CAPE FEAR Skies

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

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

June 2023

No President's Message This Month

> *There was an inn, a merry old inn*
> *beneath an old grey hill,*
> *And there they brew a beer so brown*
> *That the Man in the Moon himself came down*
> *one night to drink his fill.*
>
> J.R.R. Tolkien

More than the Moon

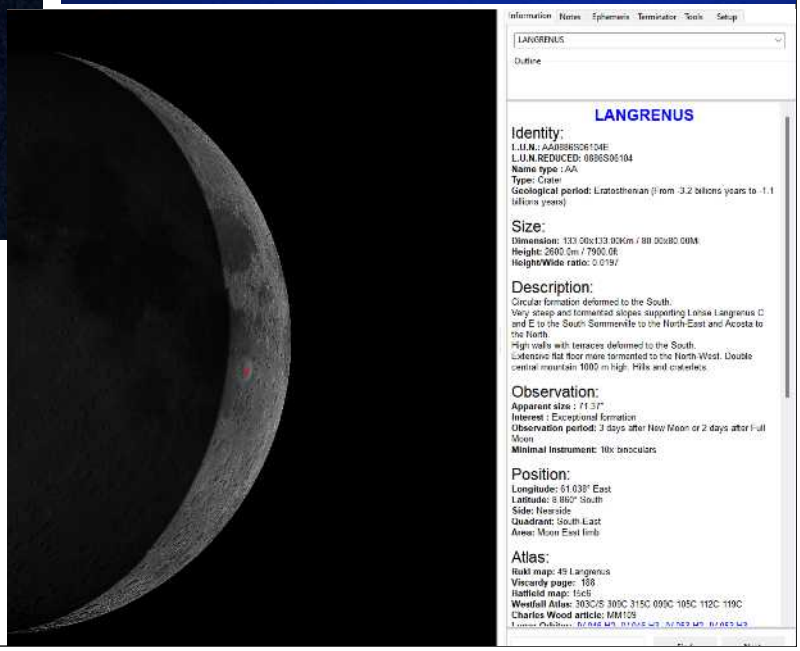
Look carefully and you'll see Venus in the top, left of the picture. It was more obvious in the sky. It was taken on May 22nd when the Moon was 3.3 days old,

Below is a closer picture of the Moon with the lens zoomed in more.

Virtual Moon Atlas is a freeware program you can download.

You can click on an object (hopefully you can see the tiny red dot on that crater in the middle of the crescent) and it will tell you the name of the objeact and additional information.

-Karl Adlon



Calendar

June 2023

Date – Event – Time

04 Full Moon

09 Club Observing @ Starfields (the Club Observatory); 7:00 PM; 3rd Quarter Moon

10 Club Observing @ Starfields (the Club Observatory); 7:00 PM; 3rd Quarter Moon

10 Last Quarter Moon

11 ★ Cape Fear Astro Monthly Meeting ★

CFAS Monthly Meeting - 7:00pm – 9:00pm

212 DeLoach Hall; UNCW

Also simulcast via Zoom

16 Club Observing @ Starfields (the Club Observatory); 7:00 PM; New Moon

17 Club Observing @ Starfields (the Club Observatory); 7:00 PM; New Moon

18 New Moon

21 June Solstice (northern Summer Solstice)

24 Public Observing; 08:00 PM; Public Observing Session; starts at sunset; Carolina Beach State Park

24 Public Observing 08:20 PM Public Observing Session; starts at sunset Carolina Beach State Park

26 First Quarter Moon

Astro phenomena from:
https://www.universalworkshop.com/astronomical-calendar-any-year/

Special Interest Groups (SIGs)

Usual meeting dates – watch emails for exceptions

Phenomena:	First Wednesday
Both Eyes:	Second Tuesday
Telescope Usage:	Third Tuesday
New Astronomer:	Third Wednesday
Outreach:	Fourth Tuesday

2023 Public Events

Watch this space for 2023 Public Events. If you haven't done one before, perhaps make a New Year resolution to try on – you might like it!

June 24 – CBSP

July 22 – CBSP

August 26 – CBSP

September 23 – CBSP

October 21 - International Observe the Moon Night – Location TBD

October 21 – CBSP

CBSP = Carolina Beach State Park

2023 Monthly Meeting Dates *and Presentation*

June 11, 2023
Dr. Barbara Becker; 'Risky Business: Solar Eclipse Chasing in the 18th Century'

July 9, 2023
Allen Hillburn and Ronnie Hawes; CFAS at 40, club history.

August 13, 2023
(Tentative): Field Trip to Ingram Planetarium

September 10, 2023
Frank Rich on Eyepieces

October 8, 2023
Dr. Narcisa Pricope, UNCW Earth and Ocean Sciences; topic TBD

November 12. 2023
OPEN

December 10, 2023 (Date and time may change for Holiday Celebration)
Holiday Celebration (and annual meeting?)

New Class of Electronically Assisted Astronomy and Astrophotography Telescopes

by Jon Stewart-Taylor

There are a new category of small, low cost, fully automated Electronically Assisted Astronomy / AstroPhotography scopes. The price point is under $500. The current contenders are the Dwarf 2 and the ZWO Seestar S50.

Both are small refractor, fully automated, imaging-only scopes controlled by phone/tablet apps. They are comparable to the stellina or unistar automated imaging-only scopes. Though not quite as capable, the new class of scopes cost only a quarter as much.

The Dwarf 2 has been in production for several months, and there are many people posting images and reviews. It is generally highly regarded.

The ZWO Seestar 50 is currently being pre-sold, but not yet in production. The promised delivery date has slipped a month from June to July. It appears to be a bundling and repackaging of a number of existing popular ZWO products into a single unit.

There is a comparison of the specs at:

https://skiesandscopes.com/dwarf-ii-vs-zwo-seestar-s50/

A comparison of the telescopes themselves isn't possible, because no Seestar S50s have been delivered yet. TLDR, I note the following differences:

- Seestar pre-order price is about $50 less than the current Dwarf retail price.
- The Seestar has a 50mm aperture, the Dwarf only 24mm.
- The Seestar has 255mm focal length, the Dwarf only 100mm.
- The Dwarf has an 8 Mpixel camera, the Seestar only 2 Mpixel
- Dwarf has 2 fields of view, one 50º, one 3º. Seestar FOV is 1.3º x .73º.

Based on the Cloudy Nights reviews of the actual Dwarf scopes, and the Cloudy Nights speculation based on ZWO's reputation and the specs, i'm drawing the following impressions:

- These come very close to actually delivering the heavens with no prior knowledge, at a non-astronomer's budget.
- The images produced are very good for the low cost of the systems.
- The images are easy to share using phone/pad devices.
- The Dwarf is also aimed at terrestrial and nature photography.
- With the larger aperture and longer focal length, the Seestar will probably perform better on small deep-sky objects
- Neither will give exciting views of planets, though both will produce good moon images.
- The Dwarf will have the advantage of a lead on bug fixes and hardware improvements due to being in production before the Seestar.
- I'm strongly tempted to pre-order the Seestar, based on the larger aperture and longer focal length.

If anyone has experience or input they want to share, please post to the emailing list.

Here are some images taken with the Dwarf II:

Moon:
https://www.cloudynights.com/uploads/monthly_05_2023/post-26535-0-51348900-1683636571.jpeg

M81/82:
https://www.cloudynights.com/topic/803929-dwarfii-mini-scope-thoughts/page-29?hl=%20telephoto

NGC 7496

From https://throughlightandtime.com/ngc-7496-lrgb-rev-1-crop-cdk-1000-7-feb-2023/ :

NGC 7496 is a barred spiral galaxy 24 million light years away in Grus. It has a very active nucleus and has recently been studied by Hubble and the James Webb Telescope. It has been rarely imaged by **Amateur Astrophotographers.**

Imaged in LRGB on our Planewave CDK 1000 [a meter-class telescope] at Observatorio El Sauce, Chile.

Image Processing: Mike Selby and Mark Hanson

Being very low in the south at its highest and being magnitude 10.95, NGC 7496 is probably not worth trying to observe from the Cape Fear region.

From https://esahubble.org/images/potw2222a/ :

This image from the NASA/ESA **Hubble Space Telescope** shows the barred spiral galaxy NGC 7496. This image comes from a collection of observations delving into the relationship between young stars and the cold, dense clouds of gas in which they form. In addition to observations with Hubble's Wide Field Camera 3 and Advanced Camera for Surveys, the astronomers behind this project gathered data using the Atacama Large Millimeter/submillimeter Array (ALMA), one of the largest radio telescopes in the world.

As well as shedding light on the speed and efficiency of star formation in a variety of galactic environments, this project is also creating a treasury of data incorporating both Hubble and ALMA observations. This treasure trove of data from two of the world's most capable observatories will contribute to wider research into star formation, as well as paving the way for future science with the James Webb Space Telescope.

Bottom image: From https://webbtelescope.org/contents/media/images/2023/104/01GS80C07PR7ZDXGKDT5ATRD8C

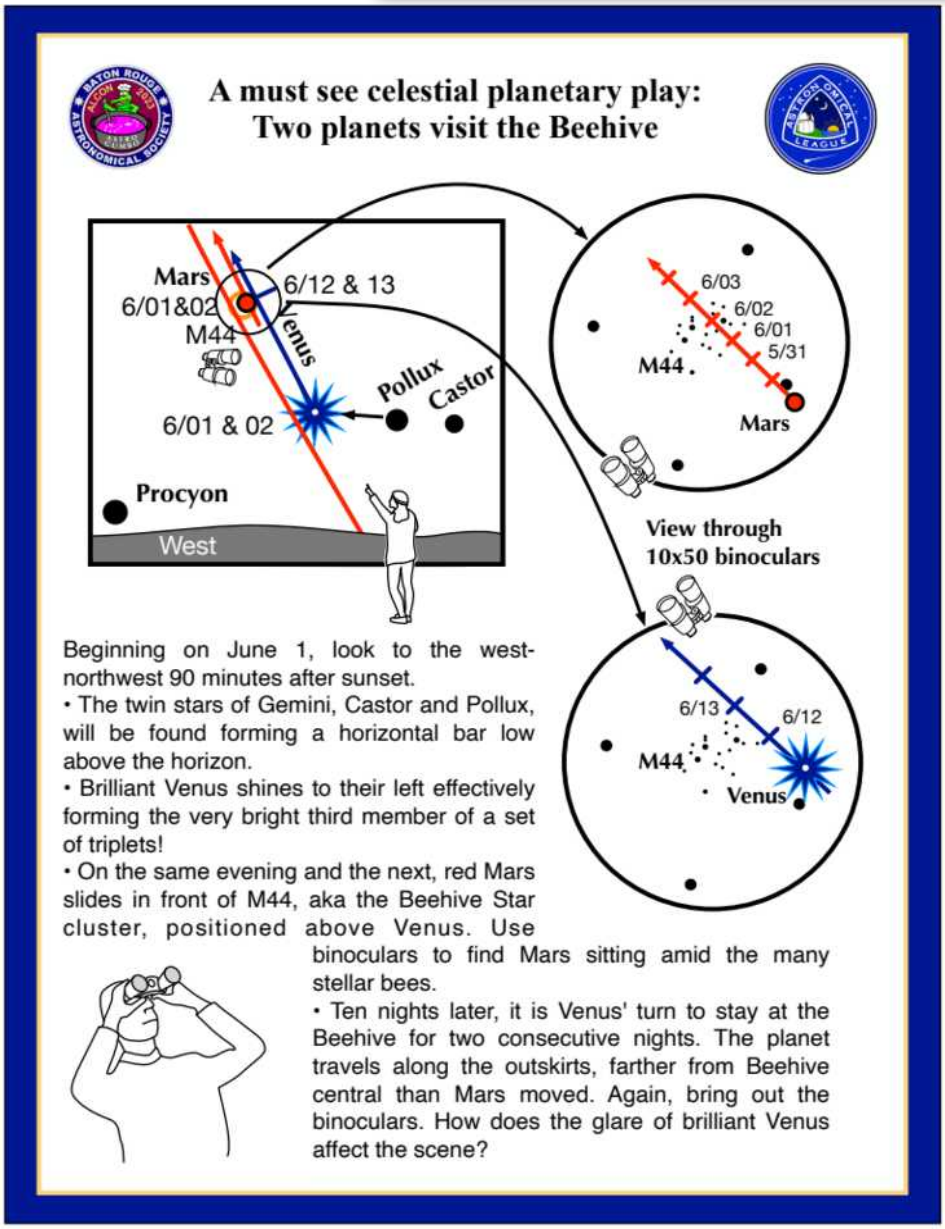
Scientists are getting their first look with NASA's James **Webb Space Telescope**'s powerful resolution at how the formation of young stars influences the evolution of nearby galaxies. The spiral arms of NGC 7496 are filled with cavernous bubbles and shells overlapping one another in this image from Webb's Mid-Infrared Instrument (MIRI). These filaments and hollow cavities are evidence of young stars releasing energy and, in some cases, blowing out the gas and dust of the interstellar medium surrounding them.

Until Webb's high resolution at infrared wavelengths came along, stars at the earliest point of the lifecycle in nearby galaxies like NGC 7496 remained obscured by gas and dust. Webb's specific wavelength coverage allows for the detection of complex organic molecules called polycyclic aromatic hydrocarbons, which play a critical role in the formation of stars and planets. In Webb's MIRI image, these are mostly found within the main dust lanes in the spiral arms.

Astronomical League Information

by Karl Adlon

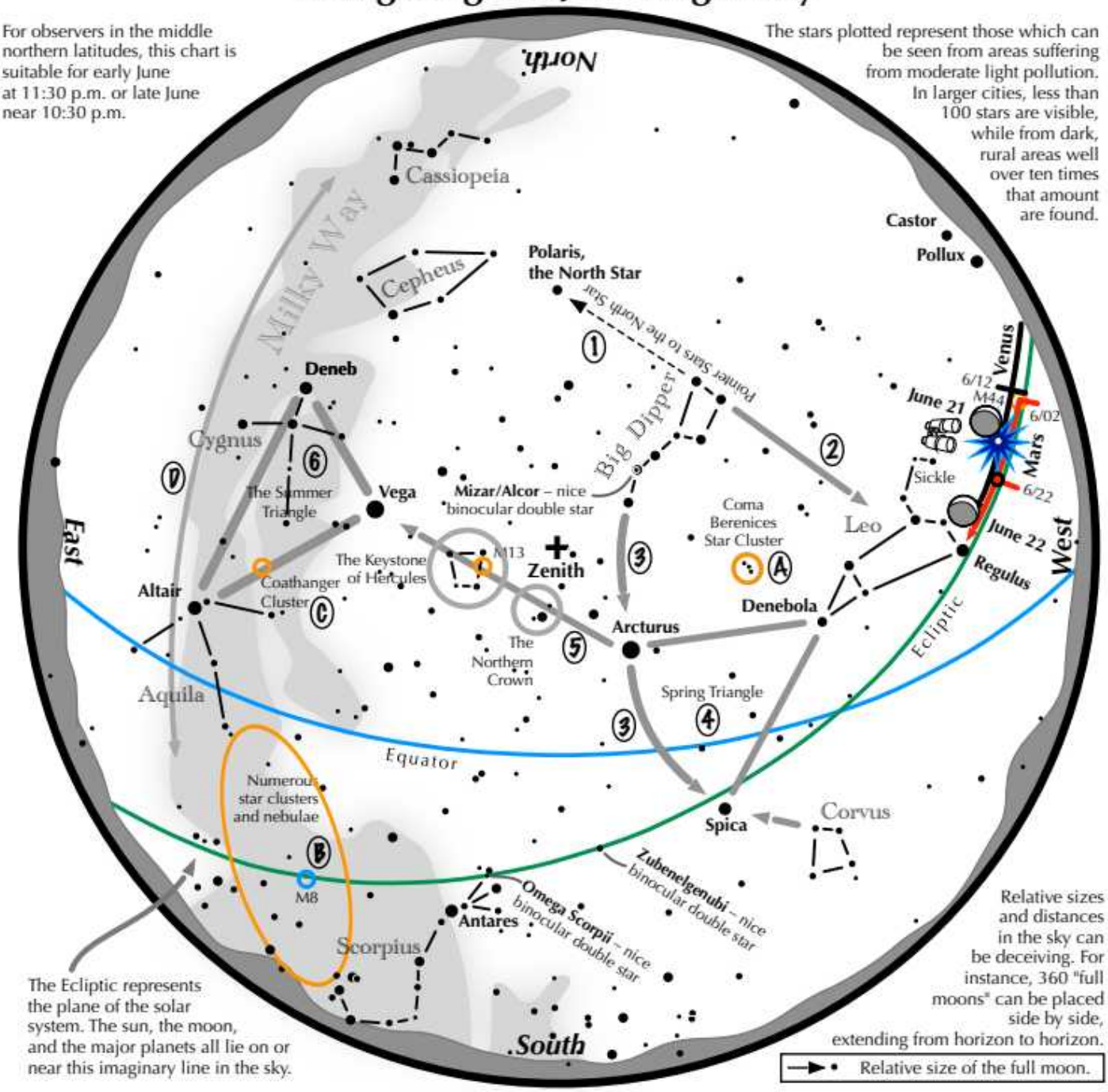
The AL requested that I include these 3 items:



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.

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
AL Observing Programs List	https://www.astroleague.org/al/obsclubs/AlphabeticObservingClubs.html
Astro Notes *(Info and Tools for Amateurs)*	https://www.astroleague.org/al/astrnote/astnotes.html
Solar Active Regions	https://www.astroleague.org/SkyThisWeek/Sun
Current and Past Issues of *Reflector Magazine*	https://www.astroleague.org/reflector
Additional AL News, Information and Reminders	Information was recently circulated via email about CFAS vote for AL Secretary and two (2) AL By-law amendments. Please be prepared to make a decision regarding our club vote during the June meeting. Registration is open for the Astronomical League Convention (ALCon 2023) in Baton Rouge, LA, July 26th to 29th. Click this link for more information and to register. Happy with your *Reflector* magazine delivery preferences (digital or snail mail)? If not, please let your ALCor know your preference. Your current CFAS ALCor is Hank Lyon, hlyon8448@gmail.com.

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.

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:	Brendan O'Byrne
Associate VP	Jon Stewart-Taylor
Secretary:	George Pappayliou
Treasurer:	Bill Cooper
ALCor	Hank Lyon

Dues: Dues for 2023 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/