



SEPTEMBER 2019

Volume XIX Number 9

(Celebrating our 20<sup>th</sup> Year!)

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Upcoming Events	
<b>September 27</b>	Monthly Meeting Lone Star College - Kingwood
<b>September 28</b>	Star Party O'Brien Dark Site
<b>October 4</b>	Public Night Insperty Observatory
<b>October 5</b>	Astronomy Day Insperty Observatory
<b>October 25</b>	Monthly Meeting Lone Star College - Kingwood
<b>October 19</b>	Atascosita Star Party Walmart - Atascosita
<b>October 26</b>	Star Party (w/ BBQ) O'Brien Dark Site

# MONTHLY MEETING

## September 27, 2019

**NOVICE SESSION (6:30 P.M.....Room CLA 221.....Lone Star College - Kingwood)**



**"Andromeda and Friends"**

**Presented by Bruce Pollard, NHAC Vice President**

Bruce will discuss the mythology of the various constellations in the Andromeda neighborhood, as well as the amazing objects in that area of the sky.

**GENERAL MEETING (7:30 P.M.....Room CLA 112...Lone Star College - Kingwood)**



**"Astrophotography 2020"**

**Presented by Robert Brayton, NHAC, inventor, commercial photographer**

CMOS is the New CCD. In this presentation, we will discover current imaging technologies that are now available to the backyard astrophotographer, and how to use them to their maximum potential. Topics include CMOS vs. CCD imaging cameras, updated and improved image capture techniques, how to achieve "diffraction limited" guiding, and a simple workflow for image editing.

# CLUB NEWS

## NHAC 2020 Calendar

We're into the editing phase of the calendar and will be going to production soon. The calendar will be available for purchase in October.

## Astronomical League Matters

Congratulations to Aaron Clevenson and Loyd Overcash for completing the Apollo 50<sup>th</sup> Anniversary - NASA Observing Challenge. Aaron also achieved the first certificate in the new Astronomy Before the Telescope Observing Program.

The League has created three new observing programs:

- Planetary Transit: Mercury 2019 Special Observing Award (transit on November 11, 2019)
- Spectroscopy Observing Program
- Multiple Star Observing Program

Learn more about these programs at the [Astronomical League Website](#).

The NHAC Astronomical League Coordinator is Dr. Aaron Clevenson. He can be contacted at [aaron@clevenson.org](mailto:aaron@clevenson.org).

The latest issue of "What's Up, Doc" by Dr. Aaron Clevenson is at [What's Up, Doc?](#)

## Outreach in October

Astronomy Day is October 5. In our region this event would typically be held at the George Observatory, which is closed for repairs and remodeling. So it will be at Insperity Observatory instead. We will need 'all hands on deck' to help as it will be very busy. With good weather, hundreds of attendees are expected.

The Atascosita Star Party will be on October 19. This is also an event with lots of attendees and a need for NHAC volunteers.

Watch for more information in your NHAC emails.



Dr. Bruce Pollard, PhD, NHAC, is our expert in spectroscopy and is a very effective teacher. If you would like some hands-on learning, contact Dr. Pollard. An introductory manual by Ken M. Harrison, "Grating Spectroscopes and How to Use Them", is available on Amazon. It is detailed, and full of good information.

We welcome news, photos, comments and contributions for North Star, the NHAC newsletter. Please send them to [newsletter@astronomyclub.org](mailto:newsletter@astronomyclub.org) by the 10th of each month.

# GALLERY

Image by Robert Brayton, NHAC:

“The Veil Nebula are the remnants of a supernova from about 5,000 years ago. Because it is an emission nebula, it is often captured using narrowband hydrogen-alpha, and oxygen III filters. However, since it originated from a supernova, there are many more elements in the nebula than just hydrogen and oxygen. This full color image also captures the other ionized gases. C11 HyperStar 3, ZWO ASI183MC Pro one-shot color, 40 frames at 120s each, Bortle 8, stacked with Deep Sky Stacker, and edited with Affinity Photo. The entire process of capture and editing took about two hours.”



Date: 07-22-17	Constellation: Sagittarius
Object: M22	Star diagonal (y/N): No
Eye piece: 32mm, 13mm	Filter: No
Latitude: 30° 32' 54"	Local Time: 22:32
Longitude: -95° 48' 17"	LST: 17:19 GMT: -6
Clear: 10	TFOV: 1.6°
Seeing: 7	Mag: 31

TFOV: .65°	Mag: 77
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O'Brien

Sketch by Carlos Gramajo, NHAC:

“I had just bought my first telescope, a 4 inch refractor on a manual German equatorial mount, which made it challenging to locate some objects. That and the fact that I was still learning to use the telescope. M22 was the second object I sketched, after Jupiter and the four Galilean moons. I had never seen a globular cluster before and it was a delight to get one in my scope. The weather conditions at the dark site were a clear sky with excellent visibility and transparency of 6 or 7, which as I found out later on from my house, are about the best I can hope for in the Houston area.”

# “I Wish They Had Told Me That...”

By Sue Wheatley, NHAC

- The best observing device is not a piece of metal. It is the time you spend at home thinking about what you want to do in the field. Even a half hour makes your field time much more productive...and you can come home and brag about what you saw!
- Before you go out on the field, pick some objects you want to see in the East, some in the West, some in the South, and some in the North. Who knows in which direction the best seeing will be that night? You may even start out in the East, the clouds will move in, and you will have to look North. But you are prepared for all directions, aren't you?
- Whatever toolbox you decide to use, always put the same item in the same place. If you know your 15 mm eyepiece is always at the top left of the toolbox, you will never have to pull out a flashlight to look for it. It takes discipline to always put it back in its special spot time after time, but do it. It will save your hours over the long run.
- A file folder with a rubber band makes a wonderful dew shield.
- Try to set up when you can see the ground. You don't want to step back in the dark and find your ankle twisted by a rock.
- Bring a chair that puts your eyes at about the right height if you are observing 30° to 60° above the horizon. (That's where most of your objects are going to be.) Bring a table so you don't have to bend over to the ground all the time...your extra batteries, your sweatshirt, and your toolbox. Who wants to bend over all night just to change eyepieces?
- A white light will ruin your night vision. A white splotch of paint will not. Go to Michaels and buy some white or yellow acrylic paint in a tube. Put a spot on the leg ends of your tripod so you can see the ends in the dark. Put a spot on your pen, on anything you know you will drop. A dark-adapted eye can see a white spot in the grass.
- You can buy a flat (preferably white-toned plastic) cake carrier from Walmart. It has a top with a handle, and you can spread your eyepieces, Barlow, pencils, etc., all over the bottom and just reach in and everything is right on top.
- Your eyes: Most of us have floaters...those pesky little spots that glide across your vision every once in a while. They are heavier than the fluid in your eye, so gravity pulls on them. Don't look down into an

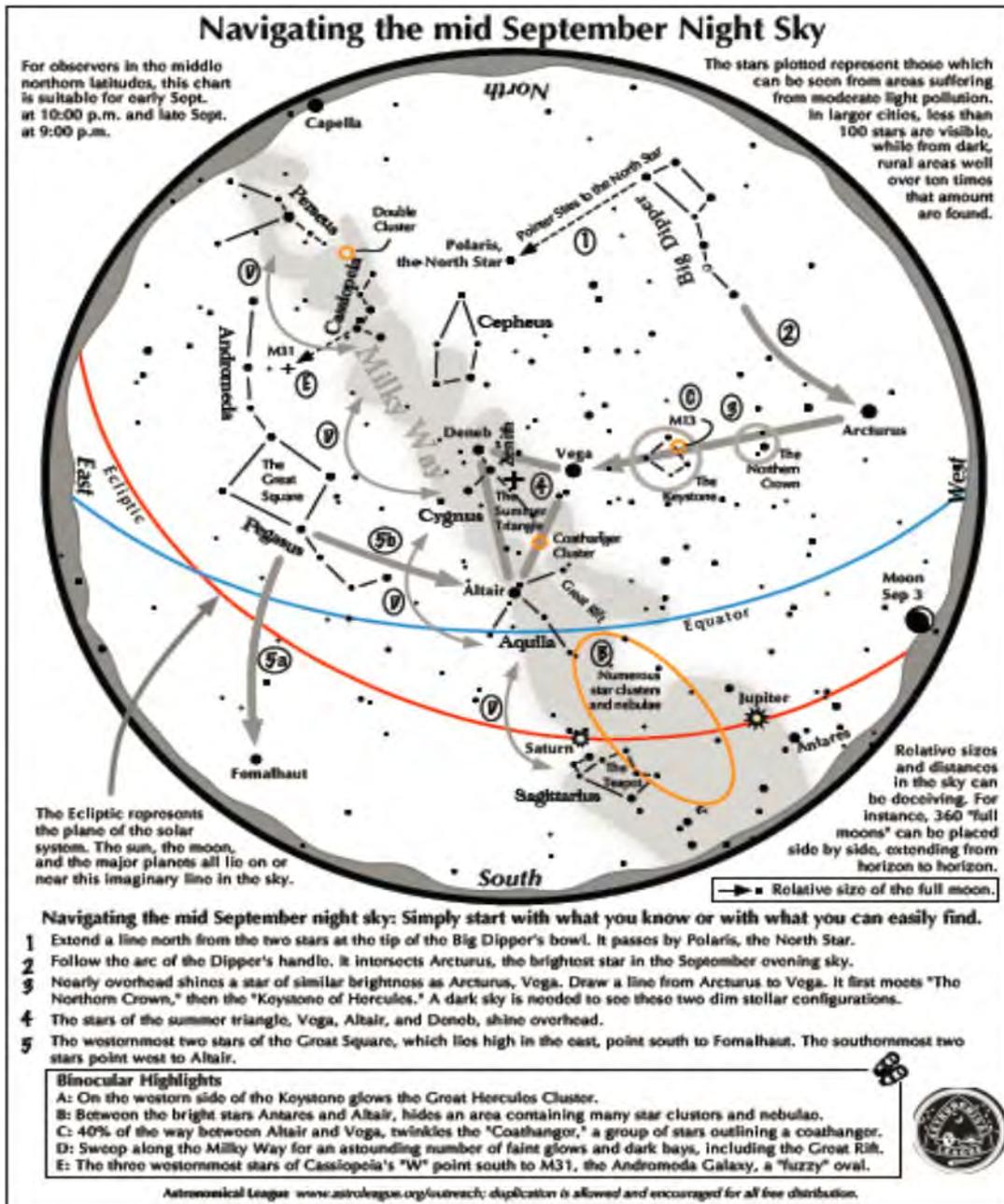
eyepiece! All those little floaters will settle right over the most sensitive part of your eye...the center. Try to look horizontally and make those little floaters go down to the bottom of your eye, out of sight.

- Experiment with the dim fuzzies. Your left eye may be more sensitive than your right.
- Having trouble seeing something? Give your scope a nudge. Just a tiny nudge. The human eye is very sensitive to movement so if a dim fuzzy moves left-right you will see more of it than if you just stare at it.

*Editor's Note: Sue and Roger Wheatley are long time members of NHAC and are accomplished observers. They will be relocating from our area in the near future. In spite of having her hands full preparing for the move, Sue volunteered to share some of her learnings with the club. Thank you, Sue.*

# STAR PARTY – SEPT 28 2019

Rusty has been on vacation this month. In lieu of the excellent sky description that he writes for the monthly Star Parties, we are providing the Astronomical League September Star Chart. Rusty will be back for the October newsletter.



# DARK SITE INFORMATION

If you are new to the club, Star Parties are especially for you. We, the members, are the reason we have observing Star Parties, and they are great occasions to get familiar with observing. We have 10" Dobsonian telescopes available at the Dark Site for your use. There will also be several other scopes available for all to try. And do bring a Binocular-- you can do lots of successful observing with nothing more.

NHAC Club Policy is that the focus of the Star Parties will be to give as much assistance as possible to new observers. For those who may not have been to the O'Brien Dark Site, it is just north of Dobbin, which is on Highway 105 west of Montgomery. It has reasonably dark skies and a great low horizon in all directions. The Owners, Tim and Wanda O'Brien, are very generous hosts, and they do turn off any outside lights which might bother us, if we remember to ask.

**The specific Dark Site location is password protected. Any club officer can give you the password, but it is NOT FOR THE GENERAL PUBLIC!**

Access to the Dark Site must be requested from the O'Brien's in advance via the NHAC email. It is only necessary for any 1 member to request access-- Access approved for any of us is access approved for all of us.

On our NHAC web site, click on "Observing" then select "O'Brien Dark Site". Scroll down to the O'Brien Dark Site information and look for the "detailed directions" link. You will need to enter the password. There are maps as well as directions. It is well worth the drive, which is about 6 or 7 minutes driving time North of Dobbin off of State Highway 105 west of Montgomery.

Star Parties are routinely scheduled for the Saturday on, just before, or just after the New Moon throughout the year. This is to provide the best opportunity for dark skies.

# INSPERITY OBSERVATORY



## ***Public Night will be on Friday, October 4, 2019***

Doors will be open by 6:45 P.M. and remain open to the public until 10:00. Sunset will be at 7:03 P.M. The waxing moon will be 43% illuminated and will be in a good position for viewing through the Observatory scopes.

These Public Nights are a great opportunity for us to be a part of Astronomy Outreach, and also to observe with scopes we might never get to use, otherwise. The Observatory has a 6" Takahashi refractor, a 16" Meade Schmidt-Cassegrain, and a 20" Plane Wave telescope. Each is computer controlled, and provides an awesome view of the sky. There are usually about 75 to 100 guests, sometimes more, on Public Night, with many repeating. Our guests are very appreciative of the opportunity to enjoy the sky and also expose their kids to Astronomy. Then after all our guests have departed, several of us usually stay for a while and enjoy the views and each other's company. This can be an opportunity to see a new or favorite object in a large telescope.

The Observatory is about 3/4 of a mile south of Will Clayton Parkway on S. Houston Ave, just north of Rankin Road in Humble, in the back part of the Jack Fields Elementary School on the East side of S. Houston Ave. The address is:

Jack Fields Elementary School  
2505 S. Houston Ave.  
Humble, TX 77396

For more information, the Observatory phone number is 281-641-STAR and the web site is <https://www.humbleisd.net/observatory>.

Dates and times are subject to change.

# ABOUT NHAC

The North Houston Astronomy Club (NHAC) is a not-for-profit organization established in 1999 for educational and scientific purposes, for people of all races, creeds, ethnic backgrounds and sex. Our primary purpose is to develop and implement programs to increase the awareness and knowledge of astronomy, especially for those living near the north side of Houston, Texas.

NHAC is dedicated to providing an opportunity for people to pursue the science of astronomy, to observe in a dark-sky site, to learn the latest technology, and to share their knowledge and experience, thus our "Observe-Learn-Share" motto.

Public meetings are normally held each month on the fourth Friday. In the months of October, November and December they are usually rescheduled for the third Friday of each month, so as to not conflict with the Annual All Clubs meeting, Thanksgiving, or Christmas.

The benefits for membership include:

- Loaner telescopes after being a member for 6 months.
- Opportunity to observe from dark sky observing sites.
- Learn from experienced observers.
- Astronomy Magazine subscriptions at a discount.
- Astronomical League membership, with its many observing programs.
- Subscription to the Astronomical League magazine "Reflector".
- Access to the NHAC library
- Discounts on purchases at Land, Sea and Sky. Be sure to identify yourself as an NHAC member.

More information at the [NHAC Website](#)

Check out our [Facebook page](#).

Our mailing address is:

North Houston Astronomy Club  
Post Office Box 5043  
Kingwood, TX 77335-5043

NHAC is sponsored by:



# CALENDAR. MEMBERSHIP. OFFICERS

NHAC General Calendar			
	New Moon	Star Party	General Meeting
September 2019	Sept 28	Sept 28	Sept 27
October 2019	Oct 27	Oct 26 (and BBQ)	Oct 25
November 2019	Nov 26	Nov 23	Nov 15
December 2019	Dec 25	Dec 28	Dec 13
January 2020	Jan 24	Jan 25	Jan 24
February 2020	Feb 23	Feb 22	Feb 28
March 2020	Mar 24	Mar 21 (and BBQ)	Mar 27
April 2020	Apr 22	Apr 18	Apr 24

Dates and times are subject to change. Star parties are weather permitting.

### Membership

Memberships run from January 1 through December 31.

Full year dues are:  
 Students \$10  
 Individuals \$30  
 Family Groups \$40

Membership applications and dues payments can be made at the NHAC website at:  
[NHAC Website](#)

### 2019 NHAC Executive Board

President	Carlos Gramajo - <a href="#">email</a>
Vice-President	Bruce Pollard - <a href="#">email</a>
Secretary	Mike Comeaux - <a href="#">email</a>
Treasurer	Joana Tan - <a href="#">email</a>
Newsletter Editor	Jesse Roberts - <a href="#">email</a>
Astronomical League Coordinator	Aaron Clevenson - <a href="#">email</a>
Webmaster	Justin McCollum - <a href="#">email</a>
Observation Committee Chair	James Billings - <a href="#">email</a>
Membership Committee Chair	David Dutschmann - <a href="#">email</a>
Program Committee Chair	Open - <a href="#">email</a>
Immediate Past President	Susan Pollard

# AFFILIATIONS



NHAC is a proud member of:

The Astronomical League: <https://www.astroleague.org/>

Night Sky Network: <https://nightsky.jpl.nasa.gov/>

International Dark Sky Association: <https://www.darksky.org/>