



December 2024



Monthly Newsletter
Cape Fear Astronomical Society
Serving Wilmington, NC and Surrounding Areas

Location: 1610 Chestnut St. in Wilmington

(Reminder: This is for Members and their Guests.)

I'll be playing host to the Society's annual Christmas party.

There should be plenty of parking along North 17th Street and on Princess Street.

In a pinch, folks can slip into the St. Paul's Episcopal parking lot a block away.

I will be setting out cold cuts, a veggie tray, some fruit and snacks.

If you want to bring an entree or a dessert or a beverage, please do so.

President's Message

by Ben Steelman

First a reminder that our December meeting will be a party, as indicated above, **and it won't be at UNCW.**

The only item of business will be the election of officers for 2024. There are no contested races. Currently, the ballot looks like this.

President -- Ben Steelman

Vice President -- Jon Stewart-Taylor

Associate Vice President -- Karl Adlon

Secretary -- George Pappayliou

Treasurer -- Bill Cooper

Keep Looking Up!

Calendar

The full club calendar is available at <https://www.capefearastro.org/calendar.htm>

December 8

★ Cape Fear Astro Holiday Party ★

SEE SEPARATE ARTICLE ABOVE!

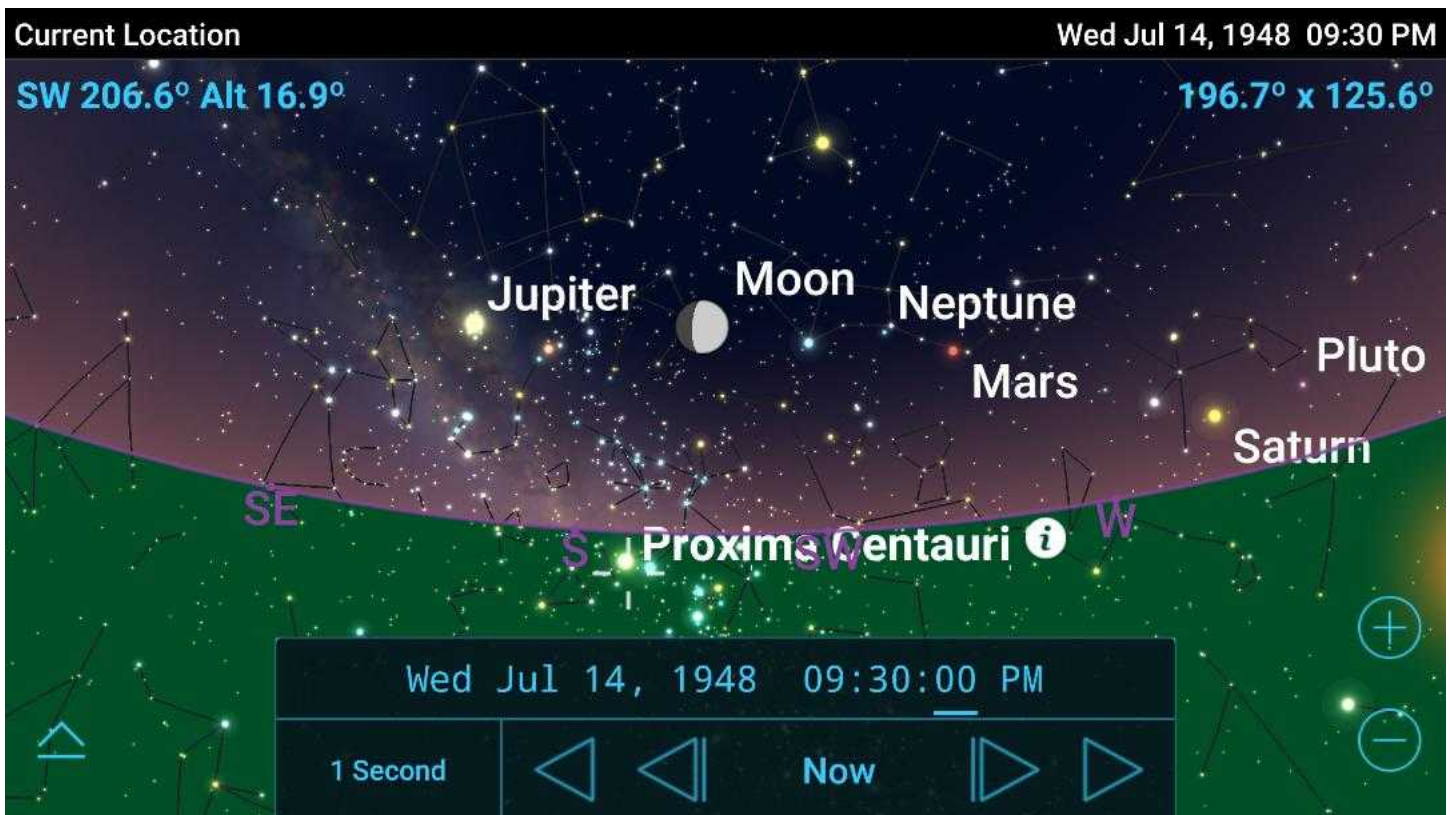
Scheduled December Club Observing Dates:

December 20, 21, 27 and 28

The Night of the Day you were Born

by Karl Adlon

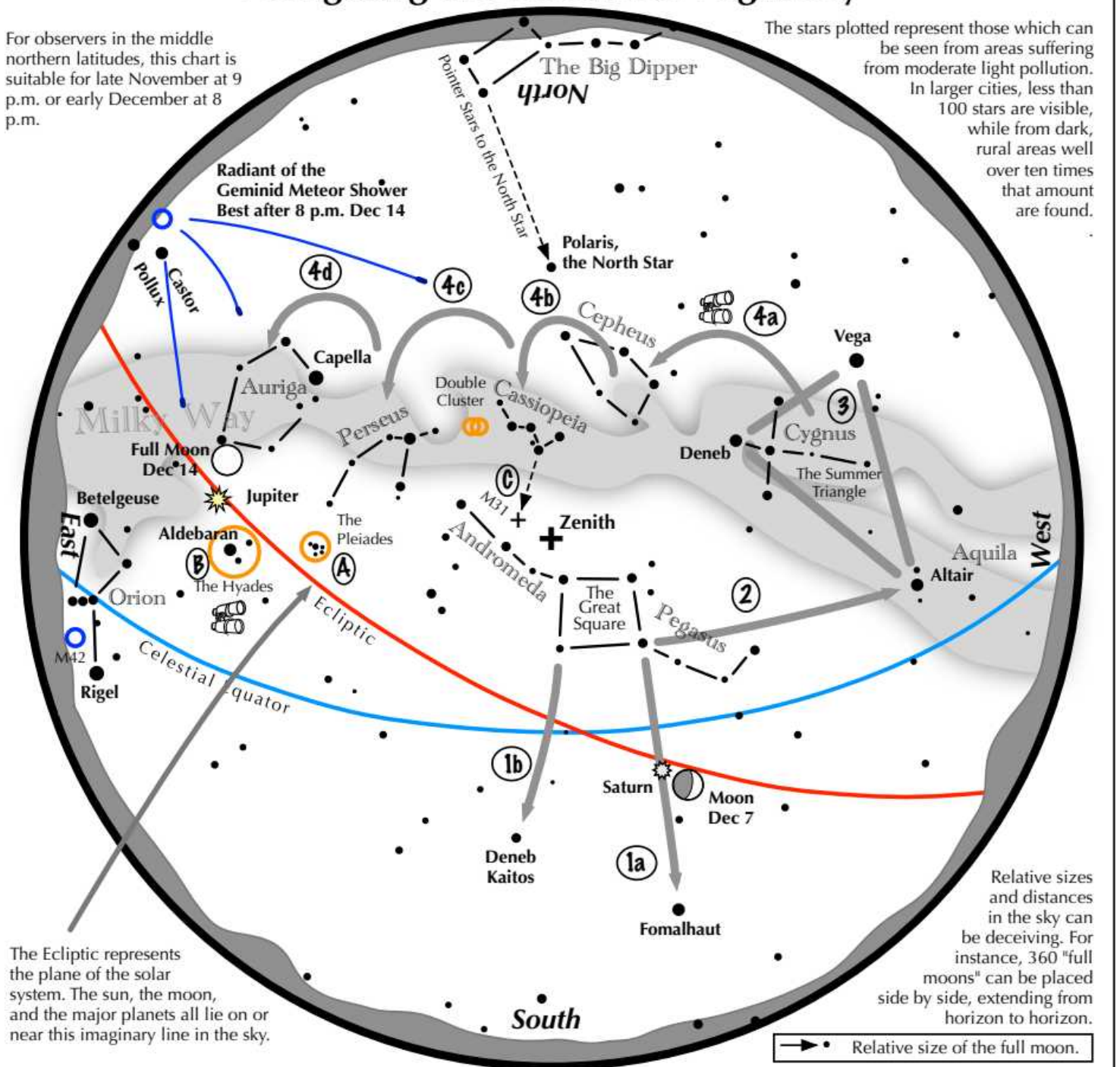
Out of curiosity, I input my birth date to SkySafari. I was quite surprised to see how many solar system objects were up. Maybe they were letting me know they were there so when I got a telescope I should look them up. They had to wait about 15.5 years when I got my first on a **Christmas** morning.



Navigating the December Night Sky

For observers in the middle northern latitudes, this chart is suitable for late November at 9 p.m. or early December at 8 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 December night sky: Simply start with what you know or with what you can easily find.

- 1 Face south. Almost overhead is the "Great Square" with four stars about the same brightness as those of the Big Dipper. Extend an imaginary line southward following the Square's two westernmost stars. The line strikes Fomalhaut, the brightest star in the southwest. A line extending southward from the two easternmost stars, passes Deneb Kaitos, the second bright star in the south.
- 2 Draw another line, this time westward following the southern edge of the Square. It strikes Altair, part of the "Summer Triangle."
- 3 Locate Vega and Deneb, the other two stars of the "Summer Triangle." Vega is its brightest member while Deneb sits in the middle of the Milky Way.
- 4 Jump along the Milky Way from Deneb to Cepheus, which resembles the outline of a house. Continue jumping to the "W" of Cassiopeia, to Perseus, and finally to Auriga with its bright star Capella.

Binocular Highlights

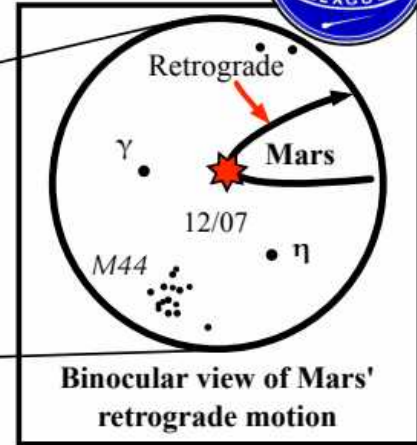
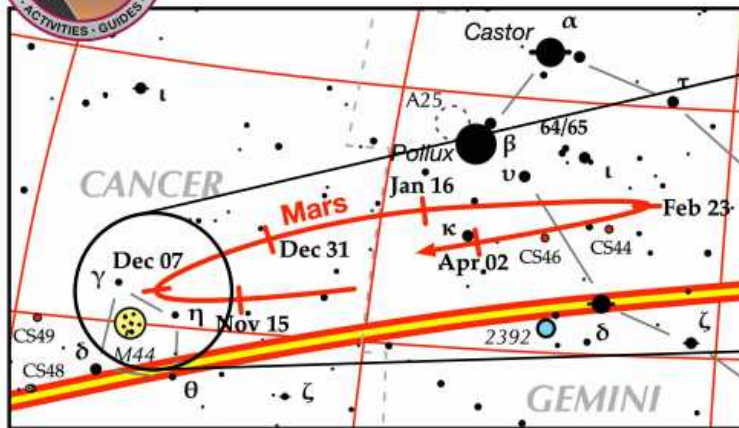
- A and B:** Examine the stars of the Pleiades and Hyades, two naked eye star clusters.
- C:** The three westernmost stars of Cassiopeia's "W" point south to M31, the Andromeda Galaxy, a "fuzzy" oval.
- D:** Sweep along the Milky Way from Altair, past Deneb, through Cepheus, Cassiopeia and Perseus, then to Auriga for many intriguing star clusters and nebulous areas.





Observing Project: Retrograde Motion of Mars

See this for yourself!



Relative apparent size of Mars



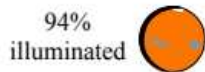
94% illuminated

Dec. 7, 2024
Magnitude: -0.6
Diameter: 12 seconds
Distance: 71 million miles



100% illuminated

Opposition
Jan. 16, 2025
Magnitude: -1.4
Diameter: 15 seconds
Distance: 60 million miles



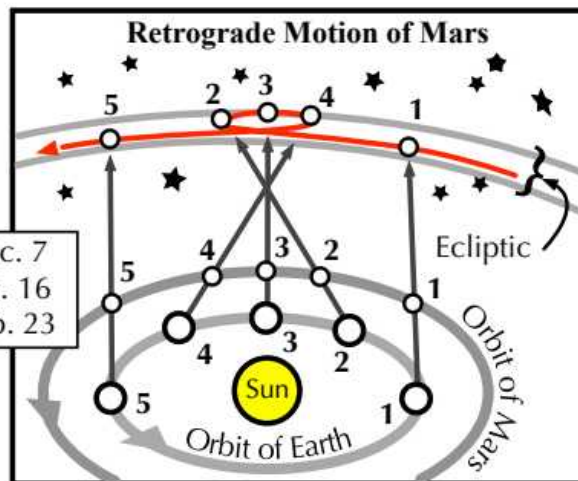
94% illuminated

Feb. 23, 2025
Magnitude: -0.4
Diameter: 11 seconds
Distance: 76 million miles

Over the next four months, observe Mars using binoculars on every clear night, then plot its changing position among the background stars.

Mars nears M44, the Beehive star cluster, in central Cancer in early December. It reaches its closest point to it on December 7, after which it enters retrograde motion, inching westward each evening until February 23, 2025. Mars then lies in central Gemini.

Mars will also be growing in angular size as Earth slowly overtakes it on January 16, 2025. (Actually, the two planets are closest on January 11. The discrepancy is due to Mars' elliptical orbit.) At this time, it shows its largest angular size – 15 arc seconds – until April 2031. By February 23, the Red Planet ceases moving westward nightly, shifting its direction eastward (called prograde motion).



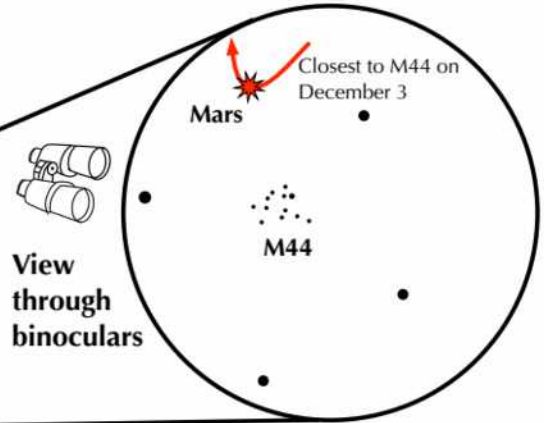
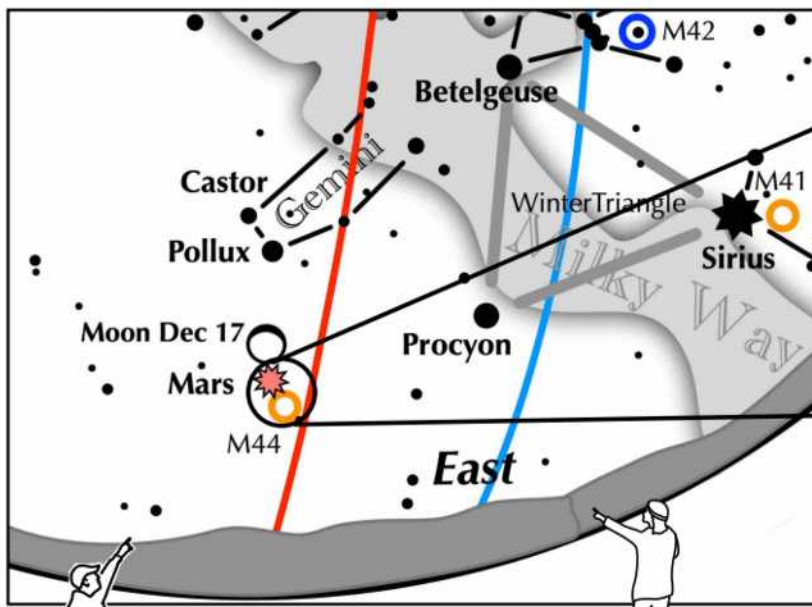
2: Dec. 7
3: Jan. 16
4: Feb. 23

Mars at its brightest, largest & closest:

Jan. 11, 2025
-1.4 mag., 15 arc seconds, 59.8 million miles
It won't come any closer until Apr 11, 2031.

Why do this activity? This planetary dance can only be explained if both Earth and Mars orbit our sun following definable elliptical paths. Our view from Earth clearly shows this to those people who take the time to look carefully enough.

On a moonless evening in December, try this challenge:



View through binoculars

View to the east-northeast in December 90 minutes after sunset

On December 7, Mars starts its retrograde motion, moving slightly each evening westward until February.

Even though Mars and M44 lie near each other in binoculars, they are nowhere near each other in three-dimensional space. M44 is 50 million times farther than the Mars!

It has taken the light from M44's stars over 575 years to reach your eyes!

Mars approaches the Beehive

On evenings in December, the Red Planet flies near the Beehive star cluster. On the night of December 3, it is closest.

Be sure to use binoculars to spot the many stellar bees of M44. The cluster has over 1000 stars, but only two dozen or so will be picked out with binoculars.



Get to Know YOUR Astronomical League



The Astronomical League (Astroleague or AL) is one of the largest amateur astronomical organizations in the world. The organization serves to encourage an interest in astronomy (especially amateur astronomy) and promote the science of astronomy by:

- ✓ fostering astronomical education;
- ✓ providing incentives for astronomical observation and research;
- ✓ assisting communication among amateur astronomical societies.



CFAS is one of over 300 member societies affiliated with the Astroleague. Your membership in CFAS allows you take full advantage of this relationship so periodically review the information below to see how the Astroleague can support your astronomical interests and endeavors.

Astroleague Home Page	www.astroleague.org
About the Astroleague	https://www.astroleague.org/about-us/
AL Observing Programs (Alphabetical Listing)	https://www.astroleague.org/alphabeticobserving/
Night Sky Tools	https://www.astroleague.org/navigating-the-night-sky-guides/
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Current and Past Issues of <i>Reflector Magazine</i>	https://www.astroleague.org/reflector/
Additional AL News, Information and Reminders	<p>Click HERE for the Astroleague News Page and be sure to check the Astroleague Home Page weekly for new and important posts.</p> <p>Contact Hank Lyon, hlyon8448@gmail.com, for any changes to your Reflector delivery preferences (US Mail, Email or Both).</p>

The Astroleague Correspondent (or ALCor) is your link between CFAS and the Astroleague. Don't hesitate to contact your ALCor if you need assistance with anything Astroleague related whether its general information or detailed coordination of observing program completions for certification. Check back each month to see any new links, postings or reminders.

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CFAS Correspondence:

Please contact the society at: CFAS, P.O. Box 7685, Wilmington, NC 28406

Members are welcome and encouraged to submit articles or other input for "CAPE FEAR SKIES". Submit any and all interesting items for publication to Karl Adlon, Editor (email kmja79@yahoo.com).

Cape Fear Astronomical Society is a tax-exempt organization under Section 501(c)(3) of the Internal Revenue Code.

CFAS Officers:

President: Ben Steelman
 Vice-Pres: Karl Adlon
 Associate VP: Jon Stewart-Taylor
 Secretary: George Pappayliou
 Treasurer: Bill Cooper
 ALCor: Hank Lyon

Dues: Dues for 2024 are \$25 for Individual and \$32 for Family Membership. Students dues are \$5 per year.

Mail to: CFAS, P.O. Box 7685, Wilmington, NC 28406

Contact Us:

You can contact CFAS at info@capefearastro.org

Our website is <http://www.capefearastro.org/>