The Astrogator

Grand Strand Astronomers Club Newsletter

Volume #4, Issue #2
April 1, 2026

Contents

Grand Strand Astronomers Leadership

Ian Hewitt – Executive Officer
John DeFreitas – Treasurer
Gerald Drake – Secretary
Tim Kelly – Newsletter Co-Editor

Club Announcements

Club Social Media

Grand Strand Astronomers:
https://www.gsastro.org/

Grand Strand Amateur Astronomy Club:
https://www.facebook.com/groups/gsatro/

Upcoming Club Events

Hampton Dark Sky Observing: *April 18, 2026*

Indoor Zoom Meeting: *April 30, 2026*

Remarks From the Editor:

Dues for 2026 - Reminder

Our membership runs from January to December of each year, so now it is time to pay dues for 2026. Membership in the Grand Strand Astronomers is only $25.00 per year. Part of this goes toward your Astronomical League's membership and Reflector Magazine. The rest goes toward our minimal operating expenses. So, please rejoin if you haven't already. You can pay online by going to https://www.gsastro.org/joinrenew/.

You can also mail in a check to Grand Strand Astronomers, 1771 Alford Rd, Conway, SC 29526.

March Meeting Recap

Submitted by: Gerald Drake

Grand Strand Astronomers Meeting Recap for March 26, 2026

Ian requested Gerald lead the meeting as he was not feeling well. Gerald welcomed all to the meeting and talked about the poor transparency and seeing conditions that limited our observing recently. We've had a lot of pollen to contend with. Ian said that pollen needs to be removed from your telescope as soon as possible. Tree pollen can contain sap that when dry can be difficult to remove. So, clean your telescope equipment frequently during pollen season.

For club business, Gerald mentioned that he would get with John our treasurer to see who has paid up dues for 2026. He will send digital member cards to those who have paid and will follow up with those who have not to see if they want to continue in the club. Hopefully we'll not lose any members.

The Astrogator
Grand Strand Astronomers Club Newsletter
Volume #4, Issue #2
April 1, 2026

Ken shared his April 2026 Sky Events presentation. Here are the highlights.

- Venus can be seen in the PM
    - On April 1, it sets about 2 hours after sunset
    - On April 30, it sets about 2-1/2 hours after sunset
    - In 2026, Venus never sets more than 2-3/4 hours after sunset
    - There will be a conjunction between Venus and Urans on April 23.
- Another comet can be seen. It is Comet c/2025 R3
    - Now near the Great Square of Pegasus (morning object) moving NE
    - Currently it is approx. Mag +7
    - Maybe Mag +2 from April 8 to the 14th.
    - Perihelion is on the April 19 (the point where it is closest to the sun) so the best views will be before the 19th.
- It is Galaxy Season
    - Many galaxies can be seen in Leo, Virgo, Coma Bernice and Ursa Major.
    - Ken showed images he had taken last year of M81 (Bode's Galaxy) and M82 (Cigar Galaxy) in Ursa Major.
    - He also showed galaxies in Virgo. You'll need darks skies and a large telescope to see these
        - NGC4461
        - NGC4458
        - NGC4438
        - NGC4435
        - NGC4402
        - M86
        - M84
        - NCG4388

Our next observing session at Hampton Plantation will be on April 18. Hoping for some good sky conditions.

Gerald shared his plans to travel to WV to visit the stargazing cabins at Coopers Rock State Forest. See link for more info: Star Gazing Cabins. Gerald will report on his experience at the next meeting. He said he would focus on the galaxies that Ken mentioned. They may be faint "fuzzies" in his CPC 9.25 telescope, but will be fun to find.

NASA reports their Artemis II mission is scheduled to launch on April 1, 2026 EDT. This will be a crewed lunar flyby lasting approximately 10 days. It is the first crewed flight around the Moon since Apollo 17 mission in 1972.

Gerald shared his purchase of the SVBONY SV48P Telescope, 102mm, F6.5 Refractor. He was wanting a decent refractor that won't break the bank and this seems to meet the requirements. He spent about $450 on the scope, Alt.-Az. Mount, tripod, and eyepiece. When viewing bright objects, chromatic aberration is noticeable, but not too distracting. The tripod that SV Bony recommended ended up being too short, so he bought a Sky-Watcher model that works fine. The telescope gives good views of the Moon, Jupiter, and objects like the Orion Nebula.

Ian shared that the next lunar eclipse will be on August 27, 2026. It is a partial at about 93%. Its peak will be around midnight so that puts it high in the sky. Though not a total, it will be close and worth seeing. We discussed if we should view this as a club event. More to come.

The Astrogator
Grand Strand Astronomers Club Newsletter
Volume #4, Issue #2
April 1, 2026

Ian also shared that in the world of astro imaging, there has been some advances in software such as PixInsight and Siril (Both are free downloads). Both of these have come a long way. One of their newest offers is autostretching. To define stretching (because Gerald asked) Chris shared a presentation he gave to the Myrtle Beach Museum on astro imaging. He gave an example image where removed the stars, did noise reduction, put the stars back in, then adjusted the brightness so washing out did not occur. You can do something similar with S curve adjustments, but auto stretching works much better.

While discussing the presentation, Chris mentioned that people always asked about extraterrestrial life. Chris shared the Drake Equation. The Drake equation is a formula used to estimate the number of active, communicative extraterrestrial civilizations in the Milky Way Galaxy. It considers factors like the rate of star formation, the fraction of stars with planets, and the likelihood of life developing on those planets. See link for more info: Drake Equation. His conclusion is that probabilities are there, but there is little likelihood that they could overcome the vast distances between our galaxies. Astro biology is a pretty popular topic right now with James Webb telescope examining atmospheres of exoplanets to see if there are signs of advanced life.

Ian asked if we still wanted to hold the Telescope Clinic on April 25. Gerald shared the Carolina Forrest Library does not seem to be a good fit for the clinic and suggested we hold it at Coastal Carolina. Ian said he would work on that.

Ian shared that Waccamaw High School was interested in holding an astronomy observing event in the fall. They are in a NASA partnership and seem interested to hold an event.

We had some good observing sessions with Brookgreen Gardens in the past. Ian is hopeful that we can work with them again. He is thinking the Coastal Carolina portable Planetarium could be set up during the day and that we could do some observing later that night in their parking lot. Ian will try and contact them again to see if we can schedule this.

Meeting adjourned.

Observing Challenge #16

Astronomical League Observing Challenge #16: The M102 Mystery

The AL has just added this Challenge to our flock to Observing Challenges: https://www.astroleague.org/al-observing-challenge-special-observing-award/

This Challenge focuses of the controversy and confusion regarding the true identity of M102 (Messier #102). Many mistakes were made in the initial observation as well as trying to identify its true identity by other astronomers. We hope you will join us in June 2026 to relive the excitement. This is your chance to see who you think is the real M102.

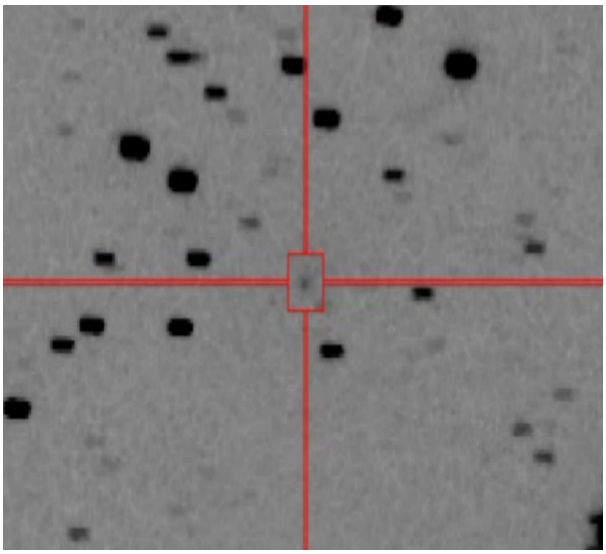
Newly Discovered Comet in February

By Joe Rao
Submitted by: Tim Kelly

Will a bright comet adorn our early spring sky? Why astronomers are getting excited about Comet C/2026 A1 (MAPS

Some astronomers have noted that its faint magnitude "does not bode well for the comet's survival past perihelion."

The Astrogator
Grand Strand Astronomers Club Newsletter
Volume #4, Issue #2
April 1, 2026

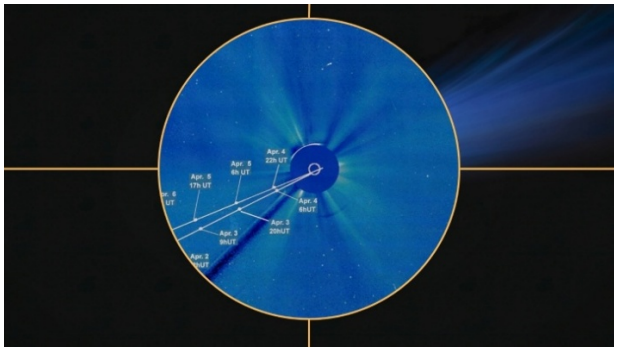


A view of comet C/2026 A1 (MAPS). (Image credit: Denis Huber/Wikimedia Commons/CC BY-SA 4.0)

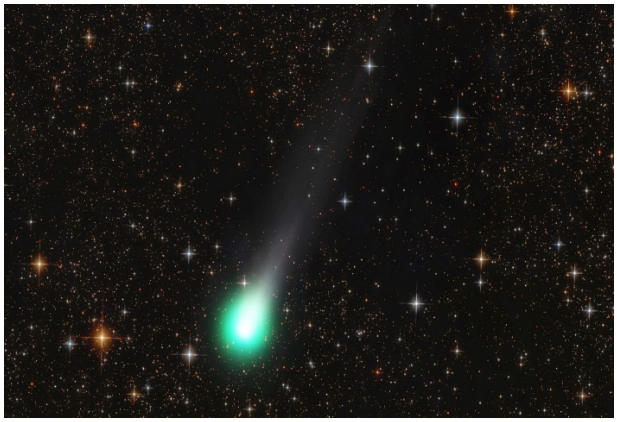
A new comet approaching the sun has caught the attention of astronomers, primarily because of its lineage. It appears to belong to a group of comets that in some cases have briefly become outstandingly bright objects.

About sixty-six comet groups have been tentatively identified, of which there are fifteen that can be regarded as well-established and have been designated by letters from A to Q ("I" and "J" designations were not used). The members of the "M" group have a special name. In his 1997 book "Comet of the Century" (Springer-Verlag New York Inc.) popular astronomy author Fred Schaaf writes that "The very mention of this name sends chills of awe down the spines of comet observers." They are the Kreutz sungrazers.

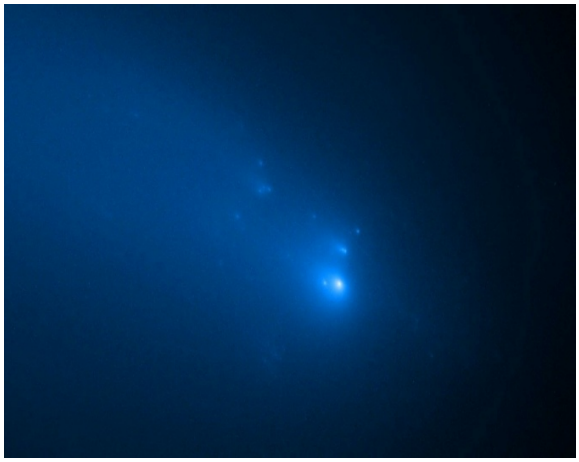
Our new comet is catalogued as C/2026 A1 (MAPS) and was discovered on Jan. 13 at the AMACS1 observatory in San Pedro de Atacama, Chile. Here, an independent asteroid discovery program has been established using small wide-field telescopes, CMOS cameras (cameras that use a sensor that converts light into electrical signals to create digital images), as well as synthetic tracking technology. The acronym "MAPS" evolved from the initials of the four surnames of astronomers who led the program, Alain Maury, Georges Attard, Daniel Parrott and Florian Signoret.



- Newly discovered comet could be visible in daytime skies this April



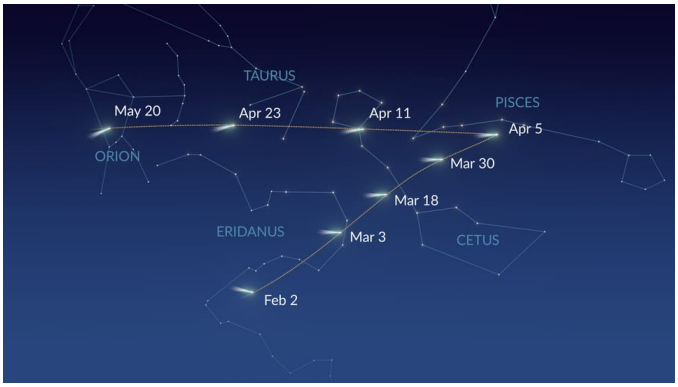
Will Comet C/2025 R3 (PanSTARRS) be the 'great comet' of 2026?



Could the remains of a 'dead' comet still be in the solar system? Astronomers are still searching 6 years later

The Astrogator
Grand Strand Astronomers Club Newsletter
Volume #4, Issue #2
April 1, 2026

The new object was found using an 11-inch (0.28 meter) f/2.2 Schmidt telescope with a CCD camera. When first sighted, it was located at 191 million miles (308 million km) from the sun; shining in the constellation of Colomba the Dove at a magnitude of +17.8, meaning it was exceedingly faint.



Once enough observations were collected, including a pre-discovery image that was taken in December 2025, an orbit was determined that showed that Comet MAPS was a member of the Kreutz comet family. This discovery was unprecedented in this aspect: no inbound Kreutz comet has ever been discovered so far from the sun, with such a long lead time — 11.5 weeks — before reaching its closest point to the sun (perihelion). The previous record was held by the brilliant comet C/1965 S1 (Ikeya–Seki) at only 33 days before perihelion. This does not necessarily mean that Comet MAPS is also going to be brilliant, but before we start making any considerations, let's take a closer look at other Kreutz family members.

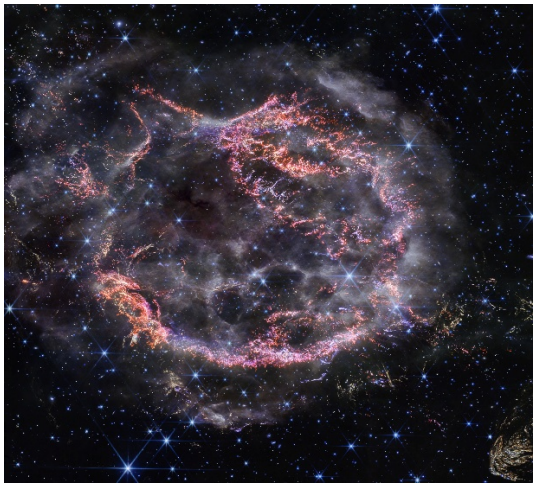
Comet fragments

Apparently, all the members of this group of comets were pieces of a single giant comet, which had fragmented in the distant past. The source of the group may have been the Great Comet of 371 BC, described by the Greek historians Ephorus, Aristotle and Seneca. It apparently came very close to the sun and might have even split into two pieces.

In February 1106, a very bright comet appeared, described in many Chinese, Japanese, Korean and European chronicles. It may have been related to the comet of 371 BC and is believed to have ultimately fractured into numerous fragments. It now appears quite probable that these fragments have themselves broken up repeatedly as they've orbited the sun, resulting in orbital periods ranging from about 500 to 900 years or more.

Astro-Photo of the Month

NASA Photo
Submitted by: Tim Kelly



Supernova Remnant Cassiopeia A
Image Credit: NASA, ESA, CSA, STScI; D. Milisavljevic (Purdue University), T. Temim (Princeton University), I. De Looze (University of Gent)

Explanation: Massive stars in our Milky Way Galaxy live spectacular lives. Collapsing from vast cosmic clouds, their nuclear furnaces ignite and create heavy elements in their cores. After only a few million years for the most massive stars, the enriched material is blasted back into interstellar space where star formation can begin anew. The expanding debris cloud known as Cassiopeia A is an example of this final phase of the stellar life cycle. Light from the supernova explosion that created this remnant would have been first seen in planet Earth's sky about 350 years ago, although it took that light 11,000 years

The Astrogator
Grand Strand Astronomers Club Newsletter
Volume #4, Issue #2
April 1, 2026

to reach us. This sharp NIRCam image from the James Webb Space Telescope shows the still-hot filaments and knots in the supernova remnant. The whitish, smoke-like outer shell of the expanding blast wave is about 20 light-years across. A series of light echoes from the massive star's cataclysmic explosion are also identified in Webb's detailed images of the surrounding interstellar medium

Planning Astrophotography Made Easy

Space.com
Submitted by: Tim Kelly

The night sky has always been a source of wonder, a vast, ever-changing canvas filled with moments that reward patience, curiosity, and preparation. For photographers, the most compelling images often come from fleeting celestial events: the glowing arc of the Milky Way rising over a quiet landscape, the sudden streak of a meteor cutting through the frame, or the slow, deliberate progression of a lunar or solar eclipse. These moments don't happen randomly and rarely by accident. Knowing when astrophotography events occur, how visible they are from your location, and how conditions like moon phase affect the outcome is often the difference between a missed opportunity and a successful night in the field.

This Astrophotography Events Calendar is a comprehensive planning guide designed specifically for photographers in the United States. It highlights the most important astrophotography events of the year, including meteor showers, eclipses, planetary alignments, conjunctions, and seasonal Milky Way visibility. It explains what each event realistically offers from a photographic perspective.

Think of this guide as a practical reference, not a checklist.

You don't need to photograph every celestial event to grow as an astrophotographer. What matters is understanding which nights are worth prioritizing, how moonlight and timing influence results, and what type of preparation each event requires. Some nights are ideal for portfolio images. Others are better suited for practice, experimentation, or simply spending time under the stars without expectations.

Throughout this guide, you'll find:

- Clear explanations of what's happening in the night sky
- US-based visibility and timing, with major global events included when they're significant
- Moon phase and moonlight impact, which often matters more than cloud cover
- Practical photography considerations to help you decide *how*, or whether to shoot each event

Most astrophotography events can be captured with standard camera gear and a tripod. For more specialized situations, such as photographing a solar eclipse or detailed planetary imaging, I'll note when additional planning or equipment is required, and when it's better to simply observe and enjoy the moment.

Whether you're just starting out or refining your approach, this calendar is meant to be a resource you can return to throughout the year as you plan shoots, trips, or workshops. The night sky isn't going anywhere, but the best opportunities within it are always moving.

The goal isn't to photograph everything. It's to be ready when the right moment arrives.

How To Use This Guide

This guide is designed to help you make better decisions about when to shoot, what to prioritize, and where to focus your energy across the year. Rather than listing every astronomical event, it filters the night sky down to astrophotography

events that are realistically worth planning around for photographers in the United States.

The goal isn't to fill every clear night with a shoot. It's to help you recognize which events deserve preparation, which are best treated as practice opportunities, and which can be safely skipped without regret.

Understanding the Different Types of Events

Moon Phases and Lunar Events
These include New Moons, Full Moons, Supermoons, eclipses, and close Moon conjunctions. **New Moon** windows are typically the highest leverage nights for Milky Way photography and deep-sky work. **Full Moon** and **Supermoon** events are best suited for lunar photography, moonrise and moonset compositions, and dramatic landscape scenes where the Moon is the subject rather than a light source to avoid.

Milky Way Windows
Milky Way-related events are driven by seasonality, timing, and moon phase rather than a single moment in the sky. These windows highlight when the **Milky Way core** is visible at usable times and when moonlight is minimal. These are often the most productive astrophotography events of the year, but they still depend heavily on weather, horizon quality, and **light pollution**.

Meteor Showers
Meteor showers can be rewarding, but they are inherently unpredictable. The guide includes them even when conditions aren't ideal so you can understand the tradeoffs. Moon phase, radiant altitude, and timing all matter more than peak rate numbers. Treat meteor showers as probability-based events rather than guaranteed results.

Planetary Events and Conjunctions
Planetary oppositions, conjunctions, and close pairings are often more about timing and **composition** than darkness. These events can be excellent opportunities for planetary imaging, telephoto work, or creative foreground alignments. Atmospheric conditions and altitude above the horizon usually matter more than sky brightness.

Eclipses and Rare Events
Eclipses and other rare events are included because they require early planning and commitment. These are the moments where preparation, rehearsal, and location choice make the difference between a successful shoot and a missed opportunity.

How the Opportunity Scale Works

Each event is rated using an Opportunity scale that reflects its photographic payoff, not its scientific significance.

Priority
These are the highest-return astrophotography events. They are worth building a plan around, scouting locations for, and adjusting your schedule if possible. When conditions cooperate, these events consistently produce strong results.

Signature
Signature events are visually compelling and rewarding but may require more precise timing, better conditions, or a specific composition to fully shine. They're excellent targets if you enjoy solving photographic problems and planning detailed shots.

Recommended
These events are solid opportunities that fit well into a broader shooting plan. They may not define the season, but they're worth pursuing when conditions line up or when you're already planning to be out.

Optional and Skip
Lower-opportunity events are included for context and learning. Optional events are best treated as practice sessions or secondary targets. Skip events are listed so you understand what's happening in the sky, not because they demand your time.

How Difficulty Is Rated

Difficulty reflects how challenging an event is to photograph successfully. It accounts for factors like

The Astrogator
Grand Strand Astronomers Club Newsletter
Volume #4, Issue #2
April 1, 2026

timing, alignment precision, required **focal length**, sensitivity to weather, and how forgiving the subject is.

An event with high opportunity and low difficulty is ideal for building confidence and consistency. High opportunity with high difficulty often produces the most rewarding images, but only when you're prepared. Low opportunity with high difficulty is usually a sign to conserve energy and wait for a better window.

Using This Guide in Practice

The best way to use this guide is to start by marking Priority and Signature events on your calendar, then layer in your local conditions, travel constraints, and personal goals. Decide ahead of time which nights are worth a full effort and which are better treated as relaxed practice or scouting sessions.

This approach keeps you shooting with intention, avoids burnout, and helps you build momentum across the year instead of chasing every clear night.

2026 Astrophotography Highlights

Astrophotography events in 2026 follow a clear seasonal rhythm, and understanding that rhythm upfront makes the rest of the calendar far easier to use. Instead of thinking in isolated dates, this year rewards photographers who plan around patterns: moon cycles, Milky Way seasonality, and a handful of high-impact astronomical events that are worth real preparation.

This section is designed to help you zoom out, understand how the year is structured photographically, and decide where your time and energy will have the biggest return.

2026 At a Glance

The year opens with a quiet but purposeful stretch. January and February aren't known for Milky Way photography, but they still offer meaningful astrophotography events. Priority New Moon windows in mid-January and mid-February create clean, dark skies for winter nightscapes and technical practice. February also stands out with a Signature annular solar eclipse, a rare daytime event that requires planning and geographic awareness.

March marks a noticeable shift. A Priority **total lunar eclipse** early in the month becomes one of the most visually striking astrophotography events of the year, followed closely by another New Moon that signals the gradual return of Milky Way opportunities in the pre-dawn hours.

Spring builds momentum rather than exploding all at once. April and May feature multiple Priority New Moons alongside a cluster of Recommended conjunctions involving Mars, Saturn, Mercury, and Venus. These months reward photographers who enjoy variety: early Milky Way attempts, meteor activity like the **Lyrids**, and visually pleasing planet pairings that work well with longer lenses and strong foregrounds.

Summer is the backbone of the 2026 astrophotography calendar. From late May through August, Priority New Moon windows align with reliable Milky Way core visibility. These are the months where planning becomes more forgiving and creative options expand. If you're scheduling travel, workshops, or multi-night shoots, this is where most of them should land.

As fall approaches, the rhythm shifts again. September and October still offer usable Milky Way windows, but they arrive earlier in the night and shorten quickly. At the same time, planetary conjunctions and lunar-driven events regain prominence, creating opportunities for photographers who enjoy mixing night sky subjects with twilight and landscape elements.

By November and December, the year comes full circle. Milky Way season fades, but the calendar remains active with bright planets, winter skies, and long nights that favor deliberate, well-planned sessions rather than chasing narrow windows.

The Astrogator
Grand Strand Astronomers Club Newsletter
Volume #4, Issue #2
April 1, 2026

Best Nights to Plan Around

Not all astrophotography events deserve the same level of commitment. In 2026, the nights most worth planning around fall into a few clear categories.

First are the Priority New Moon windows, especially from late spring through summer. These nights consistently offer the highest return for wide-field astrophotography, Milky Way panoramas, and dark-sky projects. Examples include the New Moons in May, June, July, and August, which anchor the strongest stretch of the year.

Second are rare or time-sensitive events. The total **lunar eclipse** in March and the annular solar eclipse in February are not flexible opportunities. These events reward photographers who plan early, rehearse logistics, and commit to a location well in advance.

Third are standout lunar and planetary moments. Events like January's Supermoon or tightly spaced planetary conjunctions throughout spring and early summer can produce compelling images when paired with thoughtful compositions. These nights may not require dark skies, but they do benefit from precise timing and intentional framing.

Everything else fits around these anchors. If an event doesn't fall into one of these categories, it's usually better approached with flexibility rather than pressure.

Best Photo-Worthy Events of 2026

Photo-worthy astrophotography events aren't defined solely by darkness. In 2026, some of the most visually compelling moments come from **contrast**, scale, and alignment rather than faint detail alone.

Milky Way core nights during peak season remain the most consistently productive. Priority New Moon windows in summer offer the freedom to experiment with compositions, panoramas, and foregrounds without fighting moonlight.

Lunar events stand out for their accessibility and impact. The March total lunar eclipse is a clear highlight, while Supermoons and close Moon conjunctions throughout the year offer dramatic opportunities for both wide landscapes and compressed telephoto scenes.

Planetary events add a different kind of reward. Spring and early summer bring a series of Recommended conjunctions involving Venus, Mars, Mercury, and Saturn. These events shine when treated as composition challenges rather than pure astronomical targets.

Meteor showers, like the Lyrids in April, sit in the middle ground. When conditions align, they can be memorable. When they don't, they still provide valuable nights for nightscape work and experimentation.

The photographers who get the most out of 2026 won't be the ones who try to shoot everything. They'll be the ones who recognize which astrophotography events deserve full commitment, which are best used for practice, and how each season supports the next.

April Sky Events

Submitted by: Tim Kelly

If you only shoot a handful of nights this month, start with these!

Apr 19 | Mars–Saturn Conjunction (1.2° N)

Event Type: **Conjunction**

Visibility: Mixed

Difficulty: Moderate

This pairing is subtle, but meaningful, not because it's dramatic, but because it rewards **composition** and timing rather than brute spectacle.

Mars and Saturn don't compete for attention here. Saturn is steady and understated; Mars is slightly warmer and more assertive. Their separation is tight enough to read as a relationship, not just a

coincidence, especially when framed low over a clean horizon during twilight.

This is a conjunction that benefits from environmental context. A distant ridgeline, desert foreground, or simple **silhouette** does more for the image than chasing magnification. If you over-zoom, the scene collapses. If you give it space, it breathes.

Viewing Tips:

– Shoot during early twilight for color separation and cleaner **contrast**
– Moderate focal lengths (50–135mm) work better than extreme telephoto
– Keep compositions simple; let spacing do the storytelling
– Prioritize alignment and balance over detail

Pro Tip: This is a quiet image when done well, and forgettable when rushed.

Apr 20 | Mercury, Mars & Saturn — A Stacked Planetary Moment

Event Type: Conjunction

Visibility: Mixed

Difficulty: Moderate

April 20 is best treated as a single planetary opportunity, not multiple checkboxes.

Mercury moves quickly and rarely cooperates, which is what makes this alignment compelling. With Mercury threading between Mars and Saturn in a tight window, the challenge becomes less about capture and more about execution under time pressure.

This is a classic twilight efficiency shoot. The window is short. Atmospheric extinction near the horizon is real. Hesitation costs you the frame. Success comes from knowing your framing in advance and committing early.

Think of this as a rehearsal for more demanding planetary scenes later in the year.

Viewing Tips:

– Scout and pre-frame before sunset
– Use wider focal lengths (35–85mm) to capture the relationship cleanly
– Accept that Mercury fades fast, shoot early, then refine
– Don’t chase perfection; aim for **clarity** and balance

Pro Tip: This is one of those nights where preparation is visible in the final image, and absence of it is just as obvious.

Apr 22 | Lyrid Meteor Shower (Peak)

Event Type: **Meteor Shower**

Visibility: Good

Difficulty: Moderate

The **Lyrids** are not a volume event, and that’s exactly why they’re useful.

Unlike the big summer meteor showers, the Lyrids reward patience and framing more than sheer numbers. Rates are modest, but individual meteors can be bright, fast, and well-defined. That makes this a quality-over-quantity meteor shower.

This is an excellent opportunity to practice disciplined meteor workflow: wide framing, consistent exposure, and staying on target long enough for something meaningful to happen. If you approach it like a lottery ticket, you’ll be disappointed. If you approach it as a long-exposure exercise, you’ll do just fine.

Viewing Tips:

– Wide lenses (14–24mm) with fast apertures
– Long, **continuous shooting** runs instead of reactive bursts
– Compose for sky first, foreground second
– Expect a few strong frames, not dozens

The Astrogator
Grand Strand Astronomers Club Newsletter
Volume #4, Issue #2
April 1, 2026

Pro Tip: The Lyrids don't overwhelm; they reward attention.

Apr 23 | Venus–Pleiades Conjunction (3.5° S)

Event Type: Conjunction

Visibility: Excellent

Difficulty: Moderate

This is April's most visually graceful event.

Venus is unmistakable, and the Pleiades add just enough texture to turn brightness into composition. The separation is wide enough to breathe but close enough to feel intentional, a rare sweet spot for twilight astrophotography.

This conjunction works because it doesn't demand technical gymnastics. It asks for taste, **color balance** matters. Framing matters. Knowing when to stop shooting matters.

It's also one of the best events of the month for photographers who prefer elegant, minimal images over technical flexing.

Viewing Tips:

– Shoot during deepening twilight to preserve star color
– Moderate focal lengths (50–135mm) excel here
– Watch **white balance**, Venus can overpower the scene
– Let the stars stay stars; resist over-processing

Pro Tip: When done right, this is the kind of image that feels calm, intentional, and complete.

Ongoing April Opportunities

Not every night needs a headline event. Use the darker windows to practice one specific skill: clean focus, repeatable compositions, tracked wide-field work, or building a star-trail sequence. If the Moon is bright, lean into it, scout foregrounds, test framing, and refine your workflow so the moonless nights are pure execution.

Tips for April's Events

– Scout in daylight. The best night frames usually come from daytime decisions.
– Treat batteries like consumables in cold or long sessions—carry extras and keep them warm.
– Set a single goal per outing. One clean result beats five half-finished ideas.
– Use the Moon phase as a scheduling tool: dark for stars, bright for foreground and moon compositions.

Astronomers Keep Finding New Moons Around Jupiter and Saturn

By: Keith Cooper
Submitted by: Tim Kelly

The moons are all tiny, barely two miles across in size.

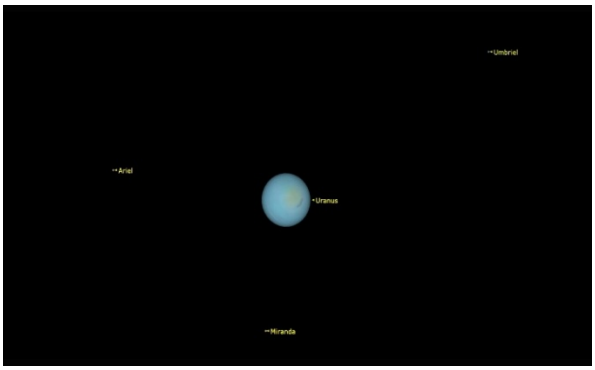
(Image credit: NASA/JPL)

A multitude of new moons have made their presence known around Jupiter and Saturn, bringing their population of moons to 101 and 285, respectively.

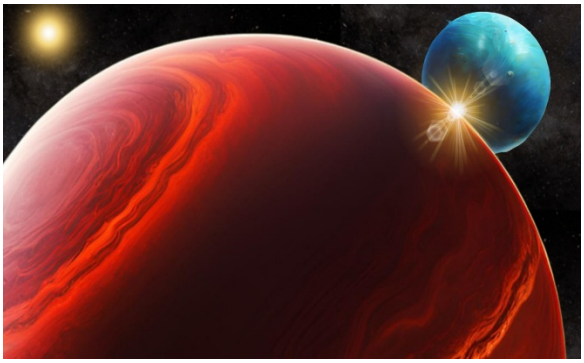
The new discoveries also bring the total number of known moons orbiting planets and dwarf planets in the solar system to 442 — and that's not including the many moonlets accompanying various asteroids or small Kuiper Belt objects.

The Astrogator
Grand Strand Astronomers Club Newsletter
Volume #4, Issue #2
April 1, 2026

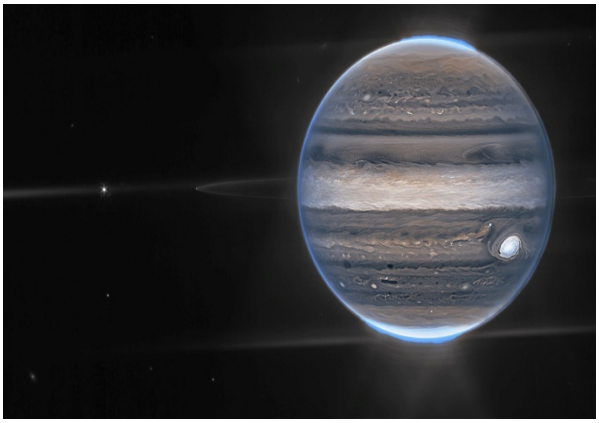
The newly found moons — four for Jupiter and 11 for Saturn — were announced by the Minor Planet Center, which is the clearing house for astronomical discoveries of asteroids, comets, centaurs and, indeed, moons.



Moons of the solar system: A space-themed word search



Wobbling exoplanet hints at a hidden exomoon so massive it could redefine the word 'moon' altogether



Jupiter's moons leave cold 'footprints' in the planet's auroras, James Webb Space Telescope finds

None of the newly discovered moons are very large, averaging about 1.9 miles (3 kilometers) in diameter. They have very wide orbits, far wider than the larger moons of Jupiter and Saturn, and are exceedingly faint, between magnitude 25 and 27. (For context, our moon sits at magnitude -12.6.) This puts them well beyond the range of backyard telescopes.

Instead, it took intense observations from some of our largest ground-based telescopes to snag them. The four new moons of Jupiter were all found by astronomers Scott Sheppard of the Carnegie Institution for Science and David Tholen of the University of Hawaii, using the 6.5 meter Magellan–Baade telescope at Las Campanas Observatory in Chile and the 8-meter Subaru telescope atop Mauna Kea in Hawaii.

Meanwhile, the 11 new moons of Saturn were uncovered thanks to a team led by Edward Ashton at the Academia Sinica Institute of Astronomy and Astrophysics in Taiwan. They used the 3.5-meter Canada–France–Hawaii Telescope on Mauna Kea. This comes after Ashton led a team to discover 128 new moons of Saturn as recently as 2025.

Both Sheppard and Ashton in particular are prodigious discoverers of moons in the solar system, with over 200 each to their name, many of them being co-discoveries.

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The Astrogator
Grand Strand Astronomers Club Newsletter
Volume #4, Issue #2
April 1, 2026

While Jupiter is lagging behind Saturn in the moon stakes by quite a large number, Europa Clipper and the Jupiter Icy Moons Explorer (JUICE) missions, currently heading to Jupiter, could redress the balance when they arrive in the Jovian system in the early 2030s.

To summarize, the current tally is that for the planets, Earth has one moon, Mars has two, Jupiter has 101, Saturn has 285, Uranus has 28 and Neptune has 16 while Venus and Mercury have none. For the dwarf planets, Pluto has five, Eris has one, Makemake has one, Haumea has two and Ceres has none.

The new moons of Jupiter were announced in Minor Planet Electronic Circulars MPEC 2026-F09, F10, F11 and F12, and the 11 new moons of Saturn were declared in MPEC 2026-F14.

Hitting the Brakes

By Keith Cooper
Submitted by: Tim Kelly

Hitting the brakes: Hubble Space Telescope watches doomed comet reverse its spin

The fast rotation will lead to centrifugal forces that spin the comet apart: "I expect this nucleus will very quickly self-destruct."

An artist's impression of a jet of gas and dust blasting out from comet 41P/Tuttle–Giacobini–Kresák. (Image credit: NASA/ESA/CSA/Ralf Crawford (STScI))

The Hubble Space Telescope has witnessed a spinning comet slow its own rotation and then start spinning in the opposite direction, in the first observation of its kind demonstrating that comets can be even more dynamic than we thought.

Comet 41P/Tuttle–Giacobini–Kresák is a Jupiter-family comet, meaning that it is a short-period comet (orbiting the sun every 5.4 years) that has come in from the Kuiper Belt before being snagged by Jupiter's gravity.

41P's last close approach to the sun — known as perihelion — was in September 2022, but it was the previous close approach in 2017 that was observed by the Hubble Space Telescope, as well as several other telescopes including NASA's space-based Neil Gehrels Swift Observatory and the four-meter (13 foot) Lowell Discovery Telescope in Arizona.

The Astrogator
Grand Strand Astronomers Club Newsletter
Volume #4, Issue #2
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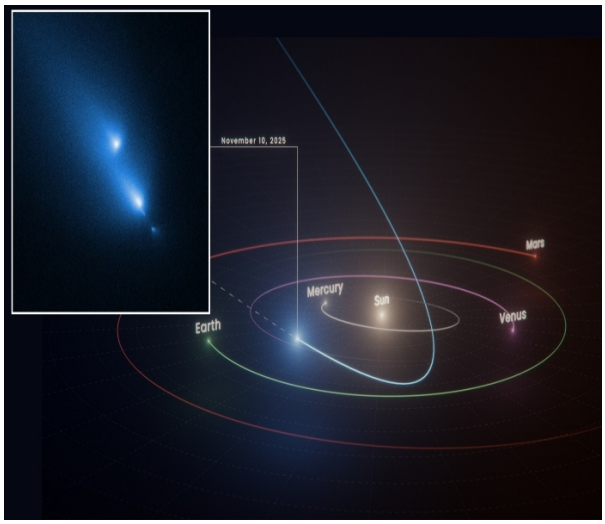
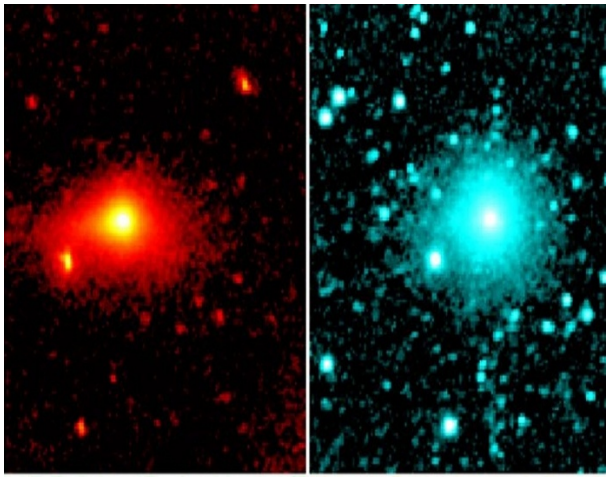


Hubble Space Telescope accidentally witnesses comet C/2025 K1 (ATLAS) breaking apart



NASA space telescope sees interstellar visitor comet 3I/ATLAS flare up while exiting the solar system

Comet C/2025 K1 (ATLAS) crumbles apart in stunning new telescope images

However, Hubble's observations weren't analyzed until David Jewitt, a planetary scientist at the University of California, Los Angeles, found the data in the Mikulski Archive for Space Telescopes, named after former U.S. Democratic senator Barbara Mikulski, who has been a staunch supporter of NASA.

Hubble's data, when combined with that of Swift and the Lowell Discovery Telescope, revealed something very odd about the comet. When Swift observed the comet in May 2017, it was spinning once every 46 to 60 hours, about three times slower than it had been in March 2017 when the Lowell Discovery Telescope observed it. That in itself was intriguing, but the Hubble observations deepened the intrigue as they showed that, by December 2017, the comet's spin had sped up again, and now had a period of about 14 hours. What had happened to reignite the comet's dizzying rotation?

Jewitt thinks that outgassing from the surface of the comet, which heated up during its perihelion passage that brings it about as close to the sun as Earth, is the cause. This heating prompted

The Astrogator
Grand Strand Astronomers Club Newsletter
Volume #4, Issue #2
April 1, 2026

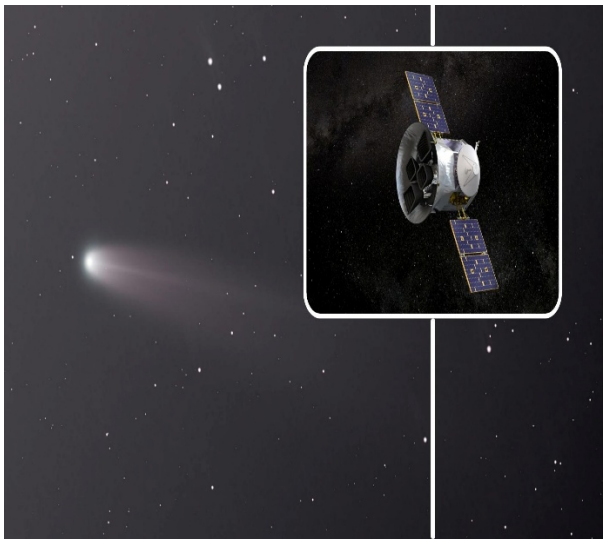
volatile gases close to the surface to expand and burst out in jets, carrying comet dust with them.

"Jets of gas streaming off the surface can act like small thrusters," said Jewitt in a statement. "If those jets are unevenly distributed, they can dramatically change how a comet, especially a small one, rotates."

The comet's nucleus is just 0.6 miles (1 kilometer) across, which is too small for even Hubble to resolve, but its speed of rotation can be measured from its light curve: How the light of the comet's elongated nucleus changes as it rotates and alternates between showing us its longer and shorter sides. Because the comet's nucleus is fairly small, it leaves it susceptible to torques, or twisting forces, produced by the jets. However, it was not possible to infer the direction of that rotation, whether it was clockwise or counterclockwise, from the observations.

Jewitt was further able to infer that the rotation, regardless of which direction it was initially, had reversed. The jets countered the comet's initial rotation, which caused the initial slow-down seen between the Lowell Discovery and Swift observations. Those jets then continued working against the rotation and eventually reversed it and spun the comet up fast the other way, which explains Hubble's observations.

"It's like pushing a merry-go-round," said Jewitt. "If it's turning in one direction, and then you push against that, you can slow it and reverse it."



NASA exoplanet probe tracks interstellar comet 3I/ATLAS to gauge its spin

The 88 Constellations

Ken Graun
Submitted By: Tim Kelly

We will continue from the GSA March Newsletter Volume #4 Issue #1 with providing the mythology of the 88 constellations in alphabetical order. This month's constellation Aquarius.

Name of constellation, 3-letter Abbreviation, Meaning of Name, *Latin Gentitive*

AQUARIUS, Aqr, Water Bearer, *Aquarii*

Submitted by: Tim Kelly

Aquarius mythology centers on the "Water-Bearer," most famously associated with Ganymede, a Trojan prince abducted by Zeus to be the cupbearer for the Greek gods. Associated with water, renewal, and spring, the constellation also represents Deucalion, who survived the Greek deluge, and Sumerian god Enki.

The Astrogator
Grand Strand Astronomers Club Newsletter
Volume #4, Issue #2
April 1, 2026

Major Mythological Associations

- **Ganymede (Greek Mythology):**

  This is the most popular myth. Zeus became infatuated with Ganymede, the "most beautiful boy alive," and transformed into an eagle (represented by the constellation Aquila) to carry him to Mount Olympus. Ganymede became the cupbearer of the gods, serving nectar and ambrosia, replacing Hera's daughter Hebe. Zeus placed him in the stars to honor him.

- **Deucalion (Greek Mythology):**

  Another Greek tradition links Aquarius to Deucalion, the son of Prometheus. He and his wife, Pyrrha, were the only survivors of the great flood, acting as the progenitors of a new, wiser human race, effectively "re-peopling" the earth.

- **Enki/Ea (Sumerian/Babylonian Mythology):**

  The oldest connection, where the constellation represents Enki, the Sumerian god of fresh water, creation, and fertility. He was depicted holding a pouring vase, representing the life-giving—and sometimes destructive—waters of the Tigris and Euphrates rivers.

- **Ancient Egyptian Legend:**

  The Egyptians believed the setting of Aquarius caused the annual flooding of the Nile, as the deity would sink his giant urn into the river, prompting the water to rise.

- **Chinese Astronomy:**

  The constellation was seen as the "Army of Yu-Lin" (feathers and forests), a vast celestial army of 45 stars, protected by the Leibizhen wall, representing soldiers from the northern empire.

Symbolism

The Water-Bearer is generally seen as an Aquarius bringing wisdom or life-giving water down to earth. While the Greeks often associated the vessel with wine (carried by Ganymede), earlier Mesopotamian myths associated it with the devastating, fertilizing waters of the flood

The Astrogator
Grand Strand Astronomers Club Newsletter

Volume #4, Issue #2
April 1, 2026

Night Sky Chart

Heavens Above
Submitted by: Tim Kelly

Year: 2026 Month: April Day: 15 Hour: 00.00 Minute: 00:00 Second: 00:00