SPACE

St. Petersburg Astronomy Club Examiner

September 2025

Editor – Guy Earle

The St. Petersburg Astronomy Club has been the center of family astronomy in the Tampa Bay Area since 1927. Our 317 adult members are dedicated to promoting and sharing the wonders and science of astronomy. We host a dark-sky star party each New Moon at Withlacoochee River Park, along with local star parties, telescope-making workshops, science lectures, astronomy lectures, educational outreach sessions and much more.

Inside this Issue:

Dwarf III image of M45 Pleiades Open Star cluster captured from Riverview, FL, by Guy Earle

October Preview

Next month, SPAC will be having its October officer election and pot luck dinner on the 23rd. This will be held in our normal event location on the first floor in the Social Arts building at SPC. Come join us!

Come see the weather balloon launch! SPAC members are invited to the Ruskin National Weather Service center for a **7PM launch on Sunday, September 21st.** They address is 2525 14th Ave SE, Ruskin, FL 33570, and there is no charge. Please, come out and support the NWS, who will be coming out on the 25th for our general meeting presentation.

Meteorologist Christianne Pearce with SPAC members in 2024 at the launch site in Ruskin.

September General Meeting

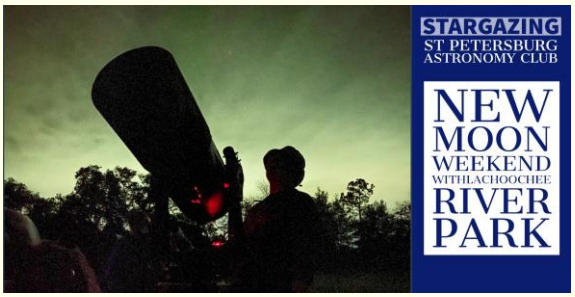
This month's general meeting will take place on **Thursday, September 25th at 7:30 PM** at **St. Petersburg College, Gibbs Campus**, 6605 5th Avenue North, Natural Science Building, **Classroom 236**. The main presentation speaker will be National Weather Service **Meteorologist Christianne Pearce**, who will be presenting about the NWS and its mission. The meeting will also be available virtually.

Join Zoom Meeting **HERE**

Meeting ID: 834 8435 3027

Passcode: 092807

The club's **New Moon observing weekend** is on September 19th and 20th at Withlacoochee River Park east of Dade City.



New SPAC Members

We would like to welcome Lorenzo & Robert Gardner, James Murphy, Craig & Candace MacDougal, and Joey Iglesias to our family of members.

Examiner Staff

Editor	Guy Earle
Space News	Steve Robbins
Field Reporter	Kelly Anderson
Mirror Lab	Ralph Craig
Image Gallery	Peter McLean
Mirror Lab	Mike Davis
	Allen Maroney

President's Message

MIKE PARTAIN

Good evening, SPAC'ers

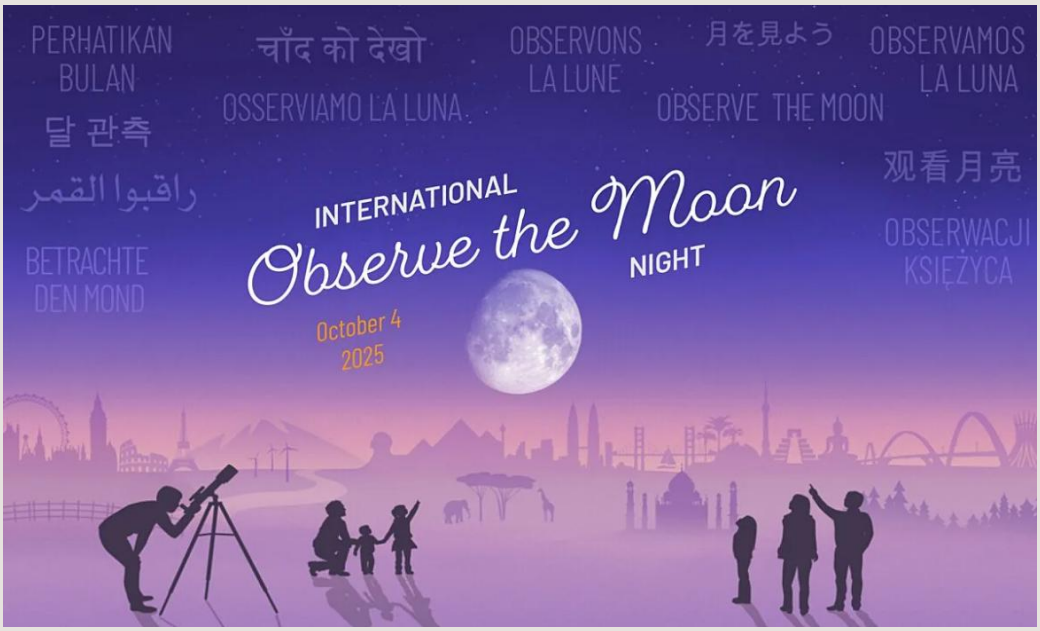
I hope all is well with everyone. OBS opening registration is just a few weeks away on October 1st. Many of you have already registered last year by not taking a refund from OBS 2025. Please look at the attached list below for your name! If it is not there yet you paid and did not receive a refund, please reach out to me ASAP, preferably within the next week. There are a few open 30-amp sites left with the cancellations. I will be calling those in order of last year's registration to see if you want to upgrade from a 20-amp to a 30 amp. Those already registered for a 30-amp service last year will retain your power request. Don't forget that our raffle scope for 2026 is already on line and available. This year we are raffling a Dwarf 3. Please, buy your tickets well before the Flynn's so that they don't win yet another raffle scope....and oh yes, Darla will be bringing her famous cake for OBS 2026, which will be held January 14-18th. Next month will be our annual club elections and pot luck dinner at St. Petersburg College, so please come out and bring a dish to share with your fellow club members.

Here are our 2026 paid OBS registrants:

Kelly Anderson	20 AMP	Chris Curran	30 AMP	Jack Brockhurst	30 AMP
Mark Bruns	Campgrnd	Joe Canz	30 AMP	Ed Chesky	20 AMP
Ralpg Craig	30 AMP	Mike Davis	20 AMP	Guy Earle	30 AMP
Shane Eigell	20 AMP	Peter Flynn	30 AMP	Fred Friedman	Campgrnd
Jack Fritz	30 AMP	Richard Garner	30 AMP	Gerry Graszi	20 AMP
David Knowlton	30 AMP	David Lehocky	30 AMP	Allen Maroney	30 AMP
Peter McLean	30 AMP	Herbert Monroe	30 AMP	Kevin Mulford	Tent 5 AMP
Mike Partain	30 AMP	Brad Perryman	20 AMP	Joeseph Reichle	Tent
Steve Robbins	Tent	Phillip Roey	30 AMP	Christian Rubach	30 AMP
Jim Rutenbeck	20 AMP	Doug Sliman	30 AMP	Tom Spano	30 AMP
Kendra Staley	Tent	Bob Stelmock	30 AMP	Jeff Tobergate	Tent
Jason Venebale	Campgrnd	Amy Tomaszewski	Tent		

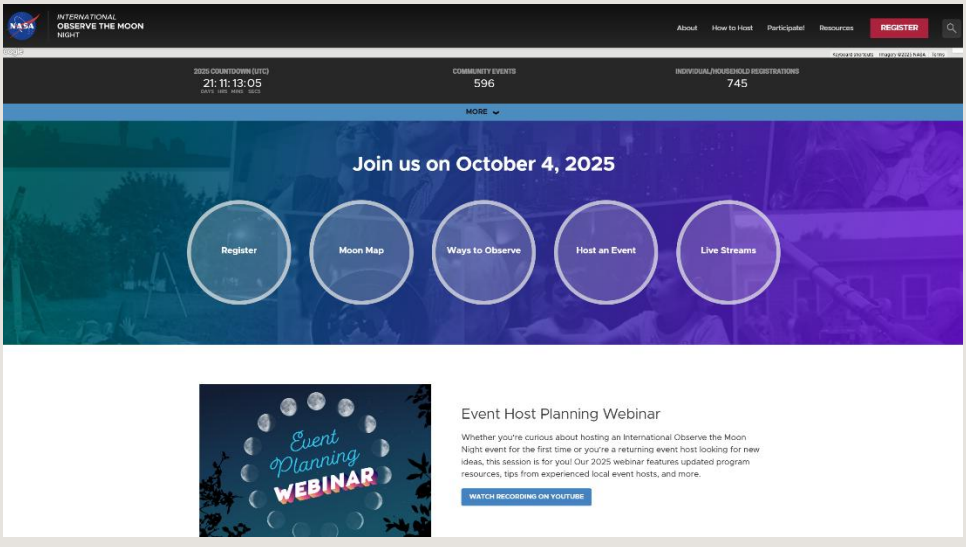
Mike

International Observe the Moon Night



Saturday, October 4th will be the **International Observe the Moon Night**, celebrated all around the world. I encourage any SPAC member who can pull out their telescope to share in the event with their neighbors and friends. It will be nearly a Full Moon, so it will be big and bright, weather permitting, of course.

Even if you don't have a telescope, you can follow along by going to the NASA website dedicated to the event.



August General Meeting Recap

August was not so much a general meeting as it was a social event, giving members the chance to connect with each other over dinner and drinks. The summer months are generally a very poor time for amateur astronomers, only getting a good, all-night session a handful of times from the end of June until about October. In the summer, it's normal for the skies to be lovely and clear first thing in the morning, but over the course of the day the rains come, leading to a cloudy evening. The skies usually clear well past midnight, so leaving a telescope out to image is dangerous, as I myself even learned recently. There's nothing like running outside an hour before sunrise to grab your smart-scope out of the pouring rain!

So, given the conditions of August, SPAC leadership decided to forgo the August meeting at SPC and instead connect with each other at Beef O Brady's in South Tampa, trying to find a middle-of-the-bay location for everyone. Roughly half of our membership resides in Tampa, the other in St. Petersburg, with the remaining members being around the area or even outside of Florida. As we transition away from our last meetings at SPC, the club will continue to meet quarterly in some kind of in-person way, whether that be at events like OBS in January, the spring picnic in March, or finding other places to eat, socialize, and do astronomy events. I was very happy to see such a good turnout at Beefs and think it was a great success, bringing together both new and old members in a fun setting. Hopefully, we have some good weather for September's New Moon to kick off observing season!

SPAC Outreach Season

STEVE GABER

Fellow SPACers—

We waited long enough. The heat is almost gone, the mosquitoes are relatively tame and the skies are getting better. Those are good things, because the outreach season is upon us. We are ready to share our telescopes and pour knowledge with those who need it most -- school students and other young people who need inspiration. We have a couple of outreach events planned for November.

The season's first outreach request is from **Curtis Fundamental Elementary School**. The students would love for you to share your telescope and your expertise on this night, November 11th from 6-8pm., Curtis Fundamental School at 531 Beltrees St, Dunedin, FL 34698. As always, these events are weather dependent. If inclement weather prevails, we will arrange makeup dates if possible.

The **Great American Teach-In** is usually held on a Wednesday in November. Some of our members will take their telescopes to schools during the school day and demonstrate them to students, explain how they work and why we are fascinated by the night sky.

We also have non-school events as well Jim Hunter's **Cracker Country Tall Tales** outreach will be Saturday October 18 as well as SPAC participating with First Ladies Farm and Sanctuary for our annual **Cats in Space** event on October 25th. You can find information about Cats in Space by going to their website or Facebook page for tickets, which will be available soon.

Next year we have the 2026 Annual **Bok Tower Starry, Starry Night** event, January 24, 2026, 5:00 to 9:30 PM in Lake Wales, Florida, facilitated by Peter McCclean. A. huge crowd is expected to attend. SPAC's Outreach team also participates in two events with **Alafia River State Park** in both January and March.

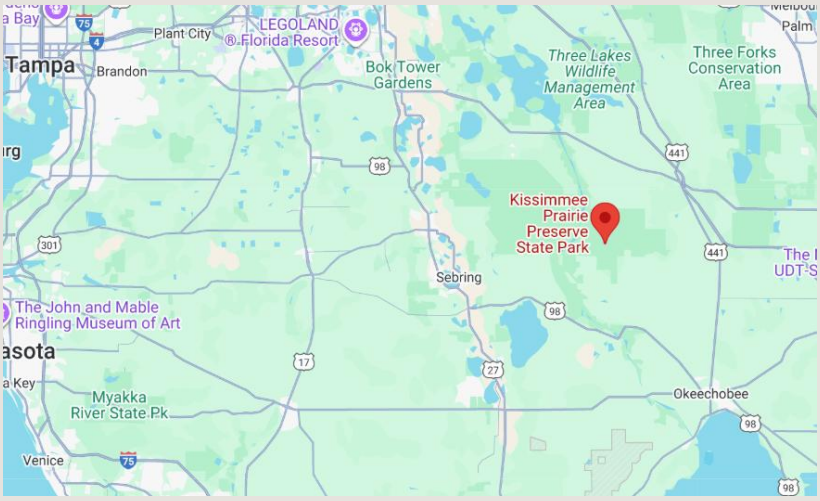
Still later, there's an outreach event arranged by Guy Earle at **Keel and Curley Winery** (just off I4 near Plant City) at which large numbers will gather on Saturday, February 28th, 2026 and will be open to the public. The Keel and Curley farm is a beautiful location to host an outreach event, and the staff there has been fabulous and seeing the great potential of bringing together food, wine, and astronomy into one fantastic evening.

That's all we have for now, but I'm sure other schools will request our participation in their science programs in the next few weeks. As always SPAC members are invited to participate in our outreach events. Engaging with young people, sparking their interest in science is one of the most important things our club does. If you have the time and energy, please consider joining us at schools, parks and other locations to share your telescopes and your knowledge.

Outreach Request from Kissimmee Prairie Preserve State Park

The Kissimmee Prairie Preserve Campground would like to have a visiting amateur astronomer share the night sky with other campers. **A campsite could be offered in exchange for telescope outreach time.** This is a Silver Dark Sky sight with the IDA and offers a Bortle 2-3 sky. Contact Natalie Carlson at (863) 462-5360 for more information.

The park has a dedicated, raised, area just for astronomers, and if you haven't had the chance to observe or image from this extremely dark site, it is well worth the trip. The park, when facing south, looks out over Lake Okeechobee, so there is extremely little light pollution when you look that way, great for both summertime targets and the brilliant wintertime targets.



SPAC New Moon Weekend

Field Report

August 22nd-24th, 2025

By Intrepid Field Reporter

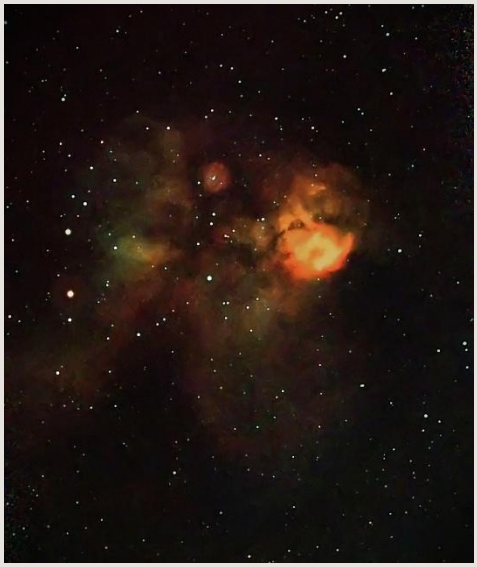
KELLY ANDERSON

It pains me to report that our sultry saga slogs on! For five freakishly fervent fortnights (and then some), Florida's forecast has flung us into a fetid funk of cloudy evenings and feverish afternoons. The sun, smug and sweltering, chases our hopeful star gazers into their air-conditioned portable havens. Stargazing? Stymied. Sweat glands? Suffering. Sanity? Slipping. Even the squirrels seem surly. But hope springs eternal, or so I've been told. There's September in the offing which promises cooler climes and clearer nights. But then again, September is the peak of the Hurricane Season … Season's Greetings everyone!

1PacMan Nebula – Joe Canzoneri

Thursday beheld the usual early arrivers, Joe Canzoneri and Bob & Rita Mizell. Also trying their luck were Les Gatechair and Johnny White. Late that evening they were rewarded with fairly clear skies after midnight. Joe reported that "… we imaged until we got tired." Nice start to the weekend.

Friday greeted Bob Stelmock, Tim Harris and your Intrepid Field Reporter. This would be the first time I was able to attend since April because of adverse weather, scheduling difficulties, and a two-month trip up to Minnesota (blessed coolness!) and Southern California (not so much). Friday night started mostly cloudy with electrical storms scattered throughout the night. Rising at 4:30 to check the weather I observed a large sucker hole to the south, but distant electrical storms convinced me to return to my comfy bed.



2–Skull & Crossbones Nebula – Joe Canzoneri

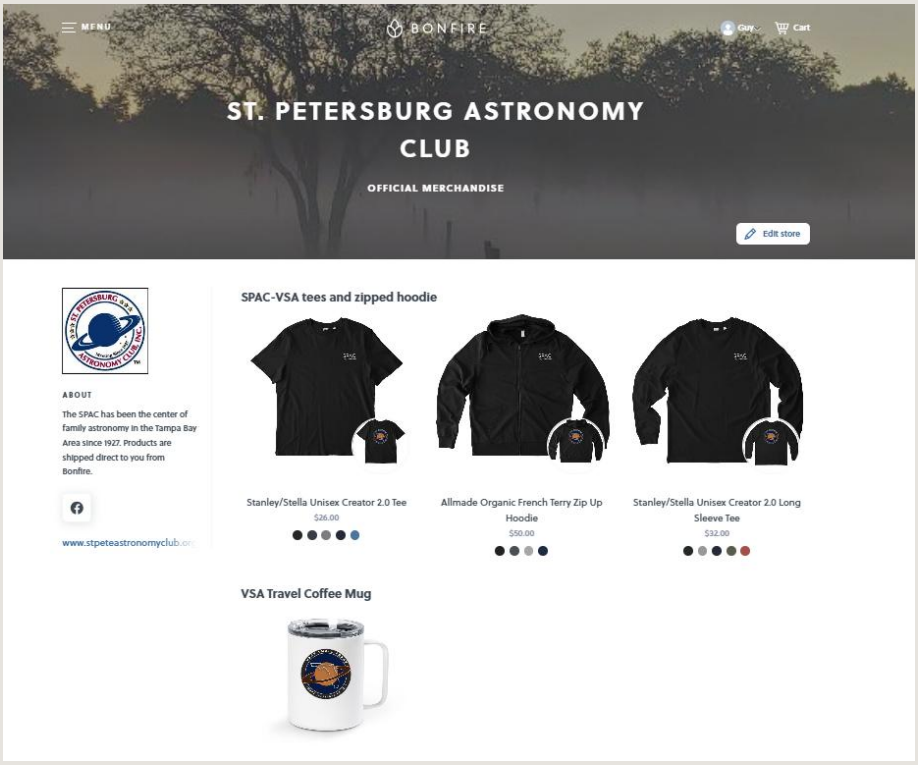
Saturday night didn't do much better. Clouds began to break about 3:30 Sunday morning, but by 4:30 cloud cover approached 90%. Even so Sirius was able to shine through the overcast and our old friend Orion managed to play peek-a-boo. Harbingers of things to come.

3 Sign of Clear Skies to Come – Kelly Anderson

So set your calendars for September 19-21 when clear skies and moderate temperatures are guaranteed for the duration. Or not. Come join us for the improving possibility of awesome astronomical activity.

Reminder for SPAC merch

The **Orange Blossom Special 2026 star-party** is just four months away, so make sure to grab your special star-party t-shirt. There's also an OBS hooded sweatshirt now available! SPAC has various t-shirts, including new choices for the Very Small Array, including hoodies, hats, and more. I'll be adding some additional OBS swag in the next few weeks. Prices are all at or within a dollar or two of cost, so this is not a money-maker for SPAC, but just a way to share our love of the hobby.



Click ON THIS LINK to take you to the website.

SPAC Officer Elections for 2026

We currently have a nearly full slate of candidates for 2025: Mike Partain for President, Guy Earle for Vice President, Peter McLean for Secretary, Christian Rubach for Treasurer, with one opening for 2026 Director-At-Large, since Jack Fritz will not be seeking to continue in that position. **If you are interested, SPAC will accept nominations until October 1, 2024**. Please email me at spacexaminer1927@gmail.com if you would like to be considered for nomination.

VSA September-October targets

Going along with my statement about our August get-together, the weather hasn't been great for imaging, at least in the Bay Area. Matthew Peters has done a bang-up job of expanding the VSA into Maryland and with an enthusiastic group at the Okie-Tex star party, which will held September 19th-27th. He'll be in attendance and probably passing out this great little decal, one of which I've now proudly got on my laptop.

The group is growing on Discord, which I honestly had not used up until the VSA. It's a handy way for those not on Facebook to communicate, to upload and download the shared files, and to touch base on what's going on. Email me to get an invite link to the VSA Discord. The VSA has monthly targets, but when a member finds something unique, then it's a great way to just add another folder and start dumping files. The group is not rigid in what it chooses and is open to all suggestions.

Here's our September targets:

Seestar S50 - NGC 7635 **Bubble Nebula** –
EQ Mode, Exp: 20s, Filter: Dual Band

Dwarf 3 - We are going DARK, WAY DARK
NO Moon/Dark Site: LDN 1235 -**Dark Shark Nebula**
To center the target, search for LDN1235 - Dark Shark Nebula.
THEN slide the atlas over to center over HD210806.
EQ Mode, Exp: 60s, Gain: 60, Filter:

Astro For Moon/Light Polluted Site:
IC 5070 - **Pelican Nebula** (use IC number for search)
EQ Mode, Exp: 60s, Gain: 60, Filter: Dual Band

Orange Blossom Special star party raffle scope: the Dwarf 3

Annual Telescope Raffle

We have a Dwarf 3 donated by Dwarf Lab for this year's raffle scope to be awarded at our club's Orange Blossom Special Star Party, January 14, 2026 through January 18, 2026. It integrates a small, portable telescope, an astronomy camera, and a computerized mount into a single device, controlled primarily via a smartphone app.

Online raffle tickets are $10 donation/each or 3 for $25. All donations go to the St. Petersburg Astronomy Club.

The drawing will be conducted on Saturday January 17th and the winner will be announced via email to all participants. You do not need to be present to win. However, it will be the winner's responsibility to arrange pick-up.

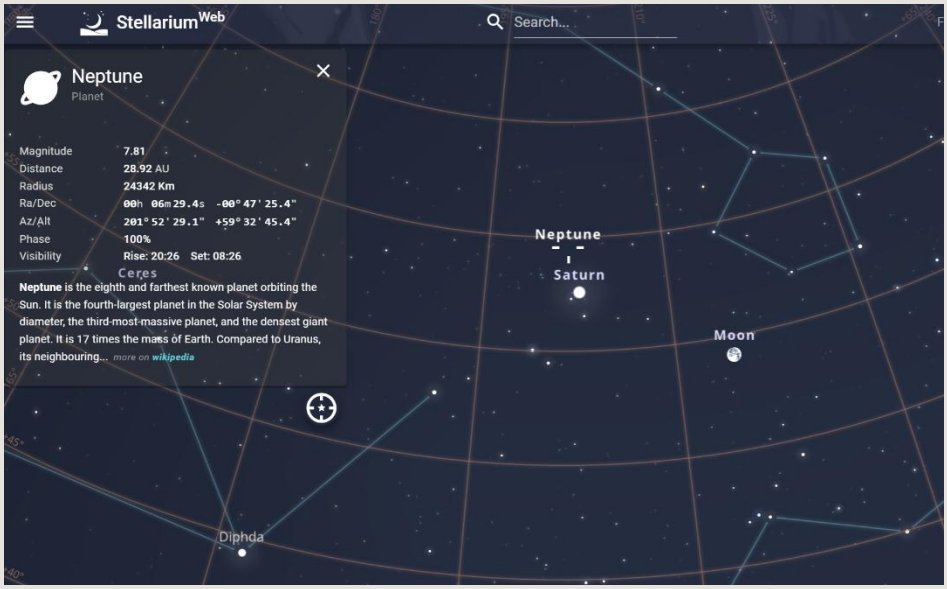
You all have seen my numerous posts and presentations about the amazing Dwarf 3 telescope. They were kind enough to donate a brand-new unit to SPAC to use at our annual OBS star party. Please support SPAC and Dwarf Lab by purchasing tickets HERE or following this QR code:

What's Up in the Night Sky

GUY EARLE

Summer is finally on its way out and observing season is upon us. We still have over a month until we are safely out of hurricane season, but if history holds, we'll get our first cold front in October. That means clearer skies with little humidity, even if it is brief. The temperature will go back up, but it's the opening salvo to better skies for amateur astronomers.

Saturn reaches **opposition on September 21st** at just under 19.5 arc seconds and will be due south at its highest at 1:25 in the morning. The ringed gas giant doesn't change apparent size very much, unlike Mars or even Jupiter, so seeing the planet now or even a month later won't be very different. Right near Saturn is also **Neptune**, a challenge for star hopping if you go old school. Using low power in the eyepiece will yield no detail (since it is only about 2.4 arc seconds), but putting about 250x on it will allow you to discern the small, blue disk of this distant gas giant.



As the skies get dark, the **Milky Way** is straight overhead, Hercules and globular cluster **M13** heading down in the western sky. Glancing south, Scorpius has already passed the meridian, with Sagittarius close behind. These **summertime constellations**, and their myriad of targets, are not to be missed, but here in Florida the weather makes enjoying them difficult. The best time to catch them is when the weather starts to change this month and next before they are gone.

If you stay up a couple hours past midnight, you'll see the **Pleiades** already 50 degrees up in the east, with Taurus and **Orion** further down, just coming up to herald the winter constellations. If you catch the Pleiades, only a short hop away is the planet **Uranus**, easily a blue'ish green disk in most telescopes.

If you manage to stay up until dawn, you'll witness **Jupiter** rise first and be about 40 degrees up when the Sun rises. Opposition for the king of the gas giants won't be until 2026, so the planet will get bigger throughout the holiday season. **Venus** is under 20 degrees before dawn, having been getting lower in the sky since it's highest back in July.

4hrs33min. of the Pleiades with the Dwarf 3

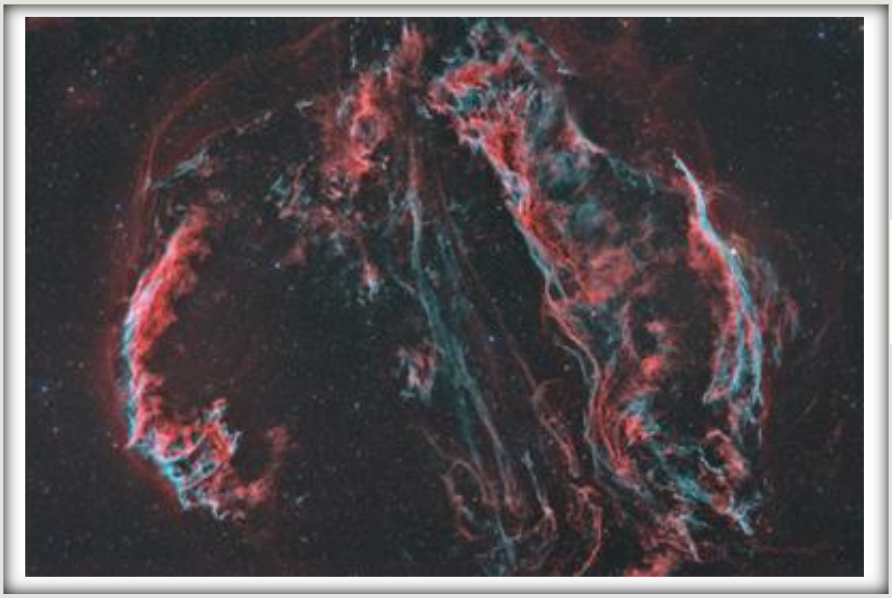
Clear skies!

SPAC Image Gallery

PETER MCLEAN

Here are some excellent astrophotography photos from our fellow SPAC membership, shot from various locations and divided into categories similar to our annual star party imaging competition. If you would like to share your work, I encourage you to email Peter your image or share them on our SPAC Facebook page.

Nebula



Veil Nebulae Complex
from Chiefland Astro Ranch, FL
by Jamie Kenas

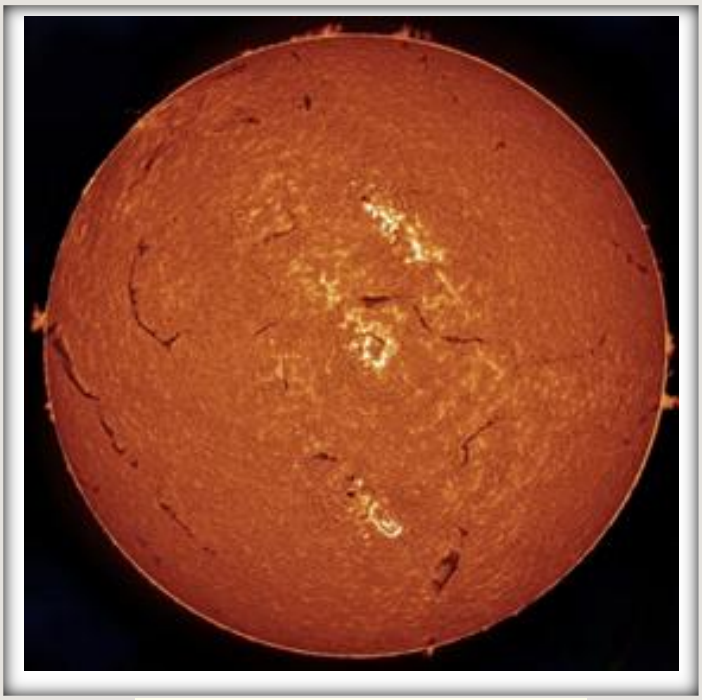
Dragon Head, Lagoon and Trifid Nebulae
from Apollo Beach, FL
by Joe Reichle

Nebula

IC1396A Elephant's Trunk Nebula
from Chiefland Astro Ranch
by Jamie Kenas

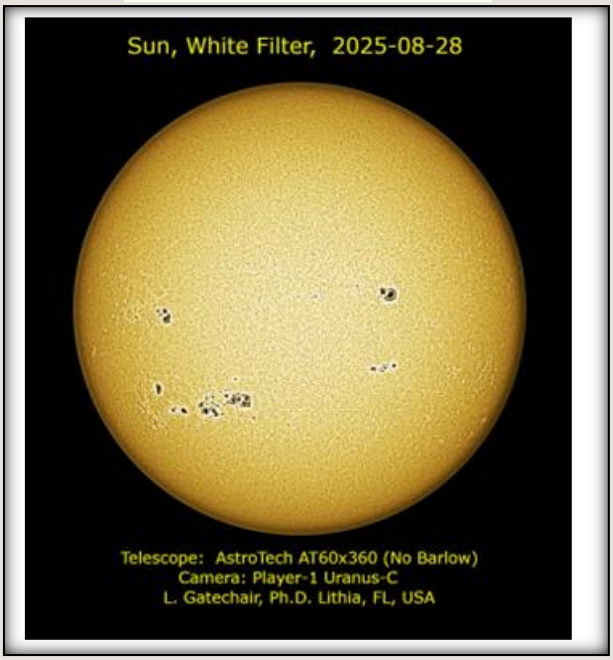
Sh2-114 Fly Dragon Nebula
from Chiefland Astro Ranch, FL
by Jamie Kenas

Planetary-Lunar-Solar



Solar Portrait in H-Alpha
from Dunedin, FL
by Christian Rubach

Sunspot Detail
from Lithia, FL
by Les Gatechair



Saturn
from Riverview, FL
by Guy Earle

Quarter Moon
from Apollo Beach, FL
by Joe Reichle

Smart Telescope

Seestar S30 Images
from Port Richey, FL
by Bob Stelmock

Andromeda Galaxy

Lagoon Nebula

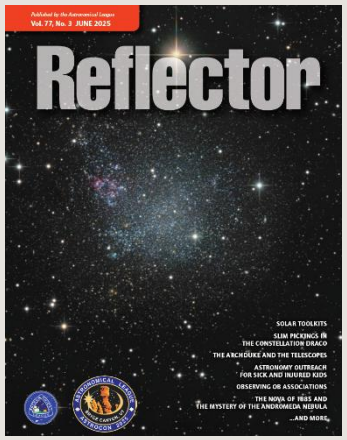
Dwarf III Image
Iris Nebula
from Riverview,FL
by Guy Earle

Seestar S50 Image
Fireworks Galaxy
from Safety Harbor, FL
by Richard Tobin

PETER MCLEAN

SPAC membership with the Astronomical League

SPAC leadership voted this month to renew our affiliation with the Astronomical League, a national, non-profit organization of amateur astronomy societies that promotes astronomy through education, observation programs, research incentives, and communication among members. It is composed of over 240 local astronomical societies across the United States, along with 20,000 individual members, offering benefits like its quarterly newsletter, *The Reflector*, observing programs, awards, and national conventions. Membership brings more than just formal recognition; it fosters a deeper connection with a nationwide network of astronomy enthusiasts.



With the renewal, SPAC would gain access to valuable resources, educational programs, and collaborative opportunities that are foundational for nurturing a vibrant community of stargazers and educators. The continuous affiliation also ensures that SPAC members are part of a legacy promoting astronomical knowledge and exploration. Not only is SPAC rejoining, but *leadership voted and approved to cover membership dues for all SPAC members*, which will include all the benefits listed above and cover AL membership to June 30, 2026. You can go to the link at the top of this article to explore the Astronomical League's website, so you yourself can see all the great things that AL does for amateur astronomy.

As part of AL membership, you can expect the next Reflector issue in December 2025, along with March and June 2026 issues. SPAC leadership will review member satisfaction with the Astronomical League as we go into 2026 and address future membership dues, most likely through a very minimal bump in SPAC annual membership dues, amounting to a couple dollars, to cover the cost for all members. This is a great way for SPAC and its members to be part of the larger astronomical community.

October Lunar Calendar

October 5, the Moon will cross the celestial equator going northward at the Ascending Node
October 5, Saturn will be 3.8° south of the Moon

Full Moon, October 6

October 8, the Moon will be at Perigee: 359,819km from Earth
October 10, the Pleiades will be 0.9° south of the Moon

Third Quarter October 13

October 13, Jupiter will be 4.3° south of the Moon
October 13, Pollux will be 2.5° north of the Moon
October 16, Regulus will be 1.3° south of the Moon
October 17, the Moon will cross the celestial equator going southward at the Descending Node
October 19, Mercury will be 2.0° south of Mars
October 19, Venus will be 3.7° north of the Moon
October 21 is the Orionid Meteor Shower, ZHR 10-20, occasional fireballs possible and persistent trains

New Moon October 21

October 23 Mercury will be 2.3° north of the Moon
October 23, the Moon will be at Apogee: 406,445km from Earth
October 24, Antares will be 0.5° north of the Moon

First Quarter October 29

October 29, Mercury will be at greatest elongation 23.9° east of the Sun

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Space Exploration News

STEVE ROBBINS

It might be expected that NASA would be sensible. Certain words or phrases set off the Alien Enthusiast Cult, sending them into dangerous euphoria. Three months ago the JWST killed off their hopes of life detected on exoplanet K2-18b with the announcement that further observations showed no evidence for dimethyl sulfide in its atmosphere, so no biosignature there. However, this week when NASA released news of discovery of a potential biosignature much closer, on the surface of Mars.

Careful wording by political appointee and acting NASA Administrator Sean Duffy sharply titillated the alien enthusiasts. "This finding by Perseverance, launched under President Trump in his first term, is the closest we have ever come to discovering life on Mars. The identification of a potential biosignature on the Red Planet is a groundbreaking discovery, and one that will advance our understanding of Mars," It was red meat to the enthusiasts.

However, in the same report by NASA, the non-political appointees quickly and decisively qualified the clickbait decisively yanking the announcement back toward scientific rigor. Perseverance collected information and samples from a rock named "Cheyava Falls" on the sample, called "Sapphire Canyon."

The researchers of the sample, Joel A Hurowitz and collaborators, published a paper in the scientific, peer reviewed Journal, Nature, September 10, 2025, where their conclusion was "In summary, our analysis leads us to conclude that the Bright Angel formation contains textures, chemical and mineral characteristics, and organic signatures that warrant consideration as 'potential biosignatures', that is, "a feature that is consistent with biological processes and that, when encountered, challenges the researcher to attribute it either to inanimate or to biological processes, compelling them to gather more data before reaching a conclusion as to the presence or absence of life." No, life was not detected on Mars.

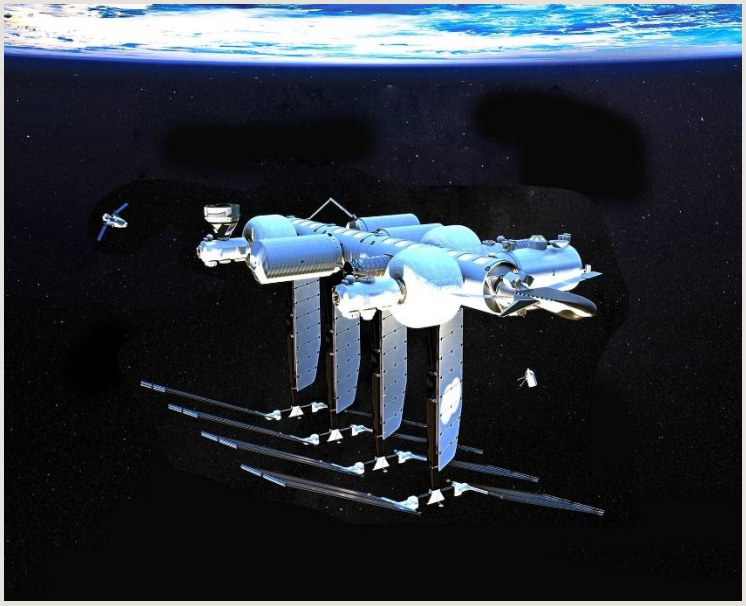
Further research led to the Community Report From the Biosignatures Standards of Evidence Workshop, led by Victoria Meadows of the University of Washington and collaborators. They have had a series of meetings to determine standards to be met if an announcement is to be made as to the presence of extraterrestrial life. Most reassuring was their mission statement, "No single effect, experiment, or paper provides definitive evidence about its claims. Innovation identifies possibilities. Verification interrogates credibility. Progress depends on both." Errington et al., 2021, Investigating the replicability of preclinical cancer biology, eLife DOI:10.7554/eLife.71601. No junk science is coming out of the NASA, JPL, and universities signed onto this Biosignatures Standards of Evidence Workshop report.

Starship flight OFT 10, August 26, 2025 was a huge success, redeeming SpaceX from the jinx attached to its Block 2 Starships with the previous 3 flights being problematic. This time they accomplished all goals for the flight, demonstrating high angle of attack return of the Superheavy booster to save fuel in future missions, landing the booster softly in the ocean, achieving orbital velocity on a ballistic trajectory with Starship, deploying several full size mock-ups of the new,

larger Starlink satellites, testing a Raptor refiring in space, reentry and soft landing. Both the booster and Starship exploded at the end of their landings to avoid debris floating afterward. But you knew that.

The International Space Station is scheduled for a fiery death in 2030. Will anyone have a space station to take its place? NASA is all in on its Lunar Gateway space station orbiting the Moon and has left low Earth orbit private contractors with its **Commercial LEO Destinations** program, to help contractors build a replacement. So what's the score today?

Taking the early lead is Axiom Space, which plans to build modules initially attached to ISS and then not be dragged back to Earth when ISS demises. Axiom just completed its **fourth manned mission** to the ISS to develop its own astronaut corps capable of handling space missions and build their space station. Its first module of Axiom Station is nearly complete and is scheduled for launch aboard Falcon Heavy in 2027.

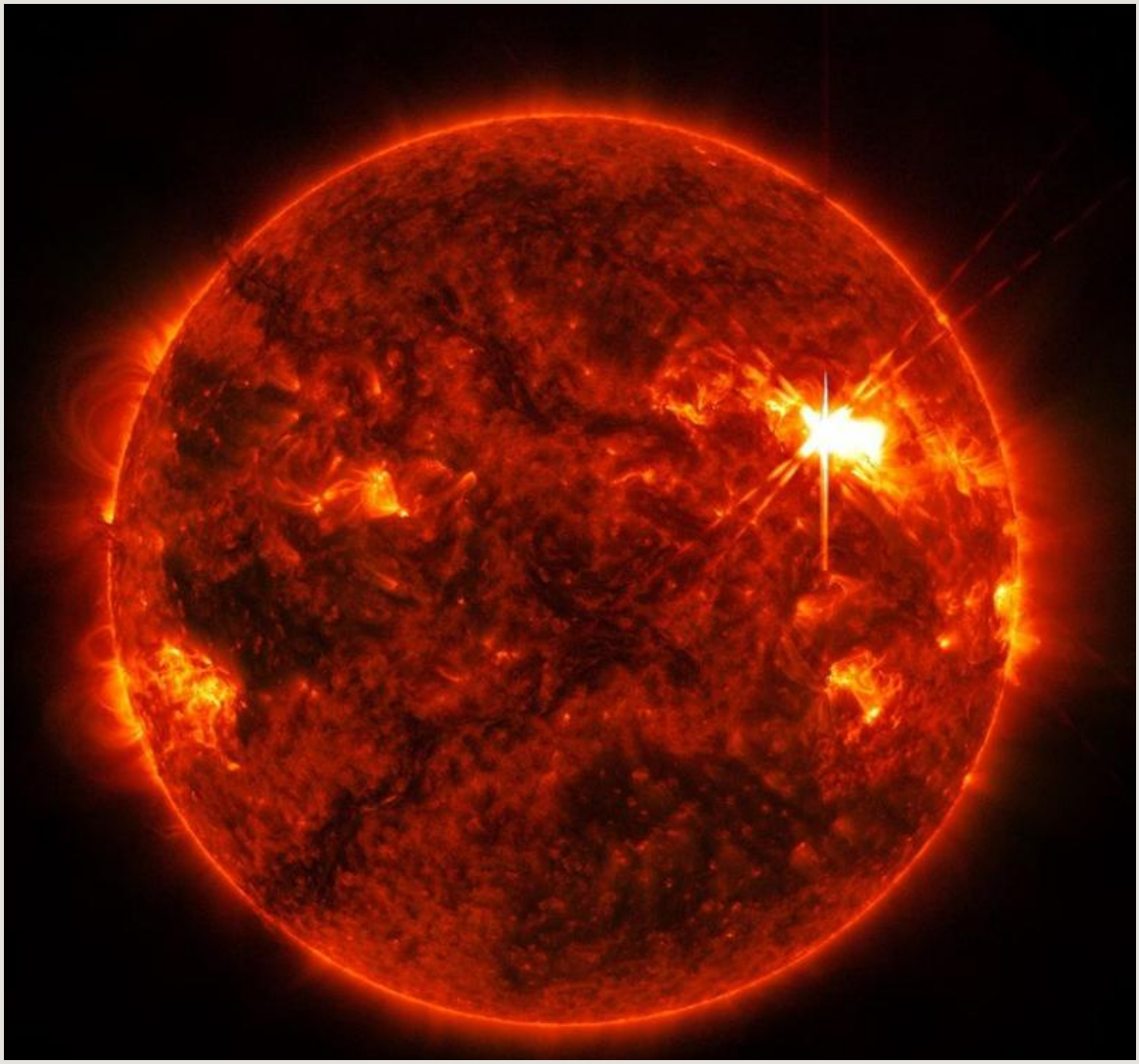


But wait, there's more. Blue Origin and veteran space contractor **Sierra Space** have formed **Orbital Reef** to build a space station of their own. They even have an improved Space Shuttle-like vehicle, Dream Chaser with amazing technical abilities to service their station. While not as far advanced as Axiom Space, their effort looks solid.

Finally there is **Starlab**, a collaboration of Airbus and Voyager Technologies, this one a European dominated attempt that has a lot of sponsors, but less to show for it than Orbital Reef or Axiom Station.

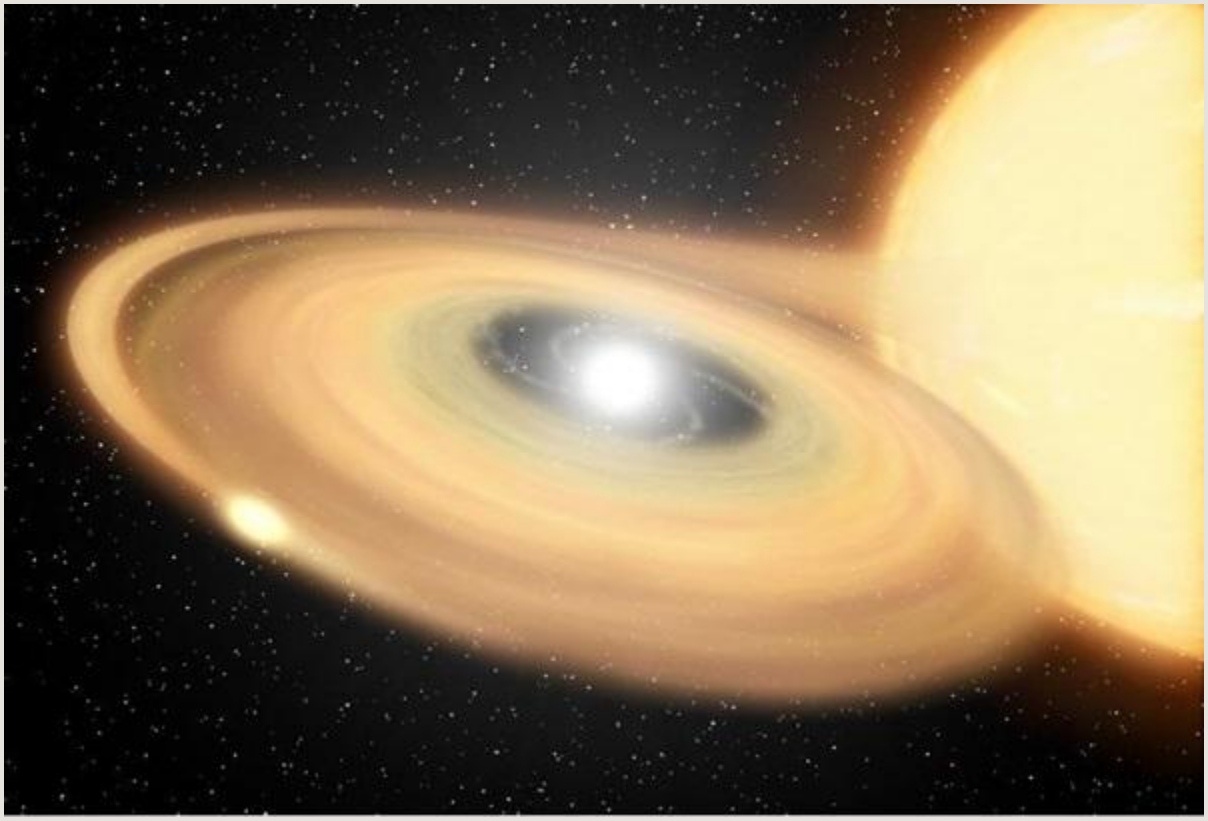
NASA's Commercial Crew program was a success, thanks to SpaceX and no thanks to Boeing. There are more competitors here. Let's hope that at least one and hopefully more of them succeeds.

After what seemed like a lifetime of inactivity, the Sun seems to have roared back to life. Since 2008, the beginning of solar cycle 24, the sun has been lacking activity. But now, with **solar cycle 25** starting last December, there has been a pretty sharp increase in the number of sunspots and other solar activity. Photos on the SPAC Facebook page have consistently shown a much more interesting Sun than past years.



V Sagittae. Chances are you haven't heard of it. Betelgeuse. Chances are you have head of that one. But while Betelgeuse is famously going to supernova some time in the next several centuries, the one that you might concentrate on is V Sagittae. It's a double star system with a white dwarf and a normal star. But unlike most similar binaries, these stars are so close together that they share an envelope of stellar material, which is accreting to the surface of the white dwarf quicker than the white dwarf can handle, leaving a giant vortex of gas surrounding both stars. This can't continue forever. As the stars grow closer and closer together, they will merge. The resulting combination will explode in a supernova so bright that even from its distance of about 7,784.33

light-years (thank you Gaia probe!) it will be as bright as the full moon, able to be seen in the daytime. So now you have another Betelgeuse sized explosion that is going to happen “soon.”



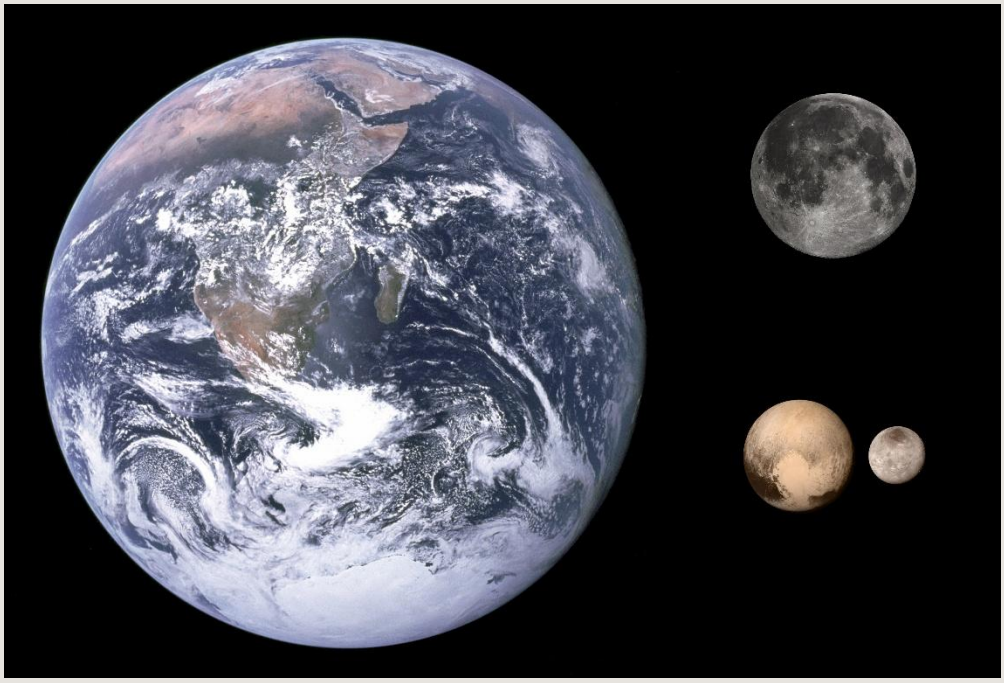
Imaging Pluto

GUY EARLE

If you've been on our Facebook page or reading the Examiner the last few years, you've probably seen my annual planetary collage. I started it in 2019 when I began learning how to image the planets, and it has become a tradition for me to put it together each year, for myself and the memory of my mother, who was a big influence on me with astronomy throughout the years. Getting the Seestar s50 in February 2024, I added Pluto to the final image. Since Pluto is so very far away, some 3.2 billion miles, and is even smaller than our own Moon, you can't see or image any kind of planetary disk, just a star-like object that moves against the celestial background.

My 2025 collage, always open to improvement until New Year's Eve

That's how 26-year-old Clyde Tombaugh discovered Pluto in 1930 at the Lowell Observatory in Flagstaff, Arizona, where he worked from 1929 to 1945. By comparing images of a section of night sky, he saw the planet "jump" slightly over successive nights.



As you can see from the image above, Pluto is quite small, only slightly larger than its own satellite, Charon. Once labeled a planet, it is now labeled a dwarf-planet or trans-Neptunian object, mostly like a moon of Neptune that was ripped from its orbit in some ancient astronomical event. It's why Pluto's orbit is so inclined compared to the rest of the solar system. Because of the way solar systems form, the heavier elements come together closer to the Sun because of gravity, with the lighter elements forming the gas giants further out. That's why Pluto is so odd, it didn't fit the understood process of solar system formation. As such, it was demoted off the planetary list by scientists in 2006. Here's an artist's impression of the Sun from Pluto, showing how faint the Sun is from such a distance.

Now that I'm a year-and-a-half into owning the Seestar s50, I wanted to give it another go at imaging Pluto. Last year, I had two, crummy images. They did the trick but I wanted more than two nights. The weather right now is terrible, but the drier air that recently was here gave me the chance to try and nab at least three nights of data. The third night was only achieved within a 17-minute window, as the sky closed up for night after the lucky clearing, with last night, the potential 4th night, being totally clouded over.

I grabbed the s50 and drove to the entrance to my subdivision, a subdivision within the larger community, where a large lake sits with a single-lane road running in opposite directions on either side. It's the only place around here where I can see the low southern sky, so you make whatever work. I pulled my car off the road and onto the shoulder and sidewalk, probably freaking out the few people out walking over those nights. I had my running lights on, as well as the car so I

could keep the a/c going. I took the s50 across the road, put it on the edge of the pond, and leveled it. Being so low, Pluto has to be imaged using alt/az mode, which is easier anyway. The full field of even the s50 is way to big for Pluto and identifying the stars around it. You can see it below, circled in red.

It's just a dot, blinking from one image to the next, but once you realize that I'm doing something with a $500 smart telescope (pre-tariff pricing), it's incredible. Truly. THIS is what the smart telescope revolution is all about, and why I'm all on board.

I made a quick video, which I invite you to watch, which shows the three, successive nights that I was able to image Pluto. You can see it on YouTube by clicking HERE or scanning this QR code:

SPAC Business Meeting

Our next business meeting is **Wed., Oct. 8th, at 8:00 PM** via conference call; details upon request. All interested members are invited to attend. All club business decisions are made at the business meeting so as not to encumber the general meeting.

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Club Webmaster	Allen Maroney
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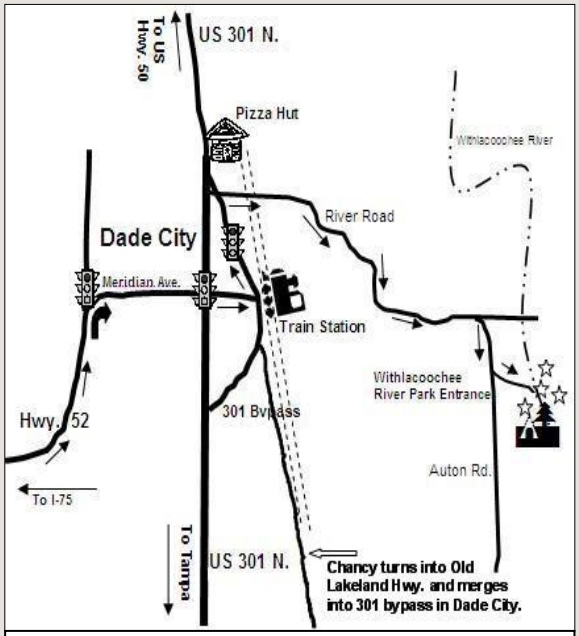

Withlacoochee River Park – Dade City, FL

Detailed directions can be found at:

Withlacoochee New Moon Weekends

There's no need for reservations. However, the park closes at sundown, so you will need to arrive before then. The park rangers will give you the gate-code once you're inside the park. Please do not call for the gate code as they are not allowed to give it out over the phone.

Please join us! All astronomy enthusiasts are welcome. You do not need to be a club member to attend. Please refer to our Club Calendar for details and scheduled dates. There is a small fee to the park for using electricity, reduced even further for club members, which you can pay on our club website **HERE**.

SPAC Recognition of Patrons & Benefactors

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St. Petersburg Astronomy Club Membership Form

Membership in St. Petersburg Astronomy Club, Inc. (SPAC) is open to anyone, regardless of age, who is interested in astronomy. Benefits of membership include a monthly subscription to the SPAC Examiner newsletter, reduced camping rates and use of the club's bunkhouse at our dark sky site at Withlacoochee River Park, the ability to serve on the SPAC board and voting privileges. Dues are considered donations and are non-refundable. Membership options are available as listed below.

You are now able to choose how you wish to renew your membership:

Preferred On-line Website Option: New instructions as our website has been updated.
Go to https://www.stpeteastronomyclub.org/Sign_In.php on the SPAC website where you can view and update your membership profile, provide payment, and print your membership card.

Adult 1: _____ Adult 2: _____
Street: _____
City, State, Zip: _____
Home Phone: _____ Cell Phone: _____
Email Address: _____
Number of Children under 18: _____

Memberships:

Single: [ ] $ 30.00/YR. Includes one adult, minor children, the "SPACE" newsletter, and all the rights and privileges of membership.

Family: [ ] $ 35.00/YR. Includes two adults, minor children and the above rights and privileges.

Patron: [ ] $ 50.00/YR. A Patron member is entitled to the above rights and privileges.

Benefactor: [ ] $100.00/YR. A Benefactor member is entitled to the above rights and privileges.

Student: [ ] FREE. SPAC offers free membership to full time high school and college students.
Expected date of graduation: _____

Total Submitted: $_____

Your SPAC Membership Card is required for reduced fees at the campground.