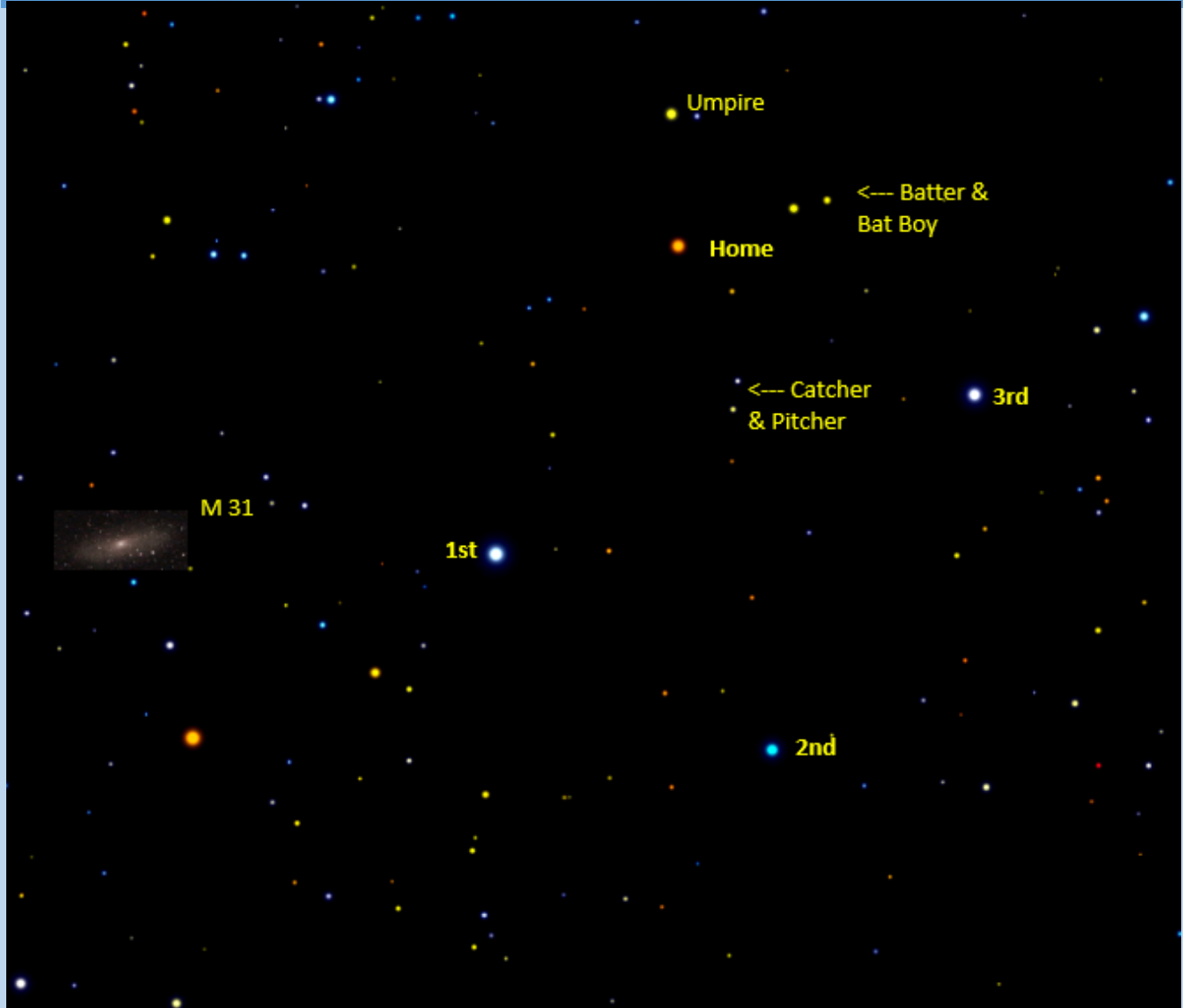




# OBSERVER

OCTOBER 2021

*Bringing Stars to the eyes of Tulsa*  
since 1937 Editor - John Land



When showing kids, the Autumn night sky , I love to show them where the “ANGELS PLAY BASEBALL”. The GREAT SQUARE of Pegasus is well placed in the eastern sky and with a bit of imagination you can imagine it as a Baseball Diamond in the sky. The corners are easy to see but it takes darker sky and good eyes to spot the catcher and pitcher near the mound. And don’t forget to follow a foul ball into the stands to see the Andromeda Galaxy , M 31

Image from Sky Safari app on my iPhone By John Land

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## Astronomy Club Events

Check our website [AstroTulsa.com](http://AstroTulsa.com) events section for updates  
Observatory ONLY OPEN for SCHEDULED EVENTS. [Click for Observatory Map](#)

**OBSERVING NIGHTS MOVING TO SATURDAY soon**

**This will allow us to start earlier near sunset as Standard Time Returns**

Friday Oct 8 7:15 PM Members Only nights

Friday Nov 5 6:45 PM Members Only nights - this is after Sunset

**PLEASE READ THE OBSERVING NIGHT GUIDELINES ON PAGE 4**

**Saturday Oct 30 6:00 PM DST Members & also Limited RSVP Guests**

**Saturday Nov 13 4:45 PM CST Members & also Limited RSVP Guests**

Details will be posted on the website how visitors can RSVP to attend.

NOTE: If weather conditions are unfavorable or hazardous forecasts predictions  
our events may be postponed or cancelled. Please check our website before heading out.

We are pleased to announce our return to **IN PERSON** club meetings.

**Friday October 22 - 7:00 PM** at the Jenks High School planetarium

A YouTube recording will be made and posted in the November newsletter.

In order to resume In Person meetings safely we are asking that those who attend:

1. Observe Social Distancing - the planetarium is large so please leave ample space between yourself or group and others.
2. Since we are using Jenks Public Schools facilities, we are subject to their policies.

**Access to School Buildings for Parents and Visitors** All individuals entering a school building or JPS facility will be required to wear a mask or face covering.

<https://www.jenksp.org/vnews/display.v/ART/5f1f0c9d16134>

**Our guest speaker will be John Blaesie**

From the Bartlesville Astronomical Society

telling us about their work with Osage Hills State Park to

Obtain an International Dark Sky Park Designation

See details on following page



**A YouTube recording is available of our -  
September 10 meeting featuring  
Michael Hann's excellent PowerPoint talk  
about Lunar Impact Craters**

<https://www.youtube.com/watch?v=FVfIPfGKDxQ>

**Short Business session at the beginning of our October 22 meeting.**

- 1. A vote to approve additions to the club bylaws recognizing electronic voting and meetings as a valid option as needed. Proposed changes will be Emailed out to membership for review.**
- 2. Election of club Officer and Board Elections for the upcoming year will take place at the beginning of our October meeting. Candidates for these positions will be introduced to our voting membership in a separate email prior to the meeting.**



**We are pleased to announce Guest Speaker for our October 22  
Club meeting : John Blaes**

**Title: Osage Hills State Park -  
Obtaining an International Dark Sky Park Designation**

**Description:** Currently there are not any certified dark sky places within the State of Oklahoma and yet Oklahoma retains remarkable dark sky resources. These resources combined with the State's large amount of protected landscapes including: 38 state parks, 2 large wildlife management areas, and 5 national wildlife refuges would potentially allow Oklahoma to become a leader within America's dark sky movement.

**Background:**

I have been Interested in astronomy since the stars were formed and time began for me. In this current millennium, I got more real about astronomy and enjoying the night skies. My favorite part of astronomy is going outside almost every night and enjoying the evening, albeit, a little more enjoyable when the stars are out and the moon is just right.

For the most part, a telescope or two and a friend or two is all I need. I am thinking about getting into electronically assisted seeing and my desire is to live in a location where the skies are not lit by humanity. I have been working with the city of Bartlesville on the development of a 'Star Garden' in one of the local parks and working with Osage Hills State Park on the goal of obtaining an International Dark Sky Park designation.

I am a member of the Bartlesville Astronomy Society and assist with outreach programs where we can and when we can, even during our social distancing times. The club hopes to expand and do more publicly with the hopeful decline of COVID-19.

**For information:**

Bartlesville Astronomy Society: <https://sites.google.com/site/bartlesvilleastronomyclub/>

Osage Hills State Park: <https://www.travelok.com/state-parks/osage-hills-state-park>

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

# PRESIDENT'S MESSAGE

BY TAMARA GREEN



*Hey Y'all !*

This will be my last message as President. I would like to thank those of you who have supported me and been there for me during my four years of serving as your President. I really appreciate your kindness and friendship and putting up with me! I plan, however, on serving on our Board going forward. I hope that our next President will be someone who cares about this Club as much as I do and will lead us to bigger and better things.

Our next General Meeting will be on Friday, October 22 at the Jenks Planetarium. PLEASE plan on attending this meeting, as we are planning on doing the elections, and need a quorum in order to have them! We are working on getting a guest speaker for the meeting, as the gentleman we originally scheduled had to cancel due to health issues. I hope he gets well soon!

As of right now, I do not know who is running for President, VP, Secretary and Treasurer. Some of our Board members are running for re-election. I'm sure more details will be coming soon.

For those of you who are going to Okie-Tex, I'll see you there! It will be nice to go to the Black Mesa and area and enjoy the glorious night sky once again! And to see the new building! I look forward to it!

*Clear Skies, Tamara Green - President*

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**John Land** - *"We all enjoy being out under dark skies enjoying the hunt for the many treasures in the night sky. So that we all can continue to do so safely year after year we must act responsively to do so in a safe manner to respect the health of others."*

## ***Guidelines for Members' and Guest at Observatory Nights.***

**Our goal is to ensure enjoyment of our hobby while keeping each other safe and well**

**We are still limiting attendance to our membership however you may bring family or a couple of guests with you. - No large groups please.**

**Due to the CDC recommendations related to the recent spike in Covid infections it is advisable to wear a mask when not you're your own group. However, when you are **INSIDE the classroom or viewing in our dome telescope**, we request to **respect others health by wearing a mask**. This mask guideline does not apply to younger children. We will leave that to their parent's discretion.**

**If you decide to join other members at their telescope, we would still advise that you ask their permission. Our Rest Room and Classroom areas are Open. Please exercise proper hand washing and other common health hygiene practices.**

**Autumn nights often cool off rapidly. Dress for weather conditions. This is a rural setting so closed toed shoes are recommended. Temperatures in on our hilltop observing grounds are cooler than city forecasts. Please do not spray insect repellents around our telescopes. Do that at your car.**

**Be sure to review the map directions carefully. When arriving or departing be aware of people or telescopes on the field.**



**2022 Astronomy Calendars - Cost is \$ 10 each**  
**Now available by PREORDER request only**  
**Contact [astrotulsa.tres@gmail.com](mailto:astrotulsa.tres@gmail.com)**  
**Please order by October 22**

The Deep Space Mysteries Calendar is back with another 12 months of stunning images, facts and more. The calendar is filled with dramatic images of nebulae, spiral galaxies, planets, star-forming regions, and other mysteries of deep space. Each month details planet visibility, meteor showers, conjunctions, and other observing opportunities, as well as moon phases and major astronomical events.

**Bonus** - The calendar also includes an exploration of the Large Magellanic Cloud !



**For Sale : Celestron CPC11 telescope**, which comes with the heavy duty steel leg tripod with accessory tray/center leg support bracket. The NexRemote telescope control software is included. Including a Power tank with a new battery installed this year. A solar filter for observing the sun is also included.

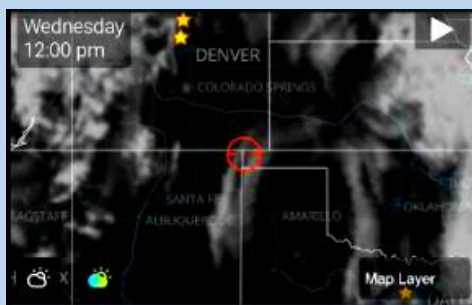
I bought the telescope new in 2012. I am asking \$1,500 for the package. Contact [ncfreihaut@cox.net](mailto:ncfreihaut@cox.net) or by phone 918-724-2699.



**Click on these images to links on the Internet**

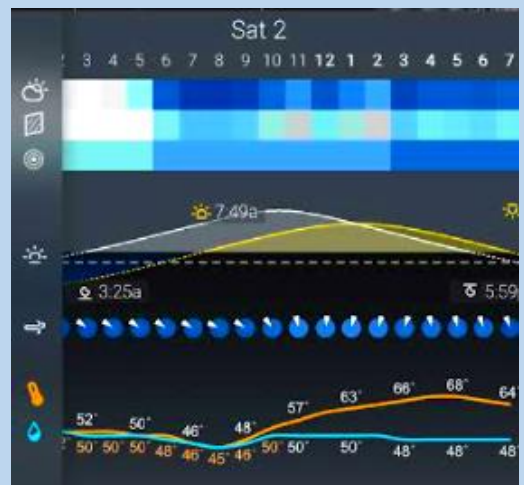


See our [website observing page](#) for a collection of [Interactive Sky Watching Tools](#)  
**Moon phases - Sun rise & Set - [Make your own custom interactive sky chart](#) and more**



**New App**

**Atmospherics**  
 Astronomy Weather Forecasts  
 By Daniel Fiordalis



Thanks to Nick Kuhn for sharing this app tip

**The Free version shows 3 days of data - reviews indicate it also takes in factors like smoke etc.**

**October Skies.** - October is here. The nights are getting longer. The Sun sets 35 mins earlier by the end of the month. Then we return to CST ( Central \*Starlight\* Time ) on Nov 7 and the sun sets at 5:20 PM ! Still waiting for “Frost on the Pumpkin”

The Summer Triangle is still high up in the west as dusk falls and the band of the Milky Way is still visible as Scorpius and Sagittarius sink lower in the Southwest. **Venus** remains our bright “evening star” in the southwestern sky. It has a nice pairing with a crescent moon on Oct. 9th. **Jupiter and Saturn** easily seen in the SE sky. Bright Jupiter is easy to spot. Somewhat dimmer Saturn lies a bit above and 15 degrees to the right of Jupiter. Its rings can be seen with as little as 40 X magnification. Jupiter’s 4 Galilean moons are easily visible at low power and Saturn’s giant moon Titan can be seen in small telescopes. The moon makes a large obtuse triangle below on the pair of planets on Oct 14.

For the more diligent observer 7.8 mag **Neptune** can be found near the tip of Aquarius’ Water Jar. The 5.7 mag planet **Uranus** is brighter but lies in the sparsely populated region between Aries and the tail of Cetus the whale. Uranus reaches opposition Nov 4th.

**Mars and Mercury** are hiding on the opposite side of the Sun out of sight. They pass barely one degree apart in the predawn sky of Tuesday Nov. 9 Speaking of the Moon we have an almost **Total Lunar Eclipse** the morning of Nov 19th from 1:15 AM to 4:50 AM. Just a tiny sliver of the sunlight will be visible along its edge.

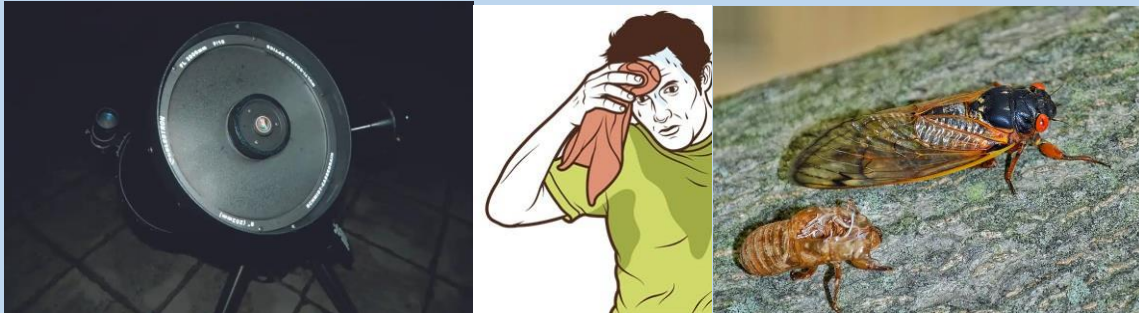


**Dome Report:** Skip Whitehurst, Don Bradford and James Taggart disassembled the 12-foot dome on Saturday Sept 25<sup>th</sup>. Images above show it carefully labeled and stacked on a pallet. There is still some sorting of the small parts and cleaning rust from some of the larger ones, but that can be done piecemeal and at James' convenience, mostly by one or two people at a time, and repairing a few parts: the back end of one of the shutter tracks has a piece cut out and needs welding, and the weatherstrip around the shutter needs replaced, but that will be late in the game.

# So, You Want a Night Off to Observe? By Brad Young

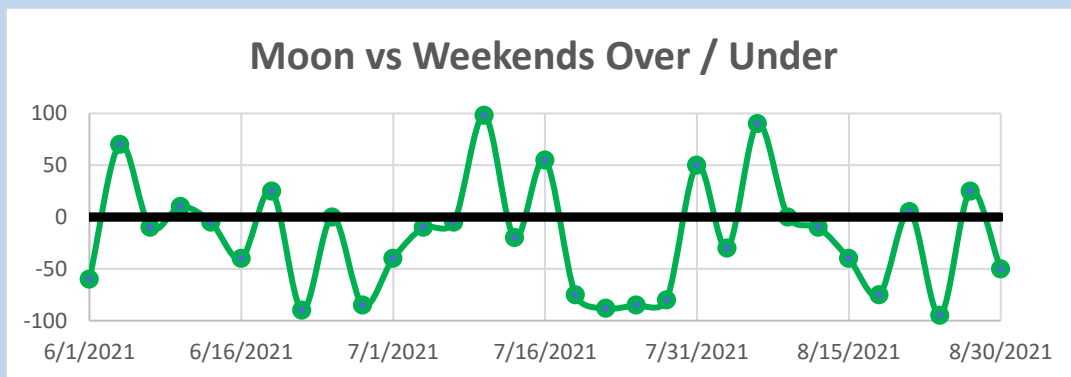
In one of my previous funny (to me) articles, I provided a somewhat fictitious view of Spring in Oklahoma [on page 9 of this article.](#) < from April 2019 newsletter.

This summer has not been funny. After last year's problems, it looked like 2021 might be a great summer for astronomy, maybe with other people. Unfortunately, a few factors foiled our expectations. Of course, here in the South, we have come to accept that it's going to be very hot and humid during the summer, and that you really can't do anything until midnight. I didn't include the heat index, dew, cicadas, or other summer issues in this analysis.



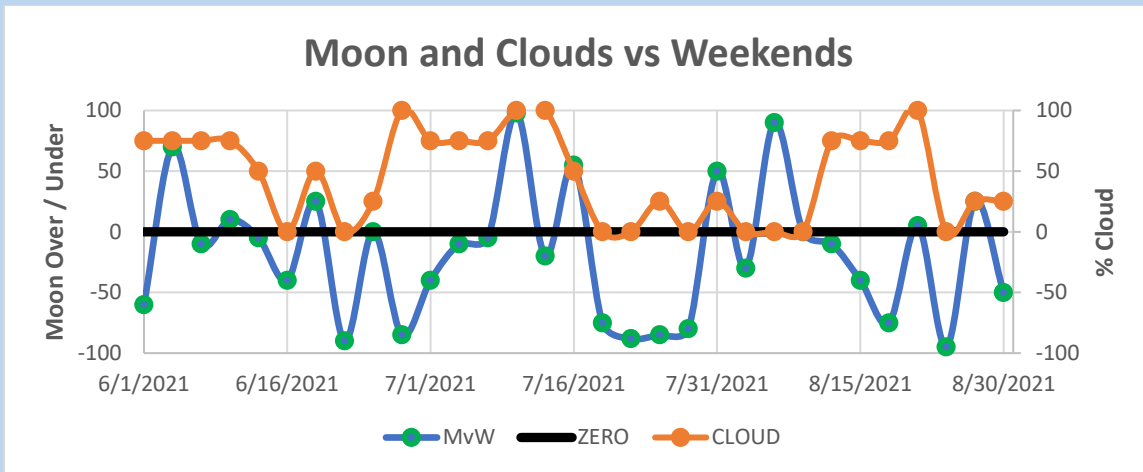
We have an ancient nemesis, the Moon. She has a familiar ally, workdays. Although some of us are not affected by work schedules as much as others, the weekends are still when most people have time to observe. It's always interesting to see how the moon and the weekends line up during summer. Note that this year Memorial Day fell near Full Moon. I don't count the 4<sup>th</sup> of July because of the fireworks and smoke (foreshadowing). As I write this, on the Friday of Labor Day weekend, it's clouding up.

The moon / weekend graph was very busy, so instead I made one that is an over-under version of the Moon versus weekend time available. In each case, the "push" is zero. To explain more fully, the dates above the black line represent a good combination of no moon and weekend time. A look at the calendar showed that the first couple of weekends of each month this summer, we had a small Moon.

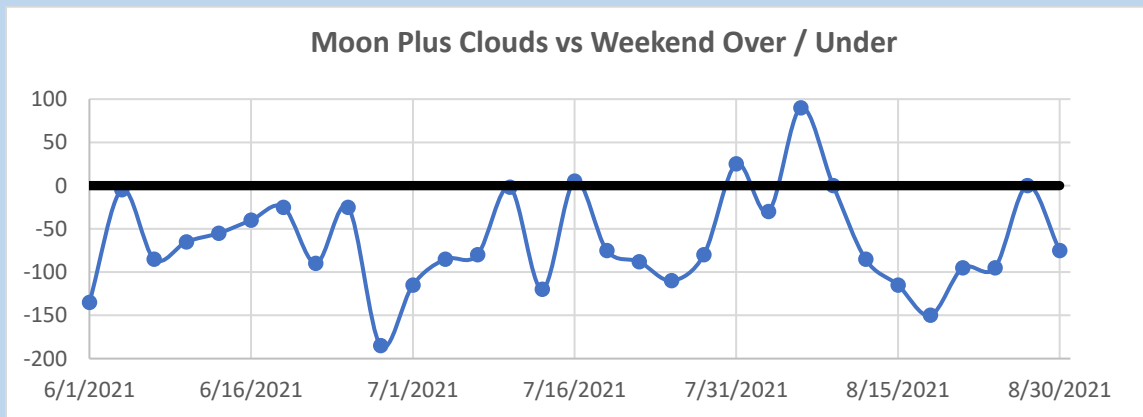


So far everything looks familiar. Some summers line the moon and weekends up better, but this one was about average. No problem so far.

Of course, the other bane of every astronomer is cloud. In summer, Oklahoma can go for weeks without a cloud or drop of rain, but that certainly did not happen this year. Below is a busy graph that shows that same graph of moon and weekend over / under (above), with the cloudiness overlaid on top of it throughout the summer.

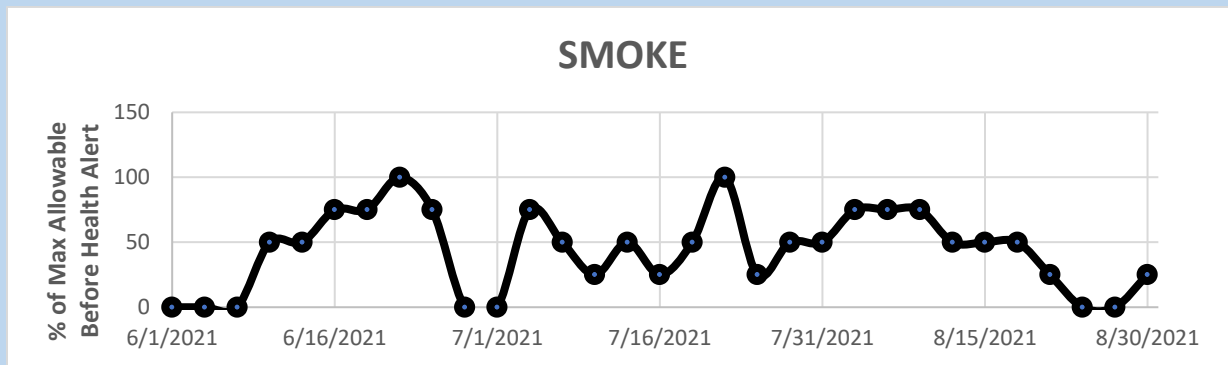


It's awfully complicated so I applied the same kind of theory as before and used mooniness plus clouds versus the weekend into an over under chart to see how that would work out.



This represents the first unique graph of 2021. In other words, all years have moon phases and weekends, in a predictable pattern, but individual years can vary greatly on cloudiness. This one certainly didn't help us

A close look shows there were still a few nights available in the beginning of August and a few iffy nights here and there throughout the early summer. Still not a wholly bad summer... but then we introduced a new enemy, smoke.



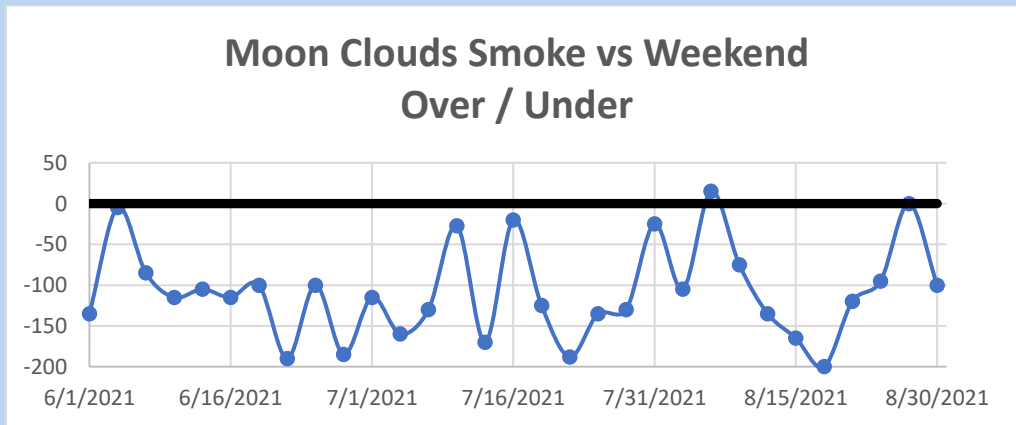
*NOTE: I'm certainly not poking fun about wildfires; untold numbers of people and animals have lost their homes and even lives.*





Smoke was prevalent throughout most of the summer and many days it was so bad that people were advised to stay inside. Smoke has a seriously negative effect on visibility of any celestial objects through a telescope or naked eye. There are many articles out there you could read describing the effects of smoke, humidity, air pollution, light pollution, etc. that would be much better than anything I could develop. The short version is that smoke is very bad for astronomy.

So, to develop the final graph I took the over under graph from above that included the effect of moon and clouds versus common free time to observe and added the effect of smoke.



As anyone who tried to observe this summer knows, this was a real punch of the nose in more way than one. We ended up with one night that was good despite all the things working against stargazing.

DATE	CLOUD	MOON	DOW	hi TEMP	lo TEMP	WIND	DIR
8/6/2021	0	10	FRIDAY	91	66	11	S

August 6th was clear, had a very old crescent Moon, was a Friday night with a decent wind and about average temperature. Hopefully some of you got to observe. My back went out. As the old sign says:



Smoke Cover on Sept 10. extended across the entire nation.

That night the moon was deep orange and Venus and Jupiter only dimly visible.



Well, in 2021, the universe said **I had one day this summer to observe,** and that wasn't gonna happen!

## MY METHOD

An explanation of my method:

- Admittedly, I only gathered data for every 3 days, so it didn't become too overwhelmingly depressing, and the graphs are rounded for clarity
- Cloudiness was based on conditions at sunset and a scale of:
  - Clear = 0% bad
  - Fair = 25% bad
  - Partly Cloudy or Hazy = 50% bad
  - Mostly Cloudy or Fog = 75% bad
  - Cloudy or Rain = 100% bad
- I assigned subjective effects to smoke – if you look at the NOAA Smoke Maps, you'll see a gradation based on particulate size and density. I just said every darker shade was 25% more smoky until the maximum bad shade was 100%.
- Moon phase is as is – so Full is 100% bad and 1<sup>st</sup> or 3<sup>rd</sup> Quarter is 50% bad
- I used normal work week such that:
  - Monday, Tuesday, Wednesday are all 0% good
  - Thursday and Sunday are 10% good
  - Friday and Saturday are 100% good

All the climatic data here is real, from [timeanddate.com](http://timeanddate.com) and smoke map data is from [NOAA](http://NOAA)



**Click the Image** to see James Taggart's video of clearing brush along the road leading up to the observatory



**This article is distributed by NASA Night Sky Network**

The Night Sky Network program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit [nightsky.jpl.nasa.gov](https://nightsky.jpl.nasa.gov) to find local clubs, events, and more!

## **Catch Andromeda Rising**

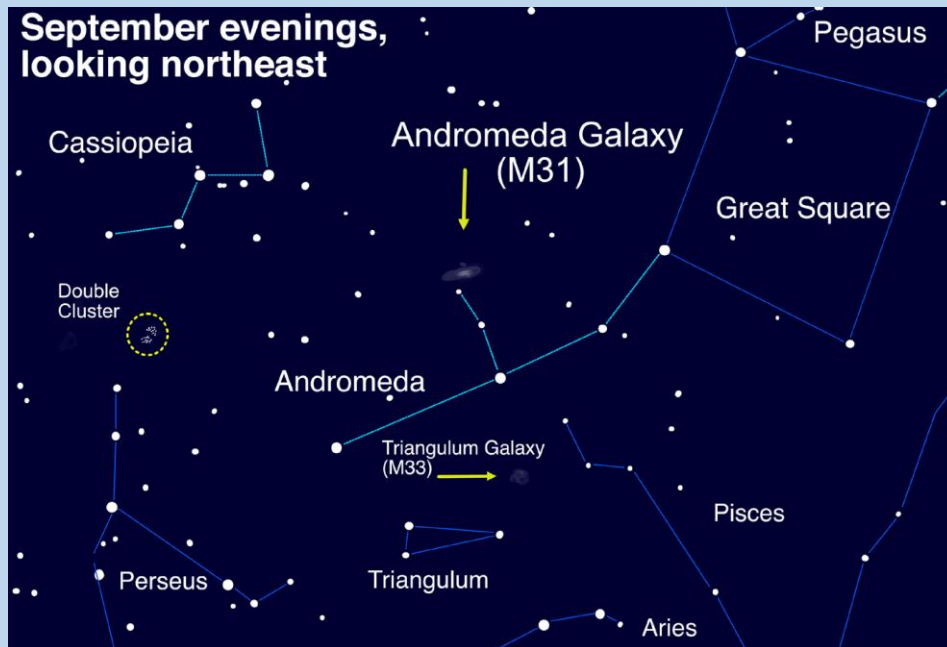
### **David Prosper**

If you're thinking of a galaxy, the image in your head is probably the Andromeda Galaxy! Studies of this massive neighboring galaxy, also called M31, have played an incredibly important role in shaping modern astronomy. As a bonus for stargazers, the Andromeda Galaxy is also a beautiful sight.

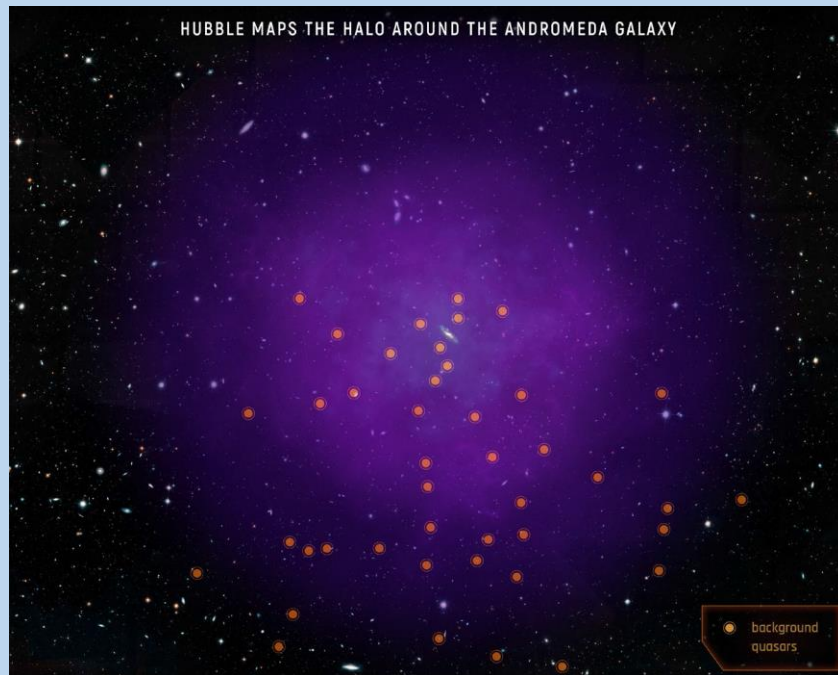
Have you heard that all the stars you see at night are part of our Milky Way galaxy? While that is mostly true, one star-like object located near the border between the constellations of Andromeda and Cassiopeia appears fuzzy to unaided eyes. That's because it's not a star, but the Andromeda Galaxy, its trillion stars appearing to our eyes as a 3.4 magnitude patch of haze. Why so dim? Distance! It's outside our galaxy, around 2.5 million light years distant - so far away that the light you see left M31's stars when our earliest ancestors figured out stone tools. Binoculars show more detail: M31's bright core stands out, along with a bit of its wispy, saucer-shaped disc. Telescopes bring out greater detail but often can't view the entire galaxy at once. Depending on the quality of your skies and your magnification, you may be able to make out individual globular clusters, structure, and at least two of its orbiting dwarf galaxies: M110 and M32. Light pollution and thin clouds, smoke, or haze will severely hamper observing fainter detail, as they will for any "faint fuzzy." Surprisingly, persistent stargazers can still spot M31's core from areas of moderate light pollution as long as skies are otherwise clear.

Modern astronomy was greatly shaped by studies of the Andromeda Galaxy. A hundred years ago, the idea that there were other galaxies beside our own was not widely accepted, and so M31 was called the "Andromeda Nebula." Increasingly detailed observations of M31 caused astronomers to question its place in our universe – was M31 its own "island universe," and not part of our Milky Way? Harlow Shapley and Heber Curtis engaged in the "Great Debate" of 1920 over its nature. Curtis argued forcefully from his observations of dimmer than expected nova, dust lanes, and other oddities that the "nebula" was in fact an entirely different galaxy from our own. A few years later, Edwin Hubble, building on Henrietta Leavitt's work on Cepheid variable stars as a "standard candle" for distance measurement, concluded that M31 was indeed another galaxy after he observed Cepheids in photos of Andromeda, and estimated M31's distance as far outside our galaxy's boundaries. And so, the Andromeda Nebula became known as the Andromeda Galaxy.

These discoveries inspire astronomers to this day, who continue to observe M31 and many other galaxies for hints about the nature of our universe. One of the Hubble Space Telescope's longest-running observing campaigns was a study of M31: the Panchromatic Hubble Andromeda Treasury (PHAT): [bit.ly/m31phat](https://bit.ly/m31phat) . Dig into NASA's latest discoveries about the Andromeda Galaxy, and the cosmos at large, at <https://www.nasa.gov/>



Spot the Andromeda Galaxy! M31's more common name comes from its parent constellation, which becomes prominent as autumn arrives in the Northern Hemisphere. Surprising amounts of detail can be observed with unaided eyes from dark sky sites. Hints of it can even be made out from light polluted areas. *Image created with assistance from Stellarium*



While M31's disc appears larger than you might expect (about 3 Moon widths wide), its "galactic halo" is much, much larger – as you can see here. In fact, it is suspected that its halo is so huge that it may already mingle with our Milky Way's own halo, which makes sense since our galaxies are expected to merge sometime in the next few billion years! The dots are quasars, objects located behind the halo, which are the very energetic cores of distant galaxies powered by black holes at their center. The Hubble team studied the composition of M31's halo by measuring how the quasars' light was absorbed by the halo's material. *Credits: NASA, ESA, and E. Wheatley (STScI)*  
 Source: <https://bit.ly/m31halo>

# TREASURER'S and MEMBERSHIP Report

BY JOHN NEWTON



**As of Sept 22, we had 229 members - 66 New members for 2021**

We welcome this month our newest members - **William Goswick, Joe Johnson, Jordan Nandico, Fred Merrifield, Stephen Todd, Jim Champion, Ben Jessie and Randall Hood Hello and welcome to ACT!**

In addition, we want to recognize our long-term prominent and well-respected members who continue to renew their memberships with the club, even during these restricted times. We look forward to seeing you all at meetings and at club events throughout the year when possible.

## Accounts as of Sept 22, 2021

Checking: \$ 4,198.55

Savings: \$ 13,786.30

Investments: \$ 30,872.04 (Value tends to fluctuate with markets).

The club now has PayPal available for you to start or renew memberships and subscriptions using your credit or debit cards. Fill out the registration form at <https://astrotulsa.com/page.aspx?pageid=16> Click Submit and you will be given the choice of either mailing in your dues with a check or using PayPal which accepts most major credit cards. A modest processing fee is added to PayPal transactions.

You may also renew your membership or join at one of our club events using your credit card by seeing one of our officers. We can take payments with the Square card reader. A small fee is also added on to these transactions.

**ALSO NOTE:** For our current members who are renewing their memberships, you can now go to a new link on the website to start your renewal process. On the home page, hover over the "Member" tab on the ribbon menu near the top of the page. Then select the "Membership Renewal" link and this will take to a page to fill out your information. Fill this out, submit it, then pay your dues by the method you choose.

**NEWS NOTE:** Both Sky & Telescope and Astronomy have free Digital subscriptions available with print subscriptions, or Digital subscriptions may be purchased separately. Details - Contact their websites

Membership rates for 2021 are as follows:

**Adults: \$ 45 per year, includes Astronomical League Membership.**

**Sr. Adult: \$ 35 per year for those 65 or older, includes Astro League Membership.**

**Students: \$ 30 with League membership; Students: \$ 25 without League membership.**

**Additional Family membership: \$ 20 with voting rights and League membership.**

**\$ 15 with voting rights but without League Membership.**

The regular membership allows all members in the family to participate in club events but only ONE Voting Membership and one Astronomical League membership.

**Join Online – Add or renew magazine subscriptions.** <https://www.astrotulsa.com/page.aspx?pageid=16>

**Magazine Subscriptions:** If your magazines are coming up for renewal, try to save the mailing label or renewal form you get in the mail. Forms are available on the club website. Both magazine now include online access with paid subscription.

**Astronomy is \$ 34 for 1 year, or \$ 60 for 2 years.** [www.astronomy.com](http://www.astronomy.com)

To get the club discount you must go through the club group rate.

**Sky & Telescope is \$ 33 per year** <https://skyandtelescope.org/>

Sky & Telescope also offers a 10% discount on their products.

You may renew Sky & Telescope subscriptions directly by calling their number -**be sure to ask for the club rate**

**ASTRONOMY CLUB OF TULSA  
BOARD MEETING VIA ZOOM  
THURSDAY, SEPTEMBER 16, 2021  
Minutes by Jerry Cassity**

**Attendees:**

Tamara Green   John Land   Skip Whitehurst   Don Bradford   Michael Blaylock  
Adam Koloff   Bryan Kyle   James Taggart   John Newton   Jerry Cassity

**Meeting was called to order at 7:14 PM      Meeting adjourned at 8:57 PM**

**Discussions as follows:**

Item No. 1:   How are we going to handle voting? In person, email, or both? We need to introduce an amendment to the by-laws to officially recognize online voting.

Don Bradford to develop and propose wording to change the ACT By-Laws to allow electronic voting.

Voting for officers and for the change to the by-laws to be held in person at the October Meeting.

Item No. 2:   Will we have our annual dinner meeting on November 6? Dan has reserved the dates of Sep 10, Oct 22, Nov 6 and Dec 4. There is a bunch of stuff we need to get done if we go forward with this.

John Land will send an email to members to determine if there is an interest in attending the annual dinner.

Item No. 3:   How are we going to open up for at least a Limited Public Astronomy Night (I assume per month)? The RSVP system we used worked well.

A Public Night will be scheduled for Saturday October 30<sup>th</sup>, with RSVP request sent to nonmembers who have shown an interest. It will be shown on the Events Page, but not on Facebook.

Item No. 4:   We have 4 scheduled and agreed-to non-club events to bring telescopes to: September 30 – Turkey Mountain Fundraiser; October 14, event at Post Oak Lodge; September 23 in Oologah, this is Skip's niece's event; and November 11, Botanical Garden Members Night.

Volunteers are being obtained.

Bryan proposed doing a Telescope 101 on December 18<sup>th</sup> at TASM, with possibly a viewing in the evening. More details later.

Item No. 5: We really need to identify new key holders who are willing to come assist on observing nights, (I assume to open and close the observatory). And to maybe get keys back from inactive members.

It was discussed to possibly change the requirement for key holders to be a member for at least 1 year to a lesser time. Not yet resolved.

Item No. 6: A gas stipend for Clay Sherrod, our October guest speaker. He is coming in from Conway, AR.

The speaker has had to cancel due to health issues. John Land / Tamera Green will try to find a replacement speaker. It was agreed that a stipend should be paid to cover guest expenses.

### **Other Business**

- A. It was discussed whether to hold the members nights during the winter on Friday or Saturday nights. It was decided to move the date to Saturday for November and December.
- B. The property tax was discussed for the inherited property. There is currently a Tax Lien on the property for unpaid taxes (prior to our obtaining the deed). The current tax fill is \$148.05 (152.42 with paid with a Credit Card). This included the Tax due plus fees plus penalty. John Newton will pay the current tax bill.  
  
Don Bradford will change the address to the ACT PO Box.  
  
Don Bradford and John Newton will investigate getting a tax exemption for the property.
- C. The need to take Dome apart and store it was discussed. Skip Whitehurst will obtain volunteers for the project. The disassembly is tentatively scheduled for 25 Sept.
- D. Discussed the possibility of using property west of the existing classroom for viewing. A gate will need to be installed. The oil pump will need to be fenced. This issue was not resolved at the meeting. Further discussions will be held.
- E. A motion was made to reimburse James Taggart for the expense paid for having the brush cut along the observatory entrance road. The cost was \$375.00. The motion was made by Skip Whitehurst and seconded by Michael Blaylock. The motion passed unanimously. James will send the receipt to John Newton and a check for the expense will be cut.
- F. Discussed the future of ACT Sidewalk Astronomy Events. The areas used previously at the Bass Pro Shops is now overgrown with trees, restricting the viewing area. It was decided that a new location will be needed when ACT restarts the Sidewalk Events. A new location has not been determined.
- G. John Land advised that those running for offices or board membership should submit a picture and bio for publication in the ACT Newsletter.

## ASTRONOMY CLUB OFFICERS:

PRESIDENT – TAMARA GREEN  
[astrotulsa.pres@gmail.com](mailto:astrotulsa.pres@gmail.com)

VICE PRESIDENT – DANIEL SMITH  
[astrotulsa.vp@gmail.com](mailto:astrotulsa.vp@gmail.com)

SECRETARY – OPEN

TREASURER – JOHN NEWTON  
[astrotulsa.tres@gmail.com](mailto:astrotulsa.tres@gmail.com)

## BOARD MEMBERS-AT-LARGE:

MIKE BLAYLOCK  
DON BRADFORD  
JERRY CASSITY  
JIM DANFORTH  
ADAM KOLOFF  
BRYAN KYLE  
JOHN LAND  
JAMES TAGGART  
SKIP WHITEHURST

## STAFF:

FACILITIES MANAGER –  
JAMES TAGGART  
[astrotulsa.obs@gmail.com](mailto:astrotulsa.obs@gmail.com)

EDITOR - JOHN LAND  
[tulsaastrobiz@gmail.com](mailto:tulsaastrobiz@gmail.com)

PROGRAM CHAIR - JOHN LAND  
[tulsaastrobiz@gmail.com](mailto:tulsaastrobiz@gmail.com)

Public FaceBook Page Coordinator  
Adam Koloff  
[akoloffuso@gmail.com](mailto:akoloffuso@gmail.com)

OBSERVING CHAIRS  
OWEN AND TAMARA GREEN  
[darthnewo@yahoo.com](mailto:darthnewo@yahoo.com)  
[astrotulsa.pres@gmail.com](mailto:astrotulsa.pres@gmail.com)

SIDEWALK ASTRONOMY –

PR AND OUTREACH –

GROUP DIRECTOR – **Open Position**  
[Astrotulsa.outreach@gmail.com](mailto:Astrotulsa.outreach@gmail.com)

NIGHT SKY NETWORK –  
**Open Position**

WEBMASTER JENNIFER JONES

## The Moon's the North Wind's Cooky

*What the Little Girl Said*

The Moon's the North Wind's cooky.  
He bites it, day by day,  
Until there's but a rim of scraps  
That crumble all away.

The South Wind is a baker.  
He kneads clouds in his den,  
And bakes a crisp new moon that . . . greedy  
North . . . Wind . . . eats . . . again!

— Vachel Lindsay

The poem is an excerpt for an  
old children's book of poetry

*Tomie dePaola's*

*Book of Poems*

### Do you have ideas for our club In Person or ZOOM Meetings?

Want to share an observing experience or astrophoto.  
Know someone willing to be a Guest presenter?

We would also welcome YOU to do a short 5-10  
minute section of interest or new equipment you'd  
like to review.

Create a Cartoon on a Space Theme

Contact our Editor John Land

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