



Cache Valley Clear Skies

The Journal of the Cache Valley Astronomical Society



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www.cvas-utahskies.org

No Meeting This Month – August Star Parties

There is no club meeting scheduled for August. During the summer months, we instead, concentrate on getting outside for club (private) and public star parties.

We have three star parties scheduled for August. Watch the website and email for changes and more information. First is a CVAS star party at the Beaver Mountain parking lot on August 10th. The next morning (11 Aug) is a solar party at the Logan Library from 10:30am to noon. The last scheduled star party is one that is always fun. We will set up scopes in the parking lot of the Providence Macey's to show shoppers the planets and the moon.

We also still need a liaison for the Logan Library Loaner Telescope. Please contact Dell Vance if you can help.

Elections for Officers in September



WE WANT YOU!

September is getting closer and we want you to begin thinking about running for office. There will be one or more open officer positions this year, so please consider the opportunity to run for a club officer position. You may run for any office.

The President's Corner By Dell Vance, CVAS President



It's hot here in Cache Valley. It isn't nearly as bad as when I lived in Houston. There the temperature is about 95°F with 98% humidity. It can be very unpleasant during the Summer time. However, here in Cache Valley it cools down very quickly when the sun goes down. It is great for astronomers. Now if we could just get the smoke out of the air. I

have been watching Mars this month and it is putting on quite a show. It is very bright (third brightest object in the night sky now). I am hopeful that the giant dust storm on Mars and the smoke in our skies will clear so I can get a better look at it. Here is a picture of the Moon with all the smoke in the air. Pretty, but not very helpful for star-gazing.



It is time to start getting ready for the elections of club leaders. I want to assure anyone that is interested in running for one of the positions that they are not very time consuming or difficult to serve in. The Executive Committee (Excom) meets one night a month for about an hour to plan programs and star parties. With five people on the Excom we usually have a lot of input on the items considered. The Elected positions are:

President: Chairs the committee and sets up the Excom meeting. He/She will also conduct the monthly meeting during the Fall/Winter months and writes a column for the Newsletter. Additional time spent each month including Excom Meeting: about 4 hours.

Vice-President: Conducts meetings when President is not available. (This doesn't happen very often.) He/She may also take assignments when needed by the Excom and provides important input at the Excom Meeting. Additional time spent each month including Excom Meeting: about 1 1/2 Hours.

Secretary: Keeps the minutes of meetings, is the editor of the Newsletter, and any special assignments that the Excom

may have: Additional time spent each month including Excom Meeting: about 5-6 hours.

Treasurer: Collects membership dues, writes checks for expenses, and reports monthly the status of membership and financial activities each month at the Excom Meeting. Additional time spent each month including Excom Meeting: about 2 hours.

Time spent doing the leadership responsibilities may vary depending on how much effort and innovation that you apply to the tasks. As you can see, the time requirements can be minimal. I hope each member will take an active role in the leadership of the club at some time during their membership. The turn-over of members for the Excom can provide a good mix of ideas and opportunities. In addition, the past President also attends the Excom Meeting to provide continuity and coaching to the committee.

The election will be at the September Club Meeting, but now is the time to get excited about what you can do for the Club.

Be sure to get out and participate in the club activities this month. Thanks again for your support.

Clear Skies!



Waxing gibbous moon, July 23rd (8:35pm) from East Beach Idaho State Park Campground (Bear Lake) - Courtesy Bonnie Schenk-Darrington

Club Announcement: cvas-utahskies@groups.io

By Dale Hooper

Currently as a club we are simply maintaining a rather clumsy list of about 76 email addresses to handle club communications. This is the method that we currently use to send out the newsletter and club email announcements. This is rather awkward at best and has definite maintenance issues. To help with this, we thought it best to move to a group email system. There are several that are available such as yahoogroups, googlegroups and groups.io. We feel that this will greatly enhance our ability to communicate with each other as a club. After giving it a fair amount of thought, we have decided to go with groups.io.

There are several things that groups.io provides to us as a club **and also some things that groups.io will not do to you**. Groups.io will allow us to send email to everyone in the club. Members will also be able to communicate with other members of the club this way. We will also be able to have a wiki (help), we can conduct polls and there will also be a files section. We can have a photos section and calendar section, but we see these as a duplication of the website – so we currently don't plan to use groups.io for photos or calendaring. There is no charge to the club for using groups.io.

One very significant feature is that it will also allow us to create subgroups (such as our astro-imaging group) so that our special interest groups can coordinate activities. Members of the list, at large, will be able to join the subgroups and will be able to view their messages.

Unlike some services there will be no ads sent to you from groups.io and **it won't track any of your information**.

We plan to do a switch over to groups.io during August so that it is in full use before our annual meeting.

You will receive an email message from CVAS-UtahSkies@groups.io which will include some information from me about what we are doing. To sign up for our email list, all you will need to do is reply to the email message. (You could also sign up

through their website, but that is more work for you).

In September, this will become the main method used to send out the newsletter. So if you wish to continue to receive the newsletter – we urge you to reply to the invitation email.

If you are a paid member of the club and have reservations about doing this we ***really*** want to hear from you because we are planning to use this as the main method of communicating with each other.

You don't need to be a paid member of the club to sign up, but **if you are a paid member and we don't see you sign up – we will contact you** to see if you need help or have questions or reservations.

This will be a private group – by invitation only so we shouldn't need to worry about spammers or people posting inappropriate content.

You will be able to send messages to other cvas-utahskies@groups.io email list members so we do ask you to be respectful. The club executive committee will serve as moderators of the list.

We see this as a real opportunity to grow the club. There may be a few “growing pains” along the way so we ask for your patience. We will be sending out an email message about this before we “go live”.

Review of the Celestron free app “Sky Portal”

By Blaine Dickey

A few months ago I purchased a Celestron NexStar Evolution 6 inch mainly for use at star parties. The telescope is controlled by a free app called “SkyPortal”. This app makes it possible to easily control the telescope from a phone or tablet, using IOS or Android. The app can also be used as a planetarium program for general use in the field or in star parties.

It is a great app to take with you at star parties. For example it is a great resource for learning the constellations and showing them to others before pointing them out in the sky. It can be held up to the sky in “Compass” mode to show the current sky depending on the way you are facing. You can

easily zoom in to see stars fainter than naked eye brightness.



Sky Portal from Celestron – courtesy Blaine Dickey

“Best of Sky” provides a custom list of the best objects to view based on the time, date, and location you choose. This is a powerful tool in planning what you want to observe at your current or next star party.

According to Celestron you can simulate the night sky up to 100 years in the past or future. You can also plan your next observing session for whatever date you choose, days, weeks, or months in advance.

You can animate Jupiter’s brightest moons and its Red Spot as they will appear at your chosen date. You can also animate important conjunctions of planets, of the moon, as well as lunar and solar eclipses as they will appear in the sky from your location.

You can also see the current position of comets, asteroids, and satellites located in your night sky map and animate them as they move across the sky.

There is over 4 hours of recorded audio and many more notes and images that are helpful in learning about the objects you are currently looking at. It also has a night vision mode to preserve your night vision. When someone asks a question about the object you are looking at you can click on the “Info” button after clicking on an object, and it will bring up an audio, or extensive notes and often an image that are useful in answering their question. This also works for Constellations if you want to know historical information about the constellation that you are inquiring about.

Using the “Search tool” and you will also find the categories “Sun & Planets”, “Moons”, “Asteroids”, “Comets”, “Satellites”, “Named Stars”, “Brightest Stars”, and “Nearest Stars”, “Deep Sky Objects”, “Messier Objects”, “Constellations”, “Asterisms” and “Meteor Showers”. Clicking on any of these categories will show many or all the objects in these categories visible at the current time or any other time you choose. Also you can click the “Center icon” and the star map will place your object on the center of the star map so you know exactly where it is located in the sky.

The only real drawback I’ve noticed of the app “SkyPortal” is that the number of deep sky objects in the database is somewhat limited. While all of the 110 Messier and 109 Cadwell objects are in the app, there are only selected NGC objects. This is not too big of a disadvantage if you know the RA and Dec of the object you want to see. You can easily input the RA and Dec of objects and have the Scope slew to that location.

This is only a brief summary and review. There are many useful features in addition if you are using it to control a Celestron Scope. This is the best and easiest to use Planetarium App that I have used and the price is right!

Kidstronomy Corner

By Bonnie Schenk-Darrington

Last month I focused on a couple of resources for getting tween- and teenage girls interested in astronomy, engineering, and science generally. This month, Dale asked me to focus on some books for younger kids. I think I picked some winners this month!



Dolan, Hannah. 2018. *LEGO Women of NASA: Space Heroes* (DK Readers Level 1). New York: DK Penguin Random House.

Ages 3 – 5 years

\$4.99 on Amazon.com

https://www.amazon.com/gp/product/1465472908/ref=oh_aui_detailpage_o00_s00?ie=UTF8&psc=1



(5 out of 5 planets)

I was never much into LEGOs as a child, so it surprised me a bit when all three of my kids developed an obsession with them. This book caught my eye because my daughter Gabriela used to collect all sorts of girl-oriented LEGO sets. She is almost fifteen now and doesn't play with them anymore, but a few years ago, someone at LEGO must have woken up and realized that they were missing out on roughly 50 percent of the market. One of the things I hated about LEGOs as a kid was that the people all seemed to be male, and the sets all seemed geared toward making "boy things." Now, LEGO makes—for lack of a better word—*cute* LEGO sets with pink and purple bricks, girl minifigures, and animals like kittens and unicorns. And I'm not criticizing that sales strategy—don't get me wrong. I like kittens and unicorns as much as the next girl.

There's nothing cute or girly about this book, however! This book is about serious people doing serious work, and stars minifigures based on real space pioneers who also happened to be women. The book shows LEGO scenes of these talented heroines doing their jobs.

The book has 18 pages of text with 1 – 3 brief sentences per page. At the end, it has a quiz and an index. At the beginning, it has a table of contents. So, I really liked that it made proper nonfiction book format expected and accessible to small children. While DK rates this as a book for 3 – 5-year-olds, I would guess that the reading level might realistically be more on a first-grade level (ages 6 – 7). And your little reader will need help with the scientists' names and words like *astronaut*, *amazing*, *computers*, *Endeavour*, and so on. Don't let that scare you away, though. The illustrations are engaging and the grinning minifigures made me smile.

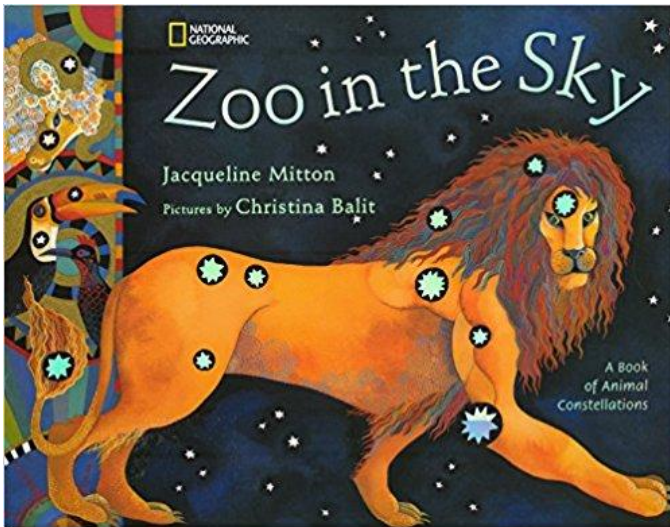
My son, Dane, who is 8, loves all things LEGO. He saw the book on my desk and asked if he could read it. He liked it a lot. "Even though it's about girls?" I asked. "Yeah," he replied, as if he found this a strange question for me to ask. He thought the LEGO satellite and Space Shuttle depicted looked *super cool*. He told me I should mention that he had no trouble with words like *amazing*, and so on (though please keep in mind that his reading level is several years higher than that recommended by the publisher). But he really tripped over the names of the scientists featured. He even enjoyed the quiz.

There is a matching LEGO set, should you wish to purchase it. (I didn't, but . . .) My caveat is that, while the book is most appropriate for preschoolers and early elementary schoolers, the LEGO set says it's appropriate for ages 10 and up. So, keep that in mind—your little one may need quite a bit of extra help to put the LEGOs together. On the other hand, the minifigures in both the book and the set appear to be regular LEGO minifigures—but the Space Shuttle in both the book and the set appears to be made of DUPLO blocks (DUPLO blocks are basically LEGO blocks for toddlers and preschoolers; the blocks are bigger for easy manipulation by little hands, and so as not to be accidentally swallowed). So, the Space Shuttle, at least, may be easier to put together than you expect.

This is such a cool book, and I hope that LEGO will create some follow-up books starring more pioneering space scientists, both male and female.

The matching LEGO set can be found at the following Amazon address:

https://www.amazon.com/LEGO-Ideas-Women-21312-Building/dp/B071W77MBJ/ref=pd_bxgy_14_2?encoding=UTF8&pd_rd_i=B071W77MBJ&pd_rd_r=0DKY966KGT9NDVHP9CZR&pd_rd_w=qrvzO&pd_rd_wg=nh2m3&psc=1&refRID=0DKY966KGT9NDVHP9CZR.



Mitton, Jacqueline (text), Christina Balit (illustrations), and Wil Tirion (star charts). 1998. *Zoo in the Sky: A Book of Animal Constellations*. Washington, D.C.: National Geographic Society.

Ages 6 – 9 years
\$7.74 (paperback) or \$16.65 (hardcover) on Amazon.com



(5 out of 5 planets)

Maybe many of you are familiar with this beautiful book, since it's been available for 20 years. But I had not seen it before and was immediately captivated by the beautiful pictures. I found it to be as intelligent as it is beautiful. I bought it in paperback, but now I'm regretting not buying the hardback version.

This book is ideal both for an adult to read to a younger child, and for an older child to read on his

or her own. Each star in the illustrations is embossed with silver foil and pictured to show its size relative to other stars nearby it. The text accompanying each illustration briefly gives a story or an explanation for each animal—and I felt that amount of text for each picture was just right. Along with the gorgeous illustrations, there are star charts for both the northern and southern hemispheres. For older children, a 2-page spread at the back of the book gives a more detailed explanation about what stars are, how to read a sky map, constellations, and how many stars got their names.

I frequently have trouble finding the pictures in constellations. I think I might be a very literal and not terribly imaginative person. Anyway, this book was incredibly helpful to me in revealing the pictures the ancients saw in the sky. And the illustrations also don't just show the big stars—they show the small ones. One of my struggles is separating the “star clutter” from the more important stars that make up the picture. This book makes it crystal clear.

In my copy, to help myself remember, I marked on each page the Latin name of the constellation depicted, as well as the hemisphere in which it is found.

Dane found this book on my desk. He sneaked it away and read it, and later told me he liked it a lot. I asked him if he might be able to find some of the constellations now that he had seen the book, and he said yes, if he could take the book with him to compare it to the sky. He liked that it included some constellations (mostly southern ones) he had not seen before. He was especially impressed by the constellation *Draco*: “Holy cow! *That's* in the sky?!”

So, I think you can't go wrong with this book. It's a winner!

Planets Take Center Stage in August – Call for Club Members' Observations and Images By Tom Westre

This summer has been a perfect time to view the planets. It only gets better in August.

Venus is bright after the Sun sets in the evening.

As you move east you next see Jupiter at magnitude -2.1. Its 38 arc seconds just a bit small from the 44.7 when it reached opposition on May 1.

Moving east we next see the ringed planet Saturn. It reached opposition on June 27th, at that time it was magnitude 0.0 and 18.4 arc seconds. During August it is still bright at magnitude +0.2 and 18 arc seconds.

Continuing east we find Mars. It reached opposition on July 27 when its magnitude was -2.8 at 24.3 arc seconds. By September 1 it will be magnitude -2.1 at 20.8 arc seconds. On July 31 Mars was the closest to the Earth at 35,785,000 miles. The next time Mars will be this large will be in 2035.

Be sure to invite your family and neighbors over to view the Parade of the Planets.

For those of us in the Northern Hemisphere these planets especially Mars are near the southern horizon and we see them through more atmosphere so the farther south you go the better.

As you observe Mars can you identify surface features like Syrtis Major (a dark, triangular area), Chryse, Elysium, the Hellas Basin just to name a few. The best surface features will be the polar caps. This year the south polar cap will tilt 11 degrees towards us.



Image from Mile High Astronomy- courtesy Tom Westre

Although Mars is biggest on July 31, it will remain bright into August.

Get out and view or image these planets. We would like to hear your reports for our September

Newsletter. Send me a short email with your telescopic descriptions and/or images. We will put your images in the photo gallery of our website. Send your reports/images to twestre45@aol.com.

If you plan to image the planets, use as large an aperture as you can along with a good quality Barlow and a high powered lens such as a 12 or 10 mm. These planets are low in the southern sky so they can give a challenge for imaging. Try different magnifications until you get the best result. The best images will come from a dedicated planetary camera. If you don't have one try to image with whatever camera you have a DSLR or smartphone will work.

Solar Minimun Update

As of July 28th the Sun has been without sunspots for 30 of the past 31 days. The last time the Sun went this long was in 2009. As the Sun goes into a deep solar minimum the earth's magnetosphere weakens allowing more cosmic rays to get in.

CVAS Loaner Telescope

CVAS provides a 10 inch Dobsonian telescope to club members. Contact Garrett Smith to make arrangements to use this telescope. Garrett can be contacted by email at GarrettGillSmith@gmail.com.



Binocular Supports

The club now has available a number of mostly completed binocular supports. These supports are being sold to club members at cost. These supports just need the binocular attachment – which is tailored to the type of binocular being mounted.

Please contact Ned Miller or Dell Vance if you are interested in purchasing a binocular support. The images below show what they look like with binoculars attached as well as an image showing them folded for storage.



Completed Binocular Support (with binos attached) -
Courtesy Ned Miller

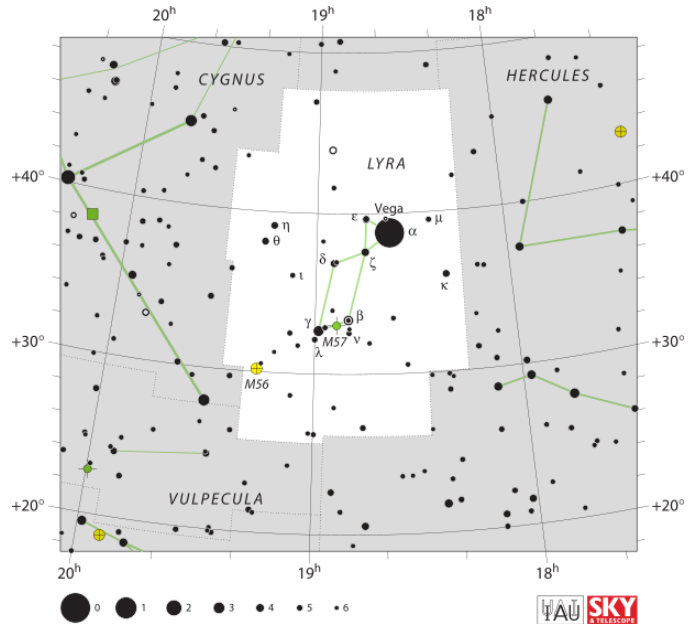


Binocular support (folded for storage) - Courtesy Ned Miller

Spotlight on Lyra, the Lyre or Harp By Dale Hooper

Lyra is one of the smaller constellations and is situated between Cygnus and Hercules. Lyra is home to the brightest member of the Summer triangle, Vega. Science fiction fans will remember that the alien signal in the book/movie *Contact* was received from Vega. It is also the home to a showpiece planetary nebula, the Ring Nebula (M57) and a fine globular cluster (M56). But it also contains one of the premier multiple star systems, the double – double ϵ Lyrae. The two main components of ϵ Lyrae (ϵ^1 and ϵ^2 form a wide double that is easily split. But each of these is also double and requires fairly high power to resolve)

Objects which rank at least three stars in *The Night Sky Observer's Guide* (Lyra is in Volume 2) have been included. As usual, the table is organized according to increasing Right Ascension values.



IAU and Sky & Tel - Roger Sinnott & Rick Fienberg

Object	R.A.	Dec.
α Lyrae (Vega) (Multiple star)	18h36.9m	+38°47'
ϵ Lyrae (Double-double) (Quad. star)	18h44.3m	+39°40'
NGC 6703 (Galaxy mag 11.3)	18h47.3m	+45°33'
β Lyrae (Shellak) (Variable star)	18h50.1m	+33°22'
Stephenson 1 (Open cluster)	18h53.5m	+36°55'
Messier 57 (Ring Nebula) (Planetary nebula)	18h53.6m	+33°02'
R Lyrae (Variable star)	18h55.3m	+43°57'
Σ 2470 (Double star)	19h08.8m	+34°46'
Σ 2474 (Double star)	19h09.1m	+34°36'
Messier 56 (Globular cluster)	19h16.6m	+30°11'
RR Lyrae (Variable star)	19h25.5m	+42°47'



The constellation Lyra as it can be seen with the unaided eye. © T. Credner & S. Kohle, AlltheSky.com - used with permission

- 24 Aug Voyager 2 flies past Neptune (1989)
- 25 Aug Voyager 2 flies past Saturn (1981)
Spitzer Space Telescope launched (2003)
- 26 Aug Full Moon
Mercury at greatest western elongation (18°)
- 27 Aug Neptune 2° north of Moon
- 28 Aug William Herschel discovers Saturn's moon
Enceladus (1789)
- 30 Aug Uranus 5° north of Moon

CVAS Minutes – July 2018

There was no CVAS meeting in July.

Upcoming Star Parties

- 10 Aug CVAS Star Party – Beaver Mountain
- 11 Aug Solar Party, 10:30am – Noon
Logan Library
- 17 Aug Public Star Party – Macey's Parking Lot,
Providence
- 7 Sep CVAS Star Party
- 8 Sep Solar Party, 10:30am – Noon Logan Library
- 14 Sep Public Star Party – Nibley Heritage Park

Upcoming Events

- 01 Aug Maria Mitchell born (1818)
- 04 Aug Last Quarter Moon
Juno 1.2° south of Moon
- 06 Aug Aldebaran 1.1° south of Moon
Curiosity rover lands on Mars (2012)
- 10 Aug Magellan arrives at Venus (1990)
- 11 Aug New Moon, partial solar eclipse
Asaph Hall discovers Deimos (moon of
Mars) (1877)
Perseid Meteors
- 12 Aug Perseid Meteors
- 13 Aug Perseid Meteors
- 14 Aug Venus 6° south of Moon
Perseid Meteors
- 17 Aug Jupiter 6° south of Moon
Asaph Hall discovers Phobos (moon of
Mars) (1877)
- 18 Aug First Quarter Moon
- 19 Aug John Flamsteed born 1646)
- 21 Aug Saturn 2° south of Moon

CACHE VALLEY ASTRONOMICAL SOCIETY MEMBERSHIP APPLICATION FORM

Member # _____

NAME: _____
 First Middle Initial Last

Address: _____
 Street City State Zip Code

Home Phone: _____ Cell Phone: _____

Work Phone : _____ Occupation : _____

Email Address: _____

How did you learn about CVAS?

____ Website ____ Star Party ____ CVAS Member ____ Other _____

Membership: \$20 a year

Tell us about yourself: Do you have a special interest in astronomy? Do you have special skills? Are you willing to volunteer on CVAS projects or attend public outreach star parties? Astro equipment owned.

By signing this application, I acknowledge I have access to the CVAS website, cvas-utahskies.org, and the CVAS Constitution. I agree to abide by the constitution.

Signature: _____ Date: _____

Bring this form to the meeting or Mail Application to:

Brad Kropp, CVAS Treasurer
1573 E 1425 N
Logan, UT 84341

For any questions contact our Treasurer at brad.kropp@usu.edu or our Secretary Dale Hooper at dchooper5@gmail.com