

Volume 5 No. 7

Wilmington, NC

Cape Fear Astronomical Society
July 1990

#### July Meeting Announcement

Sunday July 1, 1990 7:00 PM Bryan Auditorium Morton Hall UNCW Campus

The next meeting of the Cape Fear Astronomical Society will be held on Sunday July 1, 1990 in the Bryan Auditorium of Morton Hall on the UNCW Campus. The Business meeting will begin at 7:00 PM EDT.

The general meeting will begin at 7:30 PM. The program for this months general meeting will be a slide presentation titled: An indepth overview of astronomy in the Tucson Arizona area. This presentation will be presented by socity member Tom Jacobs. (see Editor's Emissions page 2)

There were 9 members and 4 telescopes and a crowd of about 20 people and one dog, of course, mosquitos. The weather for the saturday night had been mostly cloudy. We still gave a short program about the Hubble Space Telescope and other topics of astronomical interest. During a break in the clouds, Doug Green set his telescope up for the people still present to see the moon. We all left shortly before 10pm. All things considered, it was a nice star party. We will do it again on the 16th of June and hope for better weather. Ronnie also said that we still plan to have an Astronomy Day display on June 23 and 24.

Tom Jacobs talked briefly about his recent trip to Tucson Arizona and several observatories. He will tell more about it and show slides at a future meeting.

Martin informed us on the activities of the Astronomical League.

After the break, Doug shared with the society his slides of his trip to Space Camp in Huntsville, Alabama.

Our main speaker was Mr. Bob Melvin who gave a talk on the differences between Amateur and professional astronomy; and the roles they play in the science of astronomy. There were 13 members and one visitor in attendance.

Ronnie Hawes Secretary

# Meeting Minutes from June

Sunday June 3, 1990

Since Alan Hilburn was out sick, Martin Best presided over the meeting. He called the meeting to order at 7:15 pm. He informed us that Alan had collected about \$60.00 at the yard sale. Ronnie Hawes told the membership about the public viewing session at the Carolina Beach State Park on Saturday June 2ed.

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# The Case of the Missing Lock

On Sunday afternoon June 17th Paul Petty went to the Hampstead observing site to cut the grass along Fear Skies ... I'm back. the driveway and do some other general cleanup tasks. What Paul found when he arrived at the Hampstead June issue in my absence. site was the side door unlocked and wide open.

structure. However, Paul Petty; Ronnie Hawes; and your Editor all searched the grounds for the missing

lock without success.

The lock appears to have unlocked itself and

walked away from the Hampstead site.

A replacement lock is already in use at the site. A mailing label with the new combination has been included with this issue of the newsletter. All of the old attach this label to anything at the Hampstead viewing

If you find that the lock has stowed away in your vehicle after you were using the viewing site please return the lock to Paul Petty or any society officer.

# Editor's Emissions

Just when you thought it was safe to read Cape

My thanks to Herman Bryant for producing the

I have returned from an astronomy seminar held There is no trace of damage or vandalism to the in Tucson Arizona. The seminar was titled: The New Astronomies and was a joint effort of the Smithsonian Institution and the University Of Arizona. Photograph I took during the lectures, held on the campus of the University of Arizona, and tours of both the Kitt Peak and Mt. Hopkins observatories will be the heart of this months general program. (Ronnie told me to take lots of pictures; I did.)

There was much to see and study in Tucson. rules on observatory access still apply. Please do not Many of the mountain tops surrounding the city of Tucson contain an observatory. I am looking forward

to sharing this with the membership.

During my stay in Tucson several of the speakers were seeking help on the Mt. Graham Observatory. Both Astronomy and Sky & Telescope magazines have been covering the controversy surrounding this

new observatory.

The tactics of the opposition to the observatory have thrown the Mt. Graham issue back into the political arena. The astronomers of the University of Arizona asked me (and I am asking you) to write to selected members of Congress in support of the Mt. Graham observatory.

For more information or address to write to support the Mt. Graham observatory please contact me.

Next months soapbox topic will be the International Dark-sky Association (IDA).

### The Reflector and New Horizons

Several of the membership have complained to the society officers about not receiving their copy of either The Reflector or New Horizons (the Astronomical League's quarterly newsletters for the U.S. and southeastern region). Your editor is among those who have been missed.

Subscriptions to both of these publications are included in your annual dues to the CFAS. If you have not been receiving your copies please contact Wayne Teachy; Paul Petty; or any society officer.

#### (Sky Calendar from page 3)

cension 22:36; declination -17°; speed medium; ZHR = 10 to 35

Monday: Jul 30

Astronomical twilight begins.

6:20 Sunrise.

20:13 Sunset.

Astronomical twilight ends. 21:50

Pluto is stationary in right ascension; resumes di-±22:00 rect motion.

Tuesday: Jul 31

Moon at apogee. Distance from the Earth is 63.5 ±4:00 Earth-radii.

Astronomical twilight begins. 4:44

6:20 Sunrise.

20:00 Current Julian date is 244 8103.5

20:12 Sunset.

Astronomical twilight ends. 21:49

Astronauts Dave Scott and Jim Irwin are the first to use the Moon Buggy in exploring the Moon on this date in 1971.

# Sky Calendar for July 1990

(All times are given in Eastern Time. Times preceded with the "±" symbol are ±30 minutes of the time listed.)

Sundex: Jul 1	
6.02 Sunset. 22:11 Astronomical twilight ends. 42:3 Astronomical twilight begins. 6.02 Sunse. 23:13:00 Mercury is in superior conjunction with the Sun, moves into the evening sky. 20:26 Sunset. 22:10 Astronomical twilight ends. 22:10 Astronomical twilight ends. 22:10 Astronomical twilight ends. 22:10 Astronomical twilight ends. 23:11:00 Venus passes 4° north of Aldebaran. 24:12:00 Mond at apogee. Distance from the Earth is 63.6 Earth-raddi. 26:03 Sunrise. 27:10 Astronomical twilight ends. 28:11:00 Venus passes 4° north of Aldebaran. 29:12:00 Mond at apogee. Distance from Sun Earth is 10167228 au. 29:12:00 Mond at apogee. Distance from Sun Earth is 10167228 au. 29:12:00 Mond at apogee. Distance from Sun Earth is 10167228 au. 29:12:00 Material phelion, distance from Sun Earth is 10167228 au. 29:12:00 Autonomical twilight begins. 29:03 Sunset. 29:03 Sunset. 29:04 Astronomical twilight begins. 29:05 Sunset. 29:05 Sunset. 29:05 Sunset. 29:06 Sunset. 29:06 Sunset. 29:06 Sunset. 29:07 Astronomical twilight begins. 29:08 Sunset. 29:09 Astronomical twilight begins. 29:09 Astronomical twilight ends. 29:00 Limit the sundance from the Sun astronomical twil	ictance from the
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22-11 Astronomical twilight legins. 4-23 Astronomical twilight legins. 4-18 Astronomical twilight legins. 4-18 Astronomical twilight ends. 2-2-10 Mercury is in superior conjunction with the Sun; moves into the evening sky. 2-2-10 Astronomical twilight ends. 2-2-10 Astronomical twilight ends. 2-2-10 Astronomical twilight legins. 4-18 Astronomical twilight ends. 2-2-10 Astronomical twilight begins. 3-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2-2	ladii.
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6-02 Sunrise.  13-09 Mercury is in superior conjunction with the Sun; moves into the evening sky. 20-26 Sunset.  20-27 Sunset.  20-28 Sunset.  20-28 Sunset.  20-29 Sunset.  20-20 Sunset.  20-20 Sunses.  20-21 O Astronomical twilight ends.  11-100 Venus passes 4° north of Aldebaran.  20-22 Sunset.  20-23 Sunsise.  20-24 Sunset.  20-25 Sunset.  20-26 Sunset.  20-27 Sunset.  20-28 Sunset.  20-28 Sunset.  20-29 Astronomical twilight ends.  21-10 Astronomical twilight begins.  21-10 Astronomical twilight ends.  21-10 Astronomical twilight ends.  22-10 Astronomical twilight e	an or the moon.
## 1430 Mercury is in superior conjunction with the Sun; moves into the evening sky.  20:26 Sunset.  22:10 Astronomical twilight ends.  4:18 Astronomical twilight begins. 6:103 Sunrise.  21:100 Venus passes 4° north of Aldebran. 21:200 Moon at apogee. Distance from the Earth is 6:36 Earth-radii. 22:10 Astronomical twilight ends. 23:10 Astronomical twilight ends. 24:10 Sunrise. 20:26 Sunset. 21:20 Sunset. 20:26 Sunset. 21:20 Marconomical twilight ends. 21:20 Sunset. 22:10 Astronomical twilight ends. 22:20 Astronomical twilight ends. 22:20 Sunset. 22:20 Astronomical twilight ends. 22:20 Sunset. 22:20 Astronomical twilight ends. 22:20 Astronomical	tht heains
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### Astronomical twilight ends.  22:10 Astronomical twilight ends.  —— Independence Day.  ### Moves into the evening sky.  20:23 Sunset.  20:20 Astronomical twilight ends.  ### Moves into the evening sky.  20:26 Sunset.  20:27 Astronomical twilight ends.  ### Moves into the evening sky.  20:28 Sunset.  20:29 Astronomical twilight ends.  ### Moves into the evening sky.  20:26 Sunset.  20:27 Astronomical twilight ends.  ### Moves into the evening sky.  20:28 Sunset.  20:29 Astronomical twilight ends.  ### Moves into the evening sky.  20:29 Astronomical twilight ends.  ### Moves into the evening sky.  ### Moves into the evening sky.  ### Astronomical twilight ends.  ### Moves into the evening sky.  ### Astronomical twilight ends.  ### Moves into the evening sky.  ### Astronomical twilight ends.  ### Moves into the evening sky.  ### Astronomical twilight ends.  ### Moves into the evening sky.  ### Astronomical twilight ends.  ### Astronomical twil	141
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Independence Day.   Inde	1. 1
Thursday: Jul 5   Moves into the evening sky.   4:35   Astronomical twilight degins.   20:23   Sunset.   22:05   Astronomical twilight ends.   5:15   Sunrise.   20:26   Sunset.   22:06   Astronomical twilight ends.   Mariner 4 sends the first close-up images of the Martian surface on this date in 1965.   Tuesday: Jul 6   4:20   Astronomical twilight begins.   6:04   Sunrise.   Standay: Jul 15   4:20   Astronomical twilight ends.   20:25   Sunset.   20:09   Astronomical twilight ends.   Standay: Jul 15   4:20   Astronomical twilight begins.   4:21   Astronomical twilight begins.   4:22   Astronomical twilight begins.   4:20   Sunrise.   20:23   Sunset.   21:56   Astronomical twilight begins.   4:36   Astronomical twilight begins.   4:36   Astronomical twilight begins   4:37   Astronomical twilight begins   4:38   Astronomical twilight begins   4:37   Astronomical twilight begins   4:37   Astronomical twilight begins   4:37   Astronomical twilight begins   4:37   Astronomical twilight begins   4:38   Astronomical twilight ends   4:38   Astronomical twilight ends   4:39   Astronomical twilight ends   4:38   Astronomical twilight ends   4:39   Astronomical twilight ends   4:38   Astronomical twilight ends   4:39	gnt ends.
4:20 Astronomical twilight begins. 6:04 Sunrise.  47:00 Neptune is in opposition with the Sun. Moves into the evening sky. 20:26 Sunset. 22:09 Astronomical twilight ends. 6:04 Sunrise. 22:09 Astronomical twilight begins. 6:04 Sunrise. 20:25 Sunset. 20:25 Sunset. 20:26 Sunset. 20:29 Astronomical twilight begins. 6:04 Sunrise. 20:25 Sunset. 20:25 Sunset. 20:26 Sunset. 20:27 Astronomical twilight begins. 6:08 Sunrise. 20:29 Astronomical twilight begins. 6:09 Sunrise. 20:29 Astronomical twilight begins. 6:09 Sunrise. 20:20 Uranus passes 2° north of the Moon. 6:05 Sunrise. 20:23 Sunset. 20:24 Astronomical twilight begins. 20:25 Sunset. 21:20 Uranus passes 2° north of the Moon. 20:25 Sunset. 21:20 Full Moon called the "thunder" or "hay" Moon. 20:25 Sunset. 21:20 Astronomical twilight ends. Comet P/Russell 4 at perihelion. Distance from the Sun is 2.22 au. Comet P/Rixton at perihelion. Distance from the Sun is 2.22 au. Comet P/Rixton at perihelion. Distance from the Sun is 1.44 au.  Sunday: Jul 8 4:22 Astronomical twilight begins.  7:04 Moon at last quarter. 20:23 Sunset. 21:20 Mars passes 8° south of the Moon. 4:29 Astronomical twilight ends. Monday: Jul 16 4:20 Astronomical twilight ends. 20:21 Sunset. 21:23 Full Moon called the "thunder" or "hay" Moon. 20:25 Sunset. 21:24 Astronomical twilight ends. Comet P/Russell 4 at perihelion. Distance from the Sun is 2.22 au. Comet P/Rixton at perihelion. Distance from the Sun is 2.22 au. Comet P/Rixton at perihelion. Distance from the Sun is 2.22 au. Comet P/Rixton at perihelion. Distance from the Sun is 2.22 au. Comet P/Rixton at perihelion. Distance from the Sun is 2.44 au.  Sunday: Jul 8 4:22 Astronomical twilight begins. 4:29 Astronomical twilight ends. Comet P/Rixton at perihelion. Distance from the Sun is 2.22 au. Comet P/Rixton at perihelion. Distance from the Sun is 2.22 au. Comet P/Rixton at perihelion. Distance from the Sun is 2.22 au. Comet P/Rixton at perihelion. Distance from the Sun is 2.22 au. Comet P/Rixton at perihelion. Distance from the Sun is 2.22 au. Com	
22:05   Astronomical twilight ends.   22:05   Astronomical twilight ends.   20:26   Sunset.   22:09   Astronomical twilight ends.   22:09   Astronomical twilight begins.   22:05   Sunset.   22:09   Astronomical twilight ends.   22:05   Sunset.   22:09   Astronomical twilight begins.   22:05   Sunset.   22:06   Astronomical twilight begins.   22:07   Astronomical twilight begins.   22:08   Astronomical twilight begins.   22:09   Astronomical twilight ends.   22:00   Comet P/Russell 4 at perihelion. Distance from the Sun is 1.44 au.   23   Astronomical twilight begins.   22:03   Astronomical twilight ends.   22:04   Astronomical twilight ends.   22:05   Astronomical twilight ends.   22:06   Astronomical twilight ends.   22:07   Astronomical twilight ends.   22:08   Astronomical twilight ends.   22:09   Astronomical twi	ght begins.
### Moves into the evening sky.  20:26 Sunset.  20:26 Sunset.  20:27 Astronomical twilight ends.  #### Phoenicids Mayors. Radiant is right ascension 2:04; declination -48°. This stream has not been sited visually.  20:28 Sunset.  4:20 Astronomical twilight ends.  5:20:29 Astronomical twilight ends.  20:20 Astronomical twilight ends.  20:20 Astronomical twilight ends.  5:20:20 Astronomical twilight ends.  5:20:20 Astronomical twilight begins.  4:21 Astronomical twilight begins.  4:22 Astronomical twilight ends.  5:20:25 Sunset.  21:20 Juno is stationary in right ascension; resumes direct motion.  20:25 Sunset.  21:23 Full Moon called the "thunder" or "hay" Moon.  20:25 Sunset.  21:20 Astronomical twilight ends.  — Comet P/Russell 4 at perihelion. Distance from the Sun is 2.22 au.  — Comet P/Rritton at perihelion. Distance from the Sun is 1.44 au.  Sunday: Jul 8  4:22 Astronomical twilight begins.  5:200 Astronomical twilight ends.  — Comet P/Rritton at perihelion. Distance from the Sun is 1.44 au.  Mariner 4 sends the first close-up images of the Martian surface on this date in 1965.  — Phoenicids Mayors. Radiant is right ascension 2:04; declination -48°. This stream has not been sited visually.  20:18 Sunset.  20:18 Sunset.  20:18 Sunset.  20:18 Sunset.  21:56 Astronomical twilight ends.  Moves into the morning sky.  4:28 Astronomical twilight begins.  6:09 Sunrise.  20:20 Astronomical twilight ends.  7:04 Moon at last quarter.  20:23 Sunset.  20:24 Astronomical twilight ends.  4:29 Astronomical twilight ends.  4:29 Astronomical twilight begins.  4:29 Astronomical twilight ends.  4:40 Astronomical twilight ends.  6:17 Sunrise.  20:15 Astronomic	
Moves into the evening sky. 20:26   Sunset. 22:09   Astronomical twilight ends. 6:04   Sunset. 22:09   Astronomical twilight ends. 22:09   Astronomical twilight ends. 22:09   Astronomical twilight begins. 4:21   Astronomical twilight begins. 4:210   Uranus passes 2° north of the Moon. 6:05   Sunrise. 22:04   Astronomical twilight begins. 4:210   Uranus passes 2° north of the Moon. 6:05   Sunrise. 22:04   Astronomical twilight begins. 4:210   Uranus passes 2° north of the Moon. 20:25   Sunset. 21:23   Full Moon called the "thunder" or "hay" Moon. 22:09   Astronomical twilight ends. 22:09   Astronomical twilight ends. 22:03   Astronomical twilight ends. 22:03   Astronomical twilight ends. 22:04   Astronomical twilight ends. 22:05   Sunset. 22:06   Astronomical twilight ends. 22:07   Astronomical twilight ends. 22:08   Astronomical twilight ends. 22:09   Astronomical twilight ends.	north of the Moo
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## ascension 2:04; declination -48°. This stream has not been sited visually.  ## 20 Astronomical twilight begins.  ## 20:25 Sunset.  ## 21 Astronomical twilight begins.  ## 21 Astronomical twilight begins.  ## 21 Astronomical twilight begins.  ## 22:00 Jupiter is in conjunction with the Sun.  ## 22:00 Jupiter is in conjunction with the Sun.  ## 22:00 Jupiter is in conjunction with the Sun.  ## 22:00 Jupiter is in conjunction with the Sun.  ## 22:00 Jupiter is in conjunction with the Sun.  ## 22:00 Jupiter is in conjunction with the Sun.  ## 22:00 Jupiter is in conjunction with the Sun.  ## 22:00 Jupiter is in conjunction with the Sun.  ## 23:00 Jupiter is in conjunction with the Sun.  ## 24:28 Astronomical twilight begins.  ## 20:02 Sunrise.  ## 20:03 Sunrise.  ## 20:03 Sunset.  ## 20:04 Astronomical twilight ends.  ## 22:04 Astronomical twilight ends.  ## 22:05 Astronomical twilight ends.  ## 22:06 Astronomical twilight ends.  ## 22:07 Astronomical twilight ends.  ## 22:08 Astronomical twilight ends.  ## 22:09 Astronomical twilight ends.  ## 20:25 Sunset.  ## 20:26 Astronomical twilight ends.  ## 20:27 Sunset.  ## 20:28 Sunset.  ## 20:29 Astronomical twilight ends.  ## 20:20 Astronomical twilight ends.  ## 20:21 Sunset.  ## 20:22 Sunset.  ## 20:23 Sunset.  ## 20:23 Sunset.  ## 20:24 Astronomical twilight begins.  ## 20:25 Sunset.  ## 20:26 Astronomical twilight begins.  ## 20:27 Sunset.  ## 20:28 Sunset.  ## 20:29 Astronomical twilight ends.  ## 20:29 Astronomical twilight ends.  ## 20:29 Astronomical twilight ends.  ## 20:20 Astronomical twilight ends.  ## 20:15 Sunset.  ## 20:15 Suns	
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tance from the Sun is 2.22 au.  Comet P/Tritton at perihelion. Distance from the Sun is 1.44 au.  Sunday; Jul 8  4:22 Astronomical twilight begins.  Sunday; Jul 8  Tuesday; Jul 17  sion 18:40; declination 38°.  Omicrom Draconids. Radiant is right ascension 18:04; declination 59°; Parent body Comet Metcalf (1919).  Tuesday; Jul 17  Sunset.  20:15 Sunset.  21:53 Astronomical twilight 28  4:41 Astronomical twilight 38°.  Sunset.  6:18 Sunset.	ght begins.
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Sunday; Jul 8 ent body Comet Metcalf (1919). 4:41 Astronomical twilight begins. Tuesday; Jul 17 6:18 Sunrise.	gnt ends.
4:22 Astronomical twilight begins. <u>Tuesday; Jul 17</u> 6:18 Sunrise.	141
4.22 Astronomical twinglit begins.	gnt begins.
6:05 Sunrise. 4:30 Astronomical twilight begins. 20:15 Sunset.	aht on de
±10:00 Saturn passes 1.5° north of the Moon. 6:11 Sunrise. 21:52 Astronomical twili	giit ends.
20:25 Sunset. 20:22 Sunset. Simday; Jul 29	140
22:08 Astronomical twilight ends. 22:03 Astronomical twilight ends. ±2:00 Mercury passes 0.0	4 north of Regi
—— Capricornids Meteors. Radiant is right Wednesday; Jul 18	-lab-
ascension 20:22; declination -10°; 4:30 Astronomical twilight begins. 4:42 Astronomical twilight	gnt begins.
ZHR = 7; Slow moving; Yellow in 6:11 Sunrise. 6:19 Sunrise.	
color many 20:21 Sunset. 10:01 Moon at first quarter	<b>∂</b> Γ.
Fireballs possible. 22:02 Astronomical twilight ends. 20:14 Sunset.	aht ande
Monday, Jul 9 Thursday, Jul 19 21:51 Astronomical twin	
4:23 Astronomical twilight begins. 4:31 Astronomical twilight begins. — Delta Aquarids. Ra	dant is right as-

# Upcoming Events for July 1990

Monthly Meeting of the Cape Fear Astronomical Society Sunday July 1, 1990; 7:00 PM - Bryan Auditorium; Morton Hall

Club Viewing Session Saturday July 14, 1990; Dusk until "?" - Hampstead Site

Club Viewing Session Saturday July 21, 1990; Dusk until "?" - Hampstead Site

Deadline for August the issue of Cape Fear Skies. Friday July 20, 1990

Cape Fear Skies 110 Linville Dr. Castle Hayne, NC 28429





Alan Hilburn 929 Arnold Rd. Wilmington, N.C. 28403