
The NSN program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit nightsky.jpl.nasa.gov to find local clubs, events, and more!

March's Night Sky Notes: Messier Madness

By Kat Troche

March is the start of spring in the Northern Hemisphere; with that, the hunt for Messier objects can begin!

Showing a large portion of M66, this Hubble photo is a composite of images obtained at visible and infrared wavelengths. The images have been combined to represent the real colors of the galaxy. Credit: NASA, ESA and the Hubble Heritage (STScI/AURA)-ESA/Hubble Collaboration; Acknowledgment: Davide De Martin and Robert Gendler

What Are Messier Objects?

During the 18th century, astronomer and comet hunter Charles Messier wanted to distinguish the 'faint fuzzies' he observed from any potential new comets. As a result, Messier cataloged 110 objects in the night sky, ranging from star clusters to galaxies to nebulae. These items are designated by the letter **'M'** and a number. For example, the Orion Nebula is **Messier 42** or **M42**, and the Pleiades are **Messier 45** or **M45**. These are among the brightest 'faint fuzzies' we can see with modest backyard telescopes and some even with our eyes.

Stargazers can catalog these items on evenings closest to the new moon. Some even go as far as having "Messier Marathons," setting up their telescopes and binoculars in the darkest skies available to them, from sundown to sunrise, to catch as many as possible. Here are some items to look for this season:

Messier 44 in Cancer: The Beehive Cluster, also known as Praesepe, is an open star cluster in the heart of the Cancer constellation. Use Pollux in Gemini and Regulus in Leo as guide stars. A pair of binoculars is enough to view this and other open star clusters. If you have a telescope handy, pay a visit two of the three galaxies that form the Leo Triplet - **M65** and **M66**. These items can be seen one hour after sunset in dark skies.

M44 in Cancer and M65 and 66 in Leo can be seen high in the evening sky 60 minutes after sunset. Credit: Stellarium Web

Messier 76 in Perseus: For a challenge, spot the Little Dumbbell Nebula, a planetary nebula between the Perseus and Cassiopeia constellations. With an apparent magnitude of 12.0, you will need a large telescope and dark skies. You can find both M76 and the famous Andromeda Galaxy (M31) one hour after sunset, but only for a limited time, as these objects disappear after April. They will reappear in the late-night sky by September.

Locate M76 and M31 setting in the west, 60 minutes after sunset. Credit: Stellarium Web

Locate M3 and M87 rising in the east after midnight. Credit: Stellarium Web

Messier 3 Canes Venatici: M3 is a globular cluster of 500,000 stars. Through a telescope, this object looks like a fuzzy sparkly ball. You can resolve this cluster in an 8-inch telescope in moderate dark skies. You can find this star cluster by using the star Arcturus in the Boötes constellation as a guide.

Messier 87 in Virgo: Located just outside of Markarian's Chain, M87 is an elliptical galaxy that can be spotted during the late evening hours. While it is not possible to view the supermassive black hole at the core of this galaxy, you can see M87 and several other Messier-labeled galaxies in the Virgo Cluster using a medium-sized telescope.

Plan Ahead - When gearing up for a long stargazing session, there are several things to remember, such as equipment, location, and provisions:

- **Do you have enough layers to be outdoors for several hours?** You would be surprised how cold it can get when sitting or standing still behind a telescope!
- **Are your batteries fully charged?** If your telescope runs on power, be sure to charge everything before you leave home and pack any additional batteries for your cell phone. Most people use their mobile devices for astronomy apps, so their batteries may deplete faster. Cold weather can also impact battery life.
- Determine the **apparent magnitude** of what you are trying to see and the **limiting magnitude** of your night sky. You can learn more about apparent and limiting magnitudes with our Check Your Sky Quality with Orion article.
- When choosing a location to observe from, select an area you are familiar with and bring some friends! You can also **connect with your local astronomy club** to see if they are hosting any Messier Marathons. It's always great to share the stars!

You can see all 110 items and their locations with NASA's Explore the Night Sky interactive map and the Hubble Messier Catalog, objects that have been imaged by the Hubble Space Telescope.

Before and after pictures of replacement lighting at the 6th Street Bridge over the Los Angeles River. The second picture shows improvements in some aspects of light pollution, as light is not directed to the sides and upwards from the upgraded fixtures,

You are invited to come join us to learn more about
Astronomy and view the wonderful sights in the night sky.
Check the EVENTS section at https://www.astrotulsa.com/

During the school year our club holds a
Monthly General Club meetings at
Jenks Public Schools Planetarium
205 East B St, Jenks, OK
Located North of the intersection of
1st and B St

Meetings begin at 7:00 PM

When you enter the building lobby,
take the elevator to the 3rd floor.

Click for Google Map Link

ASTRONOMY CLUB OBSERVATORY
Located on a hilltop about 25 miles SW of Tulsa
Features: classroom, restroom, dome with 14-inch telescope and an acre to set up your telescopes.

Weather permitting, we host two types of observing nights.

GUEST OBSERVING NIGHT – RSVP requested
This event is open to our Guests – both individuals and families as well as our regular members. Several of our club members set up telescopes for public viewing.
***** Groups need to make separate arrangements.

MEMBERS OBSERVING NIGHT usually on a Friday near new moon
Reserved for club members and their families to allow them to pursue observing projects.
The Observatory is ONLY OPEN for SCHEDULED EVENTS.

Check the EVENTS section at https://www.astrotulsa.com/
Follow our map directions DO NOT USE GPS

Two Options for travel to the observatory

MOSTLY PAVED ROADS – Hwy 75 to 201st St S – through Mounds OK

Most DIRECT ROUTE – Hwy 75 to 241st St S – some coarse gravel & dirt roads

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PR AND OUTREACH – Open Position
GROUP DIRECTOR – Open Position

NIGHT SKY NETWORK – Jonathan Fussell

Enjoy at Planetarium Show at Jenks High School

JENKS PLANETARIUM

Jenks High School Campus
205 East B Street, Jenks

TICKETS are $7

See our Current Shows Schedule and ticket purchase links at
Shows and Ticket Link

Shows take place on Tuesday evenings or Saturday mornings
Must purchase tickets online in advance
Shows and Ticket Link