# CAPE FEAR Skies

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

***September 2019***


## Vice President's Report

by Jon Stewart-Taylor

Cape Fear Astro had a pretty full public outreach in August. Our monthly Carolina Beach State Park (CBSP) session was well attended, and Steve Hilliard and I showed about a dozen people the moon, Jupiter, and Saturn. We also had two events associated with the Summer Reading Program "A Universe of Stories" at public libraries, which focused on space-related books. At Pender County's Hampstead branch I did the Model Solar System, followed by a wide-ranging discussion which included black holes. At Duplin County's Kenansville branch I did the Model Solar System, then moon, Jupiter, and Saturn through telescopes.

September will be relatively quiet: we just have the CBSP session on the 7th. As a bonus, the Pender County Public Library will get the NC Starlab (an inflatable planetarium similar to the one at the Cape Fear Museum {CFM}). It will be in various locations around the county, but will spend much of its time at the Main branch in Burgaw. Would anyone be interested in developing a program for it? I believe it's driven by a standard Windows PC, and runs Stellarium. More info to the e-mailing list as I learn more.

October and November look to be pretty busy. In October, we'll have the last CBSP event for the year, … and … International Observe the Moon Night in partnership with CFM, both on October 5th. Plus in November we'll have a presence at the Cape Fear Fair (sometimes called the FairPort) the weekends of November 1st-3rd and 8th-10th.

Please be thinking about taking a turn at staffing the Cape Fear Astro booth at the fair. It will be by far our biggest public exposure in years, and there are a lot of booth hours to cover. We have enough members that if everyone takes at least one shift, no one member will have undue responsibilities.

At this point, we have nothing scheduled in December. If that changes, I'll keep you posted. And, as always, feel free to reach out to your local communities about astro events. I'll be happy to assist in any way I can.

## Next CFAS Monthly Meeting

Sun, September 8, **7:00pm** – 9:30pm
212 DeLoach Hall, UNCW Campus

Presentation: Jon Stewart-Taylor - Light Sail 2.

## GAStronomy Meeting

Sun, September 8, **5:00pm** – 6:45pm
(Dinner, prior to the Monthly Meeting)

Elizabeth's Pizza, 4304 1/2 Market Street

## Next Event - September Public Star Party

September 7, **7:00pm** – 9:45pm
Carolina Beach State Park

## Cape Fear Astro Calendar for September 2019

Jon Stewart-Taylor

Calendar of Events for September, 2019

Events marked with ★ are Cape Fear Astro events.

06 New Moon
★ 06 Friday observing at Starfields
★ 07 Saturday observing at Starfields
★ 07 Public Observing at Carolina Beach State Park

08 Moon < 0.2 deg from Saturn in evening sky
★ 08 Cape Fear Astro Monthly Meeting
10 Neptune at opposition
14 Full Moon

★ 20 Friday observing at Starfields
★ 21 Saturday observing at Starfields
20 Last Quarter Moon
23 September Equinox

★ 27 Friday observing at Starfields
★ 28 Saturday observing at Starfields
28 New Moon

## Tourist Traps #2: Deep-Sky Objects in Scorpius for Public Observing Sessions.



"Tourist Trap" is my code-word for the objects to view during public observing sessions. They should have one or more of the following characteristics:

★ Easy to find, even in light-polluted conditions.
★ Able to stand up to a bright background sky.
★ Representative of a class of objects.
★ Unusual or distinctive trait or appearance.

In this second article in the "Tourist Traps" series, we'll cover some suggested objects for the northern-hemisphere summer. Summer skies contain an embarrassment of riches for public observing sessions: lots of bright, easy-find objects, most of which are more interesting than "fuzzy blobs". In this article i'll discuss four objects in Scorpius: a double star and 3 star clusters.

Graffias: Beta SCO, Double star. This is pretty bright at magnitude 2.5, and easy to find in the claws of the scorpion. The two stars are both white, and easily separated in small scopes. The primary is brighter at magnitude 2.6 compared to the secondary at 5. There's a third companion which is only resolvable in quite large scopes, and the primary is a spectroscopic double, too close to resolve in any telescope on earth. An occultation (by Jupiter's moon Io in 1971) showed the brighter companion is also a very close binary, so the system is actually a quintuple, but most amateur scopes will only show two. Graffias is about 600 light years away, and gives out about 2,700 times as much light as our sun.

M4, Globular cluster. M4 is one of the largest (in apparent size) and closest globular clusters, and fairly bright at magnitude 6.5. For observers in the northern hemisphere it suffers somewhat for being so low in the southern sky, but it's still worth visiting. It's only a degree or so to the "right" of Antares, so it's easy to find, and on good nights will resolve into individual stars in a 4" diameter or larger scope. M4 contains at least 10,000 stars, and lies about 6,000 light years away. The much smaller globular NGC 6144 is nearby. On a dark night with a big scope it can be an interesting contrast to M4, but usually won't fit in the same field of view. Showing both M4 and 6144 may not be suitable for public sessions when you've got a line at your scope.

M6: The Butterfly Cluster, open cluster in Scorpius. This cluster (along with M7) is located above the tail of the scorpion. It's easily detectable in binoculars, and resolves into stars in just about any scope. It gets its name from several straight chains of stars forming a 'body' and 'wings', though I'm more inclined to think it resembles a dragonfly. A highlight is a variable star near the junction of the body and wings. It varies between 6$^{th}$ and 8$^{th}$ magnitude over about 2 years, and is usually a bright orange in contrast to the blue or white of the other cluster members. M6 contains about 80 stars spread out over about 20 light years, and is about 1,600 light years away.

M7: Ptolemy's Cluster, open cluster in Scorpius. Located about 3.5 degrees south-east of M6, M7 is visible to the unaided eye under good conditions. It's large and bright enough to be a good object for binoculars or a finder-scope. Both M6 and M7 will appear in the same binocular field of view, and M7 may be more attractive in binoculars than at the higher powers a scope gives. M7 contains about the same number of stars as M6 (80) but they're spread over 20 light years . M6 is also much closer than M6, about 800 light years.

Next article I'll discuss some of the objects in Sagittarius and Scutum.

## Photos of The August Meeting

As you know, the Monthly Meeting starts at 7 PM with 30 minutes of business, both old and new, and including topics from the members.

*Above: President Terry Herrin leads the business portion of the meeting. Counting me, there are 5 members at the meeting not shown in this photo.*

After the business meeting there is a short break. This is followed by a presentation, a video or something else of interest. The topic for August was "Bring an item and tell us about it!"

First up, Ronnie Hawes brought a box of binders of club archives, newsletters, etc. and gave them to Jon, who plans to scan them and make them available to the club.

Other items that Members brought include:

- ★ a Daystar Quark narrow bandpass filter (Hydrogen Alpha) that allows you to see interesting features on the Sun
- ★ an amazingly compact 10x3 Maksutov spotting scope
- ★ a moon globe from the early '70s
- ★ an apodizing mask made from window screen and foam core (https://www.telescope-optics.net/apodizing_mask.htm)
- ★ electric heater to drive off dew from cameras and scopes
- ★ a handy home-made waterproof eyepiece storage box
- ★ Red goggles that help preserve your night vision when entering areas of white light

## One Night Before I Retired

by Karl Adlon

It was a summer evening and it is was pretty clear out, but having to work the next day, I couldn't go to the observatory with its almost hour drive each way.

*{Coincidently, that's about how long a drive it is now for me to Starfields. But with the advantage that I don't have to work the next day.}*

I remember seeing, either in an old Sky & Telescope magazine or a book on astronomy, a **black & white**, wide field photo of the Lagoon Nebula (Messier 8; M8). The bright white nebula was surrounded by inky blackness speckled with white stars.

If you haven't seen a similar picture, here's one I took and processed to resemble what I'm talking about.

Well, a friend, having several binoculars, sold me a pair of 15x70 binoculars. I grabbed them and walked to the end of the street. This overlooked a dentist's 20 acre lot, so no streetlights in this direction toward the south.

My thought was that M8 should look OK but not great since this was above the city lights. I located the Teapot asterism and aimed the binoculars above the spout.

Bam! There is was! Bright! Just like in the picture!

I just stood there looking, not believing what I was seeing. I think I was more impressed by that view than through the club's 20" f5 Newtonian!!

## A Few Things from the Editor

CAPE FEAR Skies

"Cape Fear Skies" Volume 1, Issue 1 did not have a logo. Issue 2 used the logo at left. As soon as I saw it I liked it and have incorporated it in this issue. To: Ronnie, for preserving it, and Jon, for scanning it: "Thank You!"

## CFAC 20 Years Ago

You know how you have forgotten something; haven't thought of it in years and years; and suddenly it pops in your head unbidden? Here's my latest: I was a member of the Cape Fear Astronomy Club in 1988 and 1989. I was working quite a bit then, so attending meetings was about all I did.

In conjunction with a Mars Opposition, the Cape Fear Astronomy Club had some t-shirts made. And they were quite reasonable, AKA, cheap! The printer sold them at HUGE discount **because** of a typographical error.

ASTRONOMY became ASTROMONY! Or as I liked to say: "ASTRO MONEY"

For fun, I googled astromony. Try it! I wonder how many people don't know that they spelled it wrong!!

Not as bad as being called an astrologer, though!

ps – You can't be a siesmic engineer, but you can be a seismic engineer! {Ask me about it, if you want. -Karl}

## When does Twilight End?

Excerpted from the U.S. Naval Observatory website:

- ★ **Civil twilight** is defined to begin in the morning, and to end in the evening when the center of the Sun is geometrically 6 degrees below the horizon. This is the limit at which twilight illumination is sufficient, under good weather conditions, for terrestrial objects to be clearly distinguished.
- ★ **Nautical twilight** is defined to begin in the morning, and to end in the evening, when the center of the sun is geometrically 12 degrees below the horizon. During nautical twilight the illumination level is such that the horizon is still visible even on a Moonless night allowing mariners to take reliable star sights for navigational purposes, hence the name.
- ★ **Astronomical twilight is** defined to begin in the morning, and to end in the evening when the center of the Sun is geometrically 18 degrees below the horizon. Before the beginning of astronomical twilight in the morning and after the end of astronomical twilight in the evening, scattered light from the Sun is less than that from starlight and other natural sources. For a considerable interval after the beginning of morning twilight and before the end of evening twilight, sky illumination is so faint that it is practically imperceptible.

Mid-September Astronomical Twilight Times:

Ends 8:43 PM and Begins 4:32 AM – Astronomy of dim objects is best performed between these times. –Karl

## A Link With Lots of Astronomy Links

http://www.californiastars.net/links.php



### 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).

### CFAS Officers:

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