New Braunfels Astronomy Club

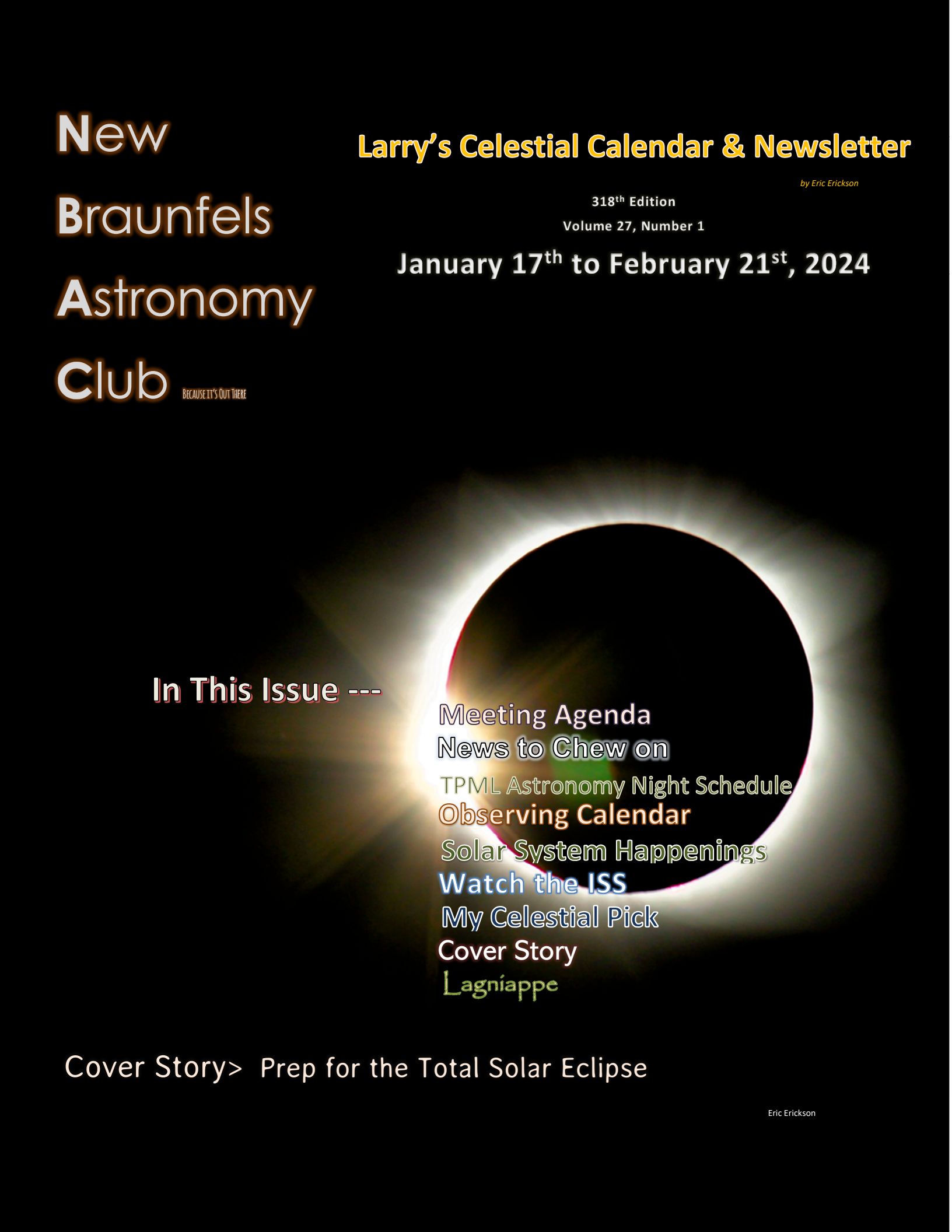
Because it's Out There

Larry's Celestial Calendar & Newsletter

by Eric Erickson

318th Edition
Volume 27, Number 1

January 17th to February 21st, 2024



In This Issue ---

Cover Story> Prep for the Total Solar Eclipse

Eric Erickson

New
Braunfels
Astronomy
Club Because It's Out There

January 17th, 2023
TPML at 6:00 pm
Meeting 292
Agenda

- Open meeting and introduce new members (get names, email).
- Interesting observations, experiences.
- Show and tell.
- Current news and what's in our sky this month: *Member input, Newsletter.*
- Events, Outreach, Planning.
  - Rescheduled Teen Astronomy Night – now January 30th
- Main Event
  -

Coming up: OUR 293rd ASTRONOMY CLUB MEETING

February 21st,2024, from 6 - 8 pm **Tye Preston Memorial Library, Canyon Lake**

Library website tpml.org
NBAC website astronomynbtx.org
NBAC Email: admin@astronomynbtx.org

Astronomy Friends New Braunfels..... facebook.com/groups/354953995432792/

Comal County Friends of the Night Sky..... facebook.com/groups/166098014710276/

comaldarksky.org/ Email: admin@comaldarksky.org

NEWS TO CHEW ON

Uranus and Neptune – Same Color?

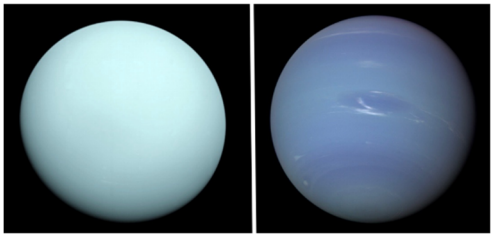
From: Scientific American

Back in the late 1900s, the images Voyager 2 recorded of Uranus and Neptune were in single colors combined to create composite images that showed the planets to be cyan and azure, respectively. While Uranus' published pictures were processed close to its true color, early Neptune images had been "stretched and enhanced" to display its clouds, bands and winds, "and therefore made artificially too blue," study lead author Patrick Irwin, a planetary physicist at the Oxford University in the U.K., said in a statement.

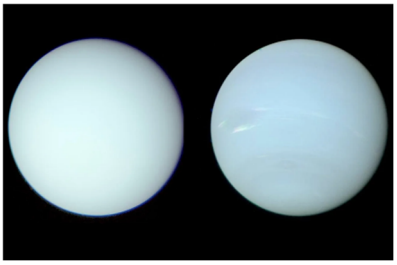
"Even though the artificially-saturated color was known at the time amongst planetary scientists — and the images were released with captions explaining it — that distinction had become lost over time."

To resolve the misconception, Irwin and colleagues used new images from NASA's Hubble Space Telescope and European Space Agency's Very Large Telescope, whose instruments capture a rich spectrum of colors in each pixel, so processing them determined the "true apparent colors" of Uranus and Neptune.

Then, the team revisited Voyager 2's images and rebalanced them in line with the new data, showing both planets are actually similar shades of blue. The color comes from a layer of methane in the planets' atmospheres, which absorbs red color from the sun's light.



Before

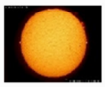


After

Astronomy Night at Tye Preston Memorial Library

Canyon Lake, TX

2024

Date	Doors Open	Moon Phase/Note
1/13/24	6:00 PM	**2 days past N**
2/10/24	6:30 PM	**1 day past N**
3/9/24	7:00 PM	**1 day before N**
4/8/24	12:00 PM	***Sun Party--*** **Total Solar Eclipse:** ***Wear Sunscreen*** **Partial Start: 12:15pm Totality Start: 1:35pm** ***(2 min, 14 seconds duration)*** **Partial End: 2:56pm** 
5/11/24	2:00 PM	***Sun Party--*** ***wear sunscreen*** 
June, July, August		**No Scheduled Astronomy Nights**
9/14/24	8:00 PM	**1st Q:** ***International Observe the Moon Night***
9/28/24	7:30 PM	**4 days before N**
10/26/24	7:00 PM	**2 days past last Q**
11/30/24	6:00 PM	**1 day before N**
12/21/2024	6:00 PM	**1 day before last Q:** --Winter Solstice--

Tye Preston Memorial Library *tpml.org*

New Braunfels Astronomy Club *astronomynbtx.org* *Astronomy Friends New Braunfels*

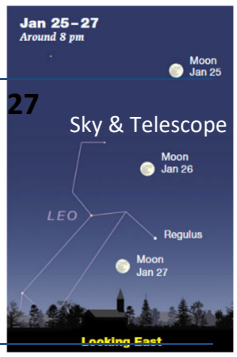
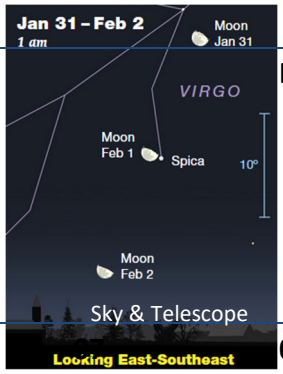
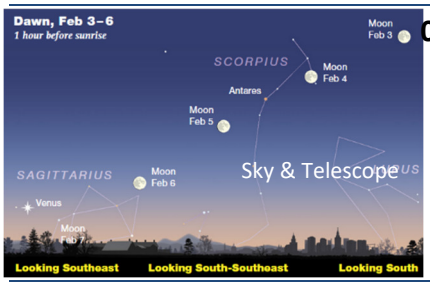
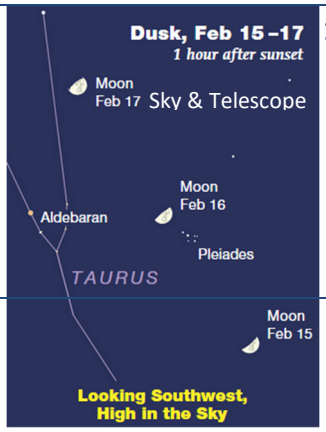
There will be surprise giveaways at some evnts so join us!!

Comal County Friends of the Night Sky supports and encourages Astronomy Night

Website: comaldarksky.org Email: info@comaldarksky.org

Comal County Friends of the Night Sky Group

January/February 2024

SUN	MON	TUE	WED	THU	FRI	SAT
On the Cover: The "Diamond Ring", a beautiful apparition that occurs a moment before totality.			**JAN 17**  **NBAC Meeting 6:00** TYE PRESTON MEMORIAL LIBRARY, CANYON LAKE	18	19	20
21	22	23	24	25  Wolf Full Moon	26	27 
28	29	30 Teen Night At TPML 5:00 PM Set up		FEB 01	02 	03
		06		08	09 	10 *Astronomy Night at TPML 6:30pm*
11	12	13	14	15		17
18	19	20	21 **NBAC Meeting 6:00** TYE PRESTON MEMORIAL LIBRARY, CANYON LAKE			

Solar System Happenings

WHEN TO VIEW THE PLANETS

Astronomy

EVENING SKY
Jupiter (south)
Saturn (southwest)
Uranus (southeast)
Neptune (southwest)

MIDNIGHT
Jupiter (west)
Uranus (west)

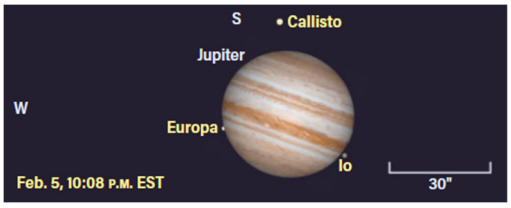
MORNING SKY
Mercury (southeast)
Venus (southeast)
Mars (southeast)

- The Sun is ramping activity as solar maximum approaches. New estimates predict a 2024 peak.
- Mercury is a morning planet, low in the southeast. On January 27 Mercury and Mars are in conjunction in scorpius, with Venus to the upper right.
- Venus is still brilliant in the southeast morning but receding from us. On January 27 it presides over a conjunction of Mercury and Mars.
- Earth still spins, and we are still here to marvel at it all.

Best ISS viewing for Canyon Lake/New Braunfels - From Heavens Above

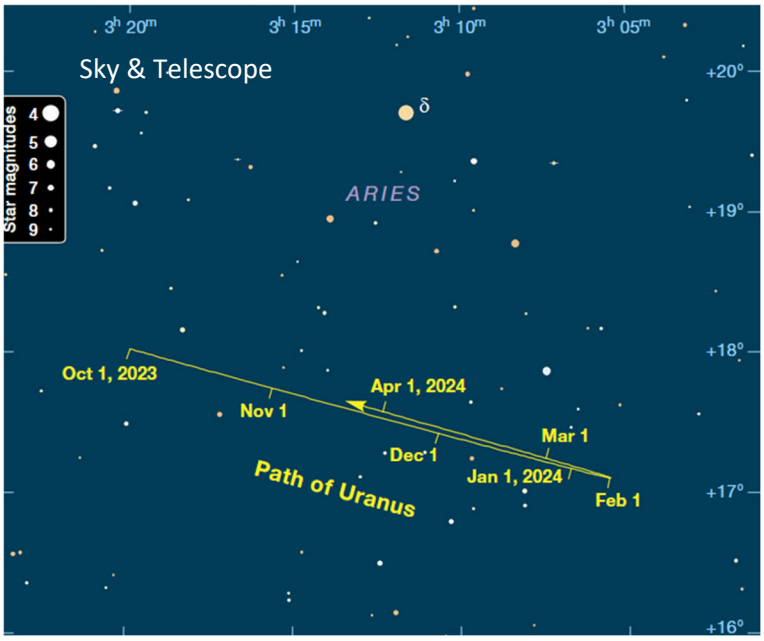
Date	Start Time	Start Loc	Max Alt °	End Loc	Note
01/17	18:44	W	14	NNE	Enters Earth's shadow at end
02/02	18:51	NW	30	E	Enters Earth's shadow at end
02/03	19:39	NW	32	S	Enters Earth's shadow at end
02/04	18:51	NW	70	SE	Very close to Jupiter
02/06	18:50	WNW	18	SSE	
02/11	06:36	S	13	ENE	Very close to Venus
02/15	06:33:48	WSW	43	NE	

- The Moon dances with planets and stars.
- Mars is a morning planet. It is in conjunction with Mercury on January 27th.
- Jupiter is well placed and looking good, high in the south.

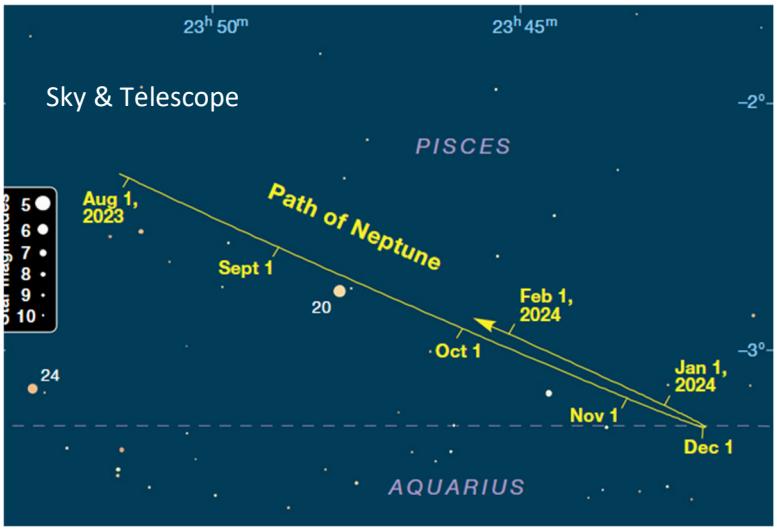


- Saturn is in the west and setting early so catch it before it's gone!

- Uranus is in Aries. It is magnitude 5.7 and lies about midway between Jupiter and the Pleiades (M45).

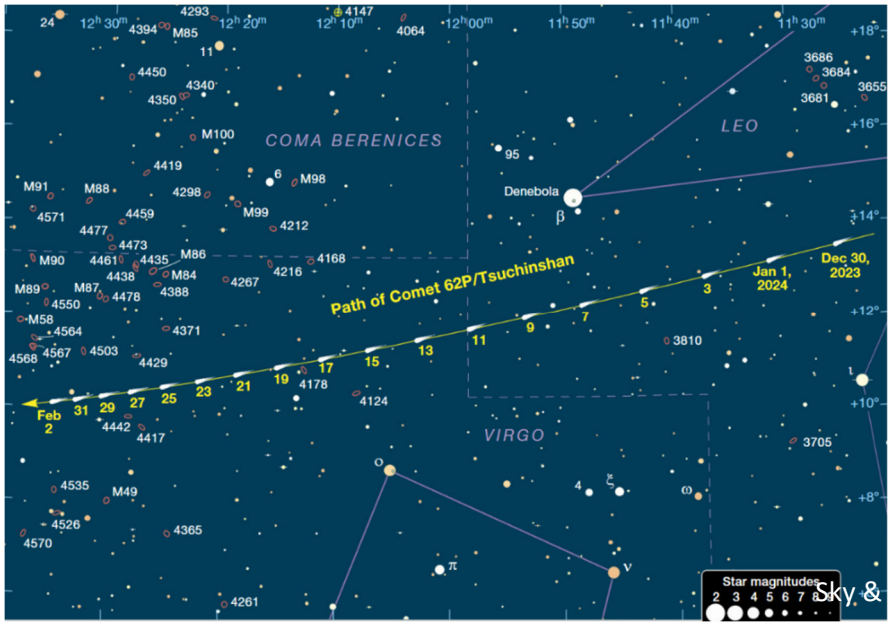


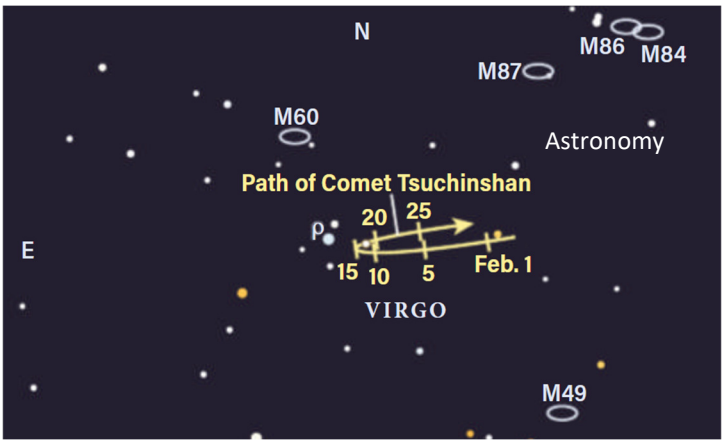
- Neptune is at its best, magnitude 7.7,residing in Pisces about 20° east of Saturn. It sets around 8:30pm so catch it soon.

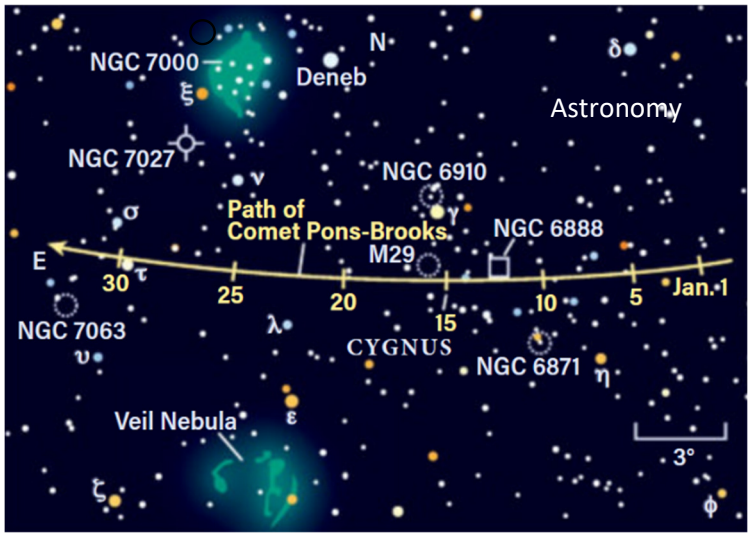


- Comets:
  - Comet 62P/Tsuchinshan 1 (say that fast 5 times) is a short-period comet of 6.5 years and gracing the early AM sky (stay up past 1am), with its 10th magnitude charm. Discovered in 1965 at Purple Mountain Observatory, Nanking.

- Comet 12P/Pons-Brooks was first spotted in 18 by Jean-Louis Pons but incorrectly charted. It was lost until 1883 when William Brooks spotted it, realizing it was the long lost comet of Pons. It is a short period (71 yrs) comet.
- Comet panSTARRS (C/2021 S3) was discovered by the panSTARRS 2 telescope on Mt Haleakala on Maui HI.







My Celestial Pick: Planetaries in the Skyglow

OK, this is a challenge. Don Ferguson can pick'em out from his driveway…in HOUSTON, TX! Don uses 3.5" and 7" Questar telescopes and an OIII filter when needed (often) to view planetaries from his light polluted neighborhood.

Driveway Planetaries

Object	Mag(v)	Size	RA	Dec.
IC 289	13.2	48″	03^h 10.3^m	+61° 19′
NGC 1501	11.5	52″	04^h 07.0^m	+60° 55′
NGC 2022	11.6	39″	05^h 42.1^m	+09° 05′
Abell 12	12.0	37″	06^h 02.3^m	+09° 39′
M 1-7	13.0	37″	06^h 37.3^m	+24° 01′
Abell 21	10.3	615″	07^h 29.1^m	+13° 15′
M 1-16	13.0	14″	07^h 37.3^m	–09° 39′
NGC 2610	12.7	42″	08^h 33.4^m	–16° 09′

Angular sizes are from recent catalogs. Visually, an object's size is often smaller than the cataloged value and varies according to the aperture and magnification of the viewing instrument. Right ascension and declination are for equinox 2000.0.

I'm sure you noticed the magnitude range is fairly small and at or beyond the limiting magnitude of 3.5" scopes. So, they are dim and will look better with larger instruments. That becomes the challenge.

Imagining Imaging: Imaging Articles Needed!

Cover Story> Get Prepped for the Total Solar Eclipse

Are you ready for it? I'm sure many of you have been prepping for some time already, making sure your equipment is ready.

Some of you will be traveling to spots in Texas or elsewhere where the length of totality and the prospect for clear skies is best. That's great, but many of us will stay in Canyon Lake and make the best of it. Tye Preston Memorial Library is planning an eclipse event, and I am sure there will be numerous sponsored events in the area. Not to worry if you don't make an event – you will miss crowds for sure. If you plan to hang and maybe entertain neighbors here are a few tips to make sure you have a great eclipse experience.

- Eclipse glasses or other certified protection is required if you want to directly view eclipse progress before and after totality. Look for ISO 12312-2:2015 certification. Glasses, hand-held viewers, and a variety of solar safety films are available from reputable retailers such as Agena Astro, Orion Telescopes, Highpoint Scientific, Astronomics, Astronomy Magazine, Sky & Telescope.
- For binocular or telescope users, the above suppliers have specialty filters that fit over the objective lens.
- Specialty filters are also available for camera lenses from the above suppliers.
- There are apps that can provide information during the eclipse including exposure suggestions and even control your imaging setup to ensure right timing for events such as Bailey's Beads, and the Diamond Ring. They will tell you when to remove the filter and when to replace it. It's best to practice using the app several times prior to eclipse day.

For iOS devices

Eclipse Guide: Ring of Fire (Vito Technology)
Eclipse Run (Martine Habib)
EclipseTimesCalc (Robert Hawley)
Great American Eclipse (Michael Zeiler/GreatAmericanEclipse.com)
One Eclipse (Astronomers Without Borders)
Solar Eclipse by Redshift (USM)
Solar Eclipse Timer (Foxwood Astronomy)
Solar Snap (Doug Duncan & American Paper Optics)
Totality by Big Kid Science (Jeffrey Bennett)
Total Solar Eclipse (Exploratorium)
Total Solar Eclipses (Pietro Massimino)

For Android devices

- Eclipse Calculator (University of Barcelona, Spain)
- EclipseDroid (Wolfgang Strickling)
- Eclipse Explorer (Joshua Berlin, FlyteSoft)
- Eclipse Guide: Solar & Lunar Eclipses Timer (Vito Technology)
- Great American Eclipse (Michael Zeiler/GreatAmericanEclipse.com)
- Solar Eclipse by Redshift (USM)
- Solar Eclipse Timer (Foxwood Astronomy)
- Solar Snap (Doug Duncan & American Paper Optics)
- Totality by Big Kid Science (Jeffrey Bennett)
- Total Solar Eclipse (Exploratorium)

- If you want to experiment, anything with a small hole or holes in it can be used to project the Sun's image onto the ground, a piece of paper or cardboard.
- Bailey's Beads: These are streams of sunlight passing between mountain ranges on the Moon.
- Diamond Ring: The last flash of light just as totality starts
- You might notice light and dark banding on the ground just before and just after totality. These are called shadow bands and are caused by Earth's atmospheric turbulence.

Have fun and be safe

Eric Erickson

Lagniappe

CARPE DIEM

SPEED BUMP