Skywatchers

Newsletter of the China Lake Astronomical Society

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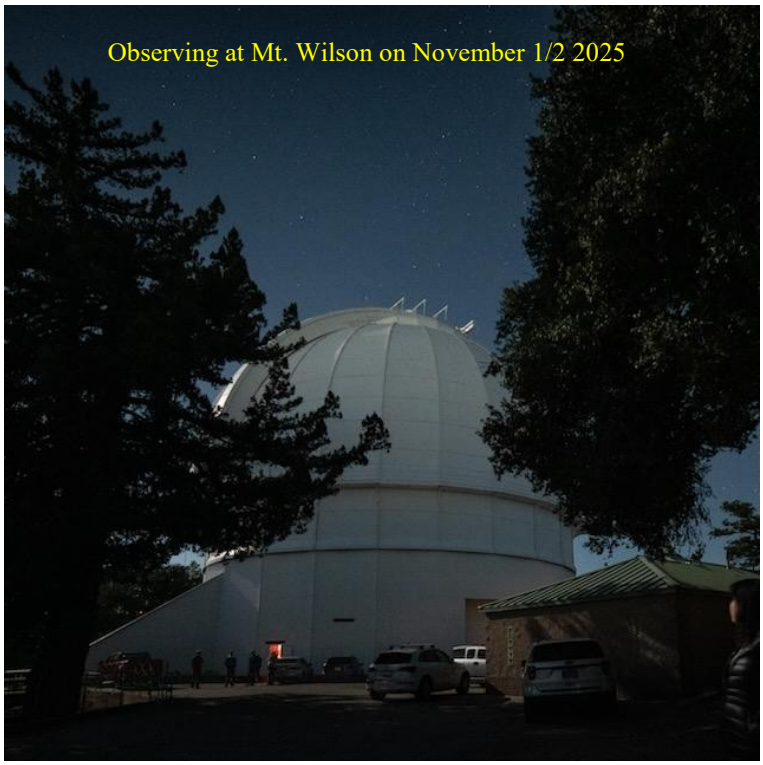
This Month Issue



Observing at Mt. Wilson on November 1/2 2025

Monday, Feb 2, 2026 7:00 PM
February Meeting

Refreshments: 7:00 PM Announcements : 7:30 Program: 7:45

Despite being nearly a full Moon a number of interested amateurs were able to observe the night sky using the Mt. Wilson 100 “ Telescope.
Alexia Svejda and myself were able to take a number of field images and even a couple of snapshots at the eyepiece,
We will review the evening and discuss what it is like to view the planets and other objects with 100 “.

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).

What's Really Going On Inside Jupiter? New Models Offer Clues

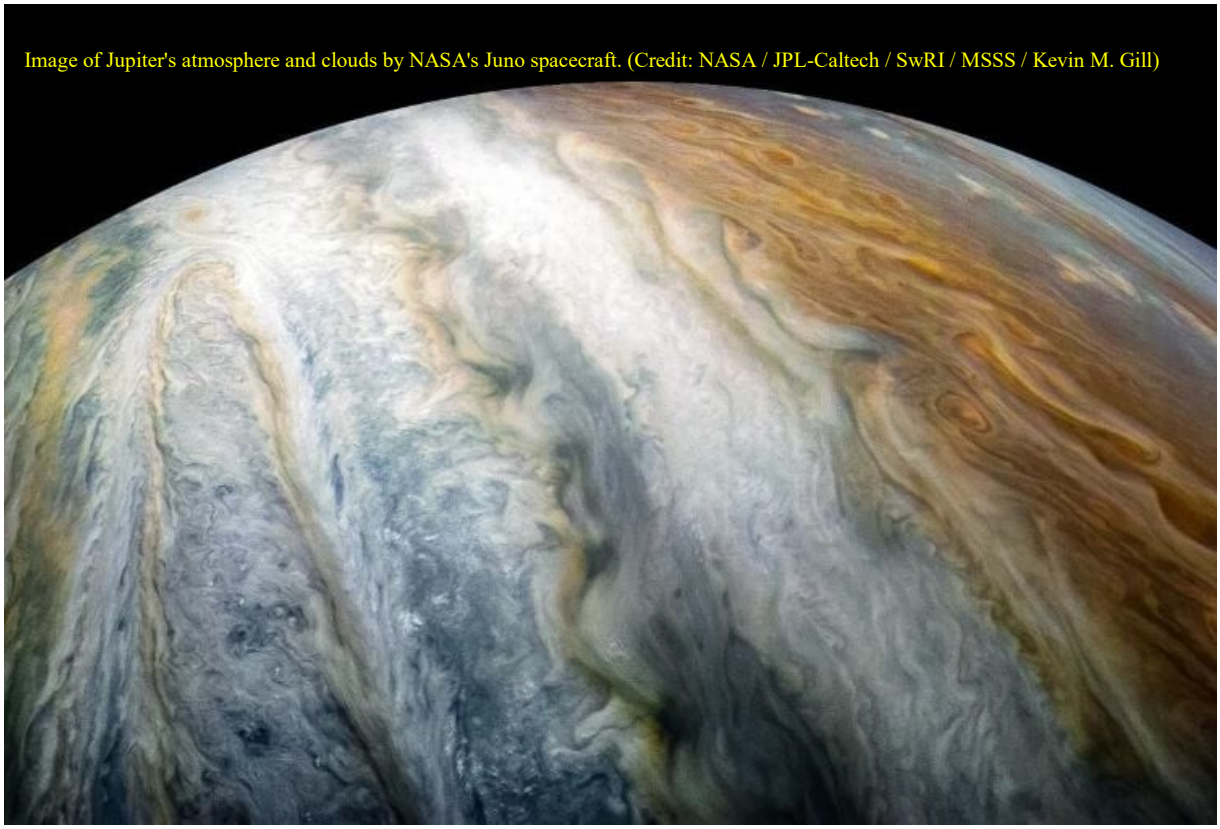


Image of Jupiter's atmosphere and clouds by NASA's Juno spacecraft. (Credit: NASA / JPL-Caltech / SwRI / MSSS / Kevin M. Gill)

Jupiter's atmosphere and clouds have mesmerized stargazers for centuries, as their multi-colored, swirling layers can easily be viewed from powerful telescopes on Earth. However, NASA's Juno spacecraft has upped the ante regarding our understanding of Jupiter's atmospheric features, having revealed them in breathtaking detail. This includes images of massive lightning storms, clouds swallowing clouds, polar vortices, and powerful jet streams. Yet, despite its beauty and wonder, scientists are still puzzled about the processes occurring deep inside Jupiter's atmosphere that result in these incredible features.

Now, a collaborative team of scientists from NASA and academia have provided new insights into the interior mechanisms of Jupiter's atmosphere, with their findings being published in *The Planetary Science Journal* on January 8. Through a series of computer models designed to simulate Jupiter's interior mechanisms, the team primarily focused on exploring the oxygen content of Jupiter's atmosphere. After using a combination of a 1D chemistry-based model and a 2D hydrodynamic model, the team discovered that Jupiter contains about one and a half times more oxygen than the Sun.

Additionally, the team found that the circulation patterns within Jupiter's atmosphere are much slower than previously hypothesized. Discovering Jupiter's higher-than-expected oxygen content could help scientists constrain planetary formation and evolution models, for both planets in our solar system, and beyond.

"This is a long-standing debate in planetary studies," said Dr. Jeehyun Yang, who is a postdoctoral researcher at the University of Chicago and lead author on the study. "It's a testament to how the latest generation of computational models can transform our understanding of other planets."

The amount of oxygen found in Jupiter's atmosphere is almost negligible compared to the hydrogen and helium that largely comprises the largest planet in the solar system. However, these findings nonetheless profoundly change our understanding of Jupiter and its atmospheric composition and behavior. Along with helping scientists better understand how our own solar system formed and evolved, Jupiter is often used as an analog for gas giant exoplanets.

Since arriving at the Jovian system on July 4, 2016, Juno has profoundly changed our understanding of the largest planet in the solar system, along with providing breathtaking images.

This includes discovering Jupiter's poles exhibit several vortices, as opposed to a single large vortex on Saturn, along with discovering that Jupiter potentially lacks a solid rocky core, and instead has a "fuzzy" core comprised of heavy elements mixed with hydrogen.
Additionally, Juno has obtained incredible images and gathered groundbreaking data regarding Jupiter's four Galilean moons: Io, Europa, Ganymede, and Callisto. This includes imaging extreme volcanic activity on Io, finding that Europa's ice shell thickness is different across the surface, confirmed that Ganymede has its own magnetic field, and finding that Callisto has internal activity despite it being comprised largely of ice.

Juno's mission was extended through September 2025, with plans to continue spacecraft operations until it runs out of fuel or ceases function. This is when NASA plans to intentionally have Juno crash into Jupiter's atmosphere to avoid contaminating the Galilean moons with Earth's microbes. This similar "retirement" was used for NASA's Galileo spacecraft in Jupiter and NASA's Cassini spacecraft in Saturn in September 2003 and September 2017, respectively.

What new insights into Jupiter's interior will scientists make in the coming years and decades? What can Jupiter's interior continue to teach scientists about planetary formation and evolution, and specifically exoplanets? How much more data will Juno gather before the end of its mission? Only time will tell, and this is why we science!

For further study!

What they didn't teach you in School about Jupiter
https://youtu.be/JRHwq1DIgbI

Truly stunning images and groundbreaking Jupiter Science.

https://youtu.be/fInRxFUIebE

Article Source: What's Really Going On Inside Jupiter? New Models Offer Clues - Universe Today

Brown Road Star Party Location

Dark Sky star parties are held on BLM land off Brown Road (Old Hwy 395) south of Ridgecrest.

The dirt road should not be a problem for cars.

From the intersection of China Lake Blvd and Hwy 395, cross 395 to Brown Rd and continue 2.3 mi.

Look for an orange cone and turn here to the left.

Follow this dirt road 0.4 mi. to the star party location.

NOTE: After dark, please **avoid using car bright headlights.**
At the location, use a red flashlight or other dim light pointed down.

China Lake Astronomical Society
Membership or Renewal 2025

Name:_____

Address:_____

City, State, Zip:_____

Phone:_____Email:_____

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.

The Dark Energy Survey Weighs in on Cosmic Tensions

The Bullet Cluster, imaged here by the Dark Energy Camera mounted on the Victor M. Blanco 4-meter Telescope at Cerro Tololo Inter-American Observatory, is made up of two colliding galaxy clusters in the constellation Carina. These galaxy clusters act as gravitational lenses, magnifying the light of background galaxies. (View a zoomable image to explore this galaxyscape in more detail.)
CTIO / NOIRLab / DOE / NSF / AURA

The astronomers behind the Dark Energy Survey have measured the properties of the mysteriously repulsive dark energy more precisely than ever before. Their work brings together six years of data, more than half a billion galaxies, and thousands of supernovae to shed light on crucial questions in cosmology.

Since 1998, astronomers have known that the expansion of the universe is accelerating. They aren't sure why, but it's usually put down to the existence of a repulsive property of empty space, labeled dark energy. But the nature of dark energy — whether it evolves over time or expands space in a more constant fashion — has remained an open question.

Back in 2013, astronomers started using the Dark Energy Camera attached to the Víctor M. Blanco telescope in Chile to begin the Dark Energy Survey (DES) to try to answer that question. Over the next six years, DES astronomers observed an eighth of the sky across a total of 758 nights, cataloguing 669 million galaxies. The full set of findings is posted on the collaboration's website and will appear in *Physical Review D*.

"These results from the Dark Energy Survey shine new light on our understanding of the universe and its expansion," says Regina Rameika (U.S. Department of Energy).
One of the ways astronomers used DES to measure dark energy is through an effect known as *weak lensing*. In this effect, the gravity of intervening matter, most of it dark matter, slightly bends light from distant galaxies, subtly distorting their shapes. Astronomers must observe many galaxies to measure the effect. Measuring weak lensing with DES allowed astronomers to chart the distribution of dark matter over the last 6 billion years. If dark energy is ramping up the expansion of the universe, it should slow the growth of large-scale structure, such as galaxy clusters, later on in cosmic evolution. Dark energy also has a silent, guiding hand in shaping the distribution of galaxies. So analyzing the statistical pattern of their clustering is another way astronomers measure the repulsive force's changing influence. The DES team combined six years' worth of weak lensing and galaxy distribution data with other datasets (based on *baryon acoustic oscillations* and Type Ia supernovae).

It's the first time all four methods for measuring dark energy have been combined in this way. "This was something I would have only dared to dream about when DES started collecting data," says DES team member Yuanyuan Zhang (NSF NOIRLab). "Now the dream has come true." The results are intriguing. While consistent with findings from previous releases of DES data, the new findings widen the possible explanations for dark energy. In the standard model of cosmology, the density of dark energy is constant. While these new data fit that picture, they fail to rule out the alternative theory, in which dark energy evolves over time. But both theories face a deeper problem: They fail to accurately predict how matter has clustered in recent astronomical history. Observations of the early universe suggest that cosmic structure ought to be clumpy. Yet images of our cosmic neighborhood show that galaxies are more smoothly distributed than expected. The new DES data only widen this gap. "This tension has previously been observed by several independent surveys and remains one of the most intriguing open questions in cosmology," says Edward Macaulay (Queen Mary University of London), who was not involved in the research.

Macaulay thinks the DES results are an amazing treasure trove, but he also thinks this is just the start of something bigger. "Although this paper represents the end of observations with DES, it's just the start of a whole new golden age of cosmology," he says. New observations from the Dark Energy Spectroscopic Instrument (DESI), the Euclid spacecraft, and the 8.4-meter Simonyi Survey Telescope at the Vera Rubin Observatory represent a step-change in our efforts to pin down the nature of dark energy. "With this new generation of telescopes," Macaulay says, "we have an extraordinary opportunity to discover more about the biggest questions in cosmology."

Article source: The Dark Energy Survey Weighs in on Cosmic Tensions - Sky & Telescope

The upper and lower images to the left were taken by Steven J. Dwyer. Image on top of NGC 253 Sculpter taken from a Celestron Origin with only the internal AI processing while the lower image is edited using Siril, GraXpert,and GIMP.

The Evening Sky Map

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

WWW.SKYMAPS.COM

NORTHERN HEMISPHERE FEBRUARY 2026

SKY MAP SHOWS HOW THE NIGHT SKY LOOKS

EARLY FEB 8 PM

LATE FEB 7 PM

Sky Calendar – February 2026

Follow on Bluesky skymaps.com/bsky/

1 **Full Moon** at 22:09 UT.

3 **Moon near Regulus** at 5h UT (morning sky).

7 **Moon near Spica** at 8h UT (morning sky).

9 **Last Quarter Moon** at 12:44 UT.

10 **Moon at apogee** (farthest from Earth) at 17h UT (distance 404,576km; angular size 29.5').

11 **Moon near Antares** at 5h UT (morning sky).

17 **Annular Solar Eclipse** from 11:43 to 12:41 UT with greatest eclipse at 12:12 UT. Annularity spans a narrow path across Antarctica. Partial eclipse phases visible from southernmost Argentina and Chile, southern Africa, and Antarctica.

17 **New Moon** at 12:02 UT. Start of lunation 1276.

19 **Moon near Mercury** at 0h UT (18° from Sun, evening sky). Mag. –0.5.

19 **Mercury at easternmost elongation** at 18h UT (18.1° from Sun, evening sky). Mag. –0.4.

19 **Moon near Saturn** at 21h UT (30° from Sun, evening sky). Mag. 1.1.

20 **Saturn 0.83° SE of Neptune** at 21h UT (29° from Sun, evening sky). Mags. 1.1 and 7.9.

24 **Moon near the Pleiades** at 4h UT (evening sky).

24 **First Quarter Moon** at 12:28 UT.

24 **Moon at perigee** (closest to Earth) at 23:25 UT (distance 370,135km; angular size 32.3').

25 **Moon at northernmost declination** (28.4°) in 2025 at 23h UT.

26 **Moon near M35 Cluster** at 10h UT (evening sky).

27 **Moon near Jupiter** at 8h UT (evening sky). Mag. –2.5.

27 **Moon near Castor** at 16h UT (evening sky).

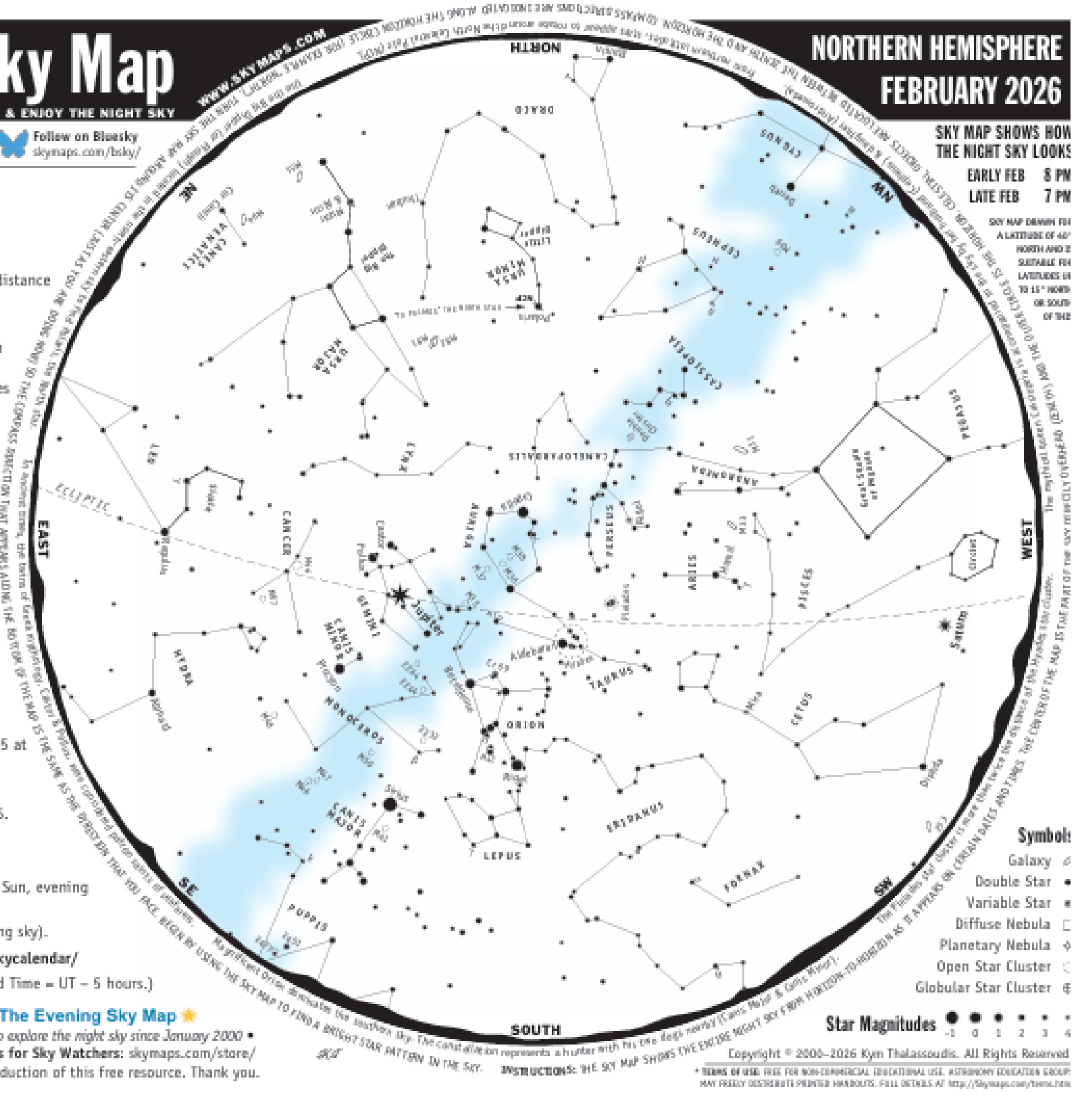
27 **Moon near Pollux** at 22h UT (evening sky).

27 **Mercury 4.5° NNW of Venus** at 22h UT (13° from Sun, evening sky). Mags. 1.6 and –3.9.

28 **Moon near Beehive Cluster (M44)** at 23h UT (evening sky).

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

All times in Universal Time (UT). (USA Eastern Standard Time = UT – 5 hours.)



Symbols: Galaxy, Double Star, Variable Star, Diffuse Nebula, Planetary Nebula, Open Star Cluster, Globular Star Cluster

Star Magnitudes -1 0 1 2 3 4

Skymaps.com

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 FEBRUARY 2026

Skymaps.com

Easily Seen with the Naked Eye

Capella	Aur	✸	The 6th brightest star. Appears yellowish in color. Spectroscopic binary. Dist=42 ly.
Sirius	CMa	✸	The brightest star in the sky. Also known as the "Dog Star". Dist=8.6 ly.
Procyon	CMi	✸	Greek name meaning "before the dog" - rises before Sirius (northern latitudes). Dist=11.4 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=3,000 ly.
Castor	Gem	✸	Multiple star system with 6 components. 3 stars visible in telescope. Dist=52 ly.
Pollux	Gem	✸	With Castor, the twin sons of Leda in classical mythology. Dist=34 ly.
Regulus	Leo	✸	Brightest star in Leo. A blue-white star with at least 1 companion. Dist=77 ly.
Rigel	Ori	✸	The brightest star in Orion. Blue supergiant star with mag 7 companion. Dist=770 ly.
Betelgeuse	Ori	✸	One of the largest red supergiant stars known. Diameter=300 times that of Sun. Dist=430 ly.
Algol	Per	✸	Famous eclipsing binary star. Magnitude varies between 2.1 & 3.4 over 2.867 days.
Pleiades	Tau	○	The Seven Sisters. Spectacular cluster. Many more stars visible in binoculars. Dist=380 ly.
Hyades	Tau	○	Large V-shaped star cluster. Binoculars reveal many more stars. Dist=152 ly.
Aldebaran	Tau	✸	Brightest star in Taurus. It is not associated with the Hyades star cluster. Dist=65 ly.
Polaris	UMi	✸	The North Pole Star. A telescope reveals an unrelated mag 8 companion star. Dist=433 ly.

Easily Seen with Binoculars

M31	And	⌀	The Andromeda Galaxy. Most distant object visible to naked eye. Dist=2.5 million ly.
M38	Aur	○	Stars appear arranged in "pi" or cross shape. Dist=4,300 ly.
M36	Aur	○	About half size of M38. Located in rich Milky Way star field. Dist=4,100 ly.
M37	Aur	○	Very fine star cluster. Discovered by Messier in 1764. Dist=4,400 ly.
M44	Cnc	○	Praesepe or Beehive Cluster. Visible to the naked eye. Dist=590±20 ly.
M41	CMa	○	First recorded observation by Aristotle in 325 BC as "cloudy spot". Dist=2,300 ly.
μ Cephei	Cep	✸	Herschel's Garnet Star. One of the reddest stars. Mag 3.4 to 5.1 over 730 days.
Mira	Cet	✸	Famous long period variable star. Mag varies between 3.0 & 10.1 over 332 days.
M39	Cyg	○	May be visible to the naked eye under good conditions. Dist=900 ly.
M35	Gem	○	Fine open cluster located near foot of the twin Castor. Dist=2,800 ly.
M48	Hya	○	12+ stars in 7x binoculars. Triangular asterism near centre. Dist=1,990 ly.
γ Leporis	Lep	✸	Visible with binoculars. Gold & white stars. Mags 3.6 & 6.2. Dist=30 ly. Sep=96.3".
2232	Mon	○	A large scattered star cluster of 20 stars. Dist=1,300 ly.
2244	Mon	○	Surrounded by the rather faint Rosette Nebula. Dist=5,540 ly.
M50	Mon	○	Visible with binoculars. Telescope reveals individual stars. Dist=3,000 ly.
Cr 69	Ori	○	Lambda Orionis Cluster. Dist=1,630 ly.
M42	Ori	□	The Great Orion Nebula. Spectacular bright nebula. Best in telescope. Dist=1,300 light years.
Double Cluster	Per	○	Double Cluster in Perseus. NGC 869 & 884. Excellent in binoculars. Dist=7,300 ly.
M47	Pup	○	Bright star cluster. 15+ stars in 7x binoculars. Dist=1,500 ly.
M46	Pup	○	Dist=5,400 ly. Contains planetary NGC 2438 (Mag 11, d=65") - not associated.
Mizar & Alcor	UMa	✸	Good eyesight or binoculars reveals 2 stars. Not a binary. Mizar has a mag 4 companion.

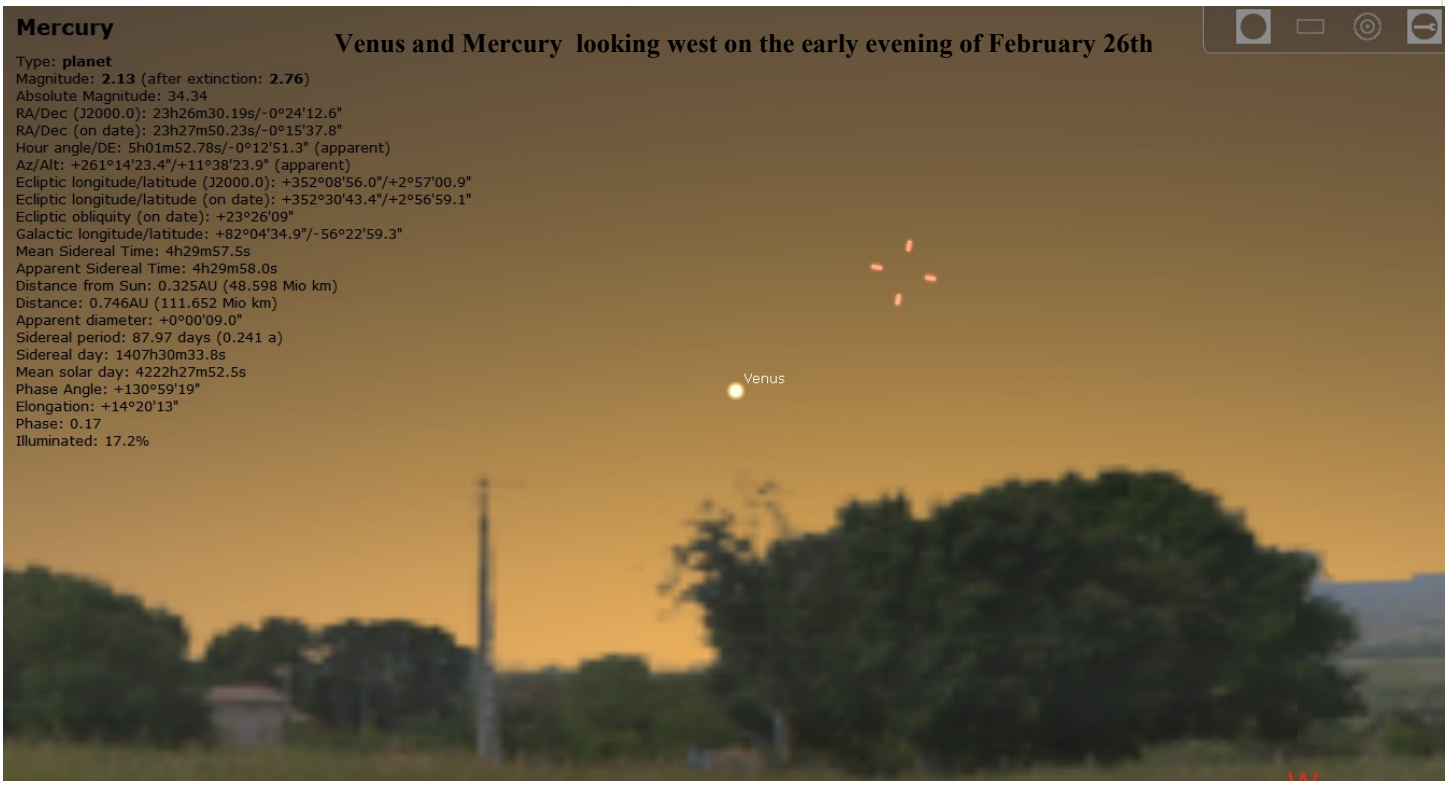
Telescopic Objects

γ Andromedae	And	✸	Attractive double star. Bright orange star with mag 5 blue companion. Sep=9.8".
γ Arietis	Ari	✸	Impressive looking double blue-white star. Visible in a small telescope. Sep=7.8".
M67	Cnc	○	Contains 500+ stars mag 10 & fainter. One of the oldest clusters. Dist=2,350 ly.
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.
η Cassiopeiae	Cas	✸	Yellow star mag 3.4 & orange star mag 7.5. Dist=19 ly. Orbit=480 years. Sep=12".
61 Cygni	Cyg	✸	Attractive double star. Mags 5.2 & 6.1 orange dwarfs. Dist=11.4 ly. Sep=28.4".
θ Eridani	Eri	✸	Striking blue-white double star. Mags 3.2 & 4.3. Visible in a small telescope. Sep=8.2".
γ Leonis	Leo	✸	Superb pair of golden-yellow giant stars. Mags 2.2 & 3.5. Orbit=600 years. Sep=4.4".
β Monocerotis	Mon	✸	Triple star. Mags 4.6, 5.0 & 5.4. Requires telescope to view arc-shape. Sep=7.3".
2264	Mon	○	Christmas Tree Cluster. Associated with the Cone Nebula. Dist=2,450 ly.
σ Orionis	Ori	✸	Superb multiple star. 2 mag 7 stars one side, mag 9 star on other. Struve 761 triple in field.
k Puppis	Pup	✸	Telescope easily shows two blue-white stars of almost equal brightness. Sep=9.9".
M1	Tau	□	Crab Nebula. Remnant from supernova which was visible in 1054. Dist=6,500 ly.
M33	Tri	⌀	Fine face-on spiral galaxy. Requires a large aperture telescope. Dist=2.3 million 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.

Mercury

Venus and Mercury looking west on the early evening of February 26th

Type: **planet**
Magnitude: **2.13** (after extinction: **2.76**)
Absolute Magnitude: 34.34
RA/Dec (J2000.0): 23h26m30.19s/-0°24'12.6"
RA/Dec (on date): 23h27m50.23s/-0°15'37.8"
Hour angle/DE: 5h01m52.78s/-0°12'51.3" (apparent)
Az/Alt: +261°14'23.4"/+11°38'23.9" (apparent)
Ecliptic longitude/latitude (J2000.0): +352°08'56.0"/+2°57'00.9"
Ecliptic longitude/latitude (on date): +352°30'43.4"/+2°56'59.1"
Ecliptic obliquity (on date): +23°26'09"
Galactic longitude/latitude: +82°04'34.9"/-56°22'59.3"
Mean Sidereal Time: 4h29m57.5s
Apparent Sidereal Time: 4h29m58.0s
Distance from Sun: 0.325AU (48.598 Mio km)
Distance: 0.746AU (111.652 Mio km)
Apparent diameter: +0°00'09.0"
Sidereal period: 87.97 days (0.241 a)
Sidereal day: 1407h30m33.8s
Mean solar day: 4222h27m52.5s
Phase Angle: +130°59'19"
Elongation: +14°20'13"
Phase: 0.17
Illuminated: 17.2%



FEBRUARY DAILY CELESTIAL CALENDAR

1 Full Moon occurs at 2:09 P.M. PST

2 The Moon passes 0.4 deg north of Regulas, 7 P.M. PST

,

2 Uranus is stationary, 9 P.M. PST

9 Last Quarter Moon occurs at 4:43 P.M. PST

10 The Moon is at apogee (251,392 miles from Earth), 8:51 A.M. PST

10 The Moon passes 0.7 deg south of Antares, 8 P.M. PST

15 The passes 0.9 deg north of Pluto, 7 A.M. PST

17 New Moon occurs at 4:01 A.M. PST

18 The Moon passes 1.7 deg north of Venus 1:00 A.M. PST

18 The Moon passes 0.1 deg south of Mercury, 3 P.M. PST

19 Mercury is at greatest eastern elongation (18 deg) 10 A.M. PST

19 The Moon passes 4 deg north of Neptune, 4 P.M. PST

19 The Moon passes 5 deg north of Saturn, 4 P.M. PST

23 The Moon passes 6 deg north of Uranus, 5 P.M. PST

24 First Quarter Moon occurs at 4:28 4:28 A.M. PST

24 The Moon is at perigee (229,991 miles from Earth) 3:14 P.M. PST

25 Mercury is stationary, 9 A.M. PST

26 Mercury passes 5 deg north of of Venus 3 P.M. PST

26 The Moon passes 4 deg north of Jupiter, 10 P.M. PST

27 Asteroid Iris is at opposition, 10 A.M. PST

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2026 New Moons

- February 17th, 2026
- March 18th, 2026
- April 17th, 2026
- May 16th, 2026
- June 14th, 2026
- July 14th, 2026
- August 12th, 2026
- September 10th, 2026
- October 10th, 2026
- Nov 08th, 2026
- Dec 08th, 2026

Star Parties for Red Rock Ricardo Station

March 21, 2026

April 18th, 2026

May 16th, 2026

June 13th, 2026

Sept 12th, 2026 (Tentative)

Oct 10th, 2026 (Tentative)

Nov 12th, 2026 (Tentative)

Brown Road Star Parties

Location of Brown Road Star Parties found on page 8

Maturango Museum

Quarter Moon Star Party at Maturango -

February 28th 6:30 P.M.

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

PRESIDENT – Ralph Paonessa

VICE-PRESIDENT – Keith Weisz

SECRETARY – Vacant

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/