The Observer

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In case you haven't noticed, we have an important election coming up!

Currently, I am servings as LVAAS' Director, and Tom Duff is Assistant Director. Scott Fowler is our Treasurer. All three of us will have served two consecutive years, and as specified in our Bylaws may not hold the office any longer, once our current term is

over at the end of November. Dennis Decker has served as Secretary for one year, and he has agreed to stand for re-election. We also have one nominee for each of the other three offices.

Nominations for additional candidates are open, but they are to be closed at our September General Meeting on Sept. 12 or 13. Please contact the chairman of our Nominating Committee, Bill Dahlenburg, if you are interested in serving as an elected officer of LVAAS; see his report in this issue. You can reach him by email at sm_maintenance@lvaas.org. It would be great to get some new faces involved in running the Society.

The election will take place at the October General Meeting on Oct. 11.

Down the Road

Of course we are hoping that 2021 will be very different from 2020, not only for LVAAS but for everyone on Planet Earth. Without going into details, there are ways in which I want it to go back to just like 2019, and ways in which I don't. I think a lot of us would agree with that general sentiment (without going into details.)

As for what it will be like, I'm not taking anything for granted. It depends on a lot of things, the most obvious being the public health situation. For LVAAS, I think it also depends on what our members want to do and what we are willing to sign up for, and for many of us that may be the same as it was last year, but I think we would be wrong to assume that everything will be exactly the same for everyone.

I plan to keep doing a lot for LVAAS, but I want to refocus my efforts. Most of this will be enabled by turning over the duties of Director to my successor. I've told Bill that I am willing to run as A.D. so I can be there to assist and back up our new leader.

I really want to spend more time on the 40-inch project. This is what that really captured my imagination and fired up my passion for this club, but if we don't keep making good progress that won't last forever.

I would like to be able to spend a little more time on the website, to do a better job of taking care of it. What I would like to do even more is to turn it over to somebody else. If that were to happen, it might be best if it were a gradual process, just because I have learned so much about it after running it for the past more than 5 years.

If we are able to open the Red Shift gift shop next year, and I can do so without wearing a mask for four or five hours, I'm willing to keep operating it at Star Parties. I would really like for someone else to step up and take charge of the Member Services Committee, to help with the shopping and planning and to support operations at Star Parties as well as our member events that we usually have in July and December.

I really appreciate everything that other members of the team do for the Society – the other officers, the committee chairs, and all of the volunteers. I hope all of us in LVAAS put some thought into our future together. We can't keep doing any of the things that we do without the effort contributed by our active members.

Ad Astra!

Nomination Of Officers Of LVAAS For 2021 Term

Nominations for the LVAAS officers will be accepted through the close of our September, 12-13th general meeting. LVAAS Full Members in good standing (current dues paid) are entitled to vote and/or be considered for office. Nominations will not be accepted, nor shall additional nominations be placed on the ballot after the close of nominations during the September 12-13, 2020 General Meeting.

Nominees to date:

Director:	Thomas Duff
Assistant Director:	Richard Hogg
Secretary:	Dennis Decker
Treasurer:	Scott Fowler

Please contact me at the address below should you have questions regarding any of the positions above and/or may be considering an elected position.

Regards, Bill Dahlenburg -Nominating Committee Chairman

sm_maintenance@lvaas.org



Sad News.....

LVAAS lost one its treasures last month: Priscilla Jacobsen passed away peacefully in her sleep with her son and daughter at her bedside in her home in Zionsville, on August 24th.

Priscilla became a full member of the society in July, 2015 and it was obvious to everyone she talked to that she had a fascination for astronomy. You'd nearly always see her in the audience at General Meetings. And at Star Parties, as soon as the planetarium show finished, she would rush over to the club's telescopes outside to view the celestial objects for real. Within a

few months, she was volunteering to help out at Star Parties and at many of the other outreach events the club organized.

One particular event, I will never forget. It was the Abbie's Space Party held at the DaVinci Center, on January 27th, 2018. Priscilla was in her element explaining the concept of "birthday stars" - if a star is 25 light years away then it has taken 25 years for the light to get here. So if you are 25 years old, then the light you are seeing was given out by that star on the year you were born. Unlike some of us, Priscilla had no problem asking people how old they were and they didn't seem to mind her asking. Just look at how captivated the visitors were when she told them which star was their birthday star. This year, Priscilla's birthday star is a bright binary star called Sabik, the second brightest star in the constellation Ophiuchus - the healer. This is really quite apt as Priscilla was a nurse for most of her life. And yes, it is visible this time of year in the southwestern sky just after sunset.



Priscilla also loved to read. Membership Director, Gwyn Fowler, told me that Priscilla really enjoyed talking to her about the books she'd borrowed and bought from the LVAAS library. "I think she was Dave Raker's best customer," she said. I am sure she would have played a big role in many LVAAS's Book Club discussions.

But it doesn't end there. Priscilla also helped out behind the scenes. She came along to South Mountain on Saturday mornings to help clean and tidy up before meetings. Rich Hogg, our Director, told me that she had also recently made an inventory of the apparel in the Red Shift as stocks were getting low. So when her son, Fred, asked Rich if he could hold a memorial service for family and close friends at our South Mountain site, his answer was an unequivocal "Yes."

The service, held on Sunday, August 30th, was a celebration of Priscilla's life, highlighting her free spirit with a bubble celebration. And we could not have wished for a better day: the weather was perfect. Rich, Bill Dahlenburg, Earl Pursell and I were there to help set things up and represent the society. It was lovely to meet her family and close friends. Her daughter, also named Priscilla, is so like her Mum.

Rich told the family,

"We all really liked Priscilla. She became a big part of LVAAS."

Carol Kiely



The Morning Call Obituary: https://www.legacy.com/obituaries/mcall/obituary.aspx?n=priscilla-r-jacobsen&pid=196728155

Minutes from the LVAAS General Meeting – August 8, 2020

The August 2020 LVAAS General Meeting was held both outdoors at the Pulpit Rock dark sky site as well as utilizing an on-line service. Approximately 50 people were in attendance. A life member who never attended an August meeting came up from 80 miles away. A \$20 donation was received at Pulpit Rock.

Director Rich Hogg and co-host Gwyn Fowler opened the meeting at 8:10 p.m. The meeting started with LVAAS business.

Membership: Gwyn Fowler

<u>2nd Readings</u> :	<u>1st Reading</u> s:			
Timothy DeMott	John Wirth	David Kalbach		
Benjamin DeMott	Melissa Wirth	Cara Hayes		
Sara Fadem	Michael Huber	Jim Blanford		
Sophia Fadem	Kelly Stever	Karen Blanford		
	Avery Stever	Kaitlyn Breloff		

Treasurers Report: Scott Fowler

<u>2020</u>	
General Fund	\$49,980.65 as of July 11th
Income	\$238.98
Expenses	\$(5,594.83)
General Fund Balance	\$44,624.80 as of August 8th
<u>2020</u>	
ProD Fund	\$5220.96
Income	\$1,000.00
Expenses	\$(0)
PRoD Fund Balance	\$6,220.96

General Comments:

Pulpit Rock Maintenance: Ron Kunkel

Ron introduced himself to the audience and gave a brief description of his duties at Pulpit Rock. He also mentioned that he would be willing to train new members on the scopes at Pulpit Rock if new members happen to be there while he is on site.

Election Announcement: Bill Dahlenberg

Elections will be in October. Candidates should be announced by September. All members are encouraged to run for elected office or an open committee position.

Facilities: Rich Hogg

Rich provided a reminder of current site policies.

Members are permitted to use LVAAS facilities individually and in small groups subject to recent published guidelines. Members must adhere to the recently published guidelines and strictly follow the recently published cleaning instructions.

After the LVAAS business concluded, the meeting moved to the evening's presentation, "Explorer's Guide to the Solar System" provided by Earl Pursell. Earl is a retired R&D microbiologist who worked in the biotech/pharmaceutical industry for thirty years. He has always been interested in visual astronomy and photography and has recently begun exploring astrophotography. As a member of LVAAS, he participates in the club's weekly maintenance at South Mountain and is qualified to run the telescopes there, as well as the planetarium. Earl is also the LVAAS Club Rep to UACNJ, a member of the UACNJ Board of Trustees, and a volunteer Observer.

The presentation's focus was on NASA's exploration of the Solar System using telescopes, robots, and humans. Exploring other worlds in our Solar System stretches our minds and excites our imaginations like nothing else. It's the only way to answer some of our deepest questions. It was originally published on NASA's Night Sky Network, of which LVAAS is a member.

A huge thank you goes out to Rich and Gwyn and all others involved for making the in-person/online hybrid meeting a great success.

Next General Meeting:

Due to the very favorable response to this month's meeting format, there is interest in also having the September 2020 General Meeting conducted as an in-person/online hybrid meeting. **The meeting is scheduled for Saturday, September 12 (with raindate Sunday, September 13th) at 8:00 p.m.**

The meeting was adjourned at approximately 9:50 p.m.

Submitted by Dennis Decker, Secretary

UACNJ Reminder

LVAAS is a member organization of the **United Astronomy Clubs of New Jersey**, (uacnj.org) which means that LVAAS members may acquire observing privileges at the UACNJ observatories at **Jenny Jump State Park**, near Hope, NJ.

There is a fee of \$50.00 per year, plus a commitment to assist at UACNJ Public Nights. Normally, this commitment is for five Public Nights during the year, but it has been reduced to four this year, due to the shortened observing season. The 2020 Observer Form can be found on their website:

http://www.uacnj.org/observers/2020ObserverForm.pdf.

LVAAS liaison is Earl Pursell.

Also check out the **Meteor Shower Calendar** courtesy of Ken Taylor of UACNJ and thrillist:

https://www.thrillist.com/news/nation/meteor-shower-calendar



Cover image: NGC7822: The Meddling Squirrel (HSO) Imaging telescopes or lenses: ASTRO-TECH AT60ED 60MM F/6 FPL-53 ED DOUBLET x 2, Willam Optics Zenith 61 apo Imaging cameras: ZWO ASI183MM PRO cooled x 2, ZWO ASI 1600MM-Cool Dates:July 1, 2020 - Aug. 25, 2020 Frames: Ha: 250x600'' Oiii: 250x600'' Sii: 250x600'' Integration: 125.0 hours. Imaged by Warren Landis.

LVAAS General Meeting Saturday, September 12 at 8 p.m.

Rain date Sunday September 13 *check website*

- Meeting will be held at Pulpit Rock and on-line -This meeting will include a Business Meeting to approve the 2021 Budget Also, nominations for 2021 Officers will be accepted

Program:

"Comet Imaging Debriefing"



LVAAS Members will show their images of Comet NEOWISE and other comets, and talk about how they captured and processed the images.

This meeting will be held outdoors at our Pulpit Rock dark sky site, as well as on-line using Zoom. If the weather is unfavorable on Saturday the meeting will be rescheduled for Sunday. The Pulpit Rock gate will be manned from 6:00 p.m. until 7:00 p.m. New members who do not yet have a key should plan to arrive during that interval.

Members will receive an invitation to the on-line meeting by email. Prospective new members who wish to attend on-line should contact our Membership Director (membership@lvaas.org) to arrange to receive an invitation.



Comet C/2020 F3 (NEOWISE) Imaged by Bill Dahlenburg. 10 seconds at IS0 800, 200 mm F/4 lens, taken at Lake Minsi near Water Gap



Comet C/2020 F3 (NEOWISE)

Imaged by Lynn Krizan. (Maxim & PSv5.)

I used a Canon T3 on the Sky Watcher Star Adventure using a Canon 17-85 zoom. The image is 20 sec X 10 at F5.6 zoomed to about 71mm.



From the LVAAS Archives: Saying Goodbye to Earl Bodder

by Sandy Mesics

Astronomy Unit Formed Unit Formed In Valley Joseph Grady, Bethlehem, was elected a director of the Lehigh Valley Astronomical Society at an organization meeting Sunday afternoon in Grady's home. Others named were John Zawediuk, Bethlehem, assistant director: Earl Bodder, Butztown, secretary, and Ernest Smodish, Hellertown, treasurer.

In February 1959 Bodder, Chairman of Bulletin the Satellite **Publications** Committee, was assigned the job to build a Rotogravure printing press for the Society's purposes and committed up to \$125 for that purpose. This type of printing press was "state of the art" at that time, allowing the printing of high-quality photographs, which could not be easily reproduced at that time using other affordable printing methods. Bodder served as publication chairman and produced the first LVAAS brochure in 1962.

In September 1970 LVAAS lost another of its founding members, Earl Bodder. He attended the initial meeting of LVAAS in September 1957. At the next meeting, he was voted in as LVAAS's first Secretary.

From the beginning, Bodder was an active member. He donated his time to the construction of the South Mountain headquarters, and donated a variety of items to LVAAS, including a years' supply of printed stationery and envelopes, a slide projector, formed angle iron for the dome, and even LVAAS's first mailbox. In January 1959, he donated a mimeograph machine, and became involved in publishing The Satellite, the first LVAAS monthly bulletin.



Figure 1 L-R Walter Leight, Ed Gilmore, and Earl Bodder work on The Satellite

In the early 1960s Bodder was an active participant in LVAAS activities. Initially, the only facility at South Mountain was the planetarium itself. In the early 1960s, the society constructed an addition to the building, which houses the furnace room, equipment room, the workshop, Red Shift, and Knecht Observatory.



Figure 2 Earl Bodder on the roof of the workshop.

Bodder was involved in securing wood and in the construction itself. As an employee of Bethlehem Steel, Bodder was occasionally subject to strikes and layoffs. This no doubt affected his ability to be actively involved in LVAAS activities. Additionally, in 1963, Bodder was seriously injured doing work at his home, when a fragment of steel from a hammer entered his groin. He stated that work on his home was sadly neglected "for the past few years" while he worked on the South Mountain facility.



Figure 3 Bodder, on left, at early LVAAS field meet.

But by the mid-1960s, Bodder was less active in LVAAS activities. When work began on the 20-inch Cassegrain telescope to be housed in the Schlegel-McHugh Observatory at Pulpit Rock, he did some machining work on that project.

Bodder passed away on June 2, 1970 at the age of 57. He was survived by his wife, Ruth Bodder, who passed away in 1993, and a daughter, Joanne Bodder Horveath. Ruth donated a Zeiss type mirror grinding machine in his memory. This machine was originally constructed by Bodder for making Maksutov-type optics. It was also used in the 20-inch telescope project.





A close up view of the 'Gulf of Mexico' area of the North America Nebula in the constellation Cygnus, imaged by Sandra Repasch. The Cygnus Wall is on the left and the Pelican Nebula is out of view on the right. The black area is a molecular cloud of dark obscuring dust. The Cygnus Wall spans about twenty light years. Taken 10/25/19 at Pulpit Rock. Sixteen frames at 180 seconds, plus darks, flats and bias.



In this report: why would an amateur telescope maker put a bathroom scale on a drill press?

Recap - as I mentioned in my last report, my plan was to investigate the use of O-rings as a springy pad element to support the rim of the main mirror, as suggested by Matt Bailey. The other two alternatives are regular springs, such as you might find in the valve mechanism of an automobile engine, or Belleville disc springs. They need to be springy enough to limit the amount of pressure on the mirror from thermal contraction of the steel frame, but stiff enough to prevent the mirror from moving too much.

The valve spring idea could work, but it looks like it would need to be big and bulky and fairly expensive. To get enough stiffness, we would need 2 sets of triple-strength high-performance drag-racing valve springs, 4 springs per pad, something like these: https://www.summitracing.com/parts/isk-1247.

The Belleville disks would probably work, but they almost seem too stiff, and too small. The amount that we want them to yield is close to the point at which they would bottom out, meaning we don't have much "headroom." We would like a little more forgiveness in case the amount of force on the pads should exceed our expectation, for whatever reason.

O-ring solution - so I studied the Parker O-Ring Handbook that I mentioned I had found last month. Long story short, it looks like 1/4" O-ring cord made of silicone rubber has the characteristics we want: it has minimal temperature dependency and minimal tendency to take a set, and the amount of deflection we want is within the recommended 30% service maximum, which can be exceeded to give us that headroom. And, about 18.5 linear inches of "soft" (Durometer 50) material per pad should give about the right amount of springiness. By the way, although O-rings are primarily used as seals, using them as a cushioning element like this is legitimized in the handbook.

So I worked out a design for a support pad based on that idea. I decided to give it room for a little bit of extra, in case the material is softer than predicted. Another design consideration is that I want to avoid creating little cracks and holes that would be inviting for the stinkbugs and ladybugs that infest the observatory to crawl into.

An exploded view of my design is shown at right. It's basically a sandwich, a little smaller than "standard Wonderbread" but not much. The important part is the two O-rings, one nested inside the other, shown rendered in white.

Together, the O-rings add up to about 18.5" of cord, and there is room for a little more as well as the possibility of installing a lesser amount. The orange plastic locator disc, shown holding the smaller O-ring in the middle, might need to be



replaced or supplemented with additional spacers. In the configuration shown, the larger O-ring is held in position by the outside of the housing.

The main structure consists of two aluminum plates, shown rendered in blue. (Since we would probably anodize them for improved corrosion resistance, we might actually make them this color.) The plate on the right is towards the mirror, and is drilled with two small holes for pins to hold the orange locator in position.

The plate on the left is drilled and tapped with two mounting holes. Since we might want to reconfigure the O-rings, I've included a thin layer (of aluminum or plastic) to keep them from "feeling" the mounting holes in case we move them around. This is rendered in red.

The outer housing also serves as a pad between the "inside" aluminum plate and the mirror. I am imagining this made of something like nylon, and it could be 3D-printed or CNC machined. If it's 3D-printed, it could probably have two small ribs on the inside edge to retain it over the "outside" support plate, so it would be a snap-together assembly, held firmly together when installed by the pressure on the glass.

See the next page for an illustration of the complete system, showing how this pad is held in position and supported. There are a million ways to do this, so what I'm showing here is just a starting point. I hope to schedule some time with other members of the team soon, to see how everyone feels about the basic O-ring idea as well as to kick around specifics of the design.

I had a bunch of ideas about how to mount the support pad, which needs to be adjustable but also needs a bit of "swivel action" to accommodate slight movement of the mirror for collimation. Poking around in the McMaster-Carr catalog, I found these legs designed for furniture or equipment that needs to be bolted down to something, with a plastic swivel "foot" equipped with screw holes. It seems like an adequate solution that is easy and inexpensive. I'm showing it mounted to a column made of aluminum U channel, which is in turn mounted to the top and bottom of the "mirror cell" using segments of aluminum L, all shown anodized red.



This structure would be positioned at eight equally-spaced locations around the mirror. The bottom part of a second one is shown in the

background. At four of these, we would add a bracket with a plastic pad to keep the mirror from tipping out. This could happen if the telescope is pointed down a little bit, which is actually possible and might be desirable from time to time for working on the secondary.

Next steps - as mentioned, I want to have a conference about this idea with some of the other guys working on this, and then I plan to order some samples of the O-rings and other parts. Then I want to do a test.

The "springiness" per unit length of this cord, or the effective spring constant, is given in the Parker O-Ring Handbook – but there is a wide range of values for this data. So, I think I want to squeeze some samples between two aluminum plates, and measure the amount of force versus the amount of compression, to see where it falls within the range of data available, how much it varies over temperature, and how consistent it is between samples.

We want to apply up to about 250 pounds of force to the combined setup of the two rings as shown in the design. So here you have the answer to the riddle at the top of this report: how do we set up this experiment? A bathroom scale would be great for measuring 250 pounds, and a drill press would be a convenient way to apply that much force. If I follow through with this I'll be sure to take pictures.



Exciting, New, Live-Action Game!!!

RED SHIFT REVENUE

- Operate an Astronomy Club Gift Shop!
- Optimize product lines!
- Purchase inventory!
- Manage production!
- Complete sales!
- **Report revenue and expenses to the Board!**
- Help a great organization do a valuable public service!

As our LVAAS Member Services Director, you will enjoy the challenge of operating the Red Shift Gift/Snack Shop at LVAAS Public Star Parties.

> The only way to lose is to not play! Contact <u>director@lvaas.org</u> to sign up!

by Gary A. Becker



Strolling Along the Suburban Milky Way

StarWatch

If you looked at the moon this past weekend, the sunlight reflecting off its surface was on the left, a sure sign that Luna was on the wane. That's great news if you are interested in viewing starscapes, and particularly, the summer Milky Way, our home galaxy, which favors September by arching overhead just after it becomes dark. I've only seen the Milky Way on one occasion from Moravian College's Sky Deck located in center city Bethlehem, but if you live just five to 10 miles from Allentown, Bethlehem, or Easton, it is in these first hours after dark that our galaxy will be the easiest to spot because of its overhead location.

You'll also notice three bright stars near your zenith, the Great Summer Triangle. The brightest is Vega, the alpha star of Lyra the Lyre. If you're facing east, Altair, the brightest star of Aquila the Eagle, is to your right. The faintest of the triad, Deneb, is the most prominent luminary of Cygnus the Swan. Cygnus, from a suburban locale, is seen primarily as a cross, with the Milky Way appearing as a fuzzy path of elongated mist following its staff. You'll notice its appearance is mottled with dark splotches, areas where dust from countless supernovas during the nearly 13-billion-year history of our galaxy have blotted out the stars that lie in back of this dross. As your eye wanders to either side of the zenith, the Milky Way seems to fade, the result of light pollution from the East Coast megalopolis in which we live.

Moving southwest in my neighborhood, trees are intersected past Aquila and that part of the sky is lost; however, if your horizons are unobstructed enough, you might be able to perceive Sagittarius, the (Centaur) Archer, a grouping of stars that in September looks more like a teapot pouring its hot beverage onto the southwestern horizon, an apt reminder that cooler weather is on our doorsteps.

Finding Sagittarius allows you a view towards the center of the Milky Way, about 27,000 light years distant. Its location is just above and to the right of the spout of the teapot. Consider the fact that near its center, our galaxy contains a black hole "weighing in" at about four million suns. Following the path of the Milky Way to the northeast, I can sometimes detect its haziness up to a sideways, W-shaped constellation named Cassiopeia, the Queen of Ethiopia. Take the "W" and twist it counterclockwise by almost a quarter of a turn, and you've got it correctly positioned for an evening September sky.

It is really a chair created by a fainter star near the middle of the "W." Without padding and constructed with a crooked back, Cassiopeia is definitely not reclining on a La-Z-Boy, but rather the chair is serving as part of her punishment for wanting to sacrifice her daughter, Andromeda, to a hideous monster called the Kraken, also known as the constellation of Cetus the Whale.

Just below the chair's back can be found the Double Cluster of Perseus, one of my favorite star groupings of the nighttime sky. Below the Double Cluster is Perseus himself, looking like an upside-down "V," his curved legs extending outward towards the east. By now the Milky Way has faded to invisibility in the extra glow of light pollution and haze found nearer to the horizon. Look for a really bright star, Capella, below and to Perseus' left, and you'll have the first harbinger of autumn and the winter sky to come.

© Susan B. and Gary A. Becker for StarWatch <u>beckerg@moravian.edu</u> or <u>garyabecker@gmail.com</u> <u>astronomy.org</u> <u>facebook.com/StarWatchAstro/</u>



Night Sky Notebook for September by Peter Detterline





Looking for something to read? Looking to share the experience with fellow LVAAS members? Join our book club!

Here's the Plan:

Step One: Express your interest. If you are interested, let me know either in person, or via email: <u>blaine@ieee.org</u>. I will add you to our private Facebook group. If you don't have Facebook, let me know, we can setup an email list and communicate that way too.

<u>Step Two: Choose a book</u>. We will do this via our private Facebook group and email (if there are any who do not use Facebook.) So far the following are in the running:

- 1. The Big Picture, by Sean Carroll (*current choice)
- 2. Astrophysics for People in a Hurry, by Neil deGrasse Tyson
- 3. Moonshot: What Landing a Man on the Moon Teaches Us About Collaboration, Creativity, and the Mind-set for Success, by Richard Wiseman
- 4. The Trouble with Gravity: Solving the Mystery Beneath Our Feet

<u>Step Three:</u> <u>Set the meeting schedule</u>. Our plan is to meet in the library, but we can augment that with online conversations.

<u>Step Four: Read, enjoy, discuss, and learn!</u> We can do this both in-person and through online discussions.

This is the first time we are doing this, so I consider it "experimental." I am completely open to suggestions and changes as we go.

Thank you!

Blaine Easterwood, Education Director

Sky Above 40°33'58"N 75°26'5"W Wednesday Sept 09 2020 00:00 UTC



Your Sky was implemented by John Walker in January and February of 1998. The calculation and display software was adapted from Home Planet for Windows.

The GIF output file generation is based upon the ppmtogif module of Jef Poskanzer's pbmplus toolkit, of which many other components were used in creating the images you see here.

ppmtogif.c - read a portable pixmap and produce a GIF file

Based on GIFENCOD by David Rowley

Lempel-Zim compression based on "compress"

Modified by Marcel Wijkstra

Copyright © 1989 by Jef Poskanzer.

Customize Your Sky at http://www.fourmilab.ch/yoursky/

SEPTEMBER 2020

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY	
		<u>01</u>	Full Moon <u>02</u>	<u>03</u>	<u>04</u>	<u>05</u>	
<u>06</u>	<u>07</u>	<u>08</u>	<u>09</u>	Last Quarter Moon <u>10</u>	11	Astro Imaging - 7:00 <u>12</u> PM - CANCELED General Meeting - Pulpit Rock and on-line - 8:00 PM	
General Meeting rain <u>13</u> date - Pulpit Rock and on-line - 8:00 PM	14	15	16	New Moon <u>17</u>	18	<u>19</u>	
Deadline for 20 submissions to the Observer	21	22	First Quarter Moon 23	24	25	Star Party - <u>26</u> CANCELED	
LVAAS Board of 27 Governors Meeting	28	<u>29</u>	<u>30</u>				

OCTOBER 2020

SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY
				Full Moon <u>01</u>	Scouts at Pulpit Rock 02	Scouts at Pulpit Rock 03
Scouts at Pulpit Rock <u>04</u>	05	<u>06</u>	<u>07</u>	<u>08</u>	Last Quarter Moon 09	<u>10</u>
General Meeting - <u>11</u> South Mountain 7:00 PM	12	13	14	Astro Imaging - 7:00 <u>15</u> PM	New Moon <u>16</u>	17
Deadline for <u>18</u> submissions to the Observer	<u>19</u>	20	21	22	First Quarter Moon 23	Star Party - 24 CANCELED
LVAAS Board of <u>25</u> Governors Meeting	<u>26</u>	27	<u>28</u>	<u>29</u>	<u>30</u>	Full Moon 31 LVAAS member wedding party photos

2020 LVAAS Event Calendar

* Due to the COVID pandemic, please see the website for updates on all events

2020 LVAAS Event Calendar												
	Sundays			Thursday Saturday Mondays	Mondays	Multi-Day	Moon Phase					
	Gener time	al Meeting Date/location	Board meeting	Observer submission deadline	Astro Imaging	Star Parties	Scouts at S. Mountain	Weekends Scouts at Pulpit R.	New	First	Full	Last
January	2:00 PM	12 Muhlenberg	26	19	16	no mtg		no camping	24	2	10	17
February	2:00 PM	9 Muhlenberg	23	16	13	no mtg		no camping	23	1	9	15
March	2:00 PM	8 Muhlenberg	29	22	12	7		6 - 7 - 8	24	2	9	16
April	7:00 PM	5 S.M.	26	19	18	4		10 - 11 -12	22	1 30	7	14
Мау	7:00 PM	3 S.M.	31	24	16	2		8 – 9 – 10	22	29	7	14
June	7:00 PM	14 S.M.	28	21	13	27		5-6-7	21	28	5	13
July	5:00 PM	11 S.M.	26	19	18	25		3-4-5 31	20	27	5	12
August	7:00 PM	8 Pulpit	30	23	15	22		1 – 2	18	25	3	11
September	7:00 PM	13 S.M.	27	20	12	26		4 - 5 - 6	17	23	2	10
October	7:00 PM	11 S.M.	25	18	15	24		2-3-4 30-31	16	23	1 31	9
November	7:00 PM	8 S.M.	29	22	12	21		1	15	21	30	8
December		12	27	20	10	no mtg		no camping	14	21	29	7

July, Aug & Dec are Saturday meetings with rain date on Sunday Jan, Feb & March meetings are at Muhlenberg College

August meeting is at Pulpit Rock December meeting / Holiday Party ** check website for time

NEAF Cherry Springs S.P. Stellafane Black Forest S.P. MegaMeet

April 4 – 5 June 18 – 21 Aug 13 – 16 Sept 18 - 20 (not confirmed) May 22-24

Publishing images is a balancing act!

When preparing your images for publication in The Observer, please consider the following guidelines:

Put the quality in:

- Considering the "print" size of the image, make sure you have at least 150 pixels/inch.
- Use a reasonably good quality for the JPEG compression ratio.

But watch the "waistline"!

- Don't go too much above 200 pixels/inch max.
- Use the lowest JPEG quality that still looks good!
- Shoot for <300KB for a 1/2 page image or <600KB for a full page.

Tip: If you're not Photoshop-savvy, you can re-size and compress undemanding images ("human interest" not astroimages), with an online tool such as:

<u>https://www.ivertech.com/freeOnlineImageResizer/freeOnlineImageResizer.aspx</u>. It will also tell you the pixel size and file size of your original, even if you don't download the processed copy.

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