



Newsletter of the Pomona Valley Amateur Astronomers

Confucius

When a wise man points at the moon
the imbecile examines the finger.



Volume 46 Number 06

nightwatch

June 2026

President's Message - June 2026

I am happy to report that the tour of the historic Mount Wilso Observatory (MWO) led by Tim Thompson on May 9 was a big success! There were 24 PVAA members who attended. It was a beautiful day and Tim did an outstanding job showing us the Snow solar coelostat telescope, the 60-foot and 150-foot telescope towers, the 60-inch and 100-inch telescopes which were the largest telescopes of their time and the CHARA optical interferometric array. Tim provided very interesting information on the history of MWO and was able to answer all of our questions based on his extensive astronomical knowledge and experience. Some of the people Tim talked about were George Ellery Hale, Edwin Hubble, Henrietta Leavitt, Harlow Shapley, Cecelia Payne, Walter Baade and Albert Einstein. In addition, we got to meet and listen to several MWO employees who carry on important astronomical work using the solar telescopes.

In the world of space exploration, the Psyche spacecraft had a successful flyby of Mars on May 15 which achieved two important objectives: a gravity boost to achieve the velocity increase needed to reach its objective of arriving at the asteroid 16 Psyche on August 25, 2029, and testing its scientific instruments including its onboard cameras which took several thousand pictures during the close encounter. And on May 22, SpaceX had a very successful test flight of Version 3 of its Super Heavy booster and Starship. It's the world's most powerful launch vehicle and is designed to become the world's first fully reusable rocket. It's planned that Starship will eventually be used to transport astronauts to the Moon.

I will be giving a presentation on the Sun along with solar telescope viewing at the Glendora Public Library on June 9 to the Teen Astronomy Club. If you know of anyone 10 to 16 years old who is interested in science, please inform their parents and invite them to attend. The event will start at 6:00 pm. We are also planning to have solar telescope viewing for the public at the San Dimas Civic Center Park from 5:00 pm to 8:00 pm on June 10 in conjunction with the San Dimas Farmers Market. Please come to help us out and have fun!

Remember that the PVAA has plenty of opportunities for members to actively help the club. We need a president, a secretary and an Outreach Coordinator. We also have a need for a website designer to do an assessment of the PVAA website to determine whether we need to make modifications to the existing website to make it easier to use or to completely replace it from scratch. Also, we still need someone to be Gary Thompson's assistant to help set up the computer for Zoom at the general meetings and to fill in for him when he is unable to attend a meeting. If you are interested in any of these or know someone who might be, please contact me at thespaceshuttle@aol.com or call me at 626-541-8679.

As all of you know, June 1 is the start of the PVAA fiscal year which means that membership dues are due. So, please don't forget to send in your payment if haven't done so yet to PVAA, P.O. Box 162, Upland, CA 91785-9988. It also means that my term as president of the PVAA has ended and this is my last PVAA President's Message. However, I will continue serving the PVAA as a board member at large, filling the vacancy that was created when Ron Hoekwater was elected PVAA Vice President last year.

Finally, I wish all of you a very nice Father's Day with friends and family on June 21 which coincides with the Summer Solstice, the longest day of the year in the northern hemisphere!

Ken Elchert

Club Events Calendar

Date	Time	Event	Location
May 29	7:30 pm	PVAA General Meeting	Harvey Mudd College, Shanahan B-460
June 1	-----	Start of PVAA 2026-2027 fiscal year	-----
June 1	-----	2026-2027 PVAA membership dues are due	-----
June 9	6:00 pm	Teen Astronomy Club presentation (The Sun)	Glendora Public Library: Bidwell Forum
June 10	4:00 pm	Public Telescope Viewing of the Sun	San Dimas Civic Center Park
June 13	-----	Star Party	GMARS @ Landers
June 14	-----	New Moon & Flag Day	-----
June 17	6:00 pm	PVAA Board Meeting	IHOP @ 80 N. Euclid Ave., Upland
June 21	-----	Summer Solstice/Longest Day/Father's Day	-----
June 26	7:30 pm	PVAA General Meeting	Harvey Mudd College, Shanahan B-460
June 29	-----	Full Moon	-----
June 30	6:00 pm	World Asteroid Day presentation	Glendora Public Library: Bidwell Forum

Celestial Events

June 2026

events visible in southern
CA highlighted in yellow

Date	Day	LA Time	Event	Direction	Altitude (deg)	Moon Phase/Illumination
May 31	Sun	1:45 am visible all night	Full Moon (Blue Micro Moon)	E - S - W Scorpius	5 - 5	Full Moon 100%
June 9	Tue	8:20 pm - 10:30 pm	Jupiter-Venus close approach sep = 1.6 deg	WNW Gem/Cancer	25 - 5	Waning Crescent 29%
June 11	Thu	8:25 pm	Mercury at highest altitude h = 15.5 deg	WNW Gemini	15.5	Waning Crescent 8%
June 14	Sun	7:54 pm	New Moon (Super New Moon)	-----	-----	New Moon 0%
June 15	Mon	3:40 pm vis @ 8:30 pm - 9:20 pm	Mercury at Greatest Eastern Elong. elong = 25 deg	WNW Gemini	14 - 5	Waxing Crescent 1.5%
June 16	Tue	8:30 pm - 9:45 pm	Moon-Jupiter close approach sep = 2.45 deg	WNW Gemini	19 - 5	Waxing Crescent 6%
June 17	Wed	1:30 pm vis @ 8:10 pm - 10:15 pm	Moon-Venus appulse sep = 16.2 arcmin	W Cancer	31 - 5	Waxing Crescent 13%
June 17	Wed	9:15 pm - 10:15 pm	Moon-M44 (Beehive) appulse sep = 48 arcmin	WNW Cancer	18 - 5	Waxing Crescent 13%
June 19	Fri	9:00 pm - 10:10 pm	Venus-M44 (Beehive) appulse sep = 42 arcmin	WNW Cancer	19 - 5	Waxing Crescent 32%
June 21	Sun	1:25 am	Summer Solstice 1 st day of Summer	-----	-----	-----

June 12 Earliest sunrise (5:41 am)

June 21 Longest day (14h 25m 32s)

minial

Lunation No. 1279

Lunation No. 1280

PVAA General Meeting 5/1/2026

Our meeting started out with elections of officers. Currently we have openings for the President and Secretary positions. Then Ken Elchert gave his monthly presentation “Astronomical and Aerospace Events.” It just happened to be National Space Day, which brought us to the successful conclusion of the Artemis II mission with a splashdown off the coast of San Diego. Artemis II has taken humans further from Earth for a new record: 252,756 mi = 406,771 km @ 4:02 pm PDT April 6. After their return to Earth pilot Victor Glover from Pomona celebrated his 50th birthday.

Scientist monitoring Voyager 1 turned off the Low Energy Charged Particle Instrument (LECP), leaving only the Magnetometer (MAG), and the Plasma Wave Subsystem (WAV), instruments still functioning on the spacecraft. Voyager 1 is 15.8 billion miles from Earth, or 23 hours and 32 minutes at the speed of light.

Ken then talked about the Western Region Astronomical League meeting last April 15th. The PVAA is a member of the Astronomical League. Since the Astronomical League raised its membership dues, the PVAA is raising its annual membership to \$40 for individuals, \$60 for families, and \$20 for individuals under the age of 18. Please see our website pvaa.us for information. You can also use Zelle to pay your dues. Zelle your dues to: pvaanightwatch@gmail.com

Ken ended his presentation with a calendar of celestial events.

Our speaker for the night was Tim Thompson, who will also be our guide for the Mount Wilson Observatory (MWO) tour. His topic for the night was: “Mount Wilson Observatory: The Real Magic Mountain.” MWO holds the record for having 5 of the largest telescopes in the world when they were built. MWO was also the first institution dedicated to astrophysics. MWO came to being because of two men – George Ellery Hale and Andrew Carnegie – the “Godfathers of Big Science.” George was always doing some project. Andrew Carnegie was extremely wealthy, and willing to fund large projects to advance science.

The 60-inch telescope introduced a unique idea for large telescopes – it could swap out the top part of the telescope to do different tasks. It could be set up as F/30 Coude (for spectrographic research), F/16 Cassegrain, and an F/5 Newtonian. The telescope sits in an enclosed pool of mercury for extremely smooth guiding.

Even before the 60-inch came online, Hale had already ordered the 100-inch mirror to be poured in France.

On the science side, Mr. Hale took spectrographs of the sun, and of its sunspots. They then took spectrographs of carbon in an oven at different temperatures. When the spectra matched, they found the temperature of the sun’s surface, and of sunspots. This led to researching magnetic fields on the sun and sunspots.

Turning to the “Dark Side” of astronomy, Hubble, using Henrietta Swan Leavitt’s cepheid variable data, discovered that the Andromeda Nebula was actually a stand-alone Galaxy by itself, far away from the Milky Way. MWO also did the first infrared survey of the sky.

A big addition to MWO is the CHARA (Center for High Angular Resolution Astronomy) Array owned by the Georgia State University. It is an array of six one-meter telescopes connected by vacuum tubes for the light to make high resolution images. A seventh telescope, connected by fiber optics was added in 2024. MWO is the birthplace of adaptive optics because of Horace Babcock. MWO has many more firsts, too many to talk about. Check out the MWO website here: <https://www.mtwilson.edu/>

Gary Thompson



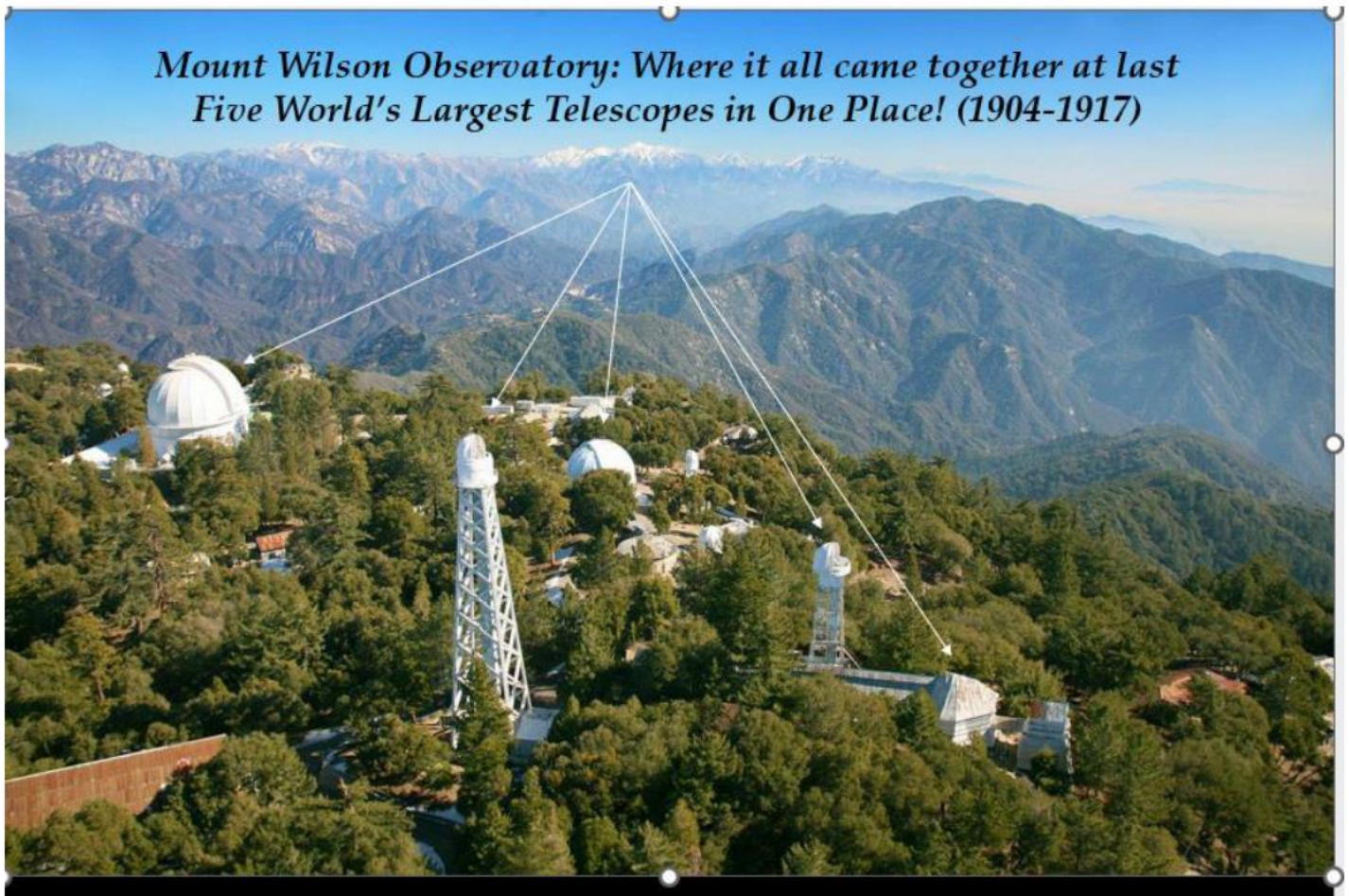
Credit: NASA

**Falcon 9 launch
from Vandenberg
SFB as seen
flying over Los
Angeles**

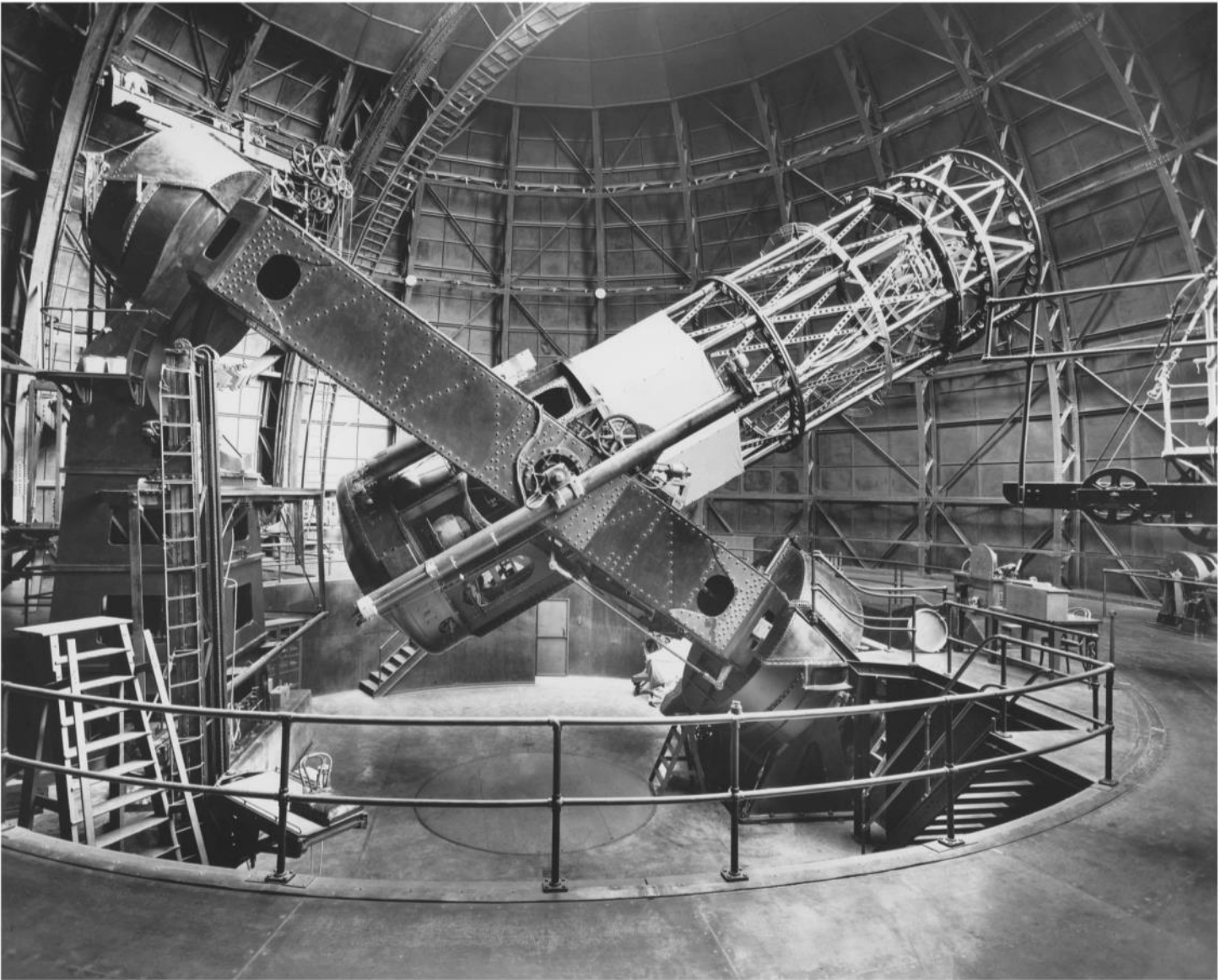
April 29, 2026



**Credit:
Nick Craparo**



Credit: Mount Wilson Observatory



100-inch telescope Credit: Mount Wilson Observatory



Credit: Mount Wilson Observatory

PVAA Officers and Board

Officers

President Ken Elchert thespaceshuttle@aol.com
 Vice President .. Open position
 Secretary(acting)Ken Elchert 626-541-8679
 Treasurer Gary Thompson 909-935-5509

Board

Jim Bridgewater (2026)..... 909-599-7123
 Claire Stover(2026)pvaanightwatch@gmail.com
 Ron Hoekwater (2027)..... 909-445-9282
 Howard Maculsay (2027).....909-913-1195

Directors

Membership / Publicity....Gary Thompson . 909-935-5509
 Outreach Jeff Schroeder 909-758-1840
 Programs Ron Hoekwater 909-445-9282

Dodging the Fog

The forecast for May 14-17 looked good for the dark site, so I made the reservations. As the weekend approached, first the forecast for Saturday night shifted to cloudy, then, after we had arrived, half of Friday night was also forecast to be cloudy. Thursday night was clear and I got a good night of images. I started imaging Friday night but shut down after only half an hour due to fog. Unfortunately, the fog arrived Saturday evening before I even got started. So only one image from dark skies this time, but I have two images taken the week before from home to share also.

TARGET



We're at the end of galaxy season so nebulae are sparse. I didn't feel like taking my long focal length scope to shoot small galactic targets, so I started looking at star clusters more suitable for a medium field of view. The first target is M53 (NGC 5024), with a cameo of NGC 5053, taken from home. M53 was discovered by Johann Bode in 1775 and lies about 58,000 light years away in the constellation Coma Berenices. It's the cluster of stars in the upper right portion of the image. The cluster spans about 40 light years and consists of mostly stars with low metallicity, meaning they are nearly entirely hydrogen and helium. NGC 5053 is the less dense cluster in the lower left portion of the image. Discovered in 1784 by William Herschel, it, too, has very low metallicity. It's slightly closer to us than M53 at about 57,000 light years. Both of these clusters are thought to have been part of the Sagittarius Dwarf Spheroidal Galaxy, a satellite galaxy that orbits the Milky Way, based on their low metallicity. There is also reportedly a tidal bridge between the two clusters indicating that they may have interacted in the past. Unfortunately, it isn't visible in my image, nor have I seen it in any other images. M53 is estimated to be about 12.5 billion years old and NGC 5053 is about 12.3 billion years old.



The second target for the month is another globular cluster, NGC 5466, in the constellation Boötes, also taken from home. This relatively loose cluster was also discovered in 1784, also by William Herschel, and shines at a magnitude of about 9.2, well below unaided visibility. The cluster is about 52,000 light years away and spans about 9 arcminutes in the sky. Like the previous two clusters, it has a very low metallicity and has a reportedly long tidal stream, but again, not visible in my image nor others that I've seen. The cluster is estimated to be about 12.1 billion years old. If you zoom in to either of these images, many small galaxies can be found.



The third target was taken from the dark site. Figuring that there might be typical May morning fog, I planned to photograph another globular cluster. But when the initial forecast at the dark site looked good, I rethought my strategy. My last image of the spiral galaxy M101, the Pinwheel Galaxy (NGC 5457), was taken about 7 years ago and didn't look as nice as I thought it should, so I decided to reshoot it. It's considered a "grand design" galaxy having prominent, well-defined spiral arms that extend clearly around. At about 252,000 light years across, it's nearly 3 times the diameter of the Milky Way and includes an estimated 1 trillion stars compared to 100 to 400 billion in our galaxy. Located in Ursa Major, near the end of the handle of the Big Dipper, it was discovered in 1781 by Pierre Méchain. It shines at magnitude 7.9, extends about 27-29 arcminutes across the sky, and is about 21.6 million light years away. There are 6 companion galaxies, however only one is in my image, NGC 5477. It is seen just to the left of M101 in the photo.

IMAGING AND PROCESSING

All three images were taken with a Sky-Watcher Esprit 120ED refractor and dedicated field flattener operating at a plate-solved focal length of 863mm and a ZWO ASI2600MC Pro Duo color camera. Guiding was done using the guide chip on the color camera and the autofocuser was a ZWO EAF. Images were calibrated and stacked with *WeightedBatchPreprocessing* and processed using PixInsight.

The M53 image is composed of 106 2-minute exposures taken May 8 and 9 and the NGC 5466 image is composed of 124 3-minute exposures taken May 7, 10, and 11, totaling 3 hours, 32 minutes and 6 hours, 12 minutes, respectively. They were both calibrated with 15 dark frames and the same 15 flat and dark flat frames. M101 is composed of 62 5-minute exposures for a total of 5 hours, 10 minutes taken May 14-15. 15 dark, flat, and dark flat frames were used for calibration.

Both M53 and NGC5466 were processed the same way, however, individual settings in the tools used were different. Since these images were taken from home, there were severe gradients present. I also found by trial and error that sharpening the stars only made the images appear “crunchy”. The first step was to remove the gradients, so I ran *SpectrophotometricFluxCalibration* (*SFC*) followed by *MultiscaleGradientCorrection* (*MGC*). I varied the gradient scale in *MGC* until the gradient was just removed. The next step was to apply noise reduction with *NoiseXterminator* (*NoiseX*) to reduce, but not eliminate, the noise in the background. After noise reduction, *SpectroPhotometricColorCorrection* (*SPCC*) was applied with a small portion of the background chosen to correct the overall color. Because stars were the focus of the image, not nebulosity in the background, I did not run the usual star removal process. Instead, the entire image was stretched using the *GeneralizedHyperbolicStretch* (*GHS*) tool. This proved to be the most difficult step – too strong of a stretch and the core of the cluster was blown out with loss of detail, but not enough of a stretch and the faint stars remained in the background. It took many iterations to sort out how best to do this. The last step before leaving the *GHS* tool was to increase the saturation so the star color was improved. Next, using the *Histogram* tool, the black point was refined, followed by using the *Curves* tool to increase the contrast.

M101 was processed using my more typical workflow. First, *BlurXterminator* was used in “correct only” mode to ensure the stars were round and only slightly sharpened. Then *SFC* and *MGC* were run to remove the slight gradient that was present. Next *SPCC* was used to correct the color balance in the image. *StarXterminator* removed the stars from the image and the stars were stretched using *GHS*’s arcsinh transformation. The last step in *GHS* was to increase the color saturation of the stars. Noise reduction with *NoiseX* was applied to the galaxy-only frame before *GHS* was used to stretch the image. Care was taken during stretching to avoid blowing out the core of the galaxy and losing detail. A mask was generated to isolate the galaxy and the color saturation was increased while still in *GHS* to bring out the pinkish and bluish nebulae in the galaxy. The same mask was used again with the *ImageBlend* script. The image was applied to itself with a high pass filter and overlay blend mode in *ImageBlend* to slightly sharpen the details in the galaxy. The sharpened image was then blended with the previously stretched stars using *ImageBlend* before *Curves* was used to enhance the contrast.

I hope you enjoy the images this month. We plan to be out to the dark site again in mid-June, but as mentioned before, May and June can be cloudy overnight. I’ll try to get some images from home in case we do get clouded out while camping.

Wishing you all clear and dark skies,

Ron Ugolick

<https://www.astrobin.com/users/ruccdu/>

The Evening Sky Map

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

Sky Calendar – June 2026

Follow us on Bluesky
skymaps.com/sky/

- 1 Moon at apogee (farthest from Earth) at 5h UT (distance 406,366km; angular size 29.4').
- 1 Mercury at northernmost declination (25.6°) at 19h UT.
- 8 Last Quarter Moon at 10:02 UT.
- 9 Venus 1.6° NNE of Jupiter at 21h UT (37° from Sun, evening sky). Mags. -4.0 and -1.9.
- 10 Moon near Saturn at 8h UT (morning sky). Mag. 0.9.
- 12 Moon near Mars at 19h UT (morning sky). Mag. 1.3.
- 13 Moon near the Pleiades at 14h UT (evening sky).
- 14 Moon at perigee (closest to Earth) at 23:20 UT (distance 357,197km; angular size 33.5').
- 15 New Moon at 2:55 UT. Start of lunation 1280.
- 15 Mercury at easternmost elongation at 20h UT (24.5° from Sun, evening sky). Mag. 0.6.
- 17 Moon near Jupiter at 9h UT (evening sky). Mag. -1.8.
- 17 Moon near Venus at 18h UT (evening sky). Mag. -4.0. Occultation visible from the Contiguous United States, Canada, Brazil and Venezuela.
- 18 Moon near Beehive Cluster (M44) at 2h UT (evening sky). Venus nearby.
- 19 Moon near Regulus at 13h UT (evening sky). Occultation visible from South Africa, Mozambique, Madagascar and Zimbabwe.
- 21 June solstice at 8:23 UT. The time when the Sun reaches the point farthest north of the celestial equator marking the start of summer in the Northern Hemisphere and winter in the Southern Hemisphere.
- 21 First Quarter Moon at 21:55 UT.
- 23 Moon near Spica at 20h UT (evening sky).
- 27 Moon near Antares at 13h UT (evening sky). Occultation visible from Antarctica, south-eastern Australia, New Zealand and Tasmania.
- 28 Moon at apogee (farthest from Earth) at 7h UT (distance 406,265km; angular size 29.4').
- 29 Full Moon at 23:57 UT.

More sky events and links at [Skymaps.com/skycalendar/](https://skymaps.com/skycalendar/)

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



Support The Evening Sky Map
Helping curious minds to explore the night sky since January 2000
Recommended Products for Sky Watchers: skymaps.com/store/
All sales support the production of this free resource. Thank you.

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.

Global 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
JUNE 2026

CELESTIAL OBJECTS
Sky maps

Easily Seen with the Naked Eye

- Altair • Brightest star in Aquila. Name means "the flying eagle". Dist=16.8 ly.
- Boo • Orange, giant K star. Name means "bear watcher". Dist=36.7 ly.
- Cep • Cepheid prototype. Mag varies between 3.5 & 4.4 over 5.366 days. Mag 6 companion.
- Cyg • Brightest star in Cygnus. One of the greatest known supergiants. Dist=1,400±200 ly.
- Her • Semi-regular variable. Magnitude varies between 3.1 & 3.9 over 90 days. Mag 5.4 companion.
- Lyr • The 5th brightest star in the sky. A blue-white star. Dist=25.0 ly.
- Scor • Red, supergiant star. Name means "rival of Mars". Dist=135.9 ly.
- UMi • The North Pole Star. A telescope reveals an unrelated mag 8 companion star. Dist=433ly.
- Vir • Latin name means "ear of wheat" and shown held in Virgo's left hand. Dist=250 ly.

Easily Seen with Binoculars

- η Aquilae • Bright Cepheid variable. Mag varies between 3.6 & 4.5 over 7.166 days. Dist=1,200 ly.
- CVn • Easy to find in binoculars. Might be glimpsed with the naked eye.
- Cep • Herschel's Garnet Star. One of the reddest stars. Mag 3.4 to 5.1 over 730 days.
- Com • Coma Berenices. 80 mag 5-6 stars in 5 deg. Dist=283 ly. Age=400 million years.
- Cyg • Long period pulsating red giant. Magnitude varies between 3.3 & 14.2 over 407 days.
- Cyg • May be visible to the naked eye under good conditions. Dist=900 ly.
- Dra • Wide pair of white stars. One of the finest binocular pairs in the sky. Dist=100 ly.
- Her • Best globular in northern skies. Discovered by Halley in 1714. Dist=23,000 ly.
- Her • Fainter and smaller than M13. Use a telescope to resolve its stars.
- Lyr • Famous Double Double. Binoculars show a double star. High power reveals each a double.
- Lyr • Semi-regular variable. Magnitude varies between 3.9 & 5.0 over 46.0 days.
- Oph • Close to the brighter M10. Dist=18,000 ly.
- Oph • 3 degrees from the fainter M12. Both may be glimpsed in binoculars. Dist=14,000 ly.
- Oph • Large, scattered open cluster. Visible with binoculars.
- Oph • Scattered open cluster. Visible with binoculars.
- Sgr • Lagoon Nebula. Bright nebula bisected by a dark lane. Dist=5,200 ly.
- Sgr • Bright cluster located about 6 deg N of "teapot's" lid. Dist=1,900 ly.
- Sgr • A spectacular globular star cluster. Telescope will show stars. Dist=10,000 ly.
- Scor • A close globular. May just be visible without optical aid. Dist=7,000 ly.
- Scor • Butterfly Cluster. 30+ stars in 7x binoculars. Dist=1,960 ly.
- Scor • Superb open cluster. Visible to the naked eye. Age=260 million years. Dist=780 ly.
- M5 • Fine globular star cluster. Telescope will reveal individual stars. Dist=25,000 ly.
- Mizar & Alcor • Good eyeglass or binoculars reveals 2 stars. Not a binary. Mizar has a mag 4 companion.
- Cr 399 • Coathanger asterism or "Brooch's Cluster". Not a true star cluster. Dist=218 to 1,140 ly.

Telescopic Objects

- ε Bootis • Red giant star (mag 2.5) with a blue-green mag 4.9 companion. Sep=2.8". Difficult to split.
- CVn • Compact nearly face-on spiral galaxy. Dist=15 million ly.
- CVn • Whirlpool Galaxy. First recognised to have spiral structure. Dist=25 million ly.
- Com • Black-Eye Galaxy. Discovered by J.E. Bode in 1775 - "a small, nebulous star".
- Cyg • Beautiful double star. Contrasting colours of orange and blue-green. Sep=34.4".
- Cyg • Attractive double star. Mags 5.2 & 6.1 orange dwarfs. Dist=11.4 ly. Sep=28.4".
- Del • Appear yellow & white. Mags 4.3 & 5.2. Dist=100 ly. Struve 2725 double in same field.
- Lyr • Eclipsing binary. Mag varies between 3.3 & 4.3 over 12,940 days. Fainter mag 7.2 blue star.
- Lyr • Ring Nebula. Magnificent object. Smoke-ring shape. Dist=4,100 ly.
- Sgr • Elongated star cluster. Telescope required to show stars. Dist=2,100 ly.
- Sgr • Attractive double star. Telescope shows 3 dust lanes intersecting nebula. Dist=5,200 ly.
- Sgr • A fine and impressive cluster. Dist=4,200 ly.
- Sgr • Omega Nebula. Contains the star cluster NGC 6618. Dist=4,900 ly.
- Sct • Wild Duck Cluster. Resembles a globular through binoculars. V-shaped. Dist=5,600 ly.
- M16 • Eagle Nebula. Requires a telescope of large aperture. Dist=8,150 ly.
- Uma • Beautiful spiral galaxy visible with binoculars. Easy to see in a telescope.
- Uma • Close to M83 but much fainter and smaller.
- Vir • Supergiant galaxy with supermassive black hole at its core. Dist=53.3 million ly.
- Vir • Superb pair of mag 3.5 yellow-white stars. Orbit=169 years. At their closest in 2005.
- Vul • Dumbbell Nebula. Large, twin-lobed shape. Most spectacular planetary. Dist=775 ly.

The Evening Sky Map (JUNE 2026) Version © 2000-2026 Kym Thalassou. All Rights Reserved.

NORTHERN HEMISPHERE
JUNE 2026

SKY MAP SHOWS HOW
THE NIGHT SKY LOOKS

EARLY JUN 11 PM

LATE JUN 10 PM

SKY MAP DRAWN FOR

A LATITUDE OF 40°

NORTH AND IS

SUITABLE FOR

LATITUDES UP

TO 15° NORTH

OR SOUTH

OF THIS

Symbols

- Galaxy
- Double Star
- Variable Star
- Diffuse Nebula
- Planetary Nebula
- Open Star Cluster
- Globular Star Cluster

Star Magnitudes

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60-Inch Telescope



150' Snow Solar Telescope



Beam of Light Inside Snow Solar Telescope



Outside the Solar Telescope



100-Inch Hooker Telescope



Tim Thompson Inside
60-Inch Telescope



Tim Thompson Inside 100-Inch Hooker Telescope



PVAA Tour Heads to the Dome



Ken and the Dome



Marissa Elchert with Mt Wilson Telescope



Snow Telescope



Ken Elchert with Mt Wilson Scope



Tim Thompson with Mt Wilson Scope



Members and Dome



Antennae of Mt Wilson



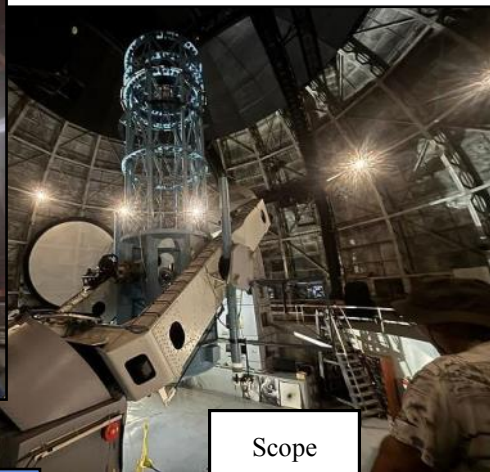
Two domes



Ken on Outside of Dome



Scope



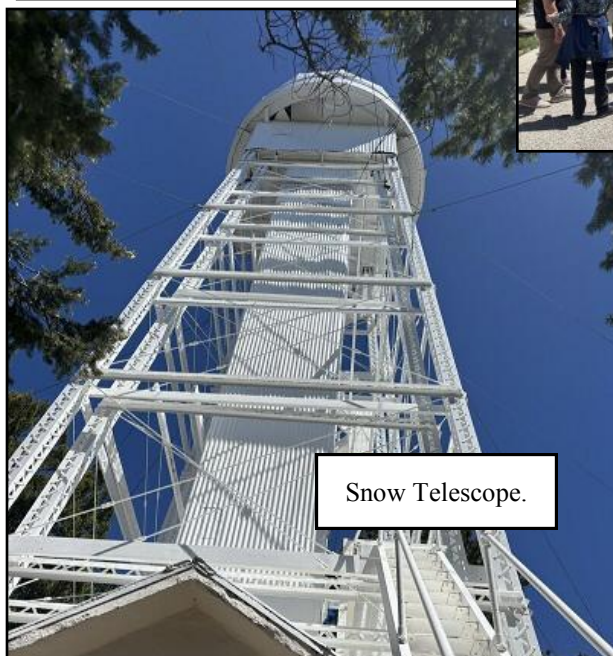
Scope



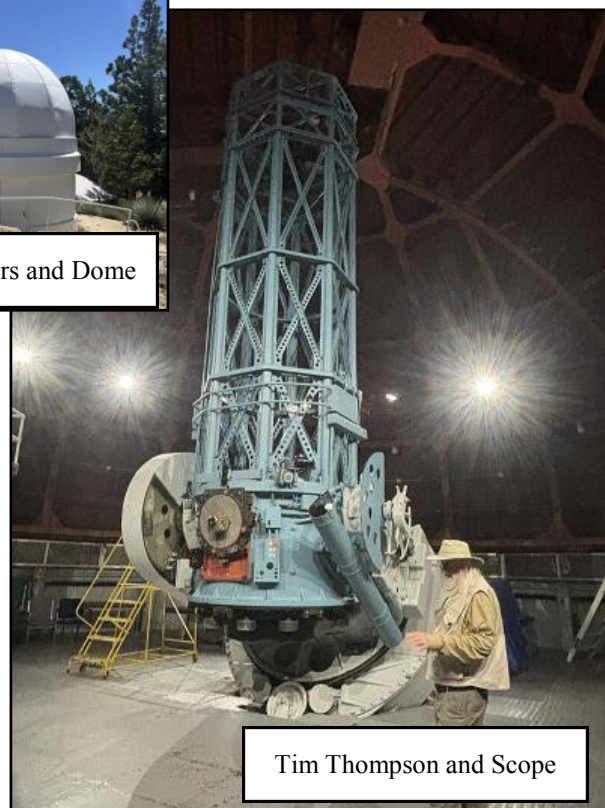
Members looking at Solar Scope



Members and Dome



Snow Telescope.



Tim Thompson and Scope