ASTROGATOR

December 2024

Grand Strand Astronomers

An Astronomical Journal of the Grand Strand Astronomers
of the Greater Myrtle Beach Area
GSA Founded on September 24, 2020

Grand Strand Astronomer's Monthly Events:
General Membership Meeting:
Thursday January 16, 20245@ 7:00 pm
Meeting: VIA Zoom.
Please see email or Facebook for link

Observing Sessions
Saturday December 28, 2024
Location: Hampton Plantation
Gates open @ 6:00 pm

Flame/Horsehead
\Ken Legal

Grand Strand Astronomer's Social Media

Grand Strand Astronomer's Website

Grand Strand Astronomer's Facebook

GSA Leadership

Executive Officer
Ian Hewitt

Treasurer
John Defreitas

Photograph not available a this time

Secretary
Gerald Drake

Social Media Coordinator
Denise Wright

Photograph not available a this time

Newsletter Coordinator
Tim Kelly

Contents

Flame/Horsehead

Photographer: Ken Legal
Place: Myrtle Beach, SC
A shot of the Flame/Horsehead region I took last night from my light-polluted back patio.

80mm f/6 Astro-Tech triplet refractor,
Canon 60Da camera at ISO1000, UHC filter, 80x60-sec subs.
Slightly cropped

Call For Volunteers

Tim Kelly

Grand Strand Astronomers are looking for volunteers to help with the social media platforms such as Facebook, YouTube and Twitter if the need arises. Presently Facebook needs a new face lift and be brought up to present time activities. Our website can also use some TLC and someone responsible to keep it updated with club activities and astronomy related items. If anyone would like to help in these categories, please contact Ian Hewitt at the email address below.

We are looking for new and older club members to help contribute articles for the GSA Newsletter. You can be a novice level, medium level, or a experienced level astronomer. Knowledge such as types and location of numerous stars, nebula or galaxies to share with other club members. GSA would like to provide topics for all level of members and non-members that are both hands-on projects and educational sharing. You can either write you own or use one already written and published. See previous articles on older issues for contributions for self written articles. See Tim's contributions for an example of non-written subject matter or from an article written from another person. Please provide the title, name of the originator and website link that the original article can be found. You will not be required to submit articles every month, however every second or third month would be nice and a benefit to all members and non-members. Please send articles to t.m.kelly349@outlook.com

GSA Telescope Loaner Program

Gerald Drake

Did you know our club has telescopes available for loan? They are Dobsonians that were donated to the club when we first started. These are available for club members to use at no charge. All you have to do is take care of them and return them if someone else wants to borrow one. The first one is an Orion XT 8. It's in great shape. It gives beautiful views of the moon, planets, and galaxies. Comes with accessories that include a 2X Barlow, 25mm eyepiece, 9mm eyepiece, and laser collimator tool. The other one is an Orion Skyquest XT 10 with Orion's IntelliScope computerized object locator. It includes more than 14,000 objects in its database so you'll be able to locate those dim galaxies. Should be hours of fun. Accessories are included. Both of these are begging to be used. Send us an email if you're interested in borrowing one.

GSA Monthly Newsletter Articles

Tim Kelly

This is our club and our newsletter. Lets help each topic to continue to grow.

Grand Strand Astronomer's is looking for individuals who would like to participate in submitting newsletter articles dealing with anything astronomy. We can not rely on the same four (4) members to write and send in articles month after month. New thoughts and ideas make for good reading and beneficial growth for the club and the public of the Greater Myrtle Beach area.

One member's simple advancement could just be what a newbie is looking for to get over a hurdle that has been impeding their progress forward. The expertise by many members can be a form of mentoring.

Grand Strand Astronomers - Membership

Grand Strand Astronomer's had three new members for the month of November. GSA provides a large welcome to Paul LoGiudice and Ronald Mason. We hope you enjoy our club, which is in its infancy We have lots to learn and lots to teach. Grand Strand Astronomer's roster is now up to 32 members.

Grand Strand Astronomers November 14, 2024 Meeting Recap

Gerald Drake

Ian welcomed members to the meeting. Attendance was pretty good, better than last months. Since there was no set agenda for this evening, Ian suggested we not broadcast the meeting over YouTube. All agreed. So, this meeting was by Zoom only.

For club business, Ian shared his attempts to contact Huntington Beach State Park for an outing. There is difficulty with their operating times that seem to hinder us from staying there late for observing.

Bryon, one of our members that also belongs to Lowcountry Stargazers, said he attended an outing at Hobcaw Barony. It is a nonprofit group that own a historical site. Here is a brief write up: *Hobcaw Barony is a privately owned research reserve located on the coast near Georgetown, South Carolina. Hobcaw Barony's 16,000 acres encompass a rich diversity of every common ecosystem found on the South Carolina coast, making this an unparalleled site for research in the environmental sciences. In addition, more than 70 cultural sites on the plantation including cemeteries, slave cabins, and the Baruch's homes all provide a time capsule for educators.*

Bryon shared about the event he attended where they demonstrated astronomy to the general public. He indicated they could use better equipment and offered either one of our clubs to help host astronomy events there. The person running the event seemed interested.

There will be no meeting in December because of the holidays. We do have an outdoor observing session schedule for November 30 at Hampton Plantation. And another one on December 28.

With no set agenda, we held a general discussion. Here are some highlights.

- It was agreed that scheduling public observing when some planets and the moon are visible is best. That way we are sure to have something the public will want to see. It is also advisable to emphasize the bright winter constellations that will be visible. These too can capture the public's interest.

- Ian will follow up with Hobcaw Barony to see how we can work Bryon does volunteer work there and informed us of their interest in astronomy. USC and Clemson, use to control this park, but now it is reverted back to the state.

- More discussion on Brookgreen and our past activities with them. They could shut of lights where we needed to set up our telescopes and make for a good observing area.

- Discussion about the upcoming rocket launce from Rocket Lab in Wallops Island, Virginia that we should be able to see, weather permitting. Note: turns out it was cloudy. Their launch schedule can be found at: **https://www.nasa.gov/wallops-launch-schedule/**

- Uranus will be in opposition on November 16, 2024. Geminids meteor shower is visible, but during the full moon this month. So they'll be hard to see.

- On December 25, Mercury is in its greatest western elongation. It will be amazingly bright and visible to the naked eye in the dawn hours. Look in the east/southeast.

- Not much going on in 2025, other than Mars in opposition January 16. Imaging Mars can be done all through January. There is a lunar eclipse in March of 2025. Not suitable for a public event as it will occur around 2:00 AM. But, we could still hold a club outing to see it. It will be a complete (umbra) eclipse, so you will not need a supper dark site to observe it.

- Uranus is a good target to image. It is tiny, but with a good scope you can see it and image it.

- General discussion about the Seestar smart telescope. Ian would like to get someone to review it and share their findings with our club. It is getting good reviews by astrophotographers. The S30 model just came out. The images that were shared are awesome.

- We discussed some online information. Cuiv, the Lazy Geek has a great YouTube channel: **https://youtu.be/Nt29_kHV1Fg.** He does a lot of equipment reviews.

- Another one is Dylan O'Donnell: **https://youtu.be/Nt29_kHV1Fg**

- One of the members shared that another astronomy club was using a Seestar to take images as requested by members. Although images are good, you'll still have to do some post image processing.

- Newer software that has AI enhancement can improve your old digital images. One of the members shared an image of M20, Trifid Nebula. It was great.

We hope everyone can make it to the Hampton outing on the 30th. Ian has the Hampton landscape that you can upload into Stellarium. It is available on our website: www.gsastro.org This will help you plan what is visible against the tree line.

Reminder: No meeting in December
Hampton Outing: On December 28

Meeting was adjourned.

C/2023 A3 (Tsuchinshan–ATLAS)

Photographer: Patricia Maccariella

I had to go to Water Tower Road in North Myrtle Beach to try to escape the light pollution.

Canon 5D MKIV
16-35 2.8 L III lens
70 mm
ISO 1600
October 14 at 6:45 pm.

Stargazing Guide To The Top 5 December Constellations & Their Brightest Stars

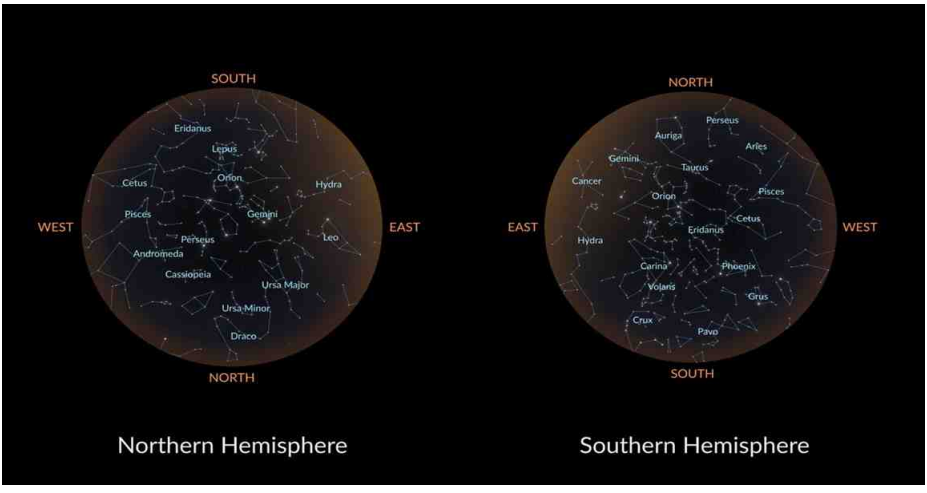
Nov 29, 2024
Topics:Constellations & Asterisms
Vito Technology, Inc.

Get to know the best constellations visible in the December night sky! They're all there for the taking, just a few taps away. Here we will show you what to focus on while looking at the December constellations and share the fascinating myths behind them.

Contents

December Night Sky Map

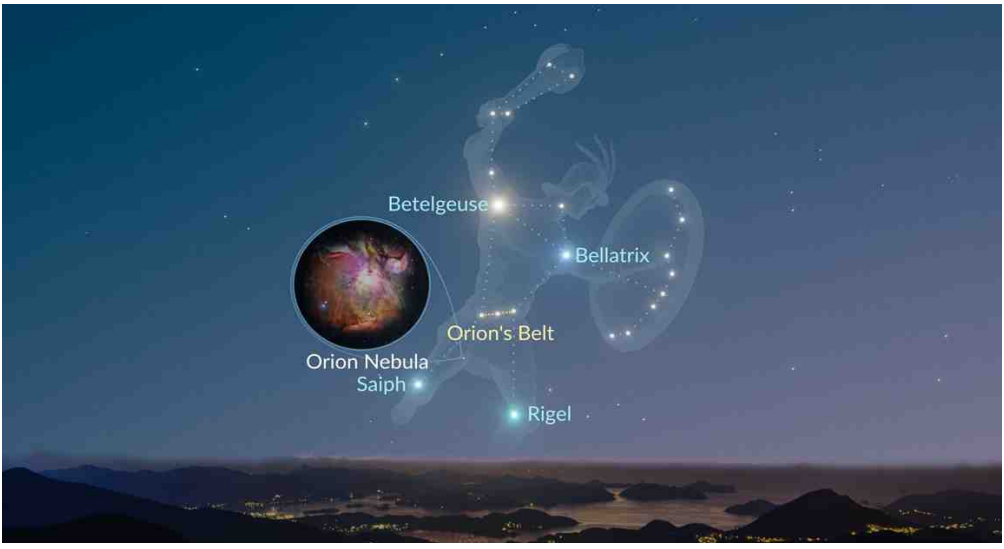
December is a good month for observing beautiful seasonal constellations such as **Cetus, Eridanus, Andromeda, Aries, Perseus, Taurus, Auriga, Orion, Gemini, and Lepus**. And circumpolar constellations like Ursa Major in the Northern Hemisphere and Carina in the Southern Hemisphere are always a nice stargazing treat.



Night sky maps for mid-latitudes in the Northern and Southern hemispheres. Note that your exact sky view depends on your location and time. Check which constellations are above you right now.

What constellations are best seen in December?
Discover the top 5 constellations to spot this month, plus one amazing star pattern that isn't really a constellation. Of course, there's plenty more to explore in the December skies, but this is a great starting point. These constellations are easy to recognize, and they reach their highest point in the sky around midnight this month, making them ideal for stargazing.

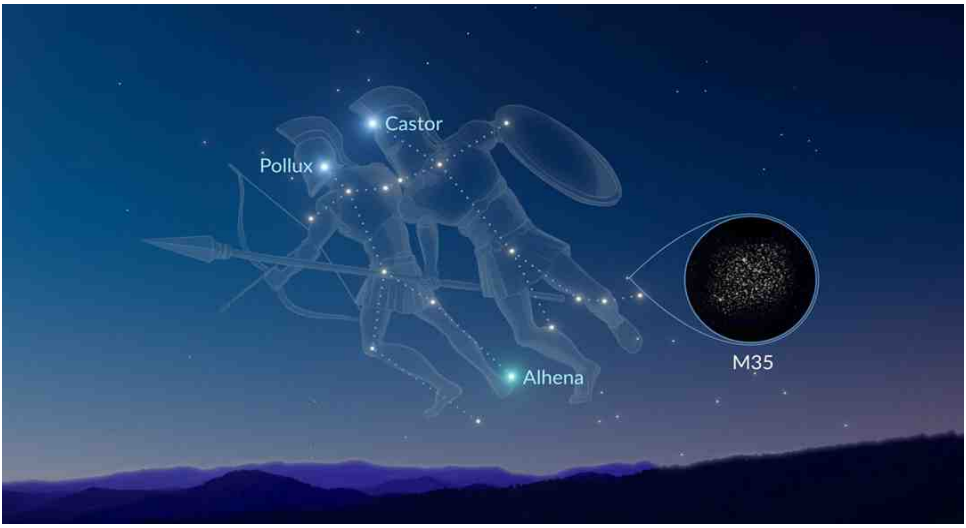
Orion
Visible between: 85°N and 75°S
Brightest stars: Rigel (mag 0.12), Betelgeuse (mag 0.5), Bellatrix (mag 0.64), Alnilam (mag 1.7), Alnitak (mag 2), Saiph (mag 2), Mintaka (mag 2)
Well-known asterism: Orion's Belt
Brightest deep-sky object: Orion Nebula (M42) (mag 4)



In Greek mythology, Orion was a great hunter who died tragically, either by Artemis's arrow or the sting of the giant scorpion. The gods placed Orion, his dogs, and the animals he hunted in the heavens, and put Scorpius on the opposite side of the sky, ensuring the two would never meet again.

The most iconic feature of Orion is the Orion Belt asterism, formed by three evenly spaced stars Alnitak, Alnilam, and Mintaka aligned in a nearly straight line. Another constellation highlight is Betelgeuse, a massive star famous for the fact it will someday explode into a supernova. Close to Orion's Belt, you'll find the Orion Nebula. On a clear night, you can spot it with the naked eye as a faint, fuzzy patch. To uncover its full beauty, use binoculars or a telescope.

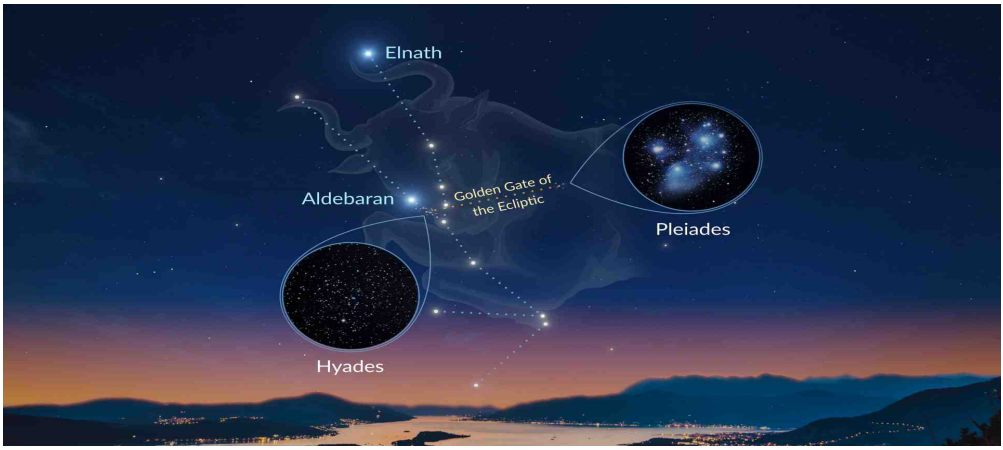
Gemini
Visible between: 90°N and 60°S
Brightest stars: Pollux (mag 1.14), Alhena (mag 1.93), Castor (mag 1.98)
Brightest deep-sky object: M35 (mag 5.1)



In Greek mythology, the constellation represents the immortal Pollux and the mortal Castor, twin sons of Queen Leda of Sparta and two fathers – the human king Tyndareus and the mighty Zeus. When Castor died in a battle, Pollux begged his father Zeus to give Castor immortality. So now they shine together eternally.

The two most prominent stars of Gemini, Pollux and Castor, have been considered "twins" since ancient times. However, they aren't related in the astronomical sense. Pollux-Gemini-bright star, which shines with a golden hue, is brighter and is located at a distance of 34 light-years from us. **Castor**, shining white, is a little dimmer and further away at 51 light-years. In fact, Castor isn't even a single star, but a system of six stars three pairs of binary stars orbiting a common center of mass

Taurus
Visible between: 90°N and 65°S
Brightest stars: Aldebaran (mag 0.85), Elnath (mag 1.65)
Well-known asterism: Golden Gate of the Ecliptic
Brightest deep-sky objects: Pleiades (M45) (mag 1.6), Hyades (Collinder 50) (mag 0.5)

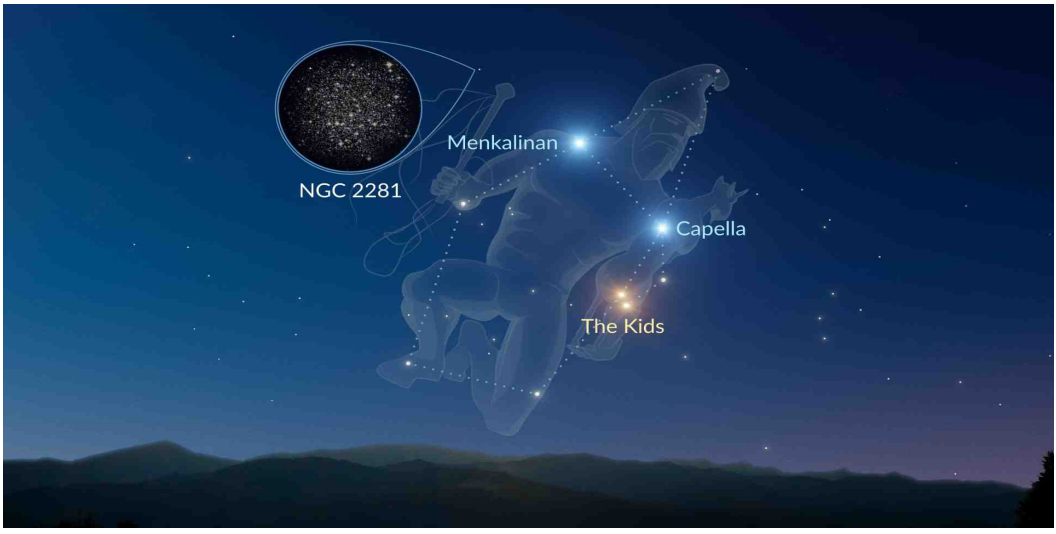


The Greeks saw Taurus as Zeus in disguise. Zeus, smitten with Europa, lured her by appearing as a majestic white bull. When she climbed onto its back, the bull carried her across the sea to Crete, where Zeus revealed his true form and made her his mistress.

The constellation Taurus represents the head and front legs of the bull. The brightest star of the constellation is Aldebaran, which marks the bull's eye. Taurus is also home to two stunning star clusters: the Pleiades and the Hyades, both visible to the naked eye. These clusters form the posts of a virtual gate on either side of the ecliptic line and are called the "Golden Gate of the Ecliptic". As the Sun, Moon, and planets follow this path, they often pass through this celestial gateway.

Taurus, a zodiacal constellation, lies along the ecliptic and is only visible when it's not hosting the Sun - from November to January.

Auriga
Visible between: 90°N and 40°S
Brightest stars: Capella (mag 0.08), Menkalinan (mag 1.9)
Well-known asterism: The Kids
Brightest deep-sky objects: NGC 2281 (mag 5.4)

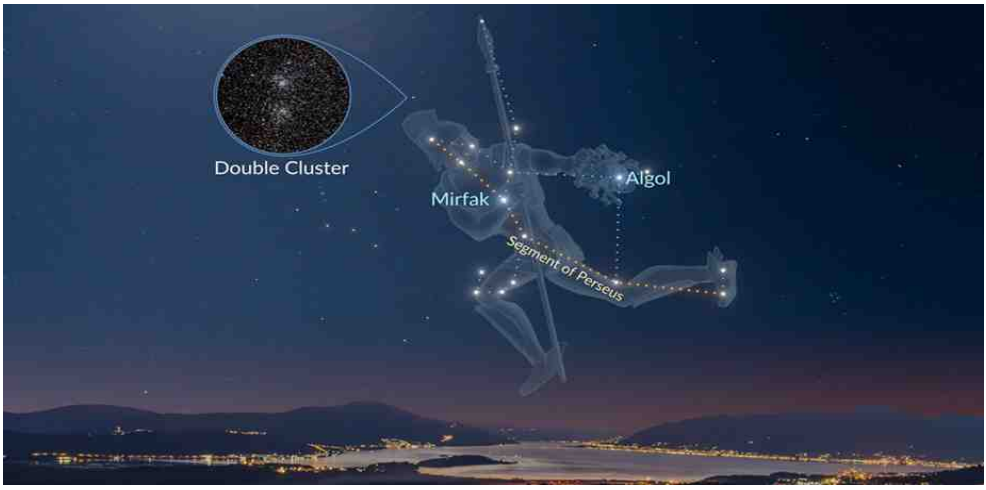


Auriga isn’t precisely connected to any Greek or Roman myth. The most popular interpretation is that it represents Erichthonius, a legendary Athenian king. Raised by Athena, he learned to tame horses and became the first to harness four in a chariot.

Auriga (Latin for "The Charioteer") is easy to spot in the sky thanks to its distinctive hexagonal shape and its brightest star, Capella. Capella, the sixth-brightest star in the night sky, marks the left shoulder of the charioteer. To the naked eye, it appears as a single golden star, but it's actually a pair of binary systems — each consisting of yellow giant stars with red dwarf companions. Near Capella, which is also called the Goat Star, you'll find a small triangle of stars known as "The Kids", representing the offspring of the celestial goat.

Auriga is visible year-round in the far northern latitudes. Around December, it reaches its highest point in the sky and becomes visible in more southerly locations.

Perseus
Visible between: 90°N and 35°S
Brightest stars: Mirfak (mag 1.79), Algol (mag 2.12)
Well-known asterism: Segment of Perseus
Brightest deep-sky object: Double Cluster (NGC 869 and NGC 884) (mag 3.8)



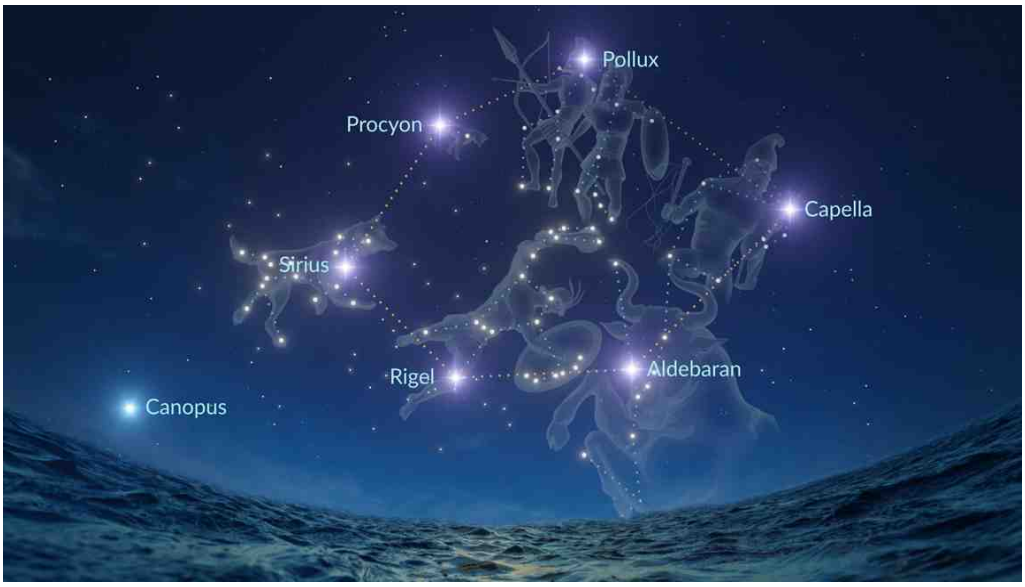
Perseus, a legendary Greek hero, is famous for slaying the Gorgon Medusa and rescuing Andromeda. He decapitated Medusa while she slept to avoid her deadly gaze. On his way back to Greece, he saved Andromeda, an Ethiopian princess, from a sea monster and took her as his bride.

Perseus is best known for containing the radiant point of the annual Perseid meteor shower, one of the year's most spectacular celestial displays. The constellation also hosts **Algol, the Demon Star**. It's a fascinating variable star that "winks" in brightness as one fainter star of its two binary components eclipses the other. What makes Algol truly unique is its precise and short dimming cycle, which occurs every 2 days, 20 hours and 49 minutes.

Although Perseus is relatively faint, it can be identified by its distinctive curve of stars, known as **the Segment of Perseus**.

<u>Bonus:</u> Winter Hexagon
The Winter Hexagon (or Winter Circle) is not a constellation, but an asterism (learn the difference here). It consists of the six first-magnitude stars belonging to different constellations:

Capella in Auriga,
Aldebaran in Taurus,
Rigel in Orion,
Sirius in Canis Major,
Procyon in Canis Minor,
Pollux in Gemini



The Winter Hexagon is a large circular star pattern visible in the Northern Hemisphere's winter sky and in the Southern Hemisphere's summer sky, where it's called the Summer Hexagon. In the Southern Hemisphere, it can be extended to include the bright star Canopus.

The Winter Hexagon shines from December to mid-April, lighting up winter nights in the Northern Hemisphere and summer nights in the Southern Hemisphere. In December, it rises highest in the sky around midnight. Learn more about the Winter Hexagon in our dedicated article.

F. A. Q.

How to find constellations in the night sky?
Nowadays, you don't need to be a professional astronomer to locate the constellations and their stars all you need is an astronomy app on your device. How many constellations are visible in winter in the Northern Hemisphere and in summer in the Southern Hemisphere?

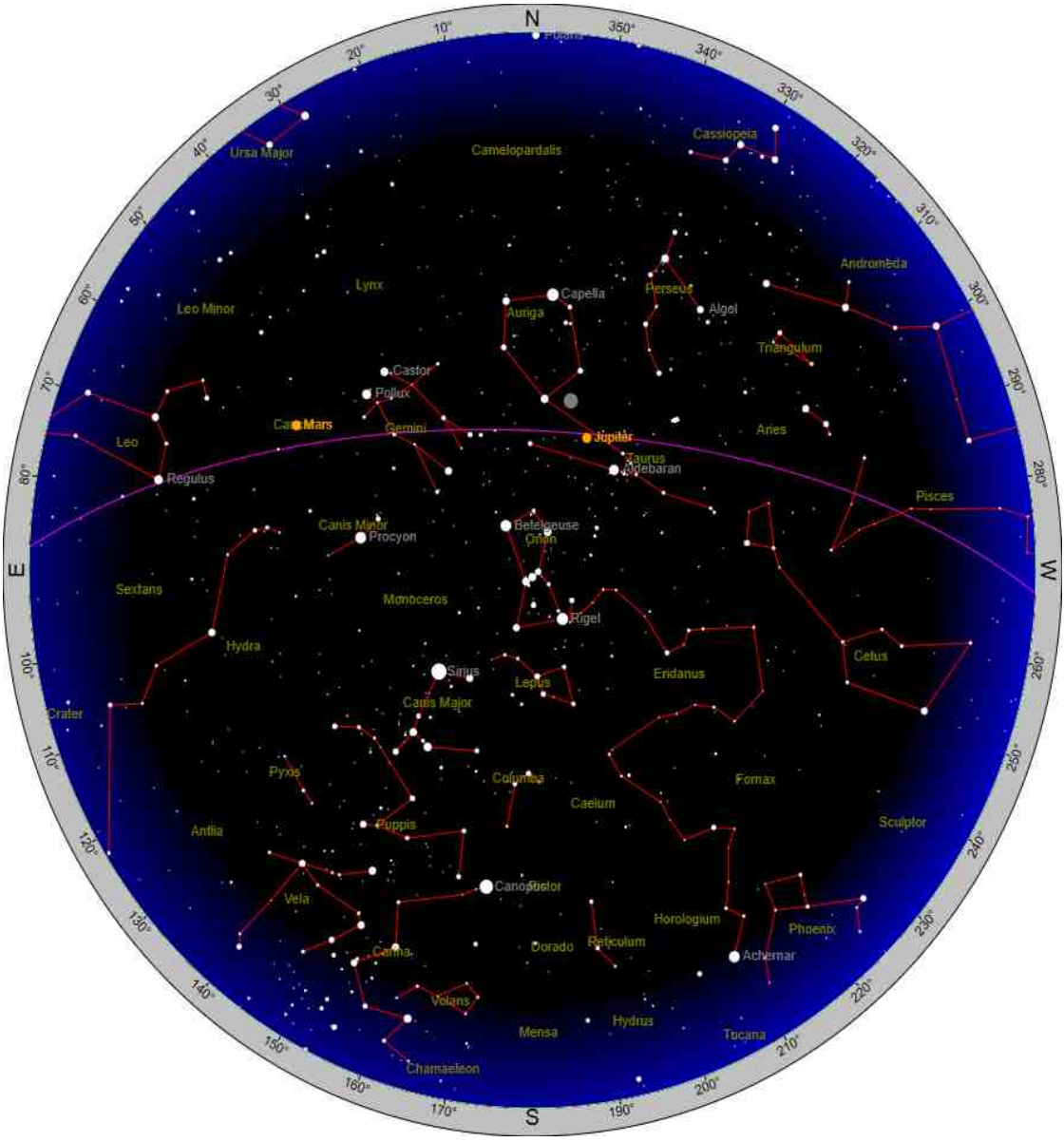
The exact number of constellations visible depends on your location, time, and the amount of light pollution, but on average **about 30 constellations can be seen in winter in the Northern Hemisphere** and about 40 constellations can be seen in summer in the Southern Hemisphere.

Why do constellations change with the seasons?
Due to the Earth orbit around the Sun, the constellations seen in the night sky change throughout the year. Those near the celestial poles, like Ursa Minor in the Northern Hemisphere and Crux in the Southern Hemisphere, remain visible all year and are called circumpolar constellations. Meanwhile, other constellations appear in the night sky only during certain times of the year and are known as seasonal constellations. Discover more about the seasonal constellations of the Northern Hemisphere and Southern Hemisphere.

HEAVENS ABOVE

Interactive sky chart Home

Year	Month	Day	Hour	Minute
2024	December	15	00:00	0:0



Until next Month

Remember to always look up!