CACHE VALLEY ASTRONOMICAL SOCIETY
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CACHE VALLEY CLEAR SKIES

Journal of the Cache Valley Astronomical Society

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PRESIDENT'S CORNER

By Dell Vance

Ann-Maree Vance

April was a very exciting month. The total eclipse was great! We had people along the path of totality all the way from Mazatlán, Mexico, to Rochester, New York. We saw clear skies, thin clouds, or—for a few of us—totally cloudy skies.

I was in Walworth, New York. I had the cloudy sky experience. It was interesting to me, because I found I focused on the effects of the eclipse rather than the moon and the sun. I was amazed at how dark it became. The lights came on in the nearby houses, and their security lights were also triggered. I also noticed that the birds became quiet, but the frogs in a nearby pond started croaking.

I saw the blackness coming toward me as we entered totality. It was dark for three minutes and 38 seconds. Then the "dawn" was coming from all sides as the totality ended. I finally remembered to take an image of the darkness. The cell phone automatically compensated for the lack of light, so it came out a bit

cont'd on p. 2

Shutterstock

THE TOTAL SOLAR ECLIPSE ISSUE

Club Summer Social

- June 14: 6:30 p.m. at Willow Park.
- The club will provide pizza; please bring a side dish, salad, or dessert to share.
- Solar party after dinner! Please bring your telescope and solar filter.

Star Parties

- May 10: North Logan Library
- May 17: Smithfield Library
- September 27: Newton Library

Solar Parties

- July 25: Little Wonders Learning Center (Nibley)

Club Meetings

- Discontinued until September, per our usual seasonal schedule.
- However, please take note that our new meeting schedule will be to meet at 7:00 p.m. on the third Thursday of the month, at the new and improved Logan Library!
- Future 2024 meeting dates:
- September 19, October 17,
- November 14.

Keep up to date by visiting our website:

President's Corner, cont'd from p. 1

brighter than it actually was.

Would I do it again knowing that it could be cloudy? Absolutely! The event was still great in many ways and eclipses are worth experiencing. In addition, my son and his family live in that area. That alone would be worth a trip.

April was also our first meeting in the new Logan Library. The library staff was very supportive of our club. It turned out that the library is closed on Friday nights. However, because they had scheduled our meeting, they were good enough to let us hold our meeting there after hours. We had a good meeting, with people relating their experiences of the eclipse. Of course, there were some great images shown and positive reports. We also had a good turnout to the meeting. Because the library is closed on Friday nights, we polled the audience and have selected to have our meetings starting next September on the third Thursday of each month.

This month, we don't have our usual club meeting, but we do have a star party for the North Logan Library on Friday, May 10. We plan to set up about 8:30 p.m., with observations starting at about 9:00 p.m. The North Logan Library has had a good turnout to star parties in the past, and we expect to have a good night with them. We are also considering some solar parties on the area in front of the Logan Library during the month. Watch the website for more information on that.

Our annual club picnic is scheduled for June 14 in Willow Park. It is for the whole family, and the club will provide the pizza, water, plates, napkins, and utensils. We would like each family to bring a dessert, salad, or side. It should be a good event. We plan to have some telescopes set up for solar observing that afternoon as well.

Thanks again for all your support.

Clear skies!

ATTENTION LIBRARY TELESCOPE COORDINATORS!

iStock and Creazilla

Star party season is here!

Please contact your library and ask if they would like CVAS to host a summer star party for them.

Your community will thank you!

CACHE VALLEY ASTRONOMICAL SOCIETY

Our Website: CVAS-UTAHSKIES.ORG

EXECUTIVE COMMITTEE

- President: Dell Vance; avteam.dell@gmail.com
- Vice President: Dale Hooper; dchooper5@gmail.com
- Secretary-Treasurer: Bonnie Schenk-Darrington; bschenkdarr@gmail.com
- Night Sky Network Coordinator: Dell Vance; avteam.dell@gmail.com
- Public Relations: Bruce Horrocks; bruceh@gem-buildings.com
- Webmaster-Librarian: Tom Westre; twestre45@aol.com

THE TOTAL ECLIPSE OF APRIL 8, 2024

By Blaine Dickey

The total eclipse of the sun on April 8, 2024, was the big event of the year. Millions assembled on the eclipse path to witness the last total eclipse of the sun in the continental United States until August 2045. My wife and daughter traveled with me to Del Rio, Texas, to view the eclipse with her brother and his family. The prospects for us at Del Rio were not good. Ten days before the eclipse, the weather app showed clouds on that day. Sure enough, when we woke up that morning, it was indeed cloudy in Del Rio. We decided to stay put, as we felt there was some chance that the clouds would part at totality. It was not to be; naturally, we were disappointed but it was still a memorable experience.

We set out chairs with those we were with and waited anxiously to see what would happen. As totality approached, it became noticeably darker and cooler. Knowing the exact time of totality, we counted down from 10 to 0 and were surprised at how quickly it became as dark as night. During the three minutes of totality, some of our group noticed the birds quieting down. After three minutes, the sky on the western horizon became brighter and we watched it turn quickly from night to daylight (figure 1).

The clouds did break every once in a while before and after totality, so using my ZWO Seestar S-50, I was able to get some images of the partial phase (figure 2).

My son, Kevin, who was in Little Rock, Arkansas, was much luckier. He was at the zoo with his son when totality occurred in perfectly clear skies, and he was able to take some images while holding a solar filter over his Samsung phone's camera (figure 3 on p. 3 and figure 4 on p. 4).


1


3

Images courtesy of Blaine Dickey and Kevin Dickey.

cont'd on p. 4

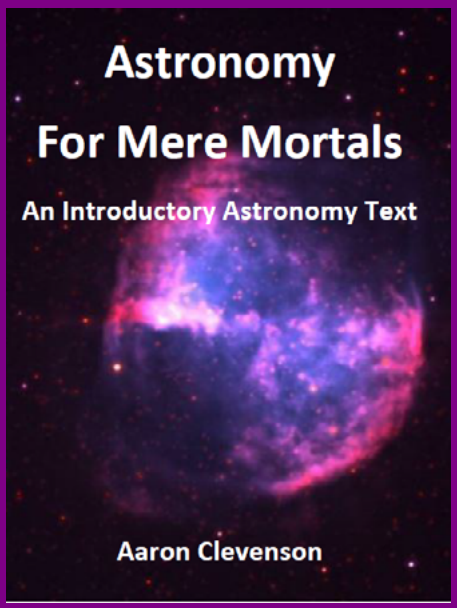
Eclipse, cont'd from p. 3

pngset

Hey, Astronomy Hero! What's Your Origin Story?

CVAS members are astronomy superheroes who share their love of astronomy with the galaxy! (Or, at least with the people of Earth!)

What piqued your interest in astronomy? Please tell us! Send your article to Bonnie for inclusion in next month's newsletter!



Astronomical League

Astronomy for Mere Mortals

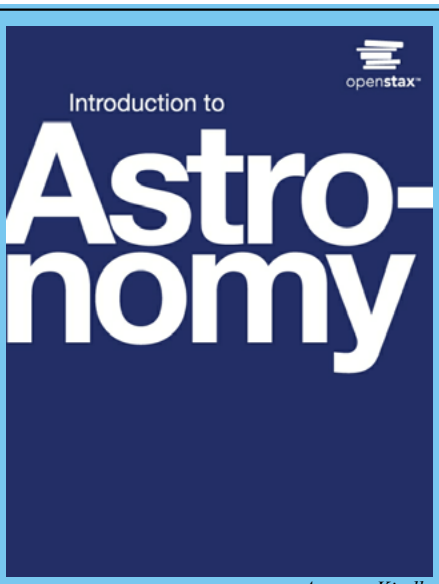
You can download the e-book, *Astronomy for Mere Mortals* by Aaron Clevenson, a complete introductory textbook, available free, updated annually. You can download a free PDF here. You may print it, or if you would like a printed copy, please contact the author, Aaron Clevenson, at aaron@clevenson.org.

Clipart Library

ClipartMax

USU Observatory Public Night

The USU Observatory is closed for the summer break. The next public night will be in the fall but no firm date has been announced yet. More info available here.



Amazon Kindle

New 2nd Edition of Free Astronomy 101 Textbook Now Available!

In an effort to democratize knowledge, the OpenStax project produces free digital and inexpensive hard-copy college-level textbooks written by professionals in many fields. You do not have to be a college student to request a copy. You can read more about the new astronomy textbook here. And you can download or order a copy here.

Mark your calendars for Saturday, September 14, 2024, the next International Observe the Moon Night. Join hundreds of thousands of people from all over the world in learning about lunar science and exploration, taking part in celestial observations, and honoring cultural and personal connections to the moon.

Explore the NASA website to learn more about the program and find helpful event hosting tips and resources.

NIGHT SKY NOTES: STARGAZING FOR BEGINNERS

by Kat Troche

Millions were able to experience the solar eclipse on April 8, 2024, inspiring folks to become amateur astronomers—hooray! Now that you've been "bitten by the bug," and you've decided to join your local astronomy club, here are some stargazing tips!

The Bortle Scale

Before you can stargaze, you'll want to find a site with dark skies. It's helpful learn about the Bortle scale.

The Bortle scale is a numeric scale from 1-9, with 1 being darkest and 9 being extremely light polluted; that rates your night sky's darkness. For example, New York City would be a Bortle 9, whereas Cherry Springs State Park in Pennsylvania is a Bortle 2.

The Bortle scale helps amateur astronomers and stargazers to know how much light pollution is in the sky where they observe.

Determining the Bortle scale of your night sky will help narrow down what you can expect to see after sunset. Of course, other factors such as weather (clouds, namely) will impact stargazing conditions, so plan ahead. Find Bortle ratings near you here.

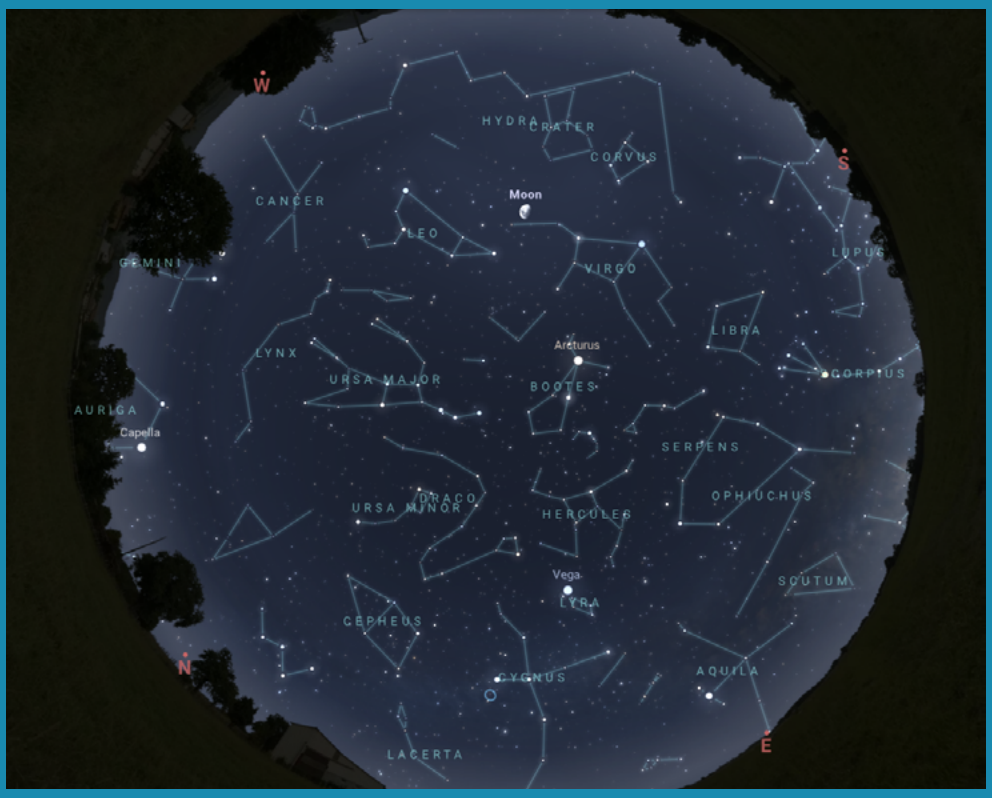
No Equipment? No Problem!

There's plenty to see with your eyes alone. Get familiar with the night sky by studying star maps in books, or with a planisphere. These are great to begin identifying the overall shapes of constellations, and what is visible during various months.

Interactive sky maps, such as Stellarium Web, work well with mobile and desktop browsers, and are also great for learning the constellations in your hemisphere. There are also several astronomy apps on the market today that work with the GPS of your smartphone to give an accurate map of the night sky.

cont'd on p. 7

Stargazing, cont'd from p. 6



A full view of the northern hemisphere night sky in mid-May.

Keep track of moon phases. Both the interactive sky maps and apps will also let you know when planets and our moon are out! This is especially important because if you are trying to look for bright deep sky objects, like the Andromeda Galaxy or the Perseus Double Cluster, you want to avoid the moon as much as possible. Moonlight in a dark-sky area will be as bright as a streetlight, so plan accordingly! And if the moon is out, check out this Skywatcher's Guide to the Moon handout.

Put on That Red Light

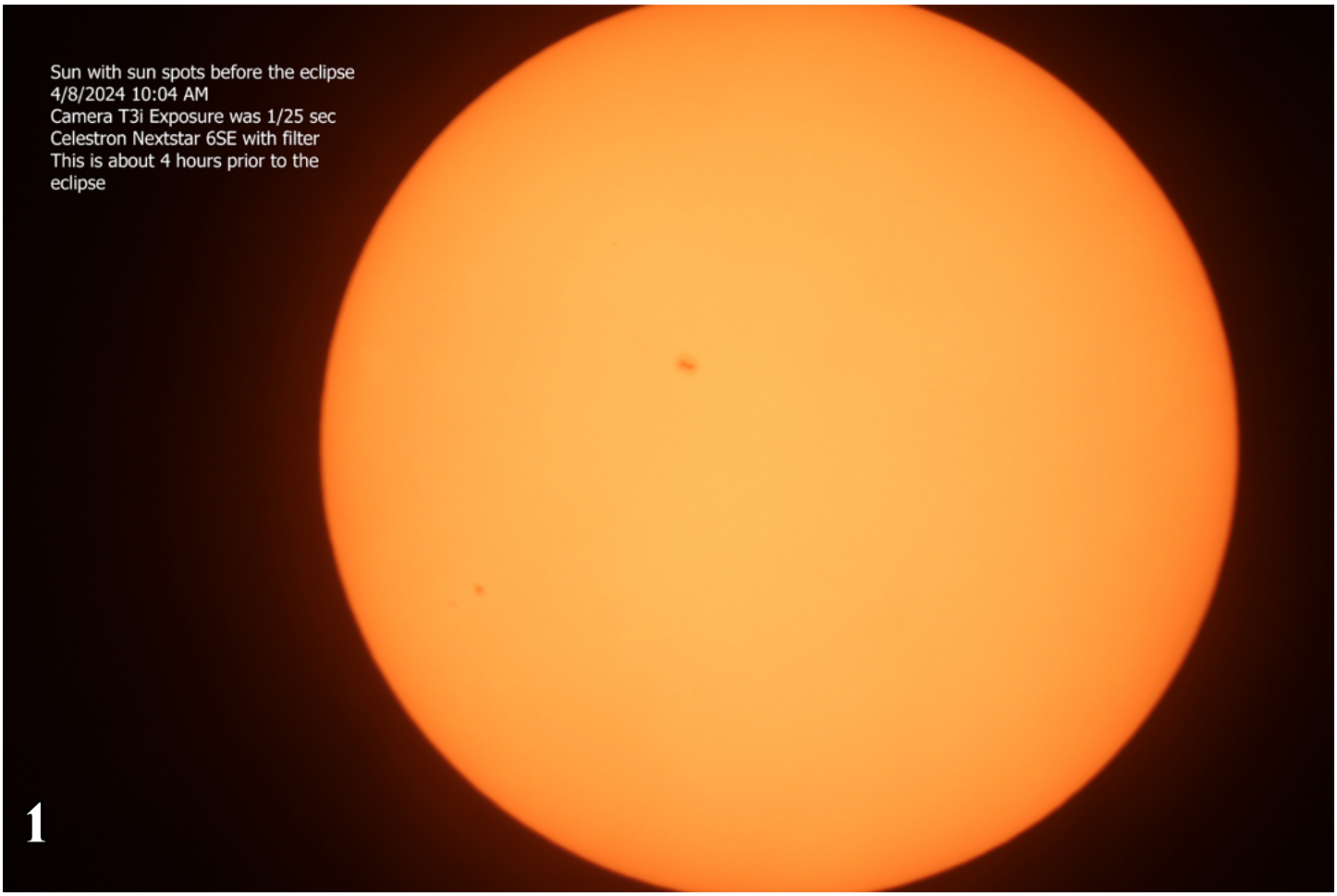
If you're looking at your phone, you won't be able to see as much. Our eyes take approximately 30 minutes to get dark-sky adapted, and a bright light can ruin our night vision temporarily. The easiest way to stay dark-sky adapted is to avoid any bright lights from car headlights or your smartphone. To avoid this, simply use red lights, such as a red flashlight or headlamp. The reason: white light constricts the pupils of your eyes, making it hard to see in the dark, whereas red light allows your pupils to stay dilated for longer. Most smartphones come with adaptability shortcuts that allow you to make your screen red, but if you don't have that feature, use red cellophane on your screen and flashlight.

Images courtesy of NSN.

This article is distributed by NASA's Night Sky Network (NSN).
The NSN program supports astronomy clubs across the USA dedicated to astronomy outreach. Visit https://nightsky.jpl.nasa.gov/ to find local clubs, events, and more!

ASTROPHOTOGRAPHY GALLERY

Recent Images by Club Members



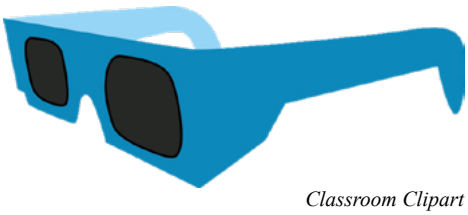
Dell Vance

Walworth, New York, USA

1. The sun with sunspots before the eclipse.

2. Horizon near the end of totality.

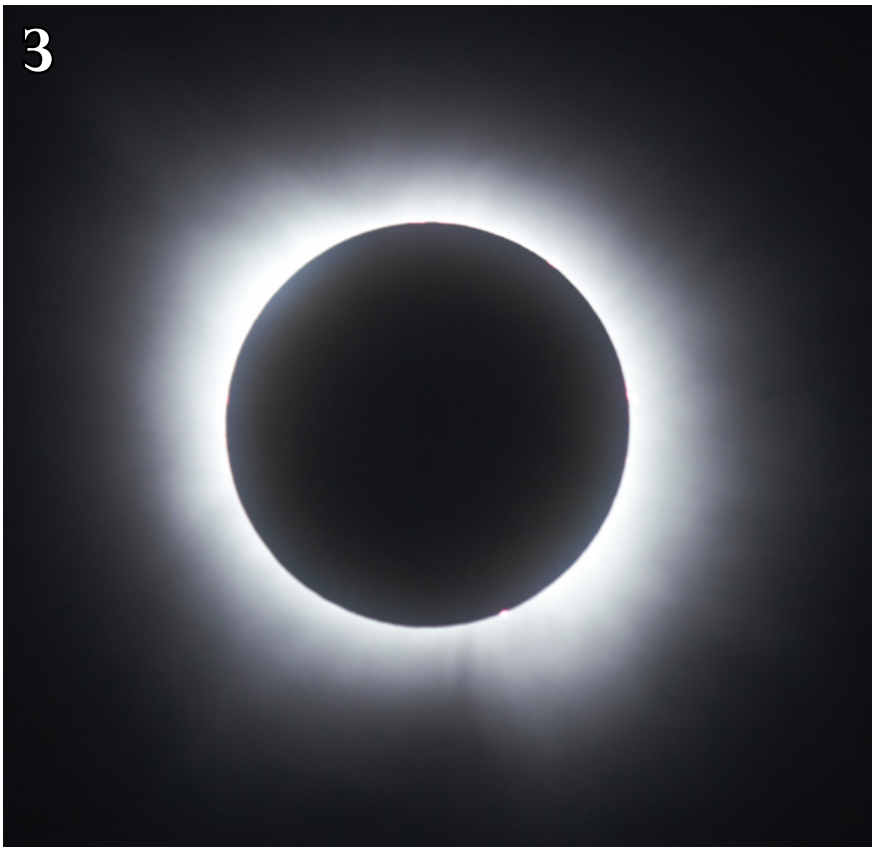
(See President's Corner, p. 1, for more details.)

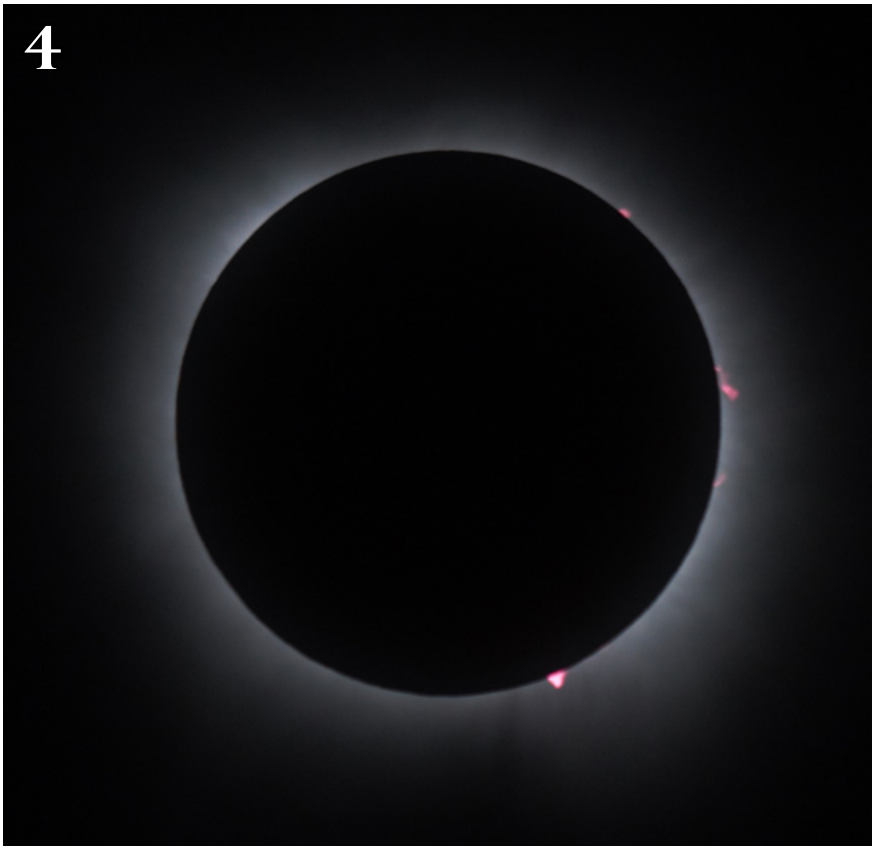


Classroom Clipart

ASTROPHOTOGRAPHY GALLERY

Recent Images by Club Members





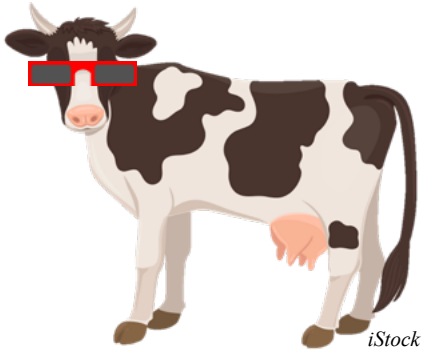
Dale Hooper

Mazatlán, Mexico

3 and 4. Both images show totality, taken at different exposures. 3 shows a large, extended corona, with a longer exposure of 1/15 second. 4 shows prominences that get lost in the full corona, with a shorter exposure of 1/125 second.

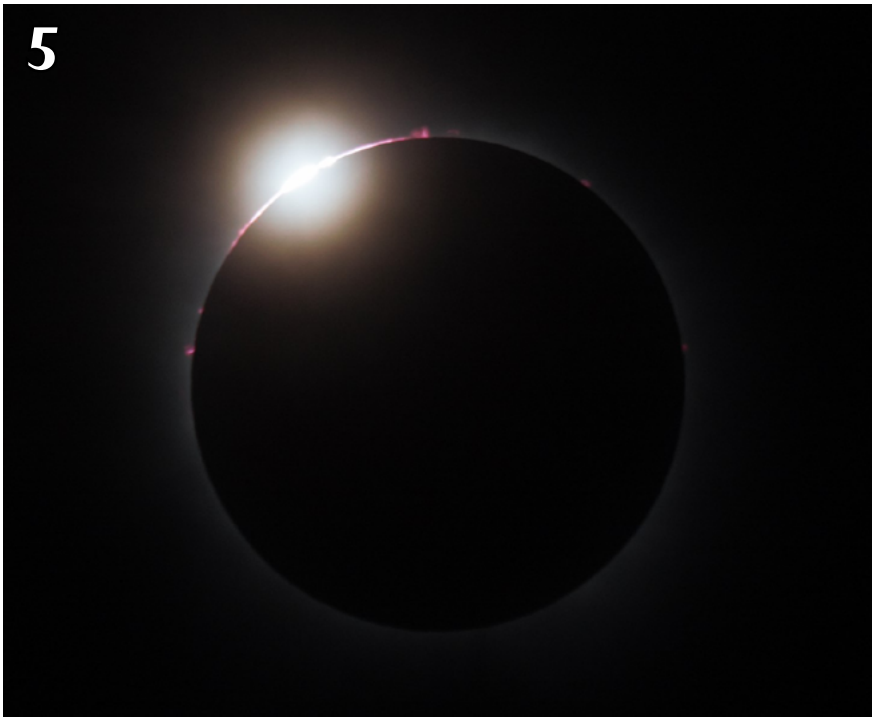
We went to Mazatlán, Mexico to observe the eclipse because it was the location that was supposed to be most likely to be cloud free. We still ended up with high clouds which made it so that my longer exposures didn't work. Instead of showing the outer corona, they just show the clouds. It was still a very fun and successful experience. We got to visit with a few folks from Astro-Physics before the eclipse (they are the makers of the A-P 1600 GTO mount that I have in my observatory). I was able to add over 4 minutes 15 seconds in the moon's shadow. So I am now over 6 1/2 minutes total! I'm really excited to do it again!

I used a William Optics Z61 APO refractor mounted on a Sky-Watcher Star Adventurer GTi. The camera I used was a Canon T2i DSLR. I used a Mele Quieter 3 mini PC to run SetNC to control the exposure lengths and times. Currently, the only processing that I have done is cropping the images, which also converts them from Canon Raw images to jpg.



ASTROPHOTOGRAPHY GALLERY

Recent Images by Club Members



Dale Hooper

Mazatlán, Mexico

5. This image was taken at the beginning of totality and shows the diamond ring phenomenon.

eBay

Tom Sorensen

Glen Rose, Texas, USA

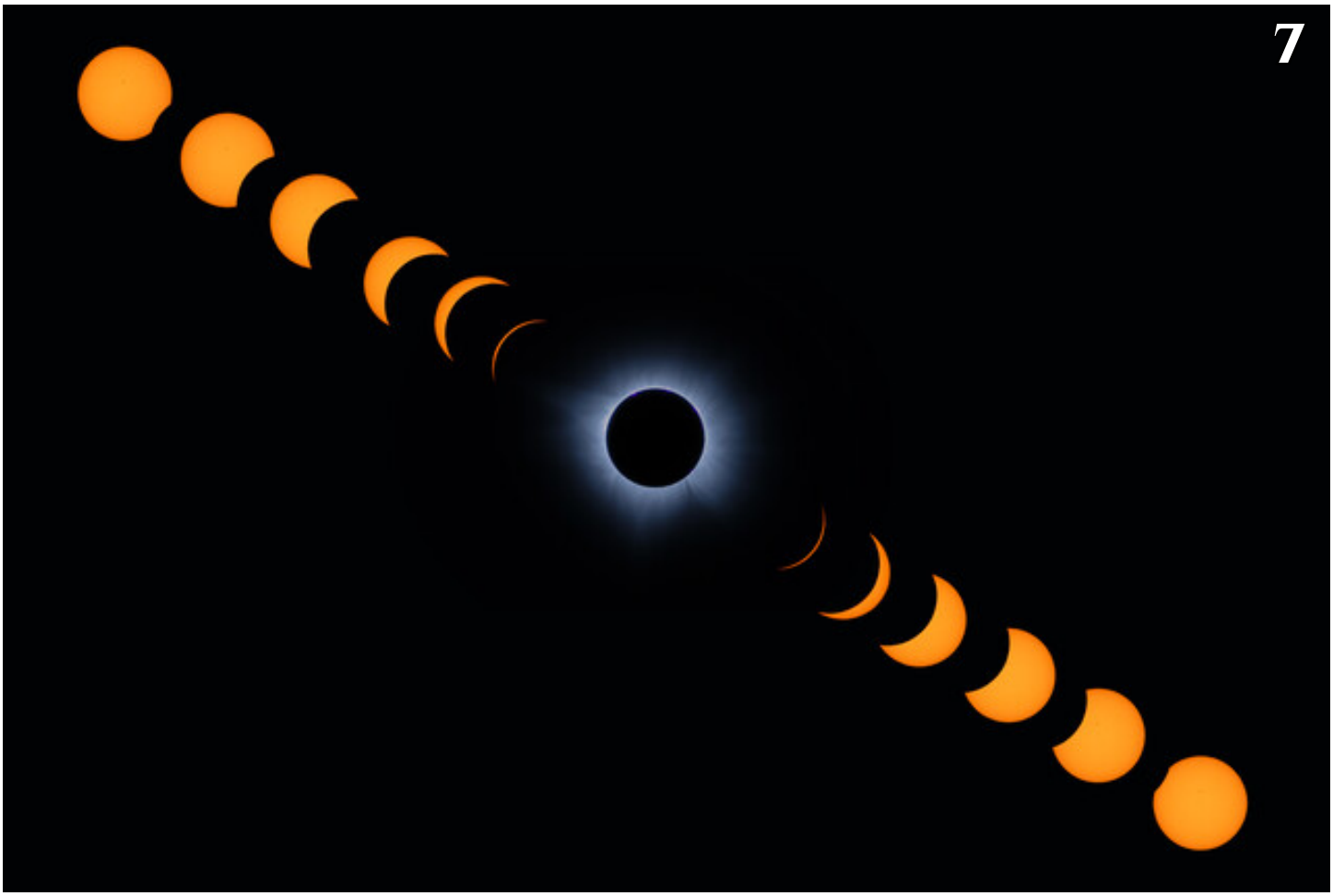
6. Totality.

7. Composite.

Shutterstock

ASTROPHOTOGRAPHY GALLERY

Recent Images by Club Members



Tom Sorensen

Glen Rose, Texas, USA

I took these pictures in Dinosaur Valley State Park in Glen Rose, Texas. I was using a 180mm triplet astrophotography lens (the TPO 180) on a crop sensor camera (Sony A6000). Unfortunately, Dale is right, these images are pretty small due to the amount of cropping I had to do with this setup. The images during totality were processed in Photoshop, following the recent tutorial on the YouTube channel "Nebula Photos."

Also, on our way home we stopped at Gooseneck State Park and Mexican Hat, both in Utah. It was one of the most incredible views of the Milky Way I've ever experienced. I shot the one at Gooseneck on a star tracker with my Sony A6000 with a 12mm Rokinon lens. I shot the one at Mexican Hat with the same camera on a fixed tripod with a 24mm Rokinon lens. I edited both of these images using Lightroom and Alyn Wallace's presets.

PNGEgg

Your Image Could Be Here Next Month!

We all learn when you share your astrophotography with the club! Send your images to bschenkdarr@gmail.com for publication!

ASTROPHOTOGRAPHY GALLERY

Recent Images by Club Members

Tom Sorensen
Utah, USA

8. Gooseneck State Park, Utah, April 2024. The Milky Way.

9. Mexican Hat, Utah, April 2024. Star Trails.

Vecteezy

DARKSKY UTAH SEEKING BOARD AND COMMITEE MEMBERS

A Letter from Mr. Alan Eastman, Chair of DarkSky Utah

Dear CVAS Friends and Colleagues,

We are recruiting volunteers to serve on the **board** or **operating committees** of DarkSky Utah, the state chapter of DarkSky International, and are hoping you might be interested in getting involved. In addition to helping suitable places achieve DarkSky Place certification, our group has been instrumental in helping cities formulate dark-sky compatible lighting ordinances, reaching out at community events, and lobbying legislators to pass bills to minimize light pollution in our beautiful state. We hope to increase the diversity of our volunteers, in terms of both geography and demographics.

As a **board member**, you would be involved in coordinating and moving forward our efforts to increase awareness of the problems of light pollution, and to decrease light pollution in communities and scenic places around the state. Board member duties would be, for example:

- Help plan and staff 2–4 events per year;
- Help develop tabling materials for those events;
- Attend, in person or remotely, quarterly board meetings;
- Actively recruit members for DarkSky International, who automatically become members of DarkSky Utah.

As a **committee member**, with opportunities more closely focused than a board member, you would be an important part of one of the four committees in the chapter: *Designation* (helps locations and communities achieve DarkSky Place certification), *Development* (recruitment and encouragement of public involvement, including funding), *Ordinance* (assists cities and towns with local ordinances that promote good DarkSky lighting), and *Outreach* (plans and participates in activities that promote dark-sky awareness).

We would be delighted to have you working with us; together, we can maintain and enhance Utah's

reputation for the best skies in the nation. Please call or email me, and let's talk!

Sincerely Yours,
Alan D. Eastman
Chair, DarkSky Utah

5698 Park Place East
Holladay, UT 84121
cell 801-440-3875

A LITTLE ECLIPSE HUMOR

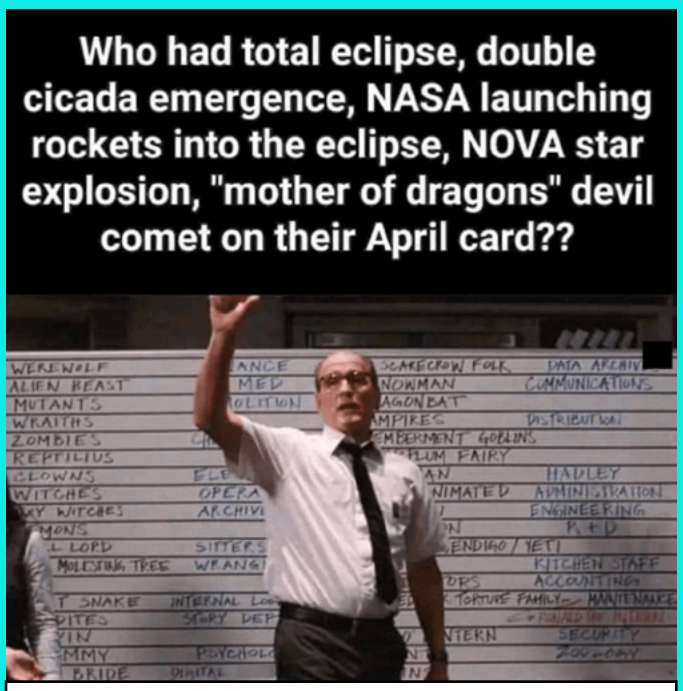
Wildes
@kevinwildes

The sunglass store:
"If you ever want to go to the beach, the lens needs to be polarized and those start $125."

The eclipse:
"You can use these to stare directly into the sun for $3."

11:02 AM · 4/8/24 From Earth · **1.6M** Views

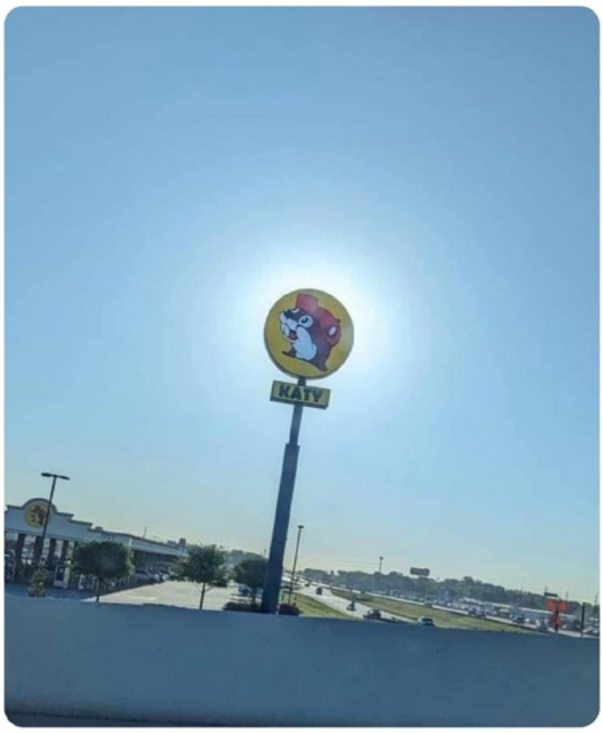
2.7K Reposts **94** Quotes **40K** Likes **621** Bookmarks



2020 is over, but don't put those Apocalypse Bingo cards away just yet!

#Relentless MVPnav ...
@PNav57

For those of you outside Texas that can't make it to see the eclipse tomorrow, it looks something like this:



2:52 PM · 4/7/24 From Earth · **2.3M** Views

if we end up getting superpowers on Monday cuz of the eclipse, i will not be a hero

Memebase and Cheezcake

SORRY! THERE WERE JUST A LOT OF REALLY FUNNY MEMES AND TWEETS ABOUT THE ECLIPSE

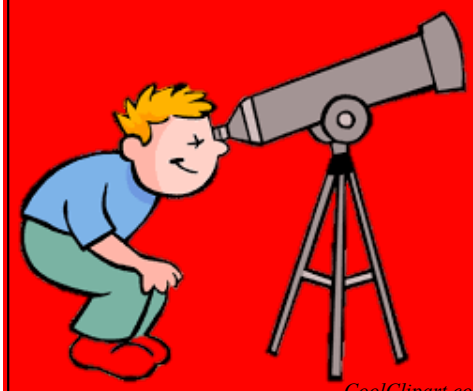
Brian McManus
@TheBrianMcManus
Follow

If interplanetary tourism was a thing we would have spaceships full of aliens coming to earth to see this. The chances of our moon being the perfect size to eclipse our star is insane.

EE »★«
@EEvisu

Put this next to the Mona Lisa

Memebase



CoolClipart.com

Stumped? Befuddled?? Bamboozled???
Telescope Help Is Available!

When even your CVAS friends can't answer your obscure telescope questions, you might find it helpful to call Tom Sevcik at the Clark Planetarium in Salt Lake City! His number is (385) 468-1264. You can read his bio on the Clark Planetarium website.