

San Diego Astronomy Association

Celebrating Over 50 Years of Astronomical Outreach



June 2025

<https://www.sdaa.org/>

A Non-Profit Educational Association
P.O. Box 23215, San Diego, CA 92193-3215

Next SDAA Business Meeting

June 10th at 7:00pm

Via Zoom

Next Program Meeting

June 18th

Via Zoom

CONTENTS

June 2025, Vol LXIII, Issue 6

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San Diego Astronomy Association

Incorporated in California in 1963

Program Meeting.....1

May Minutes.....2

Night Sky Charts.....11

Members Proposal Committee...15

Society for Astronomical Sciences..16

SDAA Contacts.....18

NASA Night Sky Notes...19

TDS 2025 Star Party Schedule...22

Newsletter Deadline

The deadline to submit articles
for publication is the
15th of each month.

June 18th Program Meeting

June 18, 2025

7PM to ~9:30PM

“You can almost touch the stars – An Introduction to Astronomical Spectroscopy”

Even if you wanted to touch a star, they’re all impossibly distant. In spite of these great distances, astronomers have learned an enormous amount about stars. How? The most common method to study the stars is called spectroscopy, which is the science of analyzing the colorful rainbow spectrum produced by a prism-like device.

Until recently, spectroscopy was too expensive and too complicated for all but a handful of amateurs. Today, though, new tools make spectroscopy accessible to almost all of us. You no longer need a PhD, dark skies, long exposures, enormous aperture ... or a big budget! With your current telescope and FITS camera (or a simple web cam or even a DSLR without a telescope) you can now easily study the stars yourself. Wouldn’t you like to detect the atmosphere on Neptune or the red shift of a quasar right from your own backyard?!

This talk, with lots of interesting examples, will show you what it’s all about and help you understand how spectroscopy is used in research. Even if you are an armchair astronomer, understanding this field will enhance your understanding of the things you read and the night sky. We’ll do a live Q&A after Tom’s 45-minute presentation.

Speaker Bio: Tom Field is was a Contributing Editor at *Sky & Telescope Magazine* for ten years. He is the founder of Field Tested Systems and the author of the RSpec software (www.rspec-astro.com) which received the S&T “Hot Product” award. A pioneer in the field of amateur astronomical spectroscopy, Tom aims to demystify field and make it accessible to all. He promises to open the door for you to this fascinating field!



The meeting will be held via Zoom.

See <https://sdaa.org/program-meeting/>

Link to SDAA Merchandise Store <https://sdaa28.wildapricot.org/SDAA-Store>

Link to Outreach Calendar <https://calendar.google.com/calendar/embed?src=g-calendar@sdaa.org&ctz=America/Los>



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San Diego Astronomy Association Board of Directors Meeting

May 13, 2025 – Unapproved and subject to revision

1. Call to Order

The meeting was held via Zoom and was called to order at 7:03pm with the following board members in attendance: Dave Decker, President; Bee Pagarigan, Vice President; Mike Chasin, Treasurer; Kin Searcy, Recording Secretary; David Wood, Corresponding Secretary; Jerry Hilburn, Director; Ross Salinger, Director; Gracie Schutze, Director. BOD member absent and excused was Drew Koning, Director.

2. Approval of Last Meeting Minutes

The April meeting minutes were approved by unanimous resolution. (Motion: M. Chasin/Second: D. Wood)

3. Introduction of Members

Pat Boyce, Gene Burch, Bill Chellis, Hiro Hakozaiki, Jennifer Koles, Prascilla Morquecho, and Woody Schlom were present. Connor Sandifer and Tyler Tuttle joined in progress.

4. Treasurers & Membership Report

The Treasurer's report was approved by unanimous resolution. (Motion: J Hilburn/Second: R. Salinger). SDAA membership is presently 761.

As noted in the April BOD meeting, SDAA received a record high March electric bill of \$626.10 for the North meter that only reads usage for observatory row and the Cruzen. The reasonable party has been identified and SDAA will seek restitution.

The Foundation account was reviewed in the light of recent market fluctuations.

5. Standard Reports The standard reports are included as submitted with Board discussion and action in italics.

a) TDS Operations Report

Pagarigan/Myers

Member request to install red lights for guidance at TDS main gate – work in progress
TDS road repair completed the weekend of April 4th, 2025
TDS Spring Clean-up completed April 26, 2025



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b) Lipp Observatory

Rumsey

Working on the asset inventory, only the larger items will be included. Recommend the Board set a spending authorization limit to define items within the discretion of the chairperson, and items that require pre-approval by Board action. For the Lipp Observatory the recommended amount is \$500.

Once again, the USD Astronomy Club was clouded out for their club visit to TDS on April 27. They will reschedule.

c) Loaner Equipment

Krizak

33 loaner items are currently out. 5 were returned in April and 8 checked out.

The donated XT10i is still pending evaluation and testing. Dave Decker offered to help with this.

A member has offered to check out the complete astrophotography rig and test it in conjunction with the donated MGEN standalone autoguider. If this setup can be made to work, it would eliminate the need for a computer to use the system. Autoguiding would be handled by the MGEN via ST-4 to the mount; object location would be handled by GOTO in the mount, and image acquisition could be done with a memory card and included intervalometer. The whole capture process could be accomplished by anybody, regardless of whether they have a laptop or not. Then image processing can be done on their home computer by just copying the frames off of the memory card.

SDAA-049 (Celestron CPC800) was returned in an inoperable state. The lessee made a valiant effort to resolve the problem, even working directly with Celestron to troubleshoot the problem down to a possible motor controller board issue. Whatever the fault may be, I have no reason to believe it was caused by mistreatment by the lessee. When I have some time I'll do a deep dive on the scope and hopefully get it working again. For now, SDAA-049 is out of service. Fortunately we still have plenty of 8" SCTs on GOTO mounts that our members may loan.

I have photos of the Celestron SE wedge tripod but still need to get an ad together that we can include in an upcoming newsletter.

I also still need to try assembling the Orion dob dolly to see if it's worth keeping, selling to members, or discarding.



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d) Storage Facility

Krizak

We are still pending a long-term plan for the Bill Lucas Newtonian. My suggestion stands to move it to the TDS storage box until a plan can be formalized.

The storage facility remains in good condition and is seeing regular use

e) Private Pads & Policies

Smith

No change in pads leased, waiting list, or availability since last month. Interest is low while the power situation is playing out.

Request that the BOD approve the following as initial members of the Private Pad Committee:
Mark Smith (Chair, already approved)

Bill Ripka

Bill Jacobs

Mark Eby

Gerry Valdez *

The BOD unanimously approved the initial membership. (Motion: K. Searcy/Second: R. Salinger)

*FULL DISCLOSURE: Gerry and I co lease Pad 64, although we have never actually met. I don't foresee any issues with both of us being on the committee together especially as most of the actions the Committee takes will need to be approved by the BOD.

There is still room for 2 more committee members before we'd have to request the charter be altered to allow more people.

f) SDAA Monthly Programs

Pagarigan/Searcy/Dorothy Wood

Work in progress

Program speaker schedule for remainder of year work in progress

Speaker fee of \$200 permitted on trial basis

Tap in-house expertise speakers to reduce cost

Tasks Completed

May speaker scheduled – SDAA Member, Pat Boyce, will present Boyce Astro

The MTRP event with IDA was intended to be an in-person SDAA meeting, however this did not work out due to ticketing arrangements. A mid-year in-person meeting will be proposed in the budgeting process.



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g) AISIG

Wood

April's AISIG meeting was cancelled due to the delayed scheduling of the membership meeting at Mission Trails. The next AISIG meeting is scheduled for May 28th at 7:00 pm via Zoom. Subject is TBD.

h) Newsletter

Kuhl

Nothing new to report this month.

i) Website

Stevens

Webmaster report:

Provided the following information regarding web assets:

The sdaa.org domain name is purchased through Tierranet at tierra.net, currently for \$24.99/year. We have been renewing it for two years at a time and the next renewal is due 6/23/2025.

The SDAA website is through godaddy.com. It is a "Managed WordPress Ultimate" site. It auto renews on 12/10/2026. The last payment was \$791.64 for three years.

The julianstarfest.com domain name and website are managed through ICDSOFT. It is also a WordPress site. Expiration date is January 7, 2026.

Added Bradley Jameson to the Contacts page for South County Star Parties.

j) SDAA Social Media Report

Pagarigan/Morquecho

Tasks WIP or Completed

Program schedule for 2025 work in progress

Targeting June/July for pilot podcast broadcast

Budget for 2025-2026 work in progress.

k) Outreach Report

Ammann

April started out with the cancellation of Stars-in-the-Park on Wednesday, April 2nd because of clouds, but Kumeyaay Lake Campground turned out to be a winner Friday night with clear skies and enthusiastic visitors. Woody Schlom stepped in as lead to cover Kin Searcy who was ill.

John Paul Jones Elementary School was cancelled on Friday, April 11th; foul weather again.

Although Jones Elementary was cancelled, our outreach high in the mountains above the coastal marine layer, proved to be a success at William Heise County Park, by Julian. Little did



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we know that everyone who attended Wm Heise was standing on the epicenter, only 8 miles below the ground! That following Monday, San Diego County experienced a 5.2 earthquake at 10:08am. The next night, April 12th, Oakoasis County Park had a full moon, so attendance was low with only five SDAA members present. On Friday, April 18th, Sycamore Canyon West was cancelled... foul weather again! The next day, Saturday, April 19th at Lake Morena, South County Coordinator, Brad Jameson and his crew, Brayden Jameson, Craig Storms, and SDAA Welcoming Queen Addy Jameson (age 9) shared the night sky with campers and the rangers. Although they had clear skies, it was very cold, getting down to 35°F at 10:00pm. That same night at TDS (Public Night), also experienced the same cold snap. Meanwhile that same Saturday night, a stargazing event at Los Peñasquitos Ranch House was supported by SDAA. Jeff Stevens, William Oliver, and Dennis Ammann provided telescopes for the public who attended this Dark Sky International Week event. About 250 people were forming lines at the three telescopes. Finally, to finish off the month, on Thursday, April 24th, Craig Storms, Brad Freeze, William 'Prince' Oliver, and Dennis Ammann set up telescopes to support the 'Night Sky Celebration at Mission Trails with Dark Sky International.' The monthly SDAA program Zoom meeting was moved to this venue too, with President Dave Decker interviewing some of the visitors and SDAA members there. The next night, Friday, Sycamore Canyon East was cancelled because of weather. Dennis Ammann took a chance on the forecasted cloudy weather at Casitas Elementary School's huge campus campout in Vista. Craig Storms, Jennifer Koles, William Oliver, and Dennis were there and shared the night sky with over 300 people, but only for one hour as the clouds covered the school shortly after sunset. The next day, Saturday, April 26th, K.Q. Ranch by Julian and World Beat Dark Sky Int'l were both cancelled... weather again. The TDS spring clean up was a huge success, not having to depend on the weather that Saturday morning or afternoon.

Here are the numbers for April:

2025	Previous Total	April	YTD
Completed	19	8	27
Canceled	25	7	32
Total Attendance	1600	1025	2625

The BOD noted the high cancellation rate due to the bad weather this year.



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I) TARO

Wood

TARO is operational but the weather stymied imaging for most of the month of April.

New Project requests - 1

Project completed - 0

Total imaging projects - 9

Total current imaging time - 120 hours

m) Cruzen

Salinger

There's a CGX mount that might need to be repaired, if I can't get it to boot up.

I may need a new mounting plate for the old G11 pier to support it.

I think that the laptop is on its last "legs" and may need replacement. I have something surplus to my needs that will suffice, I think.

I'm planning a training session over the Memorial Day weekend. Date to be determined exactly by the weather and the availability of the "students". I'd like that put into the newsletter as I have only 3 potential students at this point in time. *Ross has five students signed up at the time of the meeting and will conduct the training regardless of the weather.*

n) Merchandise Report

Burch

Nothing new to report

o) Astronomical League Report

Smith

Nothing new to report.

p) JSF Report

Vacant

q) Grid Reconstruction

Wood

Neal Electric received SDG&E approval for the north service power upgrade. This upgrade will provide a 100-amp service with a separate meter and power distribution grid for the private observatories and a new 200-amp service with a separate meter for all club assets connected to the north power center. These assets include the Lipp and Cruzen observatories, the bathrooms, the public pads, and a permitted clubhouse.

Neal Electric has begun the initial process of acquiring the permits from the county.



San Diego Astronomy Association

Neal has purchased the construction payment and performance bond for the project and has provided the necessary contact information. We have been in touch with the AVP of the company and have clarified the coverage provided.

We've received the initial Schedule of Values Payment schedule from Neal Electric and the initial Gantt chart illustrating the project's flow. However, the actual dates for both of these are subject to change, as the final date of county approval remains uncertain.

As noted in the report, work on the North grid is dependent upon county approval. Work could potentially start in June or July with a maximum 10-week duration. This could be shortened in the inspection process. The contractor will minimize impact to SDAA events at TDS, such as member nights and LIPP public nights. The duration of open trenching will be minimized and will be protected in accordance with CAL OSHA regulations. The contract for the South grid has not been signed and trenching on the South grid will not be consolidated with North grid trenching.

r) Membership Project Committee

Hilburn

Initial committee membership is:

Jim Love

Mark Smith

Woody Schlom

Bob Davidson

Prascilla Morquecho

Tom Kennedy

Sapi Gilani

Peter Binfield

(Note: We will set up SDAA addresses for committee members.

We need a list of preferred personal addresses for 2FA: Decker)

The committee plans to meet on 20 May and select a chairperson who will proposed to the BOD at the June meeting.

s) Strategic Planning Committee

Decker

Our last meeting of the Strategic Planning Committee was held on May 1.

The committee is looking at the feasibility of using a professional strategic planner to assist with formalizing our effort. The committee invited a local planner of note for open discussion concerning the "if and when" we should engage professional services. We will follow up with another local planner for similar discussion soon.



San Diego Astronomy Association

Damon Blackman, committee member, is working with Jeff Stevens and Steve Myers to set up a collaborative environment within the club's Google Workspace. It will involve a communication group and Google Drive space for committee work product. Currently, the committee workspace has been identified and shared.

6. Old Business

a) Cleanup. The BOD noted excellent work by Jerry Hilburn and others on the TDS cleanup and road repair.

b) Zoom Accounts for Committees. Given the scope of new committee work, additional SDSAA accounts will be needed. **Action Item BOD 05-01:** D. Decker and M. Chasin to set up.

c) Inventory of Assets. All SDAA committees have been directed to inventory their SDAA assets for inventory control. No set value limit has been determined but minor expendables should not be included. E. Rumsey has recommended a threshold of \$500 but this is up to chairperson's discretion for the initial inventory.

d) Policies for SDAA Requests for Foundation Funding. The BOD is reviewing formal policies that have been drafted by legal to address transfer of funds from the Foundation to SDAA. The draft policies need expansion to with specific procedures and formats. **Action Item BOD 05-01:** BOD members review drafts and propose missing details, J. Hilburn offered help with forms and processes. This will be needed soon to address funding for the Neal TDS grid contract

e) DocuSign. D. Decker has been investigating use of DocuSign for SDAA COI statements and other official documents such as private pad leases and concluded that it is feasible. **Action Item BOD 05-02:** D. Decker/ M. Chasin/ J. Hilburn will set up using an SDAA credit card.

7. New Business

a) Pad #2 Radio Telescope. Pat Boyce requested BOD approval to set up a one-meter radio telescope antenna next to BARO to support Boyce Astro projects and SDAA RASIG. The antenna is seven feet and not intrusive, and SDAA members can access the data. The BOD unanimously approved the request. (Motion: K. Searcy/ Second: J. Hilburn)

8. Member Comments

a) Jenny Koles asked about SDAA equipment microphones and equipment used for social media presence at the April meeting at MTRP with IDA. This was an experiment using Dave Decker's and Kin Searcy's cell phones.



San Diego Astronomy Association

b) Connor Sandifer, President of UCSD Astronomy Club, is an SDAA contributing member and can host UCSD students at TDS. As he is graduating, he asked if an ex-officio contributing membership position could be established for the UCSD Astronomy Club president and still funded by the UCSD group. The BOD will review this off-line since there is no such provision in the by-laws and personal accountability is a factor.

9. Adjournment: The meeting was adjourned at 8:36pm.

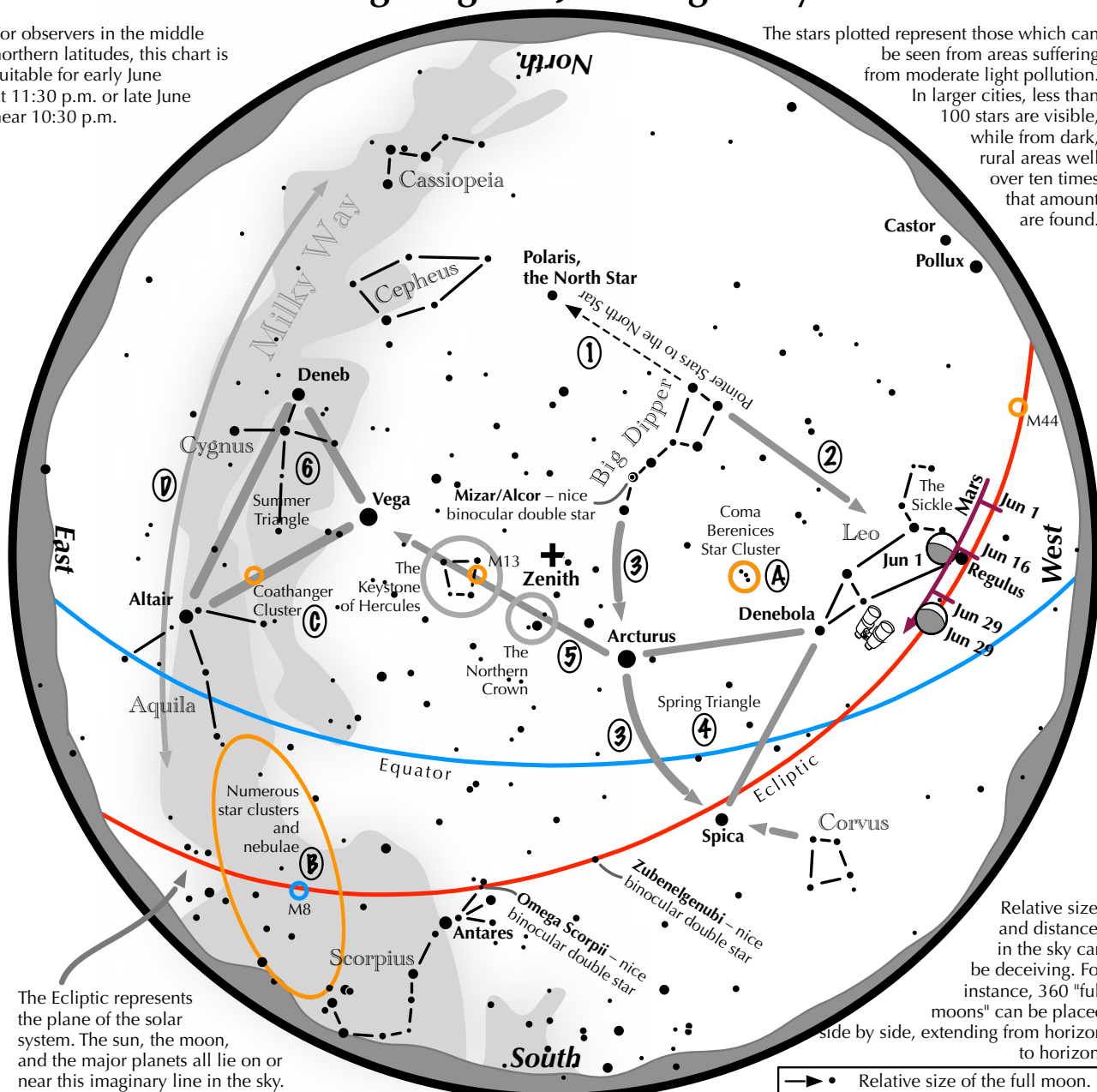


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Navigating the June Night Sky

For observers in the middle northern latitudes, this chart is suitable for early June at 11:30 p.m. or late June near 10:30 p.m.

The stars plotted represent those which can be seen from areas suffering from moderate light pollution. In larger cities, less than 100 stars are visible, while from dark, rural areas well over ten times that amount are found.



The Ecliptic represents the plane of the solar system. The sun, the moon, and the major planets all lie on or near this imaginary line in the sky.

Relative sizes and distances in the sky can be deceiving. For instance, 360 "full moons" can be placed side by side, extending from horizon to horizon.

→ • Relative size of the full moon.

Navigating the June night sky: Simply start with what you know or with what you can easily find.

- 1 Extend a line north from the two stars at the tip of the Big Dipper's bowl. It passes by Polaris, the North Star.
- 2 Draw another line in the opposite direction. It strikes the constellation Leo high in the west.
- 3 Follow the arc of the Dipper's handle. It first intersects Arcturus, the brightest star in the June evening sky, then Spica.
- 4 Arcturus, Spica, and Denebola form the Spring Triangle, a large equilateral triangle.
- 5 To the northeast of Arcturus shines another star of the same brightness, Vega. Draw a line from Arcturus to Vega. It first meets "The Northern Crown," then the "Keystone of Hercules." A dark sky is needed to see these two dim stellar configurations.
- 6 High in the east are the three bright stars of the Summer Triangle: Vega, Altair, and Deneb.

Binocular Highlights

- A: Between Denebola and the tip of the Big Dipper's handle, lie the stars of the Coma Berenices Star Cluster.
- B: Between the bright stars of Antares and Altair, hides an area containing many star clusters and nebulae.
- C: 40% of the way between Altair and Vega, twinkles the "Coathanger," a group of stars outlining a coathanger.
- D: Sweep along the Milky Way for an astounding number of faint glows and dark bays.



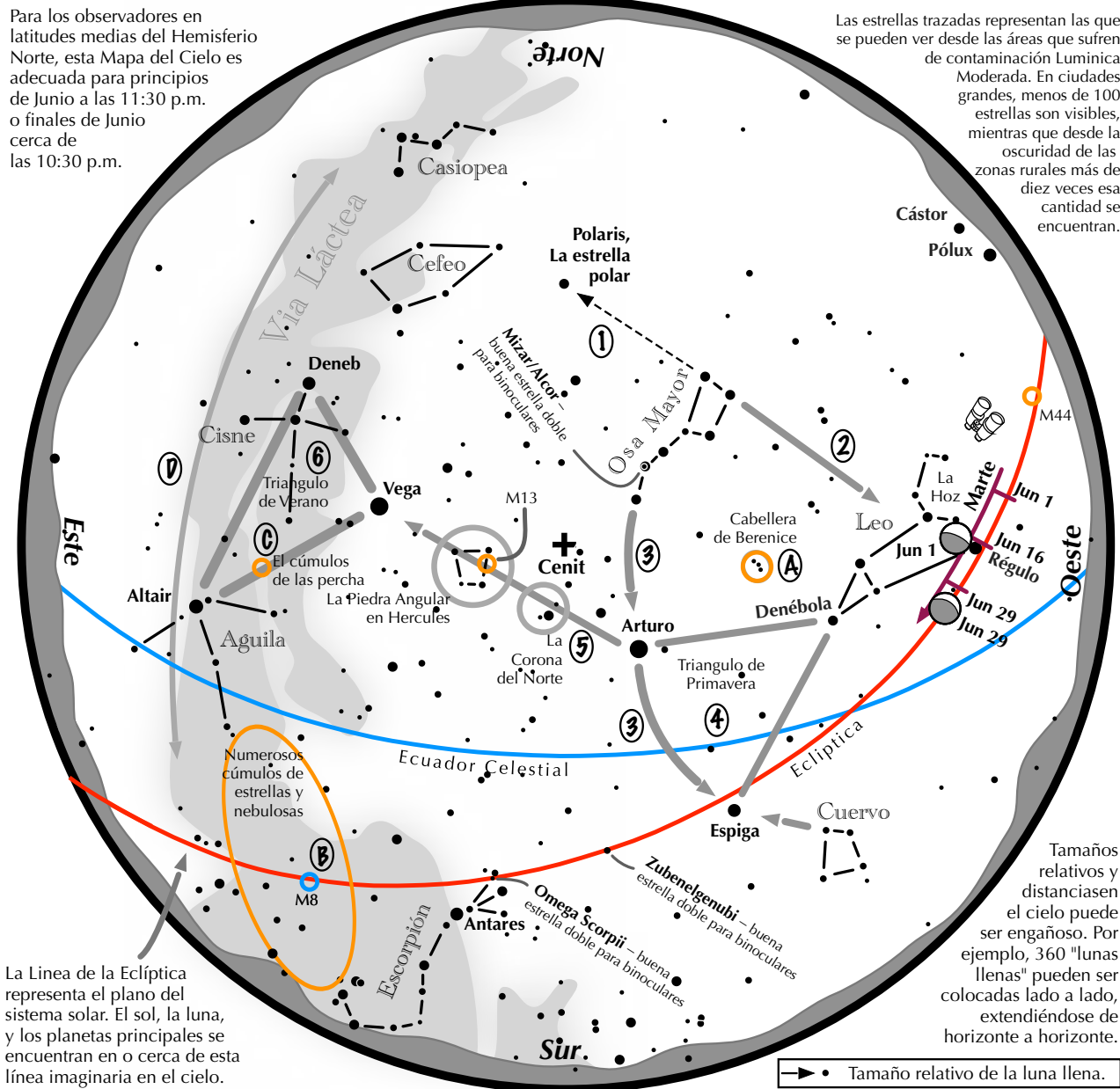


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Navegando por el cielo nocturno de junio

Para los observadores en latitudes medias del Hemisferio Norte, esta Mapa del Cielo es adecuada para principios de Junio a las 11:30 p.m. o finales de Junio cerca de las 10:30 p.m.

Las estrellas trazadas representan las que se pueden ver desde las áreas que sufren de contaminación Luminica Moderada. En ciudades grandes, menos de 100 estrellas son visibles, mientras que desde la oscuridad de las zonas rurales más de diez veces esa cantidad se encuentran.



Navegando por el cielo nocturno: simplemente comience con lo que sabe o con lo que puede encontrar fácilmente.

- 1 Haz una línea hacia el norte desde las dos estrellas en la punta de la Osa Mayor. Pasa por Polaris, la estrella polar.
- 2 Directamente debajo del tazón de la Osa Mayor se encuentra Leo con su estrella principal, Régulo.
- 3 Siga el arco del mango del tazón de la Osa Mayor. Primero cruza Arturo, luego continúa hacia Espiga, luego Cuervo.
- 4 Arturo, Espiga y Denébola forman el triángulo de primavera, un gran triángulo equilátero.
- 5 Dibuja una línea desde Arturo a Vega. Un tercio del camino se encuentra "La Corona del Norte". Dos tercios de esa distancia llevan a la "piedra angular de Hércules." Se necesita un cielo oscuro para ver estas dos configuraciones estelares tenues.
- 6 En lo alto del este se encuentran las tres estrellas brillantes del Triángulo de verano: Vega, Altair y Deneb.

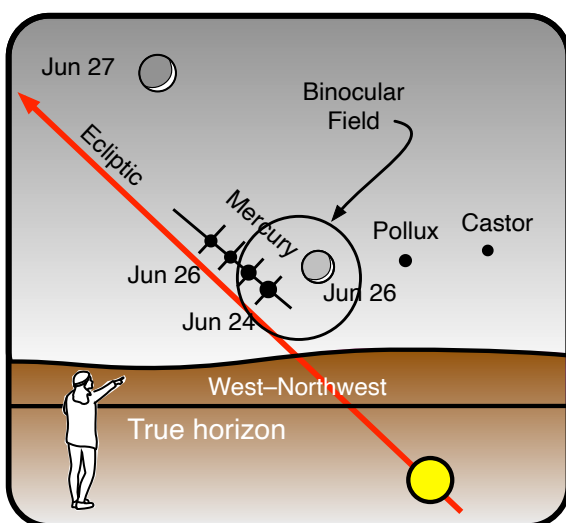
Puntos destacados con binoculares

A: Mira alto en el este para ver el cúmulo de estrellas perdidas de Cabellera de Berenice. B: Entre las brillantes estrellas de Antares y Altair, se esconde un área que contiene muchos cúmulos de estrellas y nebulosas. C: El 40% del camino entre Altair y Vega, centellea el "Colgador", un grupo de estrellas que describe un perchero. D: Barrer a lo largo de la Vía Láctea para obtener una cantidad asombrosa de brillos tenues y bahías oscuras.

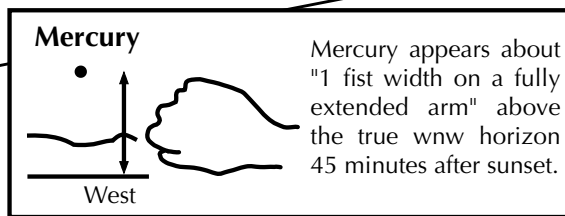
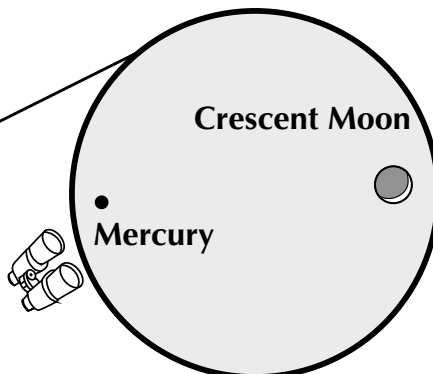


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Mercury, Castor & Pollux, and the young moon in the evening twilight



View through
10x50 binoculars
on June 26



June 24 – June 27, 2025:
Mercury and the young crescent moon
45 minutes after sunset in the west-northwest



- Using binoculars, look on June 24 for the stars Castor and Pollux in a line with Mercury.
- Two nights later, the very thin crescent Moon joins them, floating between Mercury and Pollux. The Moon and Mercury lie in the same binocular field. Can you see Earthshine on the Moon's dark side or is the twilight too bright?
- On June 27, a slightly thicker crescent Moon hangs above Mercury. Earthshine should be more easily visible.

The young moon & Mercury in the evening twilight

Have you ever spotted Mercury? Many stargazers have not. The early evenings of June 24 – 27 present good opportunities to catch the elusive little planet. Look low into the western twilight 45 minutes after sunset.



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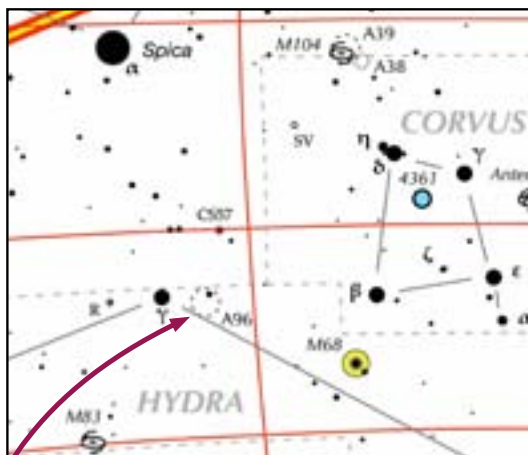
Seahorse Asterism

On the Astronomical League's Asterism list as no. 96



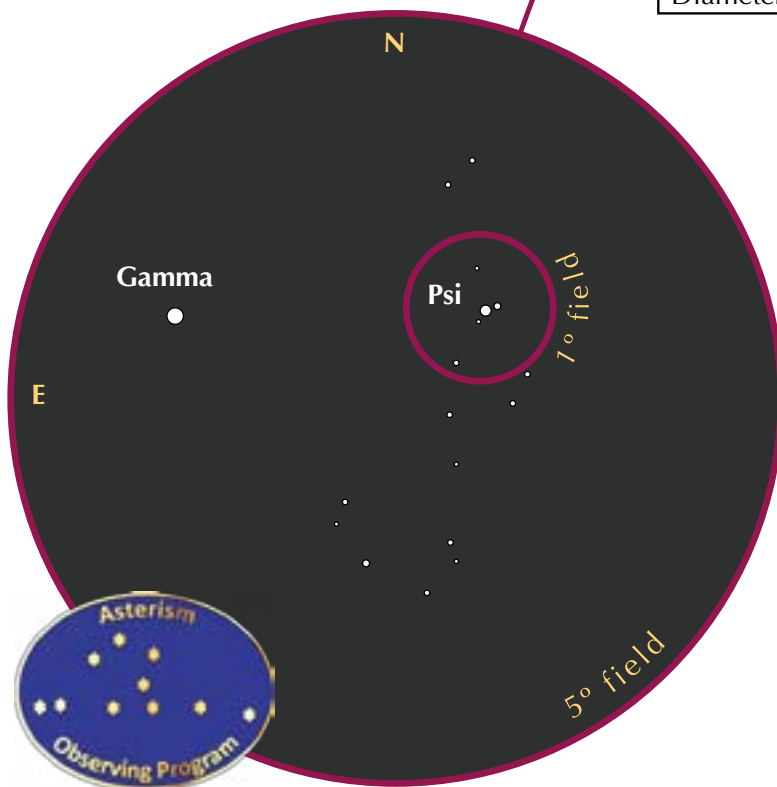
How to find the Seahorse ...

1. 10° south of Spica lies 3rd magnitude Gamma Hydrae. (10° is the angular width of your fist on your outstretched arm.)
2. Place Gamma at the center of the finder (or binocular) field.
3. At the west edge of the finder (or binocular) field lies the 4.9 magnitude Psi Hydrae.
4. Aim the finder (or binoculars) at Psi.
5. Follow the string of 7th, 8th, and 9th magnitude stars as it roughly traces the outline of a seahorse.

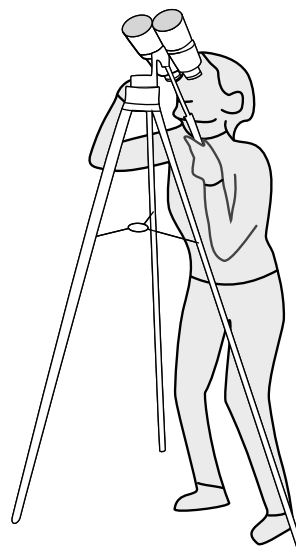


To see it through a finderscope or binoculars, clear, dark skies are a must!

96 Asterism: Seahorse
Magnitudes: 4.9 – 9.6
Diameter: 15 x 90 arc-minutes



Use a tripod to help bring in the asterism's 7th, 8th, and 9th magnitude stars.





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Members Proposal Committee Formed

The Board has recently approved and formed a Member Proposal Committee, comprising 11 SDAA members with varying expertise and astronomy experience. This committee will evaluate and assist in developing proposals submitted by our membership. We are currently busy creating an online submission form for ease of use, drafting guidelines to facilitate proposal development, and refining internal communications and procedures.

Our aim is to be ready to accept your submissions within the next 3-4 months, with a view to beginning work on some proposals at the start of 2026. Start thinking of ideas/improvements that support the club's mission and vision!



San Diego Astronomy Association

Science with Amateur-scale Telescopes?

You have seen – and maybe imaged – wonderful things in the night sky. Some of you may have asked yourselves, “is there any scientific value in my observations?” The answer is, “Yes, there could be ...” If you know what objects and phenomena to pay attention to, and learn how to make the needed observations, then there are plenty of opportunities for amateur astronomers to participate in, and contribute to, astronomical science.

A good place to see what astronomers are doing with amateur-scale telescopes is the annual Symposium of the Society for Astronomical Sciences. The Symposium will be held in Ontario, California on June 19-20-21. Fully interactive on-line participation is also available.

A full description and registration information is in the May 2025 Newsletter on the SAS website <https://socastrosci.org/>. The website also contains papers and presentations from recent symposia, to help you decide to attend this year. We look forward to seeing you, either in person or online!

Bob Buchheim





Astronomical.League

on Facebook ...

Monthly sky maps,
Observing activities,
AL LIVE sessions,
League news & a whole lot more!



AL YouTube Channel

Observing Program Previews: What a program requires of the Observer.

Our View from Earth: How to find interesting celestial objects in three minutes. Perfect for club viewing.



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SDAA Contacts

Club Officers and Directors

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Director Delta	Ross Salinger	DirectorDelta@sdaa.org	
Director Gamma	Jerry Hilburn	DirectorGamma@sdaa.org	(858) 877-3103

Committees

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S. County Star Parties	Bradley Jameson	SouthStarParty@sdaa.org	
E. County Star Parties	Dave Decker	EastStarParty@sdaa.org	(619) 972-1003
Central County Star Parties	Dennis Ammann	CentralStarParty@sdaa.org	(619) 247-2457
Camp with the Stars	-Vacant-	CampWiththeStars@sdaa.org	
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Newsletter	Andrea Kuhl	Newsletter@sdaa.org	
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Webmaster	Jeff Stevens	Webmaster@sdaa.org	(858) 566-2261
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Have a great new piece of gear? Read an astronomy-related book that you think others should know about? How about a photograph of an SDAA Member in action? Or are you simply tired of seeing these Boxes in the Newsletter rather than something, well, interesting?

Join the campaign to rid the Newsletter of little boxes by sharing them with the membership. In return for your efforts, you will get your very own byline or photograph credit in addition to the undying gratitude of the Newsletter Editor. Just send your article or picture to Newsletter@SDAA.Org.



San Diego Astronomy Association

NASA Night Sky Notes

June 2025



This article is distributed by NASA's Night Sky Network (NSN).

The NSN program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit go.nasa.gov/nightskynetwork to find local clubs, events, and more!

June's Night Sky Notes: Seasons of the Solar System

By: Kat Troche



Uranus rolls on its side with an 84-year orbit and a tilt just 8° off its orbital plane. Its odd tilt may be from a lost moon or giant impacts. Each pole gets 42 years of sunlight or darkness. Voyager 2 saw the south pole lit; now Hubble sees the north pole facing the Sun. Credit: NASA, ESA, STScI, Amy Simon (NASA-GSFC), Michael Wong (UC Berkeley); Image Processing: Joseph DePasquale (STScI)

Here on Earth, we undergo a changing of seasons every three months. But what about the rest of the Solar System? What does a sunny day on Mars look like? How long would a winter on Neptune be? Let's take a tour of some other planets and ask ourselves what seasons might look like there.

Martian Autumn

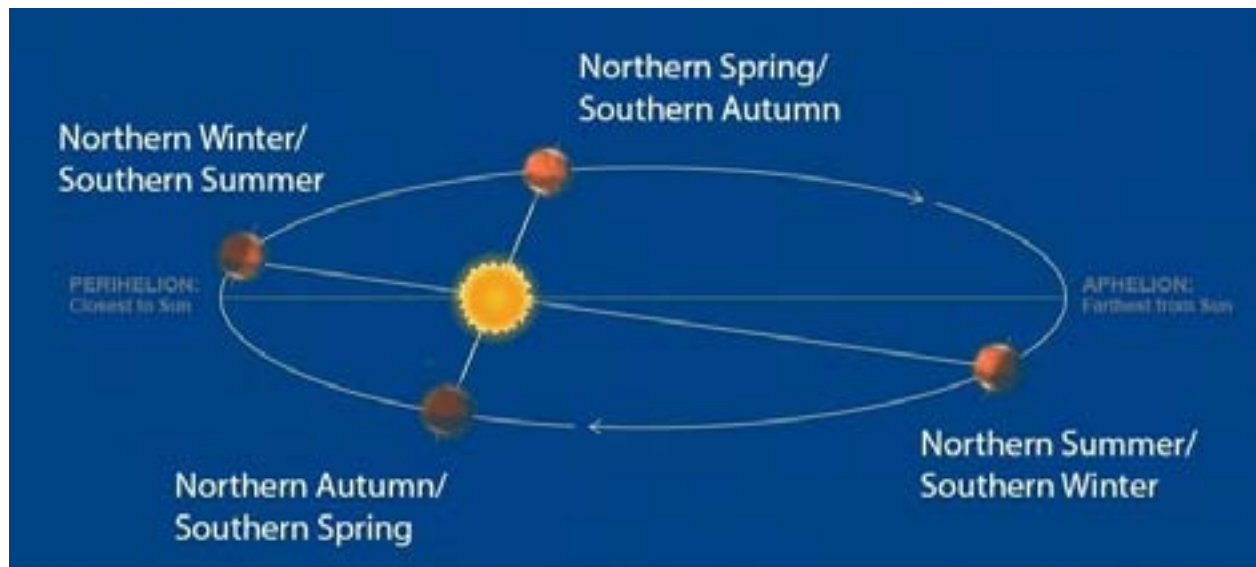
Although Mars and Earth have nearly identical axial tilts, a year on Mars lasts 687 Earth days (nearly 2 Earth years) due to its average distance of 142 million miles from the Sun, making it late autumn on the red planet. This distance and a thin atmosphere make it less than perfect sweater weather. A recent weather report from Gale Crater boasted a high of -18 degrees Fahrenheit [for the week of May 20, 2025](#).



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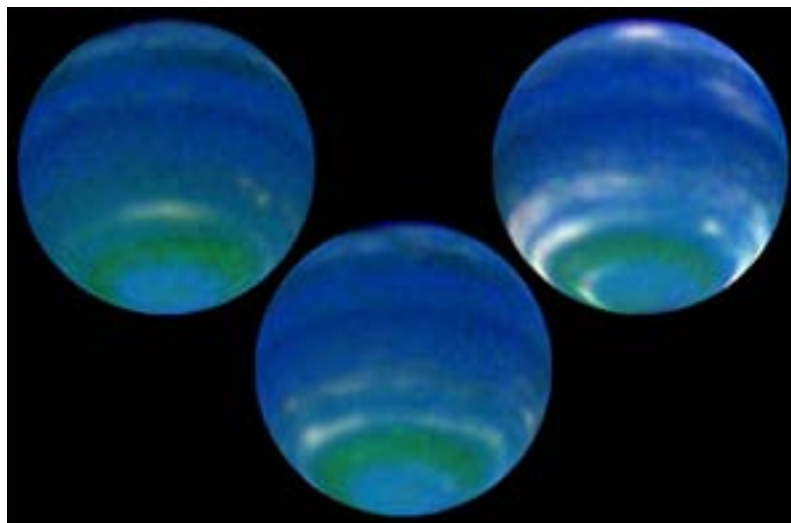


An artist's rendition of Mars' orbit around the Sun, and its seasons. Credit: NASA/JPL-Caltech

Seven Years of Summer

Saturn has a 27-degree tilt, very similar to the 25-degree tilt of Mars and the 23-degree tilt of Earth. But that is where the similarities end. With a 29-year orbit, a single season on the ringed planet lasts seven years. While we can't experience [a Saturnian season](#), we can observe a [ring plane crossing](#) here on Earth instead. The most recent plane crossing took place in March 2025, allowing us to see Saturn's rings 'disappear' from view.

A Lifetime of Spring



NASA Hubble Space Telescope observations in August 2002 show that Neptune's brightness has increased significantly



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since 1996. The rise is due to an increase in the amount of clouds observed in the planet's southern hemisphere. Credit: NASA, L. Sromovsky, and P. Fry (University of Wisconsin-Madison)

Even further away from the Sun, each season on Neptune lasts over 40 years. Although changes are slower and less dramatic than on Earth, scientists have observed seasonal activity in Neptune's atmosphere. [These images](#) were taken between 1996 and 2002 with the Hubble Space Telescope, with brightness in the southern hemisphere indicating seasonal change.

As we welcome summer here on Earth, you can build a [Suntrack](#) model that helps demonstrate the path the Sun takes through the sky during the seasons. You can find even more fun activities and resources like this model on NASA's [Wavelength and Energy](#) activity.



San Diego Astronomy Association

2025 TDS Star Party Schedule

Date	Type	Sunset	Astro. Twi.	Moonrise(set)	Closing	Illumination
Jan-04-2025	Public	4:56 PM	6:23 PM	(10:11 PM)	9:30 PM	28.3%
Jan-25-2025	Member	5:15 PM	6:40 PM	4:44 AM	9:30 PM	16.3%
Feb-01-2025	Public	5:21 PM	6:46 PM	(9:08 PM)	10:00 PM	14.9%
Feb-22-2025	Member	5:40 PM	7:02 PM	3:26 AM	10:00 PM	31.8%
Mar-01-2025	Public	5:46 PM	7:08 PM	(8:00 PM)	10:00 PM	5.0%
Mar-29-2025	Member	7:06 PM	8:30 PM	(7:47 PM)	11:30 PM	0.2%
Apr-19-2025	Public	7:21 PM	8:49 PM	1:47 AM	11:30 PM	65.5%
Apr-26-2025	Member	7:26 PM	8:56 PM	5:45 AM	11:59 PM	1.7%
May-17-2025	Public	7:42 PM	9:17 PM	12:27 AM	11:59 PM	79.6%
May-24-2025	Member	7:46 PM	9:24 PM	4:16 AM	11:59 PM	8.6%
Jun-21-2025	Member	7:59 PM	9:41 PM	2:50 AM	11:59 PM	19.3%
Jun-28-2025	Public	8:00 PM	9:41 PM	(10:55 PM)	11:59 PM	15.1%
Jul-19-2025	Public	7:55 PM	9:32 PM	1:29 AM	11:59 PM	32.1%
Jul-26-2025	Member	7:51 PM	9:26 PM	(9:22 PM)	11:59 PM	5.2%
Aug-16-2025	Public	7:31 PM	9:00 PM	12:15 AM	11:59 PM	46.0%
Aug-23-2025	Member	7:23 PM	8:50 PM	7:39 AM	11:59 PM	0.4%
Sep-13-2025	Public	6:56 PM	8:19 PM	11:06 PM	11:00 PM	60.5%
Sep-20-2025	Member	6:47 PM	8:09 PM	6:27 AM	11:00 PM	1.1%
Oct-18-2025	Member	6:11 PM	7:33 PM	5:17 AM	10:30 PM	7.1%
Oct-25-2025	Public	6:04 PM	7:26 PM	(8:37 PM)	10:30 PM	16.9%
Nov-15-2025	Public	4:47 PM	6:12 PM	3:07 AM	9:00 PM	18.1%
Nov-22-2025	Member	4:44 PM	6:10 PM	(6:26 PM)	9:00 PM	6.3%
Dec-13-2025	Public	4:43 PM	6:11 PM	1:58 AM	9:00 PM	33.2%
Dec-20-2025	Member	4:46 PM	6:14 PM	(5:17 PM)	9:00 PM	0.7%

SDAA is now registered with the employer fund-matching platform Benevity. If your workplace offers matching charitable donations for non-profits and uses Benevity to distribute funds, you can now designate the San Diego Astronomy Association. Thank you for supporting the SDAA!

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