Skywatchers

Newsletter of the China Lake Astronomical Society

AUGUST 05TH, 2024 CLAS MEETING 7:30

INSIDE THIS ISSUE:

Monday, August 05, 2024 7:00 PM

August Meeting & Program

Refreshments: 7:00 P.M

Program: 7:45

Location

Maturango Museum

Meetings and programs are open to the public, and are held at Maturango Museum on the first Monday of every month (or the following Monday for holidays).

Program to be announced

China Lake Astronomical Society

Membership or Renewal 2024

Name:____

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Yearly Membership $ 25 (*due in January*) Family $ 40 Youth 18 & under $ 10.
Checks or Money Orders accepted _______________

Contact Roger Brower 760-446-0454 (email brower@iwvisp.com)

Make Checks or Money Orders Payable to China Lake Astronomical Society.(CLAS)

Roger Brower, Treasurer
China Lake Astronomical Society
P.O. Box 1783
Ridgecrest, CA 93556.

Mid-July to mid-August 2024 meteors … the Perseids

Predicted peak: The peak is predicted** for August 12, 2024, at 14:00 UTC. So the mornings of August 11, 12 and 13 are probably your best bet.

When to watch: The moon will be at 1st quarter and 50% illuminated during 2024's peak of the Perseid meteor shower. So the best time to watch for Perseids will be starting around midnight until dawn. This shower rises to a peak gradually, then falls off rapidly. And Perseid meteors tend to strengthen in number as late night deepens into the wee hours before dawn. The shower is often best just before dawn.

Radiant: The radiant rises in the middle of the night and is highest at dawn.

Nearest moon phase: First quarter moon falls at 15:19 UTC on August 12. And a 1st quarter moon sets around midnight, so you'll have dark skies after then until dawn.

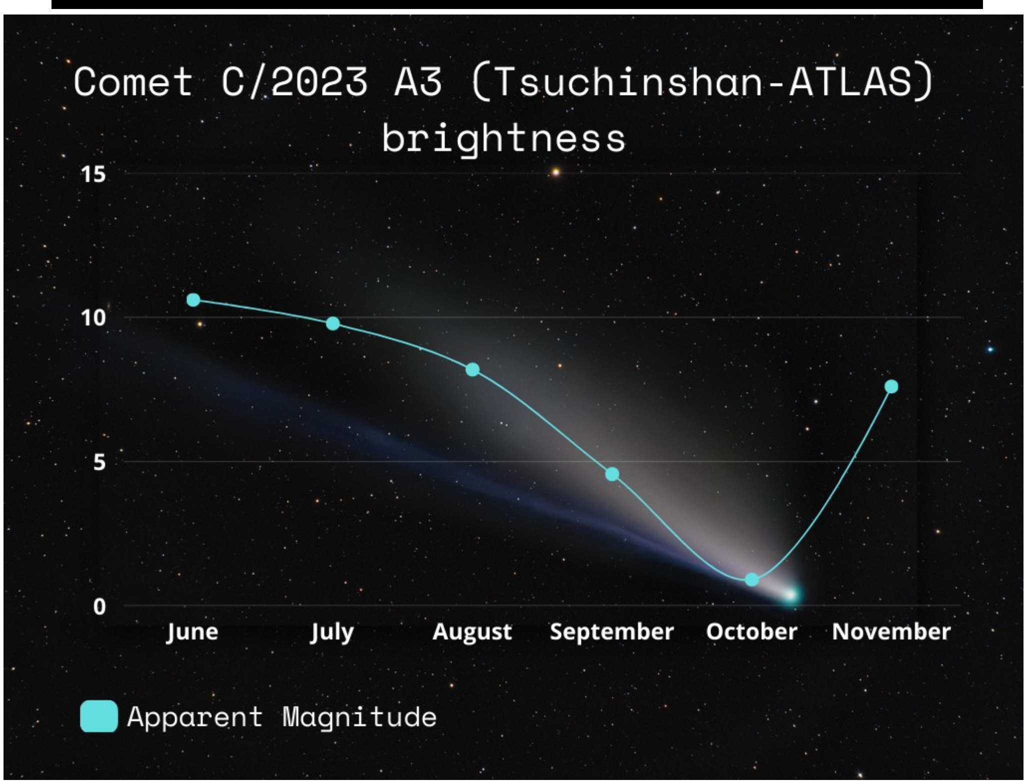
Duration of shower: July 14 to September 1.

Expected meteors at peak, under ideal conditions: Under a dark sky with no moon, skywatchers frequently report 90 meteors per hour, or more. The August Perseid meteor shower is rich and steady, from early August through the peak. The meteors are colorful. And they frequently leave persistent trains. All of these factors make the Perseid shower perhaps the most beloved meteor shower for the Northern Hemisphere.

Comet C/2023 A3 (Tsuchinshan-ATLAS)

C/2023 A3 (Tsuchinshan–ATLAS) is a comet from the Oort cloud discovered by the Purple Mountain Observatory on 9 January 2023 and independently found by ATLAS South Africa on 22 February 2023. The comet will pass perihelion at a distance of 0.39 AU on 27 September 2024, when it could become visible to the naked eye.

For updated info and daily locations with star maps visit https://theskylive.com/c2023a3-info

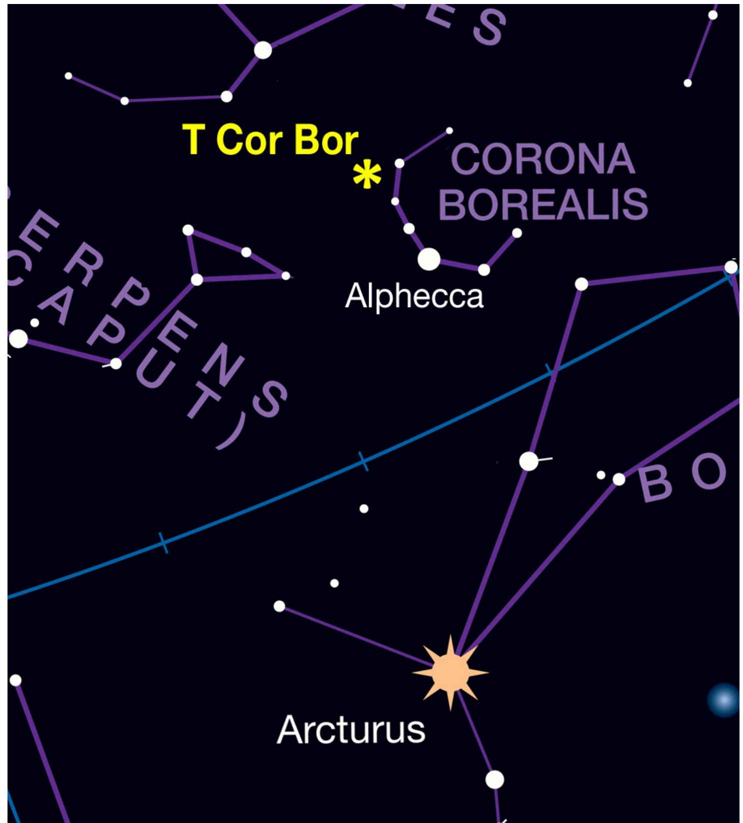


Nova Watch In The Northern Crown

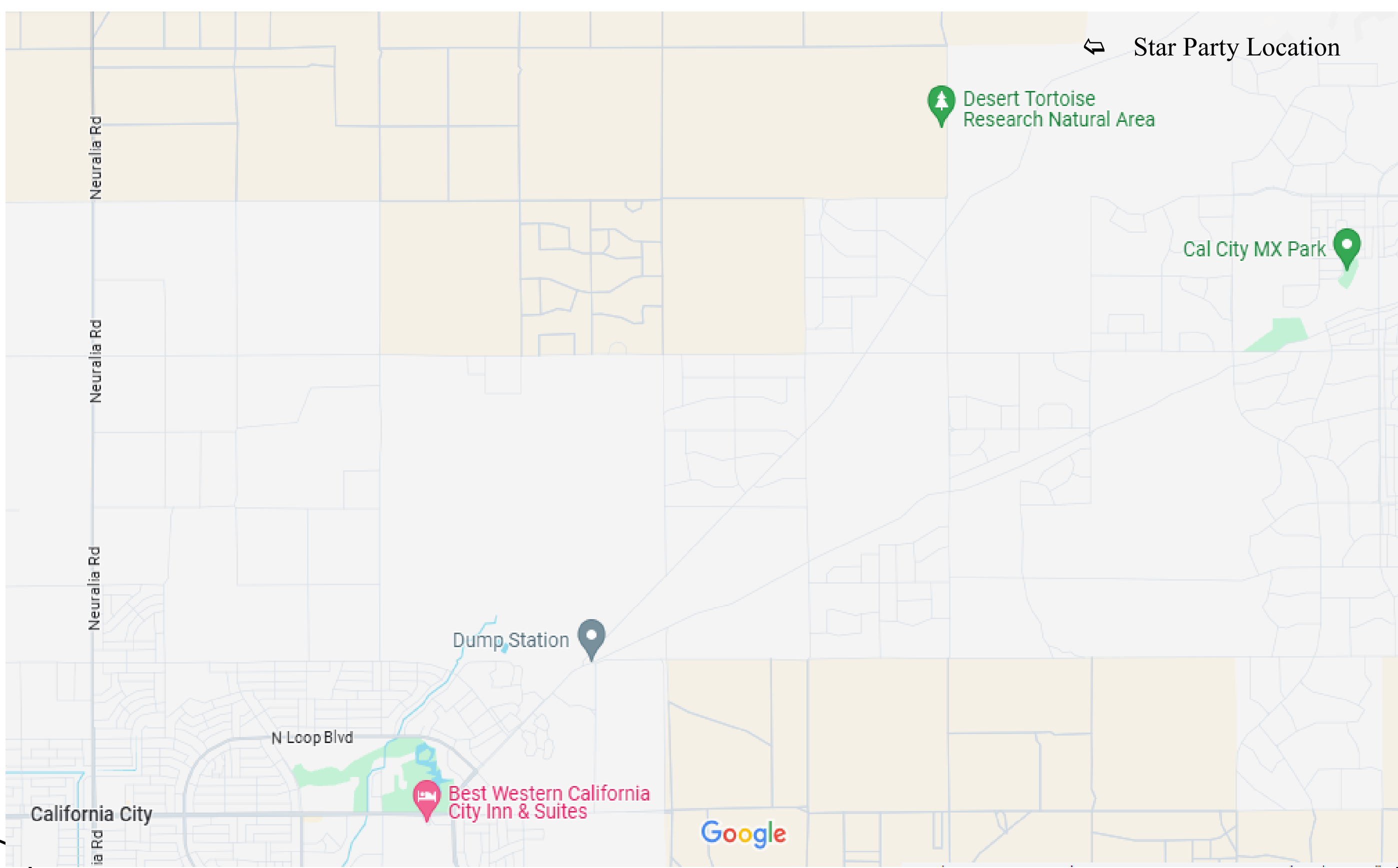
Start looking for a once-in-your-lifetime star blast.

Look two fists above Arcturus, and a little to the left. If your skies are dark, you'll see a set of stars about half a fist across that trace out the letter U — or maybe you'll see them as a cup without a handle. This is the constellation Corona Borealis, the Northern Crown. Only one of its seven stars is very bright, and it's called Alphecca, Arabic for "the bright star in the broken ring." During August, keep an eye on that arc of stars, or at least watch just to the left of Alphecca.
That's where astronomers are awaiting the appearance of a bright *nova*, or erupting star, some time in the next couple of months. It's designated T, and alphabetic letters like that are celestial shorthand for a star that varies in brightness. This one is known to skywatchers as T Coronae Borealis — or "T Cor Bor" for short.

Ordinarily this star is much too faint to be seen by eye. But every 80 years it erupts spectacularly, becoming a couple thousand times brighter in just a few hours. At its peak, it will roughly match the brightness of Alphecca nearby. This abrupt brightening has earned it the nickname "Blaze Star."



For Further coverage of the T Cor Bor event tune into Sky & Telescope.
[August Podcast: Nova Watch in the Northern Crown - Sky & Telescope - Sky & Telescope (skyandtelescope.org)]



Special Star Party Invitation

Sultan Randy "R Dub!" Williams, leader of the micronation, The United Territories of The Sovereign Nation of The People's Republic of Slowjamastan, (www.slowjamastan.org) invites you to visit our beloved nation on August 30 and 31, 2024, Labor Day weekend for a Star Party. We are located 11.07 acres of land, parallel to California State Route 78, between the American towns of Ocotillo Wells and Westmorland. Our exact location is **33.125901, -115.958612**. You will not be able to miss our signs.

As we are outside of Borrego Springs, we feature the darkest skies in the west! With an 11.3% moon rising at 3:42 am on the 30th and a 5.6% moon rising at 4:41 on the 31st, there will be galaxies galore! Bring your telescope. Whether you have a 50mm Galileoscope or a fast yard scope, seeing will be limited by your telescope, not the skies! As a telescope maker with an organization headquartered in Vermont, I have a special place in my heart for telescopes that you have made with your own hands. If you have one, please bring it!

Slowjamastan is rural. There are no facilities, such as electricity, or restroom facilities available on site. This is a double-edged sword; no facilities mean no light pollution.

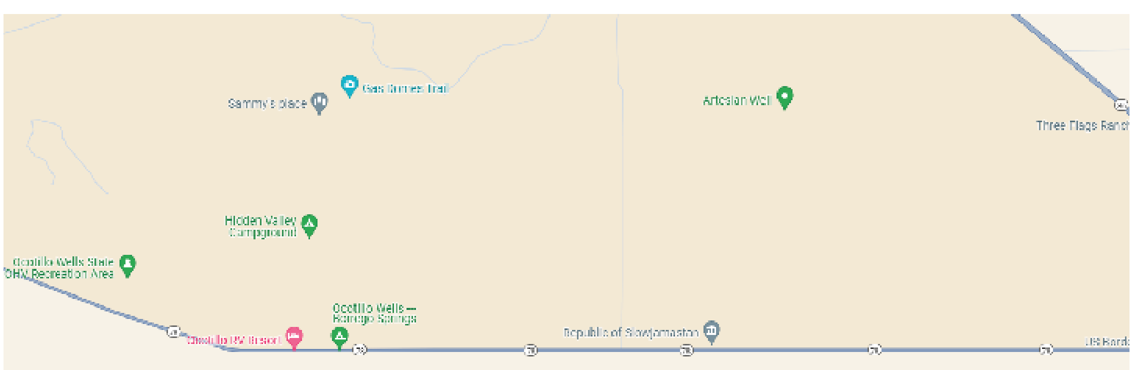
Camping is welcome as are recreational vehicles, however please RSVP with me first to ensure we have room for you. Please help keep Slowjamastan clean. There are also numerous lodging choices nearby, including RV parks just minutes away and numerous hotels and Airbnbs in Borrego Springs.

The weather during the day is expected to be hot. Evenings are usually in the seventies in late August but be prepared for all eventualities. One of the nice things about being in the desert is if you don't like the weather, wait twenty minutes. It will be fine again. Visitors assume all risk of injury or other loss and liability which may be occasioned.

Dark sky protocols will be observed.

Please RSVP to this email address. Include the number in your party.

Clear and Dark skies!
Francis J. O'Reilly
Minister of Astronomy



August DAILY CELESTIAL CALENDAR

1	Observe Clusters in the Milky way all night
2	Moon near Pollux
4	New Moon; Mars near Aldebaran
5	Moon near Venus and Regulas
7	Moon near Mercury
7	Double shadows cross Jupiter
8	Venus near Mercury
8	The Teapot tilts West in the evening
9	The Moon is near Spica
12	First Quarter Moon; Perseids' Peak
14	Moon near Antares; Mars near Jupiter
17	K-Cygnids' Peak
19	Full Blue Moon (Supermoon) or Sturgeon Moon
21	Moon near Saturn
24	Double Star Viewing in Lyra
25	Moon near Uranus
26	Last Quarter Moon; Moon near Pleiades
27	Moon near Mars and Jupiter
28	Large Planetary Alignment
29	Watch Algol brighten
30	Moon near Castor & Pollux

ASTRONOMY COLUMN

AUGUST EVENTS:
1. The next club meeting on August 5th in the Maturango Museum at 7:30 PM. Check the website for the program this month.

Star parties:

August 2nd: Brown road star party. Signs out 8:30 PM
Viewing at 9 PM.

AUGUST CELESTIAL CALENDAR

1. Mercury starts the month very low in the western sky but soon moves to the morning sky where it appears low in the east the last few days of the month.

2. Venus remains low in the western evening sky all month.

3. The rest of the planets all rise later in the night sky. Starting with Saturn which rises in the east about 10 PM and at 8 PM by the end of the month.

4. Mars rises next at about 1 AM but passes Jupiter which rises about 2 AM on the first on August 14.

3. The Perseid meteor shower peaks on the 12th.

INFORMATION:

Please visit us at our website ChinaLakeAstro.org.

For more information, contact the China Lake Astronomical Society at 760-446-0454 or 760-384-8666.

Roger Brower

The Evening Sky Map

FREE* EACH MONTH FOR YOU TO EXPLORE, LEARN & ENJOY THE NIGHT SKY

NORTHERN HEMISPHERE
AUGUST 2024

SKY MAP SHOWS HOW THE NIGHT SKY LOOKS
EARLY AUG 9 PM
LATE AUG 8 PM

Sky Calendar – August 2024

- 4 **New Moon** at 11:13 UT. Start of lunation 1257.
- 5 **Venus 1.0° NNE of Regulus** at 6h UT (17° from Sun, evening sky). Mags. −3.9 and 1.0.
- 5 **Moon, Venus and Regulus** within circle 2.7° diameter at 22h UT (17° from Sun, evening sky). Mags. −3.9 and 1.0.
- 6 **Moon near Venus** at 0h UT (17° from Sun, evening sky). Mag. −3.9. Pairings of the crescent Moon and Venus always make for a spectacular sight. Don't miss it!
- 6 **Moon near Mercury** at 7h UT (20° from Sun, evening sky). Mag. 1.7. An opportunity to view elusive Mercury.
- 9 **Moon at apogee** (farthest from Earth) at 2h UT (distance 405,297km; angular size 29.5′).
- 10 **Moon near Spica** at 9h UT (evening sky). Occultation visible from Eastern and SE Asia.
- 12 **Perseid meteor shower peaks** at 0h UT. Peak lasts about 12 hours. Active from July 14 to September 1. Produces swift, bright meteors (50-75 per hour) with persistent trains. Best viewed after midnight.
- 12 **First Quarter Moon** at 15:19 UT.
- 14 **Moon near Antares** at 3h UT (evening sky). Occultation visible from French Polynesia, Cook Islands and Pitcairn.
- 14 **Mars 0.3° N of Jupiter** at 16h UT (morning sky). Mags. 0.8 and −2.2.
- 19 **Full Moon** at 18:27 UT.
- 21 **Moon near Saturn** at 1h UT (morning sky). Mag. 0.7. Occultation visible from Latin America, the Caribbean, Africa and Europe.
- 21 **Moon at perigee** (closest to Earth) at 5:10 UT (distance 360,196km; angular size 33.2′).
- 26 **Moon near the Pleiades** at 4h UT (morning sky).
- 26 **Last Quarter Moon** at 9:28 UT.
- 27 **Moon near Jupiter** at 12h UT (morning sky). Mag. −2.3.
- 28 **Moon near Mars** at 1h UT (morning sky). Mag. 0.8.
- 31 **Moon near Beehive cluster M44** at 9h UT (31° from Sun, morning sky).

More sky events and links at http://Skymaps.com/skycalendar/

All times in Universal Time (UT). (USA Eastern Daylight Time = UT − 4 hours.)

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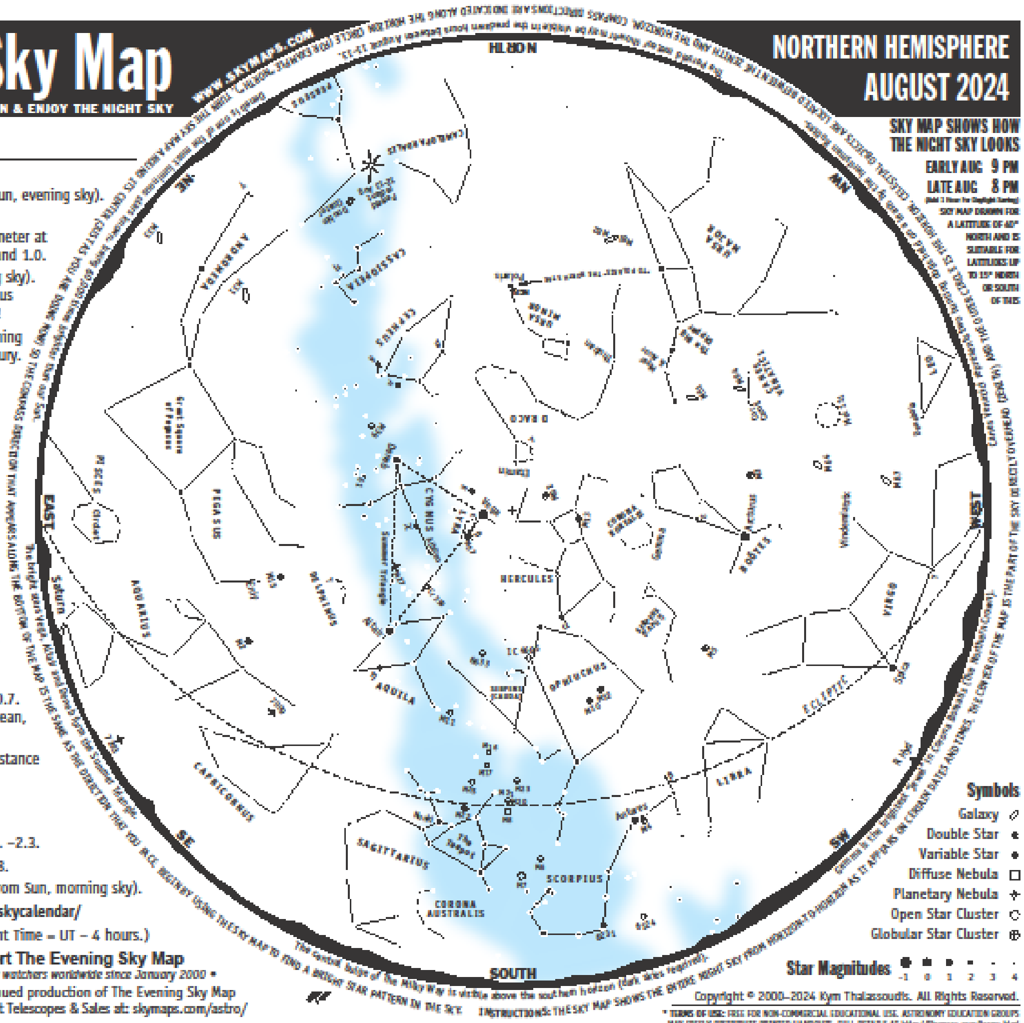

Credit: Costfoto/NurPhoto via Getty Images

About the Celestial Objects

Listed on this page are several of the brighter, more interesting celestial objects visible in the evening sky this month (refer to the monthly sky map). The objects are grouped into three categories. Those that can be easily seen with the naked eye (that is, without optical aid), those easily seen with binoculars, and those requiring a telescope to be appreciated. **Note, all of the objects (except single stars) will appear more impressive when viewed through a telescope or very large binoculars.** They are grouped in this way to highlight objects that can be seen using the optical equipment that may be available to the star gazer.

Tips for Observing the Night Sky

When observing the night sky, and in particular deep-sky objects such as star clusters, nebulae, and galaxies, it's always best to observe from a dark location. Avoid direct light from street lights and other sources. If possible observe from a dark location away from the light pollution that surrounds many of today's large cities.

You will see more stars after your eyes adapt to the darkness—usually about 10 to 20 minutes after you go outside. Also, if you need to use a torch to view the sky map, cover the light bulb with red cellophane. This will preserve your dark vision.

Finally, even though the Moon is one of the most stunning objects to view through a telescope, its light is so bright that it brightens the sky and makes many of the fainter objects very difficult to see. So try to observe the evening sky on moonless nights around either New Moon or Last Quarter.

Astronomical Glossary

Conjunction – An alignment of two celestial bodies such that they present the least angular separation as viewed from Earth.

Constellation – A defined area of the sky containing a star pattern.

Diffuse Nebula – A cloud of gas illuminated by nearby stars.

Double Star – Two stars that appear close to each other in the sky; either linked by gravity so that they orbit each other (binary star) or lying at different distances from Earth (optical double). Apparent separation of stars is given in seconds of arc (").

Ecliptic – The path of the Sun's center on the celestial sphere as seen from Earth.

Elongation – The angular separation of two celestial bodies. For Mercury and Venus the greatest elongation occurs when they are at their most angular distance from the Sun as viewed from Earth.

Galaxy – A mass of up to several billion stars held together by gravity.

Globular Star Cluster – A ball-shaped group of several thousand old stars.

Light Year (ly) – The distance a beam of light travels at 300,000 km/sec in one year.

Magnitude – The brightness of a celestial object as it appears in the sky.

Open Star Cluster – A group of tens or hundreds of relatively young stars.

Opposition – When a celestial body is opposite the Sun in the sky.

Planetary Nebula – The remnants of a shell of gas blown off by a star.

Universal Time (UT) – A time system used by astronomers. Also known as Greenwich Mean Time. USA Eastern Standard Time (for example, New York) is 5 hours behind UT.

Variable Star – A star that changes brightness over a period of time.

CELESTIAL OBJECTS NORTHERN HEMISPHERE AUGUST 2024

SkyMaps

Easily Seen with the Naked Eye

Altair	Aql	Brightest star in Aquila. Name means "the flying eagle". Dist=16.7 ly.
Arcturus	Boo	Orange, giant K star. Name means "bear watcher". Dist=36.7 ly.
δ Cephei	Cep	Cepheid prototype. Mag varies between 3.5 & 4.4 over 5.366 days. Mag 6 companion.
Deneb	Cyg	Brightest star in Cygnus. One of the greatest known supergiants. Dist=1,400±200 ly.
α Herculis	Her	Semi-regular variable. Magnitude varies between 3.1 & 3.9 over 90 days. Mag 5.4 companion.
Vega	Lyr	The 5th brightest star in the sky. A blue-white star. Dist=25.0 ly.
Antares	Sco	Red, supergiant star. Name means "rival of Mars". Dist=135.9 ly.
Polaris	UMi	The North Pole Star. A telescope reveals an unrelated mag 8 companion star. Dist=433 ly.
Spica	Vir	Latin name means "ear of wheat" and shown held in Virgo's left hand. Dist=250 ly.

Easily Seen with Binoculars

M31	And	The Andromeda Galaxy. Most distant object visible to naked eye. Dist=2.5 million ly.
η Aquilae	Aql	Bright Cepheid variable. Mag varies between 3.6 & 4.5 over 7.166 days. Dist=1,200 ly.
M3	CVn	Easy to find in binoculars. Might be glimpsed with the naked eye.
μ Cephei	Cep	Herschel's Garnet Star. One of the reddest stars. Mag 3.4 to 5.1 over 730 days.
χ Cygni	Cyg	Long period pulsating red giant. Magnitude varies between 3.3 & 14.2 over 407 days.
M39	Cyg	May be visible to the naked eye under good conditions. Dist=900 ly.
ν Draconis	Dra	Wide pair of white stars. One of the finest binocular pairs in the sky. Dist=100 ly.
M13	Her	Best globular in northern skies. Discovered by Halley in 1714. Dist=23,000 ly.
M92	Her	Fainter and smaller than M13. Use a telescope to resolve its stars.
ε Lyrae	Lyr	Famous Double Double. Binoculars show a double star. High power reveals each a double.
R Lyrae	Lyr	Semi-regular variable. Magnitude varies between 3.9 & 5.0 over 46.0 days.
M12	Oph	Close to the brighter M10. Dist=18,000 ly.
M10	Oph	3 degrees from the fainter M12. Both may be glimpsed in binoculars. Dist=14,000 ly.
IC 4665	Oph	Large, scattered open cluster. Visible with binoculars.
6633	Oph	Scattered open cluster. Visible with binoculars.
M15	Peg	Only globular known to contain a planetary nebula (Mag 14, d=1"). Dist=30,000 ly.
M8	Sgr	Lagoon Nebula. Bright nebula bisected by a dark lane. Dist=5,200 ly.
M25	Sgr	Bright cluster located about 6 deg N of "teapot's" lid. Dist=1,900 ly.
M22	Sgr	A spectacular globular star cluster. Telescope will show stars. Dist=10,000 ly.
M4	Sco	A close globular. May just be visible without optical aid. Dist=7,000 ly.
M6	Sco	Butterfly Cluster. 30+ stars in 7x binoculars. Dist=1,960 ly.
M7	Sco	Superb open cluster. Visible to the naked eye. Age=260 million years. Dist=780 ly.
M5	Ser	Fine globular star cluster. Telescope will reveal individual stars. Dist=25,000 ly.
Mizar & Alcor	UMa	Good eyesight or binoculars reveals 2 stars. Not a binary. Mizar has a mag 4 companion.
Cr 399	Vul	Coathanger asterism or "Brocchi's Cluster". Not a true star cluster. Dist=218 to 1,140 ly.

Telescopic Objects

7009	Aqr	Saturn Nebula. Requires 8-inch telescope to see Saturn-like appendages.
ε Boötis	Boo	Red giant star (mag 2.5) with a blue-green mag 4.9 companion. Sep=2.8". Difficult to split.
M94	CVn	Compact nearly face-on spiral galaxy. Dist=15 million ly.
M51	CVn	Whirlpool Galaxy. First recognised to have spiral structure. Dist=25 million ly.
M64	Com	Black-Eye Galaxy. Discovered by J.E. Bode in 1775 - "a small, nebulous star".
Albireo	Cyg	Beautiful double star. Contrasting colours of orange and blue-green. Sep=34.4".
61 Cygni	Cyg	Attractive double star. Mags 5.2 & 6.1 orange dwarfs. Dist=11.4 ly. Sep=28.4".
γ Delphini	Del	Appear yellow & white. Mags 4.3 & 5.2. Dist=100 ly. Struve 2725 double in same field.
β Lyrae	Lyr	Eclipsing binary. Mag varies between 3.3 & 4.3 over 12.940 days. Fainter mag 7.2 blue star.
M57	Lyr	Ring Nebula. Magnificent object. Smoke-ring shape. Dist=4,100 ly.
M23	Sgr	Elongated star cluster. Telescope required to show stars. Dist=2,100 ly.
M20	Sgr	Trifid Nebula. A telescope shows 3 dust lanes trisecting nebula. Dist=5,200 ly.
M21	Sgr	A fine and impressive cluster. Dist=4,200 ly.
M17	Sgr	Omega Nebula. Contains the star cluster NGC 6618. Dist=4,900 ly.
M11	Sct	Wild Duck Cluster. Resembles a globular through binoculars. V-shaped. Dist=5,600 ly.
M16	Ser	Eagle Nebula. Requires a telescope of large aperture. Dist=8,150 ly.
M81	UMa	Beautiful spiral galaxy visible with binoculars. Easy to see in a telescope.
M82	UMa	Close to M81 but much fainter and smaller.
M27	Vul	Dumbbell Nebula. Large, twin-lobed shape. Most spectacular planetary. Dist=975 ly.

2024 & 2025 New Moons

- August 4, 2024
- September 2, 2024
- October 2, 2024
- November 1, 2024
- Dec 01, 2024
- Dec 30, 2024
- Jan 29, 2025
- Feb 27, 2025
- March 29, 2025
- April 27, 2025
- May 26, 2025
- June 25, 2025
- July 24, 2025
- August 22nd 2025
- September 21st 2025
- Oct 21st, 2025
- November 19th, 2025
- December 19th, 2025

Red Rock Star Parties

Perseid Meteor Shower 2024 Monday

August 12th AM

Desert Tortoise Reserve Star Parties

August 3rd Sunset

Public Invited

See location on Page 5

August 2nd : Brown road star party. Signs out 8:30 PM Viewing at 9 PM.

Directions: Brown road star parties are held in the desert. Take south China lake Boulevard to 395. Cross 395 and go 2.3 miles on Brown road until you come to signs in cones pointing to the left. Take this dirt road .5 miles to the star party site.

Club Information

Monthly Skywatchers Newsletter.

Our newsletter is sent by email once a month to those who have subscribed. You do not have to be a member. Subscribe at a meeting or online at ChinaLakeAstro.org/subscribe

Annual Membership Dues

- Individual $25.00 per year.
- Family $ 40
- Youth 18 & under $10

Officers

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VICE-PRESIDENT – Keith Weisz

SECRETARY – Debbie Pio

TREASURER – Roger Brower

NEWSLETTER EDITOR – Ted Hodgkinson ghodkinson@sbcglobal.net

Club Information

Meetings of the China Lake Astronomical Society are held at the Maturango Museum 7:00 P.M. on the first Monday evening of each month, except when the first Monday is a holiday.

WESTERN AMATEUR ASTRONOMERS WEB SITE http://www.waastro.org/