The Prairie Astronomer

November 2018 Volume 59, Issue #11

M42, The Orion Nebula

Brett Boller

Night Sky Network

The Newsletter of the Prairie Astronomy Club

The Prairie Astronomer

NEXT PAC MEETING: November 27 at 7:30pm

PROGRAM

We will present our annual "How to Buy a Telescope" program. Please bring telescopes.

FUTURE PROGRAMS (Tentative)

December: Club Holiday Gathering - program to be announced
January: How to Use your Telescope
February: Lunar Observing
March: Outreach Tips
April: Binocular Observing
May: Annual Club Dinner
June: Solar Star Party
July: Beginning Astrophotography
August: NSP Review
September: to be determined
October: Club Viewing Night
November: How to Buy a Telescope
December: Club Holiday Gathering

Buy the book! The Prairie Astronomy Club: Fifty Years of Amateur Astronomy.
Order online from Amazon or lulu.com.

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EVENTS

PAC Meeting
Tuesday November 27, 2018, 7:30pm

PAC Meeting
Tuesday December 18, 2018, 6:30pm (tentative)

PAC Meeting
Tuesday January 29, 2018, 7:30pm

PAC Meeting
Tuesday February 26, 2019, 7:30pm

2019 STAR PARTY DATES

Photo by Brian Sivill

	Star Party Date	Star Party Date
January	Dec 28	**Jan 4**
February	Jan 25	**Feb 1**
March	Mar 1	**Mar 8**
April	Mar 29	**Apr 5**
May	Apr 26	**May 31**
June	Jun 21	**Jun 28**
July	Jul 26	**Aug 2**
NSP	**July 28 - Aug 2**	
August	Aug 23	**Aug 30**
September	Sep 20	**Sep 27**
October	Oct 18	**Oct 25**
November	Nov 22	**Nov 29**
December	Dec 20	**Dec 27**

Dates in **BOLD** are closest to the New Moon.

PAC E-MAIL:

info@prairieastronomyclub.org

PAC-LIST:

Subscribe through GoogleGroups.
To post messages to the list, send to the address:

pac-list@googlegroups.com

ADDRESS

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WEBSITES

www.prairieastronomyclub.org
https://nightsky.jpl.nasa.gov
www.hydeobservatory.info
www.nebraskastarparty.org
www.OmahaAstro.com
Panhandleastronomyclub.com
www.universetoday.com/
www.planetary.org/home/
http://www.darksky.org/

Night Sky Network

Meeting Minutes

President Jim Kvasnicka called the meeting to order at 7:30 p.m

Upcoming events:
PAC star parties November 2 and 9 at the farm.

November 9 - Behlen Observatory open house, 7 - 10 p.m., encouraging club members to bring telescopes to set up on the south side of Behlen

November 10 - Branched Oak Observatory public night

November 27 - next club meeting, annual How To Buy A Telescope; please plan to attend so we can assist as many members of the public as possible by answering their questions

Jim thanked club members who participated in outreach activities:

South Pointe Pavilions - Lee Taylor, John Reinert, Dave Churilla, Dan Delzell, Bob Kacvinsky, Jim Kvasnicka. Good skies, warm temperatures, South Pointe was very accommodating by supplying prize packages, positive comments from parents whose kids participated, and South Pointe asked when we wanted to do it again. We learned that the lights at South Pointe made viewing very difficult, limited to the Moon and Mars, and it is probably impossible for the shopping center to dim or douse any of the lights. But that offers an opportunity to educate the public about light pollution.

Howling Homestead - John Lammers, Dave Kearns, Bob Kacvinsky, Jim Kvasnicka brought telescopes, but clouds rolled in, occasionally parting for fleeting views of Mars and Saturn, but eventually covering everything.

Election of officers was held. Results:

President - Bob Kacvinsky
Vice President - Rick Brown
2nd Vice President (Program Chair) - Christine Parkyn
Treasurer - John Reinert
Secretary - Bill Lohrberg

Outgoing officers were thanked for their service: Jim Kvasnicka (President), Brett Boller (Vice President), Lee Thomas (Secretary). Mike Kearns has agreed to continue as outreach coordinator, and Jim Kvasnicka as observing chairman.

Meeting adjourned at 7:55 p.m. The planned program, club observing, was scuttled by cloudy skies, so Jim provided a substitute program of the keynote speech at the 2018 ALCON convention in Minneapolis.

A Message from Our Incoming Club President

I would first like to extend a special thanks to Jim Kvasnicka who has lead PAC for the past 4 years with exceptional leadership and insight. I hope that all of you will attend the December membership celebration as we will take a few minutes to properly celebrate Jim's presidency.

As we look toward the upcoming year, I would like to ask for your input, ideas, and suggestions in three key areas:

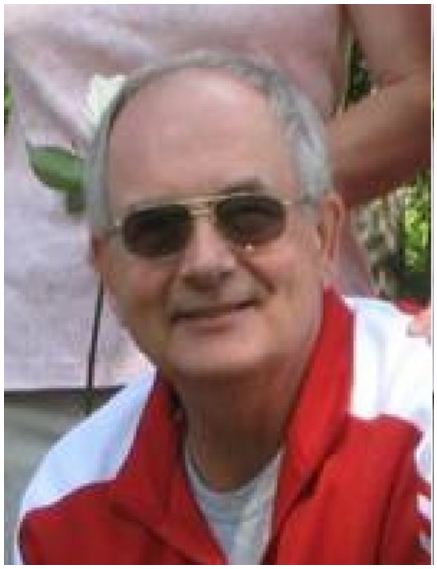
- How can we improve communications with you about club activities and programs?
- What are your ideas to improve how PAC serves our community through outreach events, astronomy activities, and increasing the awareness and enjoyment of "What's Up?"
- What adjustments would you like to see to improve our monthly meeting programs and fellowship?

Recently I sent a survey to ask for your ideas. I hope you will take a couple minutes to provide your thoughts. PAC can only become better with your input.

Your new Board members are:

President: Bob Kacvinsky
Vice President: Rick Brown
2nd VP Program Chair: Christine Parkyn
Treasurer: John Reinert
Secretary: Bill Lohrberg

The new Board met earlier this month to begin planning the upcoming programs and activities. We are all excited to serve PAC in 2019.

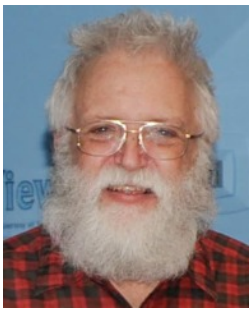


Bob Kacvinsky

The Cat's Paw Nebula, imaged here by NASA's Spitzer Space Telescope, is a star-forming region inside the Milky Way Galaxy and is located in the constellation Scorpius. Its distance from Earth is estimated to be between 1.3 kiloparsecs (about 4,200 light years) to 1.7 kiloparsecs (about 5,500 light years). For details see https://www.jpl.nasa.gov/spaceimages/details.php?id=PIA22567

My Database of 1600+ Images is Now Online

Rick Johnson



My image catalog is finally online. It's taken years and was far beyond my abilities. Mark Dahmke did all the heavy lifting.

It can be accessed through either URL shown below. At the top of the page is a search box. Enter the object common name without spaces. Arp001 or NGC2857 for example. The index also includes all NED designations.

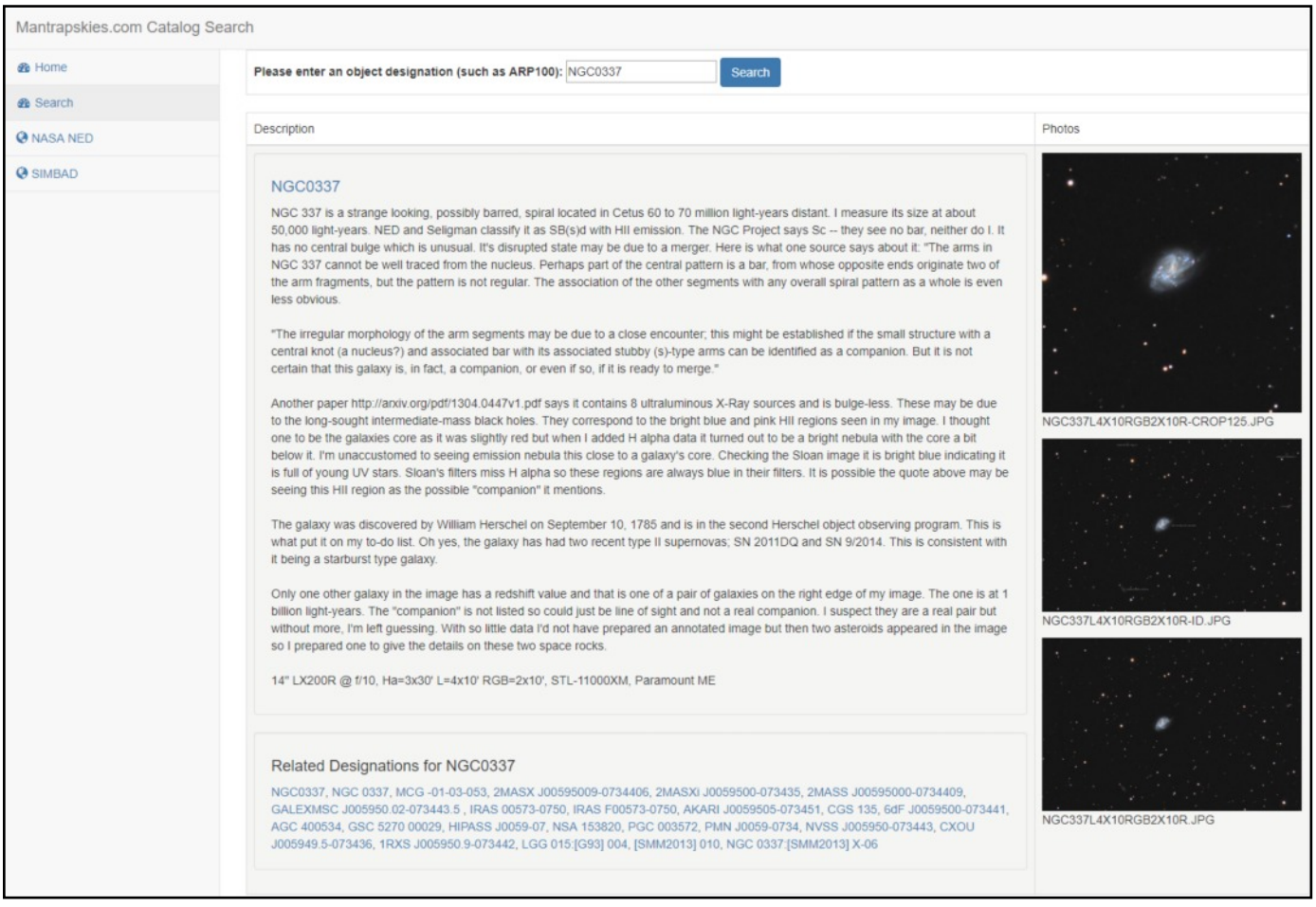
The page includes most (not all as there are some bugs) objects I've posted to my observatory updates from 2006 to current. It also includes a few images I've not posted either because they are too new or too old. Not all have text files which I need to correct.

While I provided the data (and data errors) Mark did all the heavy work assembling such a huge data base. It took me about 5 hours to just upload the data to Mark on my slow Internet connection.

I'm sure there are plenty of errors. Please write me when you find them and I'll try to get them fixed. I don't pretend to understand all that went into making this one page so I have no idea what errors are easy or hard to fix. This is still an ongoing project.

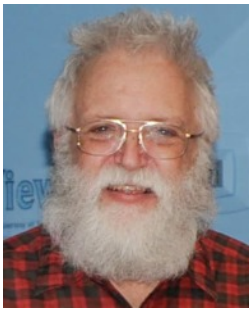
Website address: www.mantrapskies.com

Direct link to the catalog search: http://images.mantrapskies.com/search



Observatory Update: NGC 7457

Rick Johnson



NGC 7457 is a galaxy in Pegasus about 9 degrees north-northeast of the northwest star (Beta Pegasi) of the Great Square. My reason for taking it was it was an entry in the second Herschel 400 program. It was bright enough to get through the smoke so I took it through the dust. It is classified as SA(rs)0-? by NED. Seligman classifies it as E/SA0(rs)?. I don't see the ring but when I accidentally loaded the fits into PhotoShop in 8-bit mode one showed up but was dark, not bright. The POSS 11 blue image shows the same dark ring but I was unable to see it in my blue data no matter what I did. Also, it doesn't show in their POSS 1 blue image. Nor do I see this dark ring in the SDSS image no matter which color I used. Did the POSS image use 8-bit scanning or at some step in digitizing the POSS II plate?

The field is not well studied so I wasn't going to even do an annotated image then I found I'd picked up three globular clusters in the galaxy. I needed the disk's light to help bring them bright enough to see as they are nearly 21st magnitude. Nothing else in the image gets that faint. Others

14" LX200R @ f/10, L=4x10' RGB=2x10', STL-11000XM.

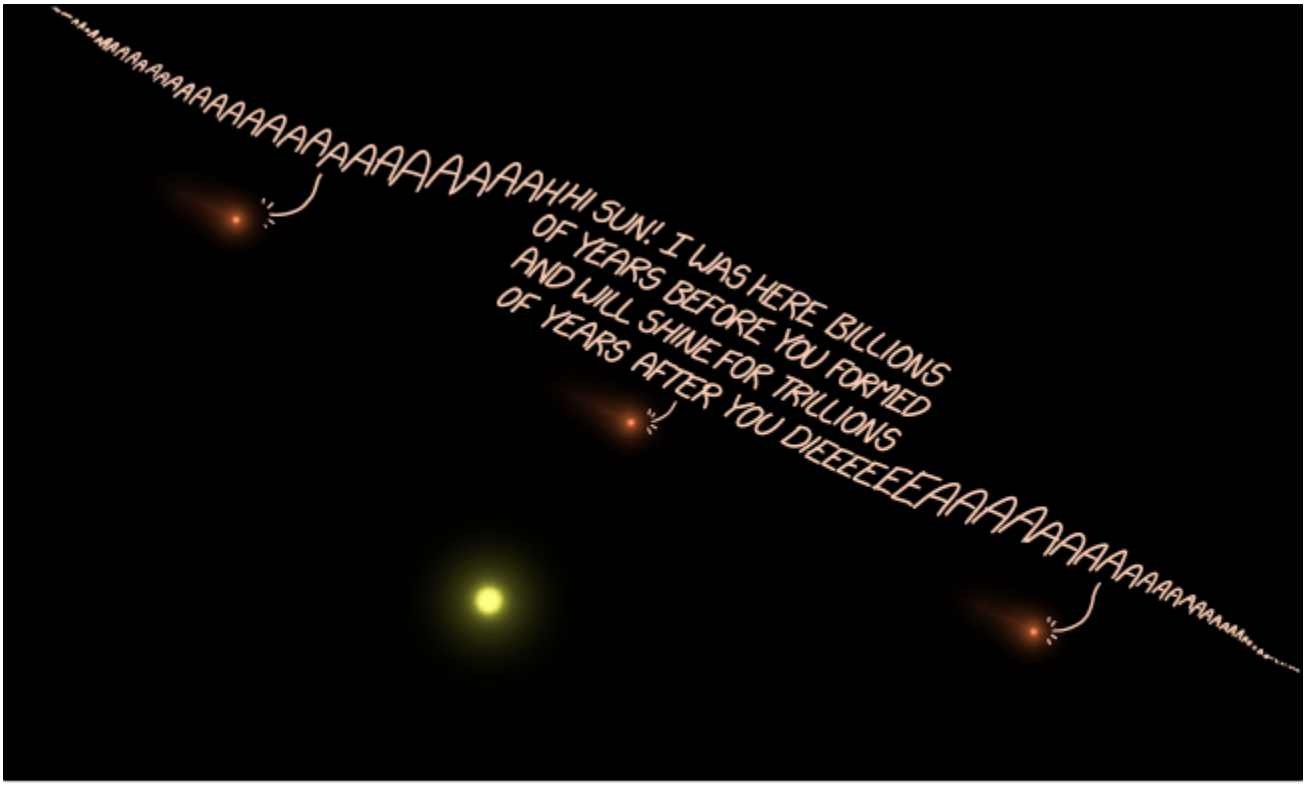
outside the disk couldn't be seen in the original FITS stack. You may need to blow up the image several times to see them. They were found in a Hubble image. My attempt to pull them out of the HST data failed so even the HST had trouble seeing them so I don't feel bad about it. https://arxiv.org/abs/0804.4472

Another feature of this galaxy is how strongly stars are compressed towards its core. Yet the HST can't see the very core as it is packed so tightly with stars. It may not even have a massive black hole or if it does it can't be any larger than ours. The stars are packed only a small fraction of a light-year apart, some 30,000 times as dense as the area around our sun. The HST studied it because it was "normal" in every way. They found out that wasn't the case after all.

HST link
http://hubblesite.org/news_release/news/1990-08

More at StarDate:
http://blackholes.stardate.org/objects/factsheet-NGC-7457.html

Also, the spindle galaxy, UGC 12311, to the northeast turned out interesting as it harbors many small star clouds in its ansae. They look like small faint stars in our galaxy but they are listed in a couple places as star clusters in it. While at a somewhat similar redshift distance I found nothing indicating the two are related. The non-redshift distance to NGC 7457 is likely more correct. Several sources indicate a similar distance though none agree, all are in the 40 million light-year distance range. I found no such estimates for UGC 12311. Its redshift is likely not all that accurate of a distance measurement but if related to NGC 7457 I'd expect closer redshift agreement as they'd be still moving together if related.



SOMETIMES I WONDER WHAT BARNARD'S STAR IS SAYING TO THE SUN AS IT PERFORMS ITS 20,000-YEAR-LONG HIGH-SPEED FLYBY.

xkcd.com

December Observing: What to View

Jim Kvasnicka

This is a partial list of objects visible for the upcoming month.

Planets

Saturn: Sets about two hours after the Sun to start December.
Mars: Sets around 11:30 pm. Decreases in brightness from -0.1 to a +0.5.
Neptune: Just 15' from Mars on December 7th.
Uranus: On the border of Pisces and Aries.
Venus: The pre-dawn planet shines at magnitude -4.6.
Mercury: By mid-December rises about 1¾ hours before the Sun at magnitude +0.0.
Jupiter: Rises an hour before the Sun at magnitude -1.7.

Meteor Showers

Geminids: Peaks the night of December 13-14 with the best viewing the early morning of December 14th. Expect a ZHR of 120. The Moon will not interfere in the morning.

Messier List

M2: Class II globular cluster in Aquarius.
M15: Class IV globular cluster in Pegasus.
M29: Open cluster in Cygnus.
M31: The Andromeda Galaxy.
M32/M110: Companion galaxies to M31.
M39: Open cluster in Cygnus.

Last Month: M27, M30, M56, M57, M71, M72, M73
Next Month: M33, M34, M52, M74, M76, M77, M103

NGC and other Deep Sky Objects

NGC 578: Galaxy in Cetus.
NGC 672: Galaxy in Triangulum, IC 1727 in the same FOV.
NGC 779: Galaxy in Cetus.
NGC 869/884: The Double Cluster in Perseus.

Double Star Program List

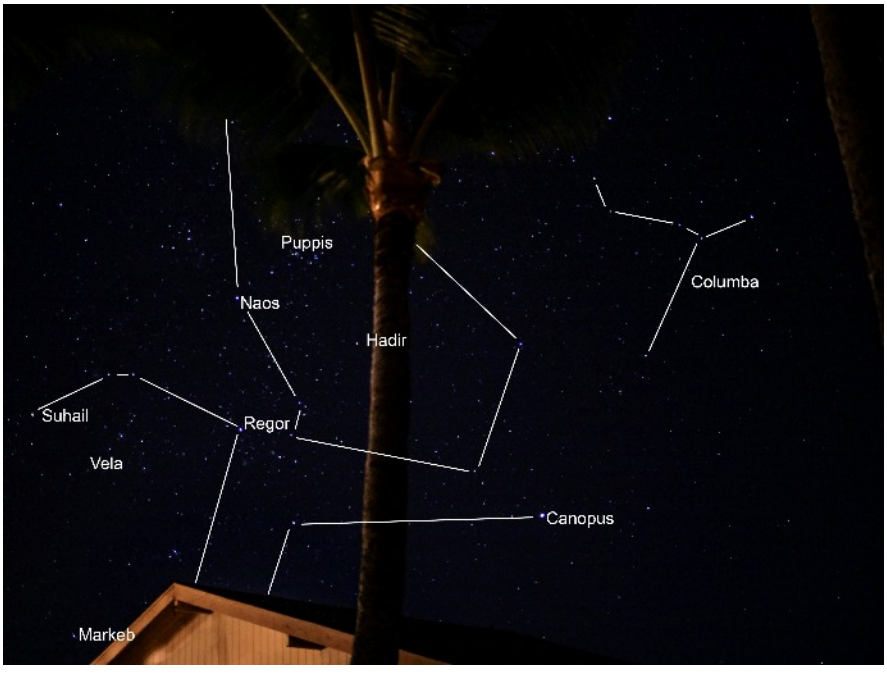
Eta Cassiopeiae: Yellow primary with a rose colored secondary.
Sigma Cassiopeiae: Yellow and light blue stars.
Theta Aurigae: Bright white and pale blue pair.
1 Camelopardalis: White and pale blue stars.
32 Camelopardalis: Equal pair of white stars.
Gama Ceti: White primary with a pale yellow secondary.
Chi Tauri: White primary with a pale blue secondary.
118 Tauri: White and yellow stars.

Challenge Object

NGC 877 Galaxy Group: NGC 877 is the brightest in a group of four galaxies in Aries that include NGC 876, NGC 871, and NGC 870.

Astrophotography

Mark Dahmke



The southern sky from Kailua-Kona, Hawaii.

The volcano stopped erupting in August. I was quite surprised at how clear the skies are now and how good the seeing is in the early morning, even at sea level - in town.

This photo was taken on November 2 at about 4:30am HT.

Panasonic Lumix G9, 20mm lens (40mm full frame equivalent) at f/1.7, 4 second exposure.

Astrophotography

Mark Dahmke

Here's another photo taken November 8 at 9pm HT. Direction is southwest, looking toward Sagittarius.

Lumix G9, f/1.7, 20mm, 13 seconds.

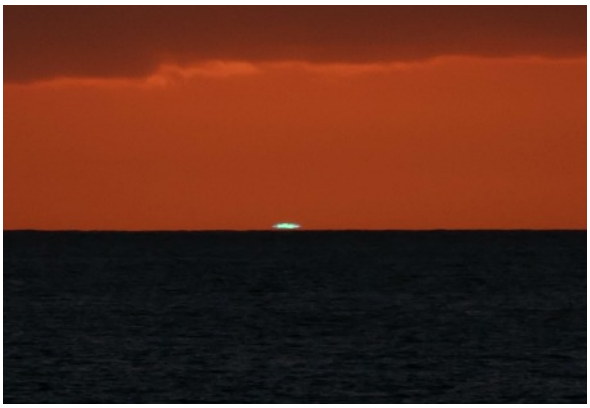
Astrophotography

Mark Dahmke

Right: Orion is high overhead as seen from 19 degrees North.

Below: a two-day old crescent Moon. Eight second exposure at f/5.6 with a 35-100 zoom lens (at 35mm).

Below right: I finally captured the elusive green flash. The upper photo was taken just as the sun met the horizon. The lower photo shows the last sliver of sunlight with a hint of green.



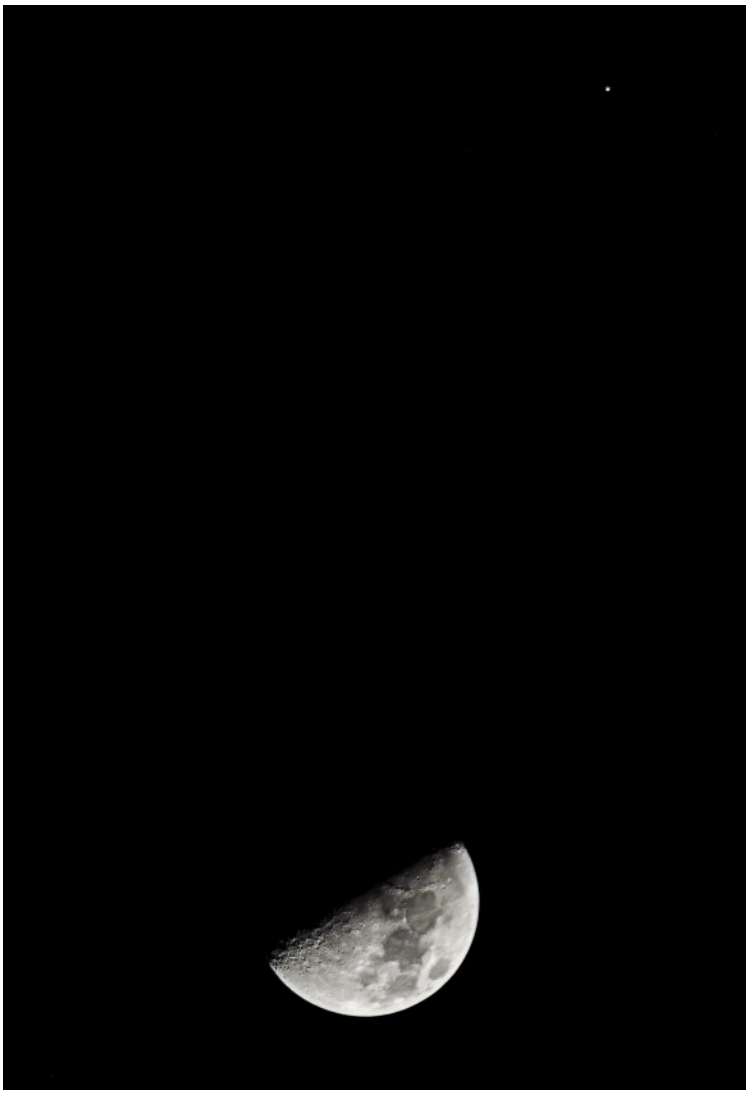
All photos were taken in Kailua-Kona, HI.

Brett Boller

Above: Behlen, Canon t7i 10mm Rokinon lens, below: M33, Canon t7i Esprit 150

Astrophotography

Michael Sibbernsen



Nov. 15th Moon-Mars Conjunction

Bright red Mars was less than 1.5° north of the Moon tonight low in the SW.

Nikon D7000

Sigma APO 500mm F7.1

1/160 ISO100

Kepler Telescope Bids 'Goodnight' with Final Commands

On the evening of Thursday, Nov. 15, NASA's Kepler space telescope received its final set of commands to disconnect communications with Earth. The "goodnight" commands finalize the spacecraft's transition into retirement, which began on Oct. 30 with NASA's announcement that Kepler had run out of fuel and could no longer conduct science.

Coincidentally, Kepler's "goodnight" falls on the same date as the 388-year anniversary of the death of its namesake, German astronomer Johannes Kepler, who discovered the laws of planetary motion and passed away on Nov. 15, 1630.

The final commands were sent over NASA's Deep Space Network from Kepler's operations center at the Laboratory for Atmospheric and Space Physics, or LASP, at the University of Colorado in Boulder. LASP runs the spacecraft's operations on behalf of NASA and Ball Aerospace & Technologies Corporation in Boulder, Colorado.

Kepler's team disabled the safety modes that could inadvertently turn systems back on, and severed communications by shutting down the transmitters. Because the spacecraft is slowly spinning, the Kepler team had to carefully time the commands so that instructions would reach the

spacecraft during periods of viable communication. The team will monitor the spacecraft to ensure that the commands were successful. The spacecraft is now drifting in a safe orbit around the Sun, 94 million miles away from Earth.

The data Kepler collected over the course of more than nine years in operation will be mined for exciting discoveries for many years to come.

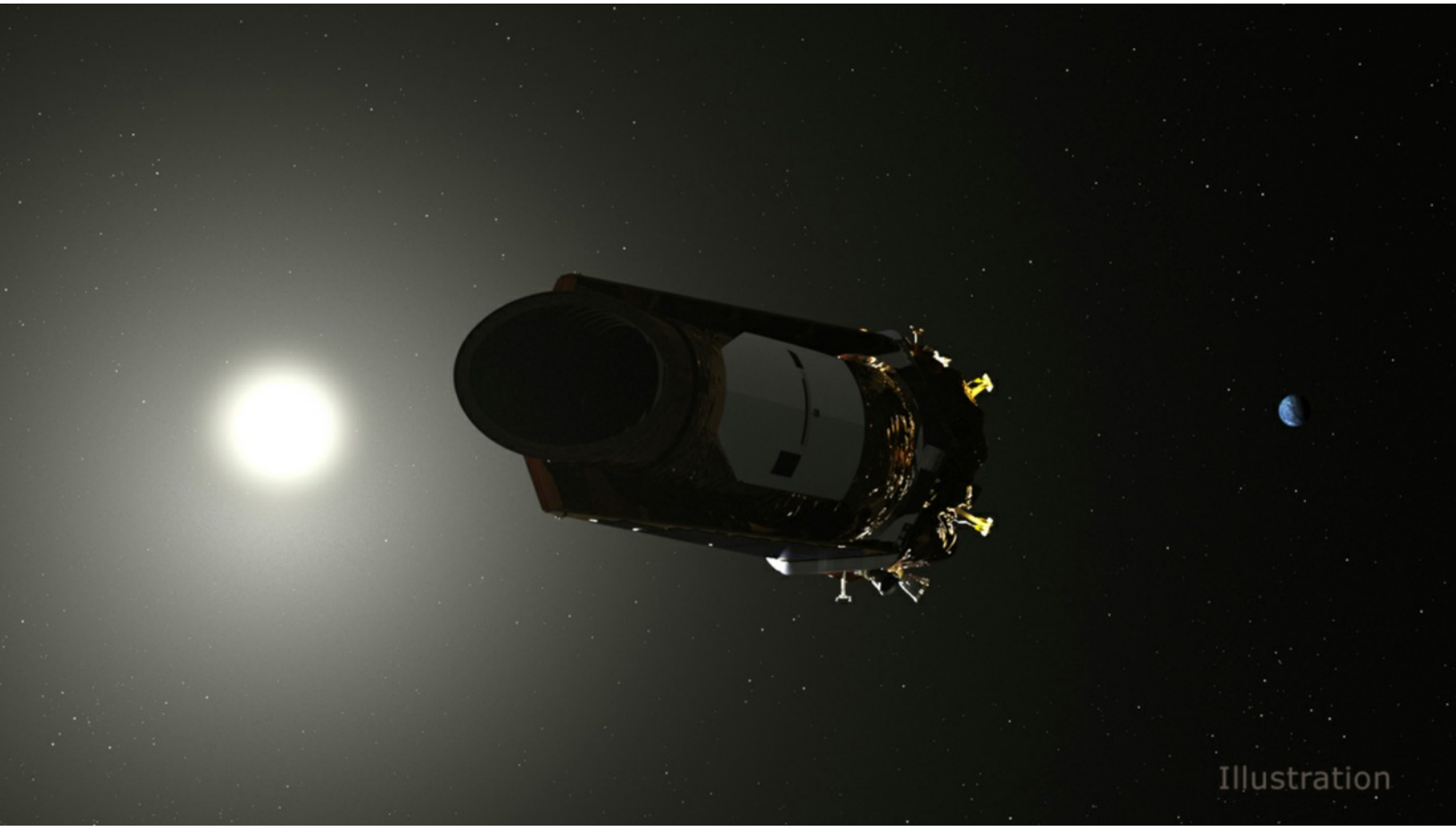
NASA's Ames Research Center in California's Silicon Valley manages the Kepler and K2 missions for NASA's Science Mission Directorate. NASA's Jet Propulsion Laboratory in Pasadena, California, managed Kepler mission development. Ball Aerospace & Technologies Corporation operates the flight system with support from LASP.

For the Kepler press kit, which includes multimedia, timelines and top science results, visit:

https://www.nasa.gov/kepler/presskit

For more information about the Kepler mission, visit:

https://www.nasa.gov/kepler



NASA's Kepler space telescope discovered thousands of planets outside our solar system, and revealed that our galaxy contains more planets than stars. Credit: CNASAredit: NASA

Focus on Constellations: Eridanus

Jim Kvasnicka

Eridanus, the River, is the sixth largest constellation covering 1,138 square degrees of sky. The faint stars of Eridanus meander from Orion to the southwest. The constellation is sprinkled with many galaxies.

Best Objects

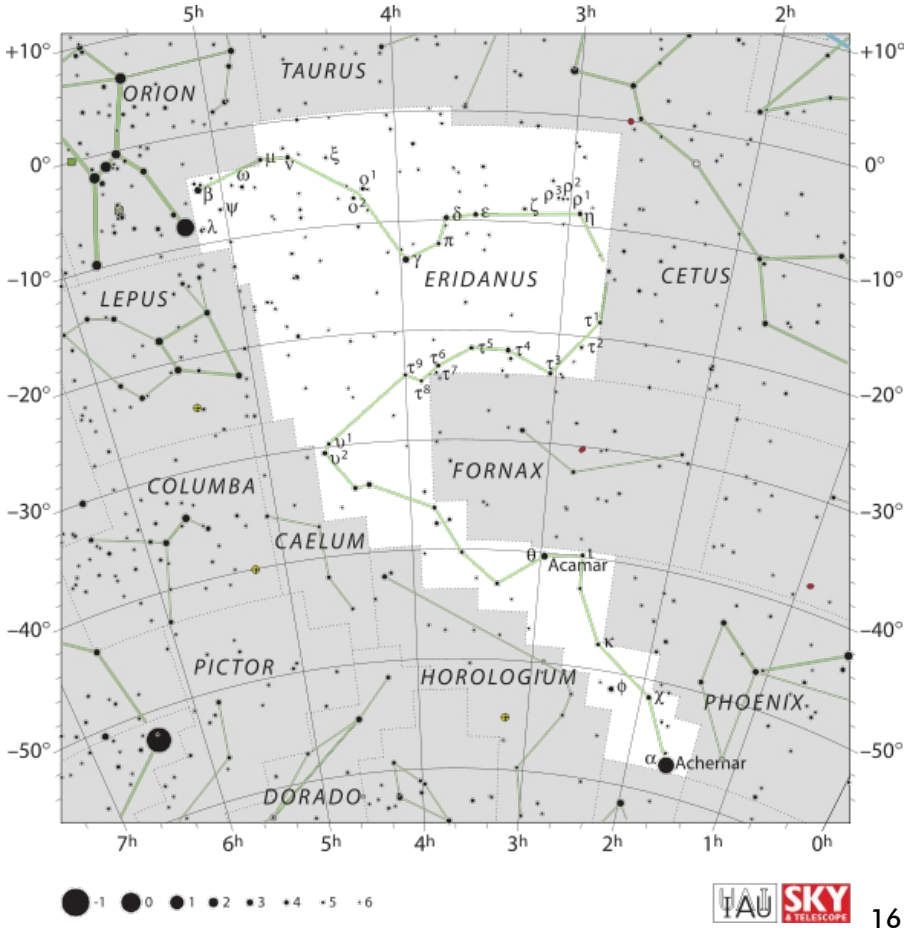
Galaxies: NGC 1232, NGD 1300, NGC 1332, NGC 1421, NGC 1532
Planetary Nebulae: NGC 1535

Mythology

Eridanus was the river into which the foolish young Phaeton was thrown as he inexpertly drove the chariot of his father, the Sun god, perilously close to the Earth. Ancient writers identified the river with several different streams including the Po in Italy, the Nile in Egypt, and the Euphrates in Babylonia. The river was probably formed by the Babylonians and represented the Euphrates. The name of the ancient Babylonian city at the mouth of the Euphrates was Eridu.

Number of Objects Magnitude 13.0 and Brighter

Galaxies: 123
Globular Clusters: 0
Open Clusters: 0
Planetary Nebulae: 1
Dark Nebulae: 0
Bright Nebulae: 0
SNREM: 0



IAU and Sky & Telescope magazine (Roger Sinnott & Rick Fienberg)

Moonlight: A Visualization from NASA Goddard Space Flight Center

Courtesy NASA

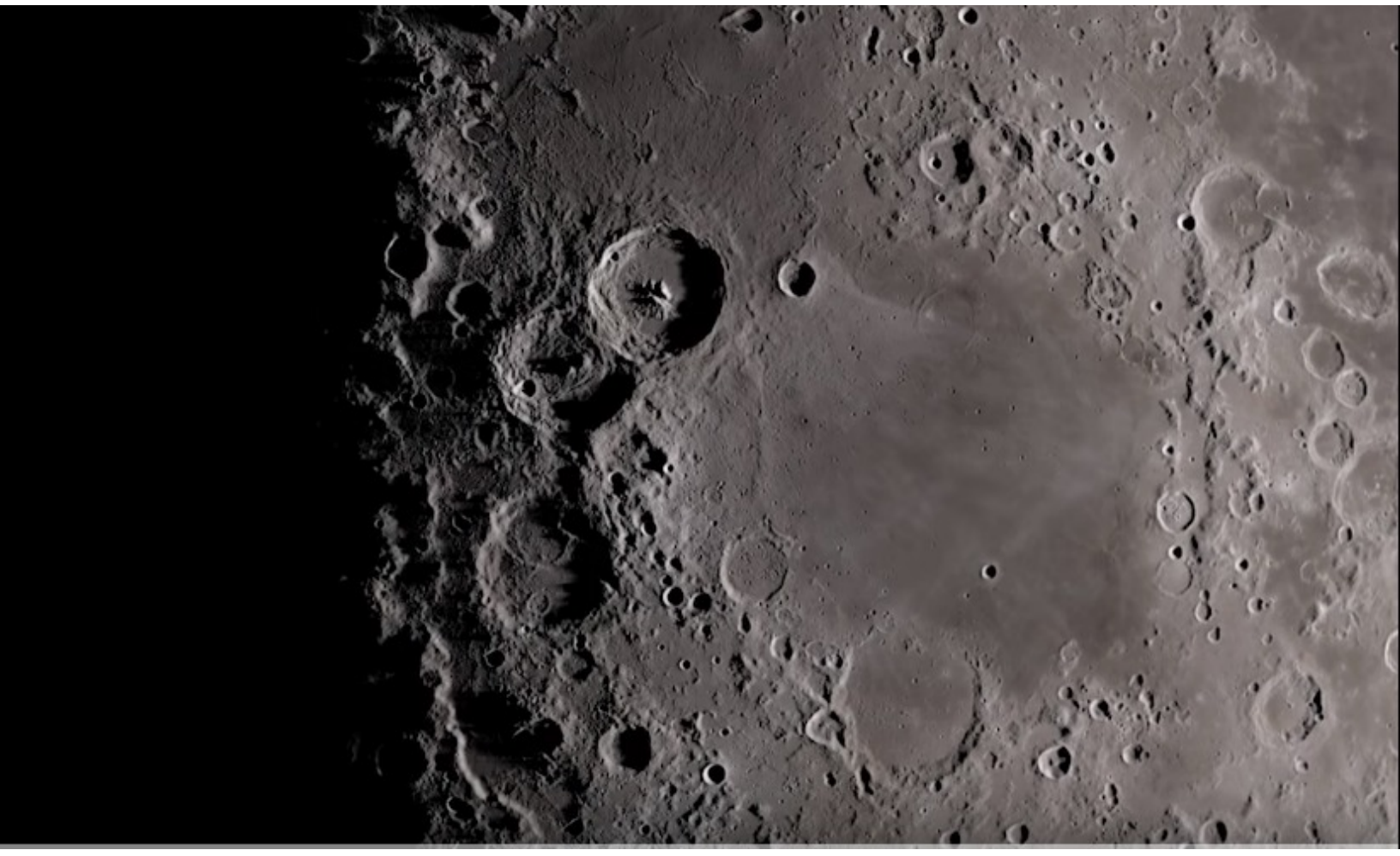
This visualization attempts to capture the mood of Claude Debussy's best-known composition, Clair de Lune (moonlight in French). The piece was published in 1905 as the third of four movements in the composer's Suite Bergamasque, and unlike the other parts of this work, Clair is quiet, contemplative, and slightly melancholy, evoking the feeling of a solitary walk through a moonlit garden.

The visuals were composed like a nature documentary, with clean cuts and a mostly stationary virtual camera. The viewer follows the Sun throughout a lunar day, seeing sunrises and then sunsets over prominent features on the Moon. The sprawling ray system surrounding Copernicus crater, for example, is revealed beneath receding shadows at sunrise and later slips back into darkness as night encroaches.

The visualization was created to accompany a performance of Clair de Lune by the National Symphony Orchestra Pops, led by conductor Emil de Cou, at the Kennedy Center for the Performing Arts in Washington, DC, on June 1 and 2, 2018, as part of a celebration of NASA's 60th anniversary.

The visualization uses a digital 3D model of the Moon built from Lunar Reconnaissance Orbiter global elevation maps and image mosaics. The lighting is derived from actual Sun angles during lunar days in 2018.

To play the visualization on Youtube click here: https://youtu.be/zNpsy6lBPBw



From the Archives: November, 1998

THE LEONID METEOR SHOWER

November 1998

Reports From Members of The Prairie Astronomy Club

From Dave Scherping 11/17/98 (Mine gets to go first 'cause I'm the editor!)**:**

I'm sure there will be a lot of Leonid reports today, but nevertheless, here's my experience this morning. Tom & Terry Miller and I began observing at 3:15 am today at Tom's house NE of Lincoln. I tried to keep an accurate count for a while, but quit after about 40 minutes. During that time, I counted 120 meteors, not including all of the faint ones Terry said he saw while lying on the trampoline. I'm guessing there were well over 250 per hour. They really got going from 4:00-4:30 AM during which there were several bursts where we saw 10-20 in about a minute.

From Erik Hubl 11/17/98:

I too enjoyed the show, but from the comfort zone of the backyard which surely limits sky area and magnitude. I awoke at 3:00 AM CST to see the sky over Lincoln, NE very clear. Immediately after the alarm rang, I opened the shade to see a bright leonid cross the northern sky. A good omen indeed. By 3:15 I was outside and setting up my lawn chair. 10 more occurred during this time and one illuminated the surrounding ground. I made visual counts starting at 3:30 and captured 42 by 4:30. Again I could only see about 40% of the sky so I know I missed many. They were all very bright, 0,1 and 2 mag. Several were blue-green and I noticed yellow-white in one. They were quite fast and most left nice trains. The longest lasted 7 seconds. The next hour also yielded 42 meteors, but I had noticed more of them were fainter. 10-12 were mag 3 or 4 with the others still very bright. Then I saw 2 side by side coming out of the radiant, and no more than 3 seconds later a bright 1 mag streaks through Gemini and another streaks east from Leo. Several lulls occurred at times but it was well worth the lack of sleep. 5:30 - 6:00 produced an additional 18 with one illuminating the side of the house. By 6:00 a wispy high cirus started to move in so I snuck off to the warm waterbed for 30 minutes of thaw. I too saw the very old moon cradled in the morning glow. What a night it was. At least as good as any Perseids I have ever seen and the brightness and speed of these guys are amazing. All in all 112 Leonids, 12 sporatics, 8 satellites and 6 planes. I am certain my lower numbers are directly related to my lack of horizon, because my eyes were wide open the entire time! It was fun.

From Dave Knisely 11/17/98:

Del Motycka and I made it out to Olive Creek SRA to do some late-night meteor watching under clear but cool conditions (33 degrees). Well, for
those of you who couldn't find the time (or the sleep) to make it out to watch, let me just say this: YOU MISSED THE BEST METEOR SHOWER IN THE PAST 30+ YEARS!! While not a storm, this wonderful Leonid display put out an incredible number of brilliant meteors which put the usual activity levels of the Perseids and Geminids to shame! Meteor per hour rates reached over 150 meteors per hour between 1 and 3 a.m. CST this morning, and all of the meteors were brighter than 3rd magnitude, with many ending in brilliant strobe-like bursts! Activity began to really heat up around midnight as the radiant rose. Rates at that time were between 60 and 80 meteors per hour, but rose rapidly as time went on. A "hot-zone" of activity developed south of the radiant, but quickly spread to

all areas of the sky. Indeed, we probably missed a lot of meteors due to the fact that we couldn't look at the entire sky at once. Most of the meteors showed trails, many of which had greenish casts. Some looked a bit like a stellar spectra, with the reddish orange meteor on one end, and the more bluish-green trail towards the back. The trails often remained visible for up to a minute or two, and a number of really brilliant ones had trails which ran for over 30 degrees in length. Several were bright enough to easily light up the surrounding area. Many also came in clusters of from 2 to 7 meteors within the space of less than ten seconds. Just after 1 a.m., the night turned to day, as a stupendous bright bolide slashed its way north of Canis Major into southern Orion. The stars vanished momentarily, and the sky turned a bright daylight blue, as if the sun had come up in the south. We agreed that the meteor was considerably brighter than the full moon, possibly -15 or brighter. The bolide left a trail which remained visible for over 45 minutes! I even had enough time to get my ten inch scope on the trail and view its complicated structure at high power, as upper-level winds distorted the trail into an irregular cloud which dispersed slowly. Several meteors seemed to follow each other, often tracing out nearly the same path through the sky as a previous one. Some occurred in pairs, while others seemed to come as part of clustered groups. At times, the rates seemed near storm level for periods up to ten or 15 seconds before dying down to the usual "dead-zones" between events. There were a number of meteors which "pulsed" a bit, leaving irregular trails. A few head-on meteors were also noted. After 3 a.m., the meteors appeared to be traveling much faster than before, but the total rate began to drop to around 100 to 120 per hour. As I drove home and noticed the crescent moon rising in the east, a final bright meteor pulsed and flew by the moon, marking the end of a spectacular display. I have little doubt that the far-east will see a storm later today.

From Mark Fairchild 11/17/98:

I was able to see a brief flurry of about 5 very bright Leonids (1st magnitude or better) and another 6 of lesser magnitude between 12:30 and
1:00 FROM INSIDE my house in town--looking though a door! Later, between 4:00 and 5:30 our family saw approximately 60 per hour from
the front yard (we were able to cover 75% of the sky.) Most of the meteors we saw were blue-white, with most of the first magnitude ones leaving trails that persisted for 1-3 seconds. I only noticed two trails persisting as long as 5 seconds. There were, however several yellowish meteors--I would guess about 20%. Seeing was unusually good. All the stars in the Little Dipper were easily visible as well as the Beehive with the unaided eye. Pretty good for town! At about 5:15 Sirius began to aquire a large halo and the seeing degraded. Defintely a great show! It sounds like activity picked up about 20 or so hours earlier than expected. Has anyone heard about any revised "post-peak" prospects for tommorrow morning?

From Doug Bell 11/17/98:

I counted 72 unambiguous Leonids and several (uncounted) sporadics in 60 minutes. Most were brighter than 4th magnitude leaving distinct trails lasting 1 to 2 seconds. Some were dimmer but I believe most of the very dim ones were washed out by the light pollution. One was about -4 with a trail visible for 30-40 seconds.
Time: 9:30-10:30 UT November 17, 1998 (3:30-4:30 local, CST)
Location: Lincoln Nebraska, USA W 96 N 40

Weather Perfect (clear, calm, 40 degrees (F))
Limiting Magnitude 5-5.5 Suburban (Beehive visible naked eye, Milky Way visible but not distinct)
Coverage I had a clear view of about 1/4 the sky.
About as much as I am able to watch in any case. The sightings seemed to come in clumps of 3 or 4. I think that this is spectacular showing considering that I was a single observer in a less than perfect location. I can only wonder what's in store for our friends in the Pacific. May everyone have this kind of luck.

From Dan Gresham 11/17/98:

My wife and I set up in the back yard of our place on the north side of Lake Holmes at 3:50 AM on Tuesday morning and counted 43 meteors in the following hour. They were widely dispersed and dissipated quickly. We did see several beautiful, bright yellow trails that lasted 10 to 15 seconds. I wish we have gotten up earlier. Still, all in all an exciting show !

From Martin Gaskell 11/17/98:

Channel 10/11 will be running a special on the Leonids tonight at 10:00 Chris Hunt, the guy doing it, is very interested in astronomy according to one of his fellow workers at the station. I was towards the end of his circuit of local people and he seemed to have got a good run-down on everything. I don't know who'll actually be in the program, but he had interviewed Del Motycka about the -15 fireball Del and Dave K. saw. If he includes the footage he shot of me you'll find "Dowp" as the "backdrop" as they call it! Nobody seems to have heard any news from Asia yet. Chris Hunt did say that they'd not heard of any satellites being damaged yet. He said that they used Hyde as the backdrop last night because it looked good. He also said that as 10/11 was packing up it's stuff the cars began to arrive at Hyde! He explained to the people in the cars that Hyde was not the place to see the shower from.

From John Johnson 11/18/98:

I figured I might as well get my report out here too: I observed from my home in west Omaha (a large open field to the north of my house, which is just south of 156th and Pacific Streets; 41deg 15min N, 96deg 10min W) from about 0400 CST to about 0505 CST. I counted 57 confirmed Leonids and one sporadic. Many of the Leonids were as bright as Sirius with some rivaling Venus at its brightest. The brighter ones left trails lasting for a few seconds at least. The sky conditions directly over head were pretty good (I could just barely make out the Beehive). However, as you approached the horizons it deteriorated quickly. Too much humidity & haze which amplified the light pollution. I am sure this affected the numbers that I saw. I was particularly impressed with the colors of the trails. Many showed various shades of yellows and greens! I tried to take some pictures with a wide angle (24mm) lens on my slr just mounted on a tripod. I am sure I caught some, will know when I get the film back. This was only the second best shower that I have ever seen. I saw "thee storm" 32 years ago, (Nov 17, 1966) as a kid on my Dad's farm south of Brady, NE. I literally thought it was the end of the world!! Will never forget! I also saw what I can only assume was an Iridium Flare this morn. It

occurred at 0505 CST, just about 3-4 degrees east of the hind quarters of Canis Major in the SSW. It burst into my view and reached at least -5 or -6 (At least it seemed much brighter than Venus for a few seconds). Then it gradually faded from view over the next 20 to 25 seconds. I had never seen one before, does this sound like what an Iridium Flare is supposed to do? I checked with the German Web page later in the day that predicts these flares, but I could not find one to match the time and location of what I saw though?? Any thoughts? Looks like we are wipe out up here for tomorrow morning!

From Martin Gaskell 11/18/98:

I looked last night through holes in the clouds and didn't see any meteors so the rate was much lower than Tuesday morning. I'm having trouble getting hard numbers from around the world, but it seems that the IAU circulars are correct and that the maximum was over half a day EARLIER than predicted. So on Tuesday morning we were seeing the post-maximum decline. A lot of my students (perhaps 50 of them!) observed all night Monday/Tuesday. Together with PAC observations we should be able to reconstruct a ZHR curve for the night. The most useful observations will be ones where the individual magnitudes were estimated (all of my students will have done this) and the limiting magnitude is known. There is one clear lesson from the earlier maximum time: don't believe predicted times of maxima too much. I knew that the Giacobinids maximum was very uncertain, and hence that we had a chance of seeing it, but I thought that the predicted maximum for the Leonids was going to be pretty accurate. I checked some of the old information myself and I agreed with the published predictions. But then the time comes and it's over half a day off! So one shouldn't be too negative in telling people that a shower will not be seen in Nebraska. We might see something after all. At least the public is very happy with this one. The public in Nebraska that is; the Asians and Australians aren't so happy. The other surprise of the last couple of days is the population index (r). The IMO had been forecasting lots of faint meteors (big value of r). Instead, as we all know, we saw lots of bright ones (small r). It will be interesting to see other people's magnitude distributions.

CLUB MEMBERSHIP INFO

REGULAR MEMBER - $30.00 per year. Includes club newsletter, and 1 vote at club meetings, plus all other standard club privileges.

FAMILY MEMBER - $35.00 per year. Same as regular member except gets 2 votes at club meetings.

STUDENT MEMBER - $10.00 per year with volunteer requirement.

If you renew your membership prior to your annual renewal date, you will receive a 10% discount.

Club members are also eligible for special subscription discounts on Sky & Telescope Magazine.

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To check out one of the club telescopes, please contact a club officer. Scopes can be checked out at a regular club meeting and kept for one month. Checkout can be extended for another month if there are no other requests for the telescope, but you must notify a club officer in advance.

100mm Orion refractor: David Pennington
10 inch Meade Dobsonian: Lee Taylor
13 inch Truss Dobsonian: Available

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Order club apparel from cafepress.com:

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