Skywatchers

Newsletter of the China Lake Astronomical Society

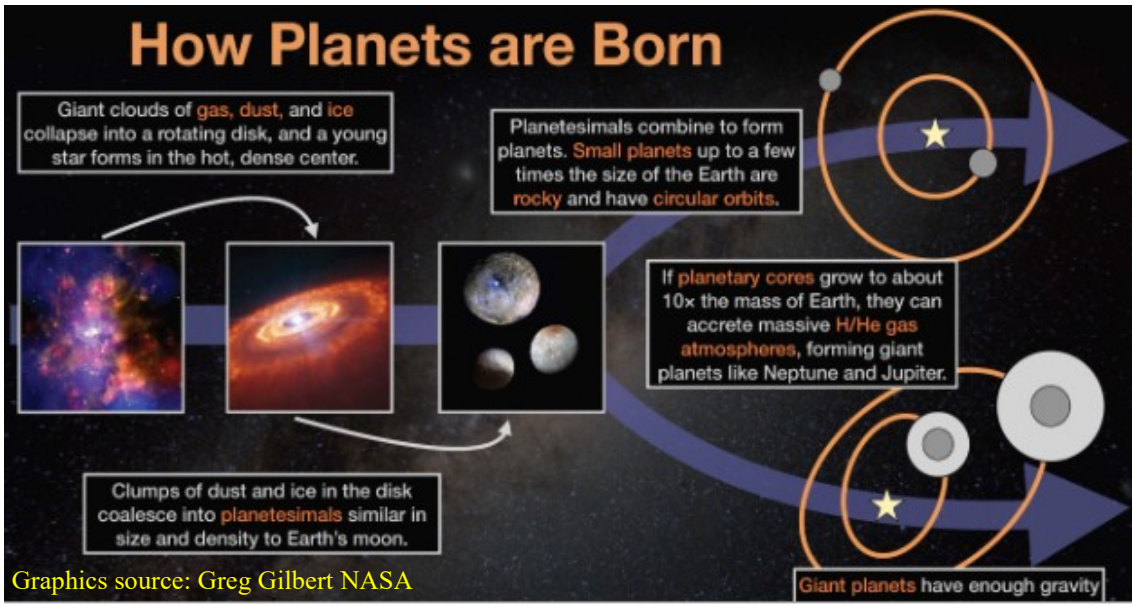
OCTOBER 05TH 2026 CLAS MEETING 7:30

This Month Issue

October Meeting	1
Orion Meteor Shower	2
Comet 161p/Hartley Iris	3
Exo-Planet Twin	4
Exo-Planet Twin	5
Membership	6
Star Map	7
Star Map	8
October Calendar	9
Star Parties Club Info	10

Monday, October 05, 2026 7:00 PM

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



Planet Formation: Turning Dust into Planets Dr. Scott Cameron

This talk summarizes the chemical and physical processes that form planets out of cosmic dust. Beginning with the elemental abundances of the cosmos, the talk examines how hydrogen, helium, and trace heavy elements set the stage for planet formation within the cold, dense environment of the interstellar medium. It then covers the classical nebular model of planet formation, illustrating how a collapsing cloud of interstellar gas and dust flattens into a spinning proto planetary disk where solid grains aggregate into rocky planetesimals, terrestrial planets, and gas giants over millions of years. The presentation also addresses some of the limitations of this model.

Maturango Museum

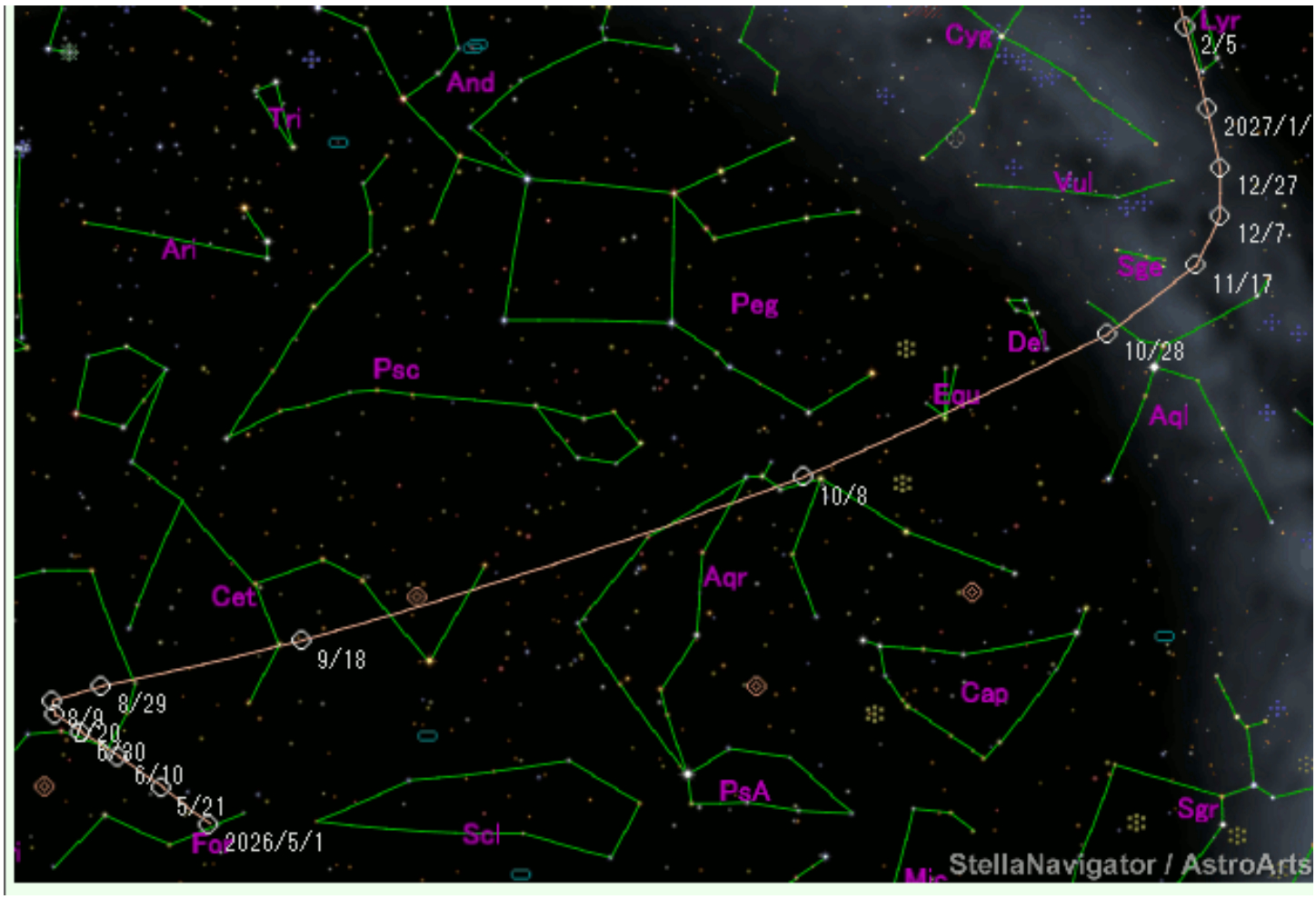
Meetings and programs are open to the public, and are held at Maturango Museum on the first Monday of every month (or the following Monday for holidays).

Viewing the Orionids in 2026

Source: Orionids Meteor Shower 2026 — Where to See, Peak Date, Location

Orionids 2026: When and where to see
Active: **October 2 – November 7**
Peak of activity: **October 21–22**
Meteors per hour: **20+**
Moon illumination: **82%**
Radiant location: **Orion**
Parent body: **Comet 1P/Halley**
Best visible from: **Both hemispheres**
Description: The Orionids are a fast, elegant meteor shower produced by debris from Halley's Comet. Their radiant climbs high after local midnight in both hemispheres (a bit earlier in the north). Activity can be spread over several nights, and some years bring enhanced meteor rates or multiple smaller peaks.
Orionids 2026: Visibility forecast
In 2026, the Orionids peak under a **waxing Moon**, which will significantly brighten the sky during the first half of the night. For the best results, **wait until the pre-dawn hours**, when the radiant climbs higher and the Moon sinks lower and then finally dips below the horizon.
Where to see the Orionids in 2026?
The Orionids are observable in both the Northern and Southern Hemispheres. Look for the Orionids from 45 to 90 degrees away from the radiant (in the constellation Orion). From this perspective, they appear more glowy and longer than if you'd look directly at a radiant point.

Comet 161P/Hartley-IRAS (2026)



Key Facts About 161P/Hartley–IRAS

Classification: Halley-type periodic comet with a retrograde near-polar orbit.

Orbital Period: Approximately 21.5 years.

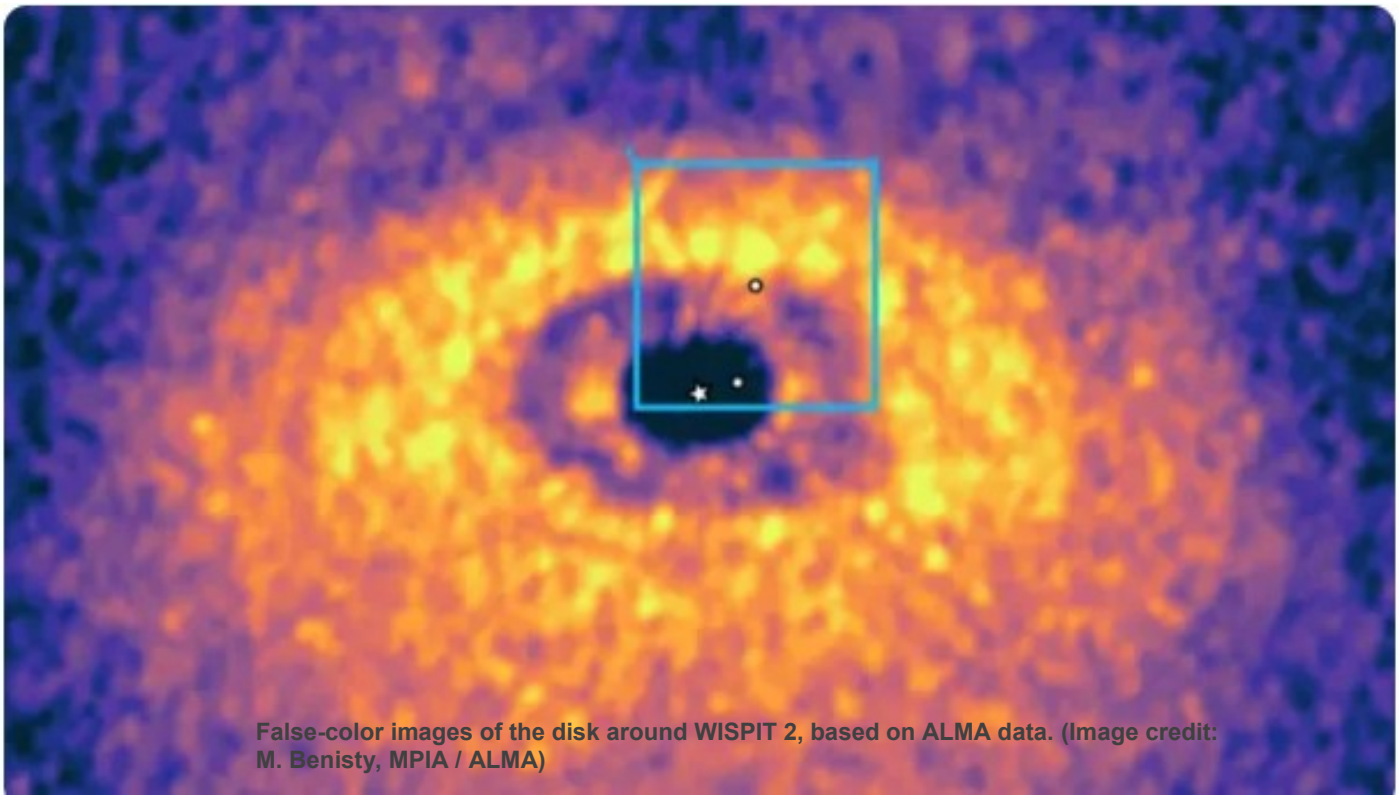
Discovery: Detected in November 1983 by Malcolm Hartley at the UK Schmidt Telescope and independently via the Infrared Astronomical Satellite (IRAS).

Current Brightness: Hovering around magnitude 11.4 as of late September and early October 2026.

Next Perihelion: Expected on November 27, 2026.

Source: 161P/Hartley-IRAS (2026)

Astronomers have produced the clearest exoplanet 'ultrasound' to date and it's twins!



False-color images of the disk around WISPIT 2, based on ALMA data. (Image credit: M. Benisty, MPIA / ALMA)

Parents know the joy of the first ultrasound scan of their babies. Astronomers have now achieved the planetary equivalent, imaging a pair of twin planets as they form in the womb of gas and dust around their parent star.

The imaging of these forming exoplanets (or extrasolar planets, worlds outside of our solar system), comes courtesy of the 66 radio antennas that comprise the Atacama Large Millimeter/ submillimeter Array (ALMA). It brings astronomers closer than ever before to understanding the processes behind planet formation.The ALMA image focuses on the system around the binary stars WISPIT 2, located around 437 light-years away. WISPIT 2 has an estimated age of around 5.4 million years.

If that makes thi s star sound anything but an infant, consider that our middle-aged star, the sun, is 4.6 *billion* years old. Surrounding the young star is a disk of gas and dust known as a protoplanetary disk that serves as a prenatal envelope in which two planets, WISPIT 2b and WISPIT 2c, are forming. The image shows clear evidence of how forming planets interact with their prenatal cocoon.

Visible is a channel created in the protoplanetary disk by WISPIT 2b, a gas giant that already has a mass five times that of Jupiter, as it orbits its parent star, collecting material to facilitate its further growth.

WISPIT 2c is a little behind its sibling in terms of development, but it is still making its mark in its protoplanetary disk home.

"We clearly see both planets shaping their environment. WISPIT 2c has carved a cavity, and WISPIT 2b a gap," team member Myriam Benisty of the Planet Formation and Exoplanets (PFE) department at the Max Planck Institute in Germany, said in a statement. "Around WISPIT 2b, we find swirls of gas that had been predicted by simulations of disk-planet interactions, but never actually seen before. Now there is an image of them!"

What makes WISPIT 2 so special?

With this new ALMA data, WISPIT 2b has become the only protoplanet for which astronomers can see three important elements of planet formation: the protoplanetary disk, the planet itself, and evidence that the planet is still gathering, or accreting, matter, and, as the final piece of the puzzle, the gas interacting directly with the planet. That adds up to observing planet formation in action.

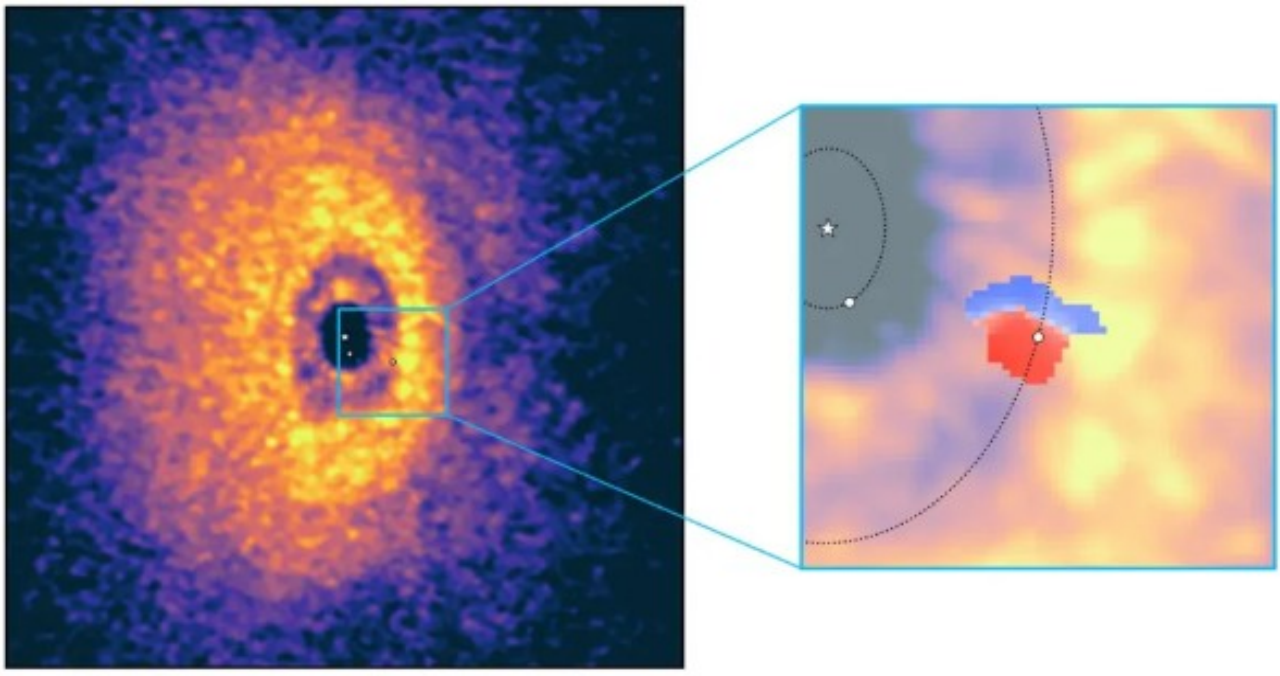
Many of these elements have been seen around infant stars before, notably in the system PDS 70, but not in unison.
"Hopefully, observations like this will teach astronomers to distinguish between disk features that indicate the presence of a protoplanet and features that don't," team leader Stefano Facchini of the University of Milan said.
The results are also remarkable because of how far WISPIT 2b is located from its parent star.

The planet is accreting matter at a distance of 57 times the distance between Earth and the sun, or almost twice the distance between Neptune and our star. That is an orbit wider than that of almost any other currently known exoplanet.

Additionally, the techniques the team used to obtain these observations could be crucial when the next generation of telescopes starts to look at budding extrasolar planetary systems.

That includes upgrades to ALMA itself and the Extremely Large Telescope (ELT) currently under construction in the Atacama Desert region of northern Chile, both of which could deliver an even more detailed picture of the WISPIT 2 system and how it is being shaped by its formation planets.

The ALMA results are available in two papers on the repository site arXiv.



False-color images of the disk around WISPIT 2, based on ALMA data. (Left) the structure of CO gas, and associated hydrogen, clearly showing the ring structure. Symbols are central (double) star and the two planets (Image credit: M. Benisty, MPIA / ALMA)

Source: Robert Lea is a science journalist in the U.K. whose articles have been published in Physics World, New Scientist, Astronomy Magazine, All About Space, Newsweek and ZME Science. He also writes about science communication for Elsevier and the European Journal of Physics. Rob holds a bachelor of science degree in physics and astronomy from the U.K.'s Open University.

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

Brown Road Star Party Location

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

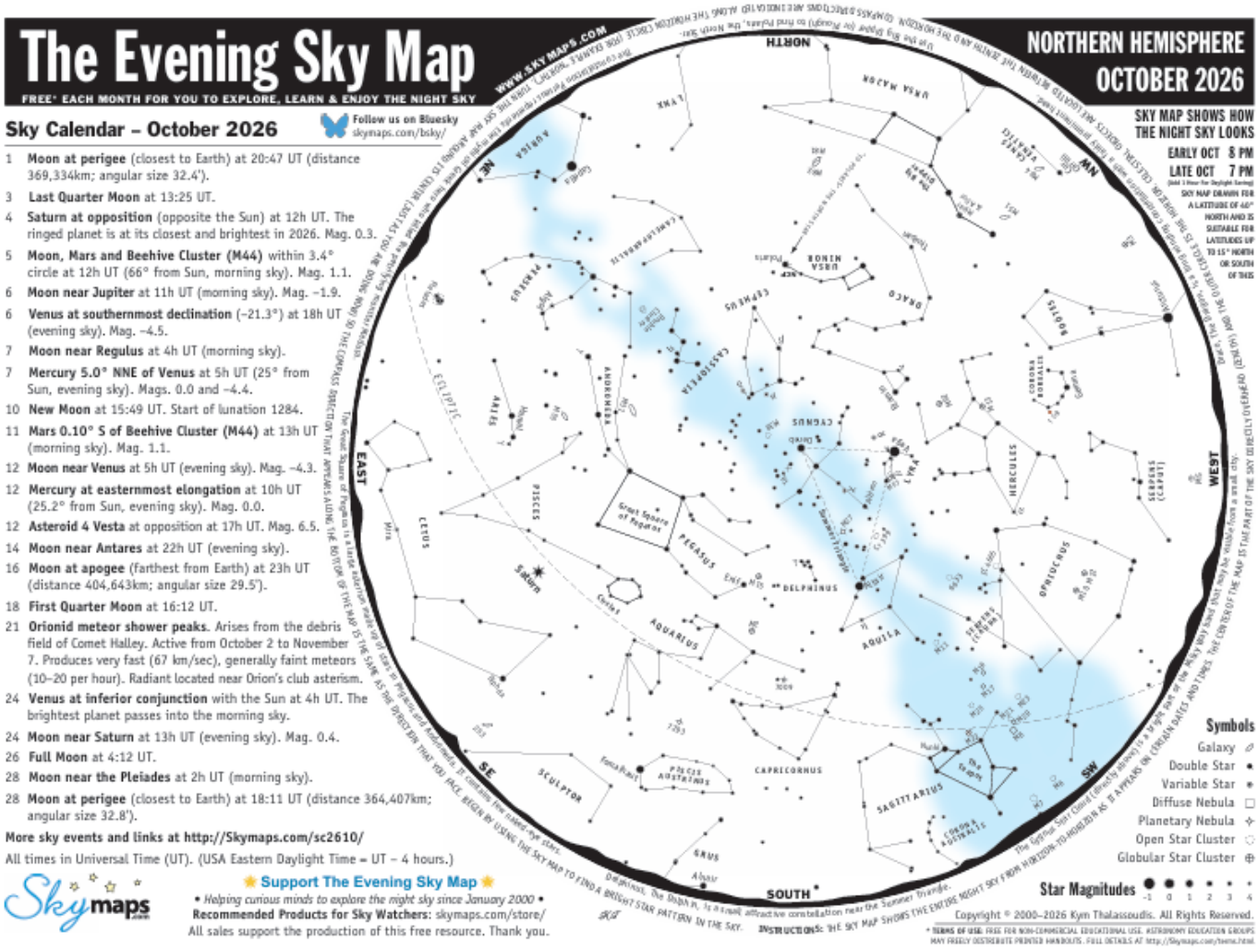
The dirt road should not be a problem for cars.

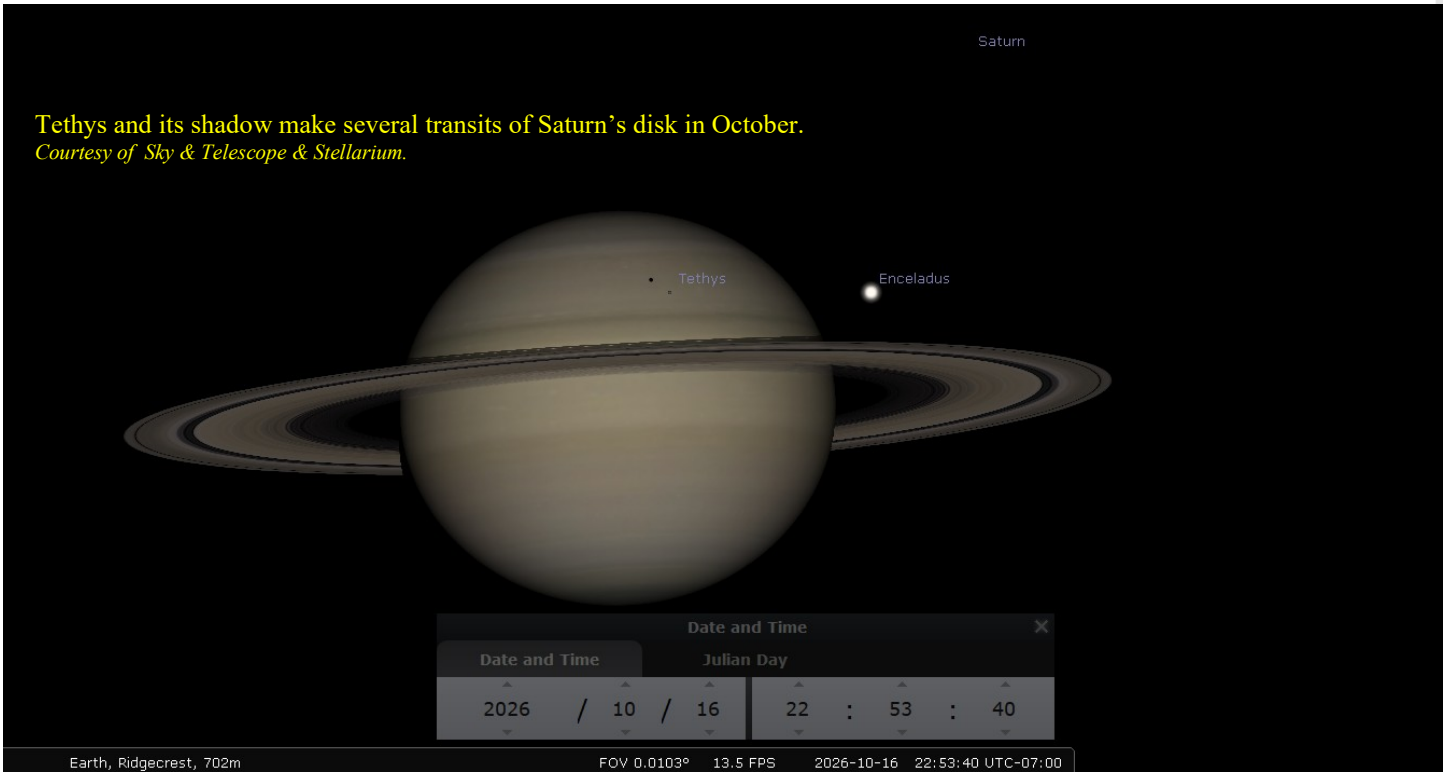
From the intersection of China Lake Blvd and Hwy 395, cross 395 to Brown Rd and continue 2.3 mi.

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.





Tethys and its shadow make several transits of Saturn's disk in October.
Courtesy of Sky & Telescope & Stellarium.

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.

NORTHERN HEMISPHERE CELESTIAL OBJECTS OCTOBER 2026

Skymaps.com

Easily Seen with the Naked Eye

Altair	Aql	✦	Brightest star in Aquila. Name means "the flying eagle". Dist=16.7 ly.
Capella	Aur	✦	The 6th brightest star. Appears yellowish in color. Spectroscopic binary. Dist=42 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.
Algol	Per	✧	Famous eclipsing binary star. Magnitude varies between 2.1 & 3.4 over 2.867 days.
Fomalhaut	PsA	✦	Brightest star in Piscis Austrinus. In Arabic the "fish's mouth". Dist=25 ly.
Pleiades	Tau	○	The Seven Sisters. Spectacular cluster. Many more stars visible in binoculars. Dist=380 ly.
Polaris	UMi	✦	The North Pole Star. A telescope reveals an unrelated mag 8 companion star. Dist=433 ly.

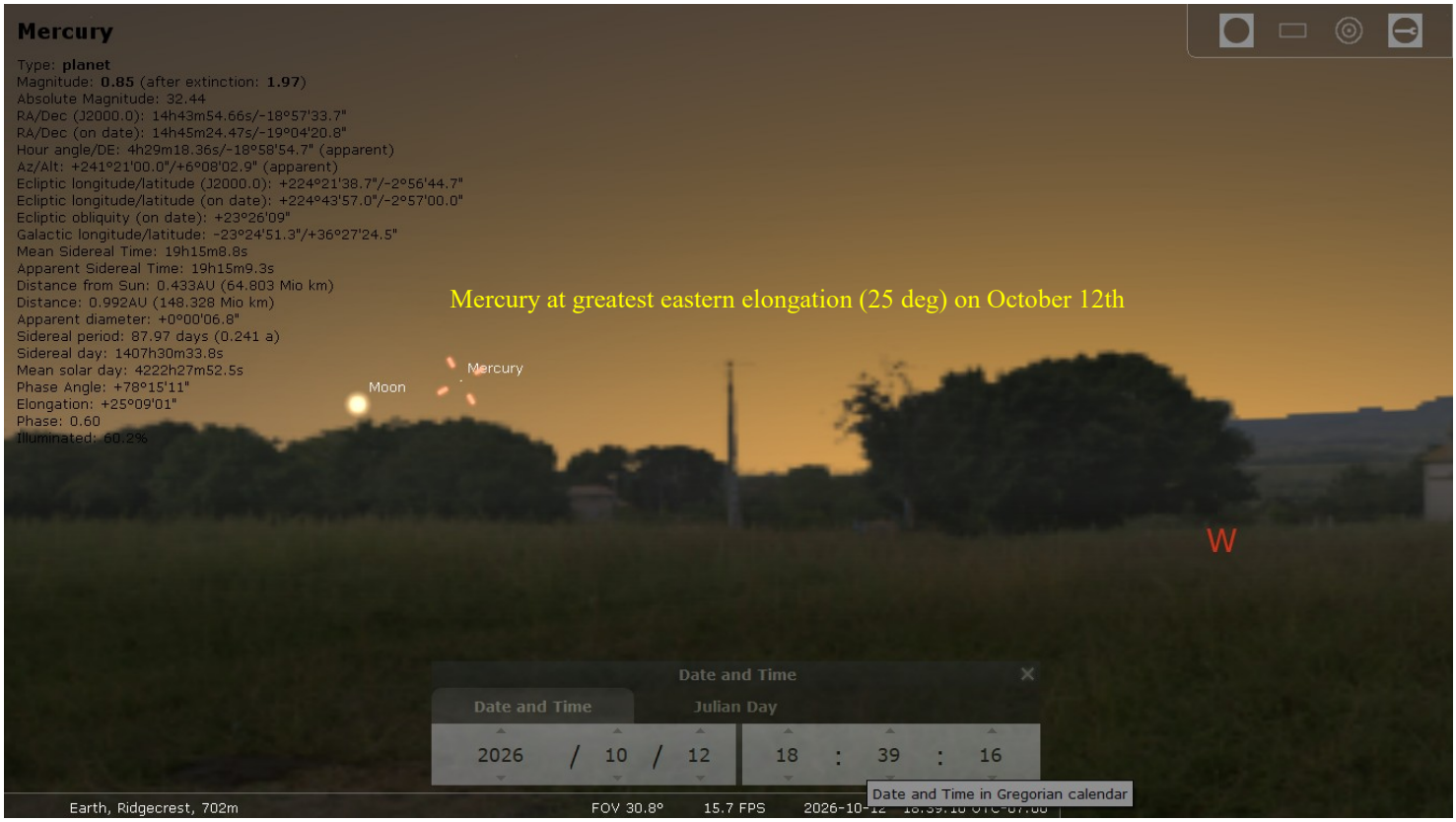
Easily Seen with Binoculars

M31	And	⌀	The Andromeda Galaxy. Most distant object visible to naked eye. Dist=2.93 million ly.
M2	Aqr	◎	Resembles a fuzzy star in binoculars.
η Aquilae	Aql	✧	Bright Cepheid variable. Mag varies between 3.6 & 4.5 over 7.166 days. Dist=1,200 ly.
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.
Double Cluster	Per	○	Double Cluster in Perseus. NGC 869 & 884. Excellent in binoculars. Dist=7,300 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.
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

γ Andromedae	And	✦	Attractive double star. Bright orange star with mag 5 blue companion. Sep=9.8".
7009	Aqr	✈	Saturn Nebula. Requires 8-inch telescope to see Saturn-like appendages.
7293	Aqr	✈	Helix Nebula. Spans nearly 1/4 deg. Requires dark sky. Dist=300 ly.
γ Arietis	Ari	✦	Impressive looking double blue-white star. Visible in a small telescope. Sep=7.8".
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".
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.
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.
M27	Vul	✈	Dumbbell Nebula. Large, twin-lobed shape. Most spectacular planetary. Dist=975 ly.

The Evening Sky Map (ISSN 1839-7735) Copyright © 2008-2026 Kym Thalassoudis. All Rights Reserved.



OCTOBER CELESTIAL CALENDAR

1 The Moon is at perigee (229,494 miles from Earth), 1:52 P.M. PST

2 Venus is stationary, 7:00 A.M. PST

3 Last Quarter Moon occurs at 6:25 A.M. PST

4 Saturn is at opposition, 5:00 A.M. PST

4 The Moon passes 1.2 deg north of Mars, 11:00 P.M. PST

5 Mercury passes 5 deg north of Venus, 8 A.M. PST

6 The Moon passes 0.2 deg north of Jupiter 3:00 A.M. PST

5 The Moon passes 0.6 deg south of Regulas, 9 P.M. PST

10 New Moon occurs at 8:50 A.M. PST

11 The Moon passes 3 deg north of Venus 8 P.M. PST

12 Mercury is at greatest eastern elongation (25 deg) 3 A.M. PST

12 The Moon passes 2 deg south of Mercury 1 P.M. PST

14 The Moon passes 0.4 deg south of Antares, 2 P.M. PST

16 The Moon is at apogee (251,434 miles from Earth), 3:56 P.M. PST

18 First Quarter Moon occurs at 9:13 P.M. PST

21 Orionid Meteor Shower peaks

23 The Moon passes 5 deg north of Neptune, 8 P.M. PST

22 Venus is at inferior conjunction, 9 P.M. PST

24 Mercury is stationary, 5 A.M. PST

24 The Moon passes 7 deg north of Saturn 12:01 A.M. PST

25 Full Moon occurs at 9:12 P.M. PST

2026 New Moons

- October 10th, 2026
- Nov 08th, 2026
- Dec 08th, 2026

Star Parties for Red Rock Ricardo Station

Oct 10th, 2026

Nov 12th, 2026

Brown Road Star Party

Sept 11 th

Oct 09th

Nov 11th

Quarter Moon Star Party

September 19th 8:00 P.M.

Maturango Museum

October 2 - Friday 6:00 PM
Cerro Coso College Astronomical Star Party
and Barbeque
Telescopes under dark skies at the college

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 – Debra 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/