

New Braunfels Astronomy Club

BECAUSE IT'S OUT THERE


August 18th, 2022
Meeting 275

Agenda

-
- Open meeting and introduce new members (get names, email)
 - Club Business
 - Interesting observations, experiences
 - Steve Ellery: Discussion of new mounts from iOptron, ZWO...
 - Show and tell
 - Current news and what's in our sky this month: *Member input + Newsletter*
 - Events, outreach
 - Main feature(s)
 - Elizabeth Buckley – *The Stars at Night*

Coming up: **OUR 276th ASTRONOMY CLUB MEETING**
September 15th, 2022, from 6 - 8 pm **Bosses Pizza on Loop 337**

astronomynbtx.org Email: info@astronomynbtx.org

 [Astronomy Friends New Braunfels.....](https://www.facebook.com/AstronomyFriendsNewBraunfels) [facebook.com/groups/354953995432792/](https://www.facebook.com/groups/354953995432792/)

 [Comal County Friends of the Night Sky.....](https://www.facebook.com/ComalCountyFriendsOfTheNightSky) [facebook.com/groups/166098014710276/](https://www.facebook.com/groups/166098014710276/)
comaldarksky.org/ Email: info@comaldarksky.org

New

Braunfels

Astronomy

Club BECAUSE IT'S OUT THERE

Larry's Celestial Calendar & Newsletter

by Eric Erickson

301st Edition

Volume 25, Number 8

August 18th to September 15th, 2022

** NBAC's 25th Year! **



NBAC Observing Calendar

Solar System Happenings

Watch the ISS

My Celestial Pick

Astrophotography

Lagniappe

Cover Story> Wolf-Rayet Stars

Jase Jennings

AUGUST/SEPTEMBER 2022

SUN MON TUE WED THU FRI SAT

On the cover: RW 40 is at the center of a ring nebula it's forming - RCW 58. That bright star is a Wolf-Rayet star, a wild-child star.

18

NBAC Meeting 6:00
Bosses Pizza-Loop
337

19

Dawn, Aug 19-21
1 hour before sunrise

Sky & Telescope

Pleiades
Moon Aug 19
Moon Aug 20
Mars
Moon Aug 21
Aldobaran

TAURUS

Looking Southeast, high in the sky

20

21

22

23

Dawn, Aug 23-26
45 minutes before sunrise

Sky & Telescope

GEMINI
Castor
Pollux
Moon Aug 23
Moon Aug 24
Moon Aug 25
Venus

Looking East-Northeast

25

28

29

30

31

Sep 01

02

03

04

05

Dawn, Sept 5
30 minutes before sunrise

Sky & Telescope

LEO
Regulus
Venus

Looking East-Northeast

06

07

Dusk, Sept 7-8
45 minutes after sunset

Sky & Telescope

AQUARIUS
Saturn
Moon Sept 7
Moon Sept 8
CAPRICORNUS

Looking Southeast

08

09

Sky & Telescope

Pleiades
Mars
Aldebaran
TAURUS
Uranus
Betelgeuse
ORION
Menkar
Sirius
CETUS
Diphda
CANIS MAJOR

Astronomy

Sept. 8, 1 hour before sunrise
Looking south

10

11

12

13

14

15

Sept 15-17
Midnight

Sky & Telescope

Pleiades
Moon Sept 15
Moon Sept 16
Mars
Aldebaran
Moon Sept 17
TAURUS

Looking East-Northeast

Solar System Happenings

- ✚ **Mercury** is low on the horizon after sunset in August and the first couple of weeks in September. Not a pretty picture?
- ✚ **Venus** is bright in the eastern morning sky.
- ✚ **Earth** still spins, and we are still here to marvel at it all.



Zodiacal Light returns in early September in the eastern pre-dawn sky

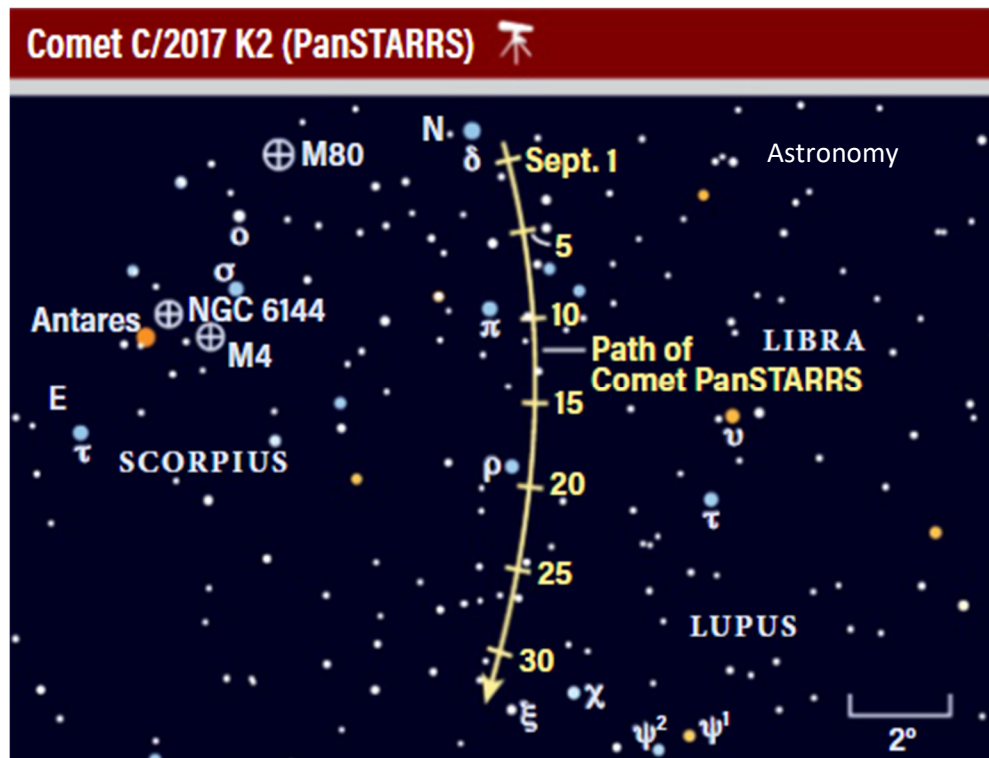
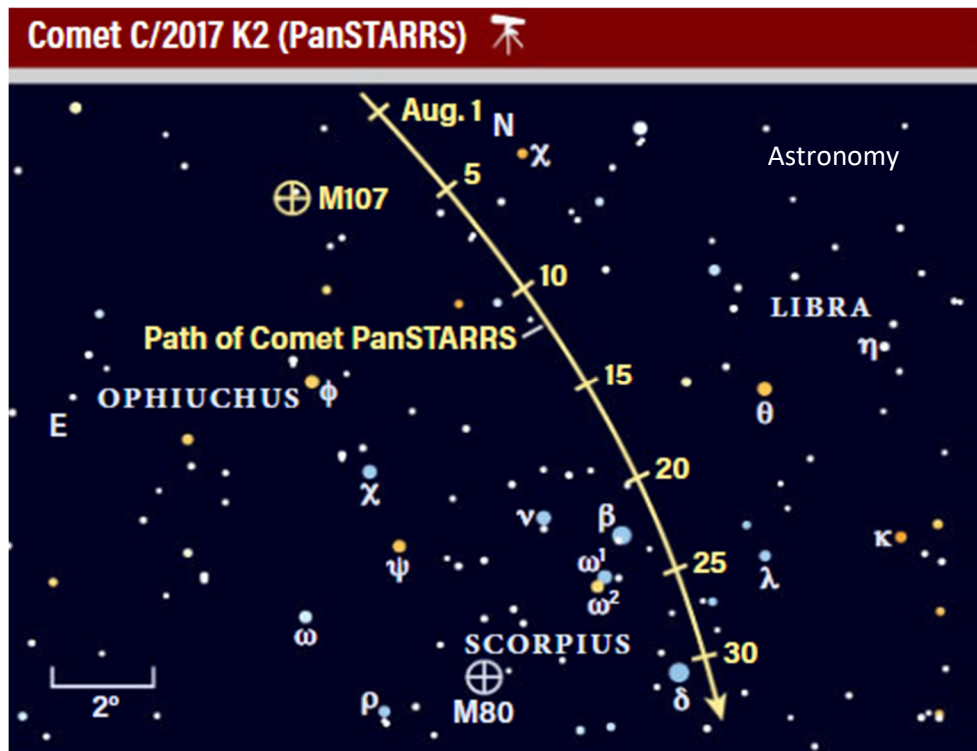
Best ISS viewing for New Braunfels (works for Canyon Lake too) -From [Heavens Above](#)

Date	Start Time	Start Loc	Max Alt °	End Loc	Note
08/18	06:12	S	12	ENE	Close to Sirius, Procyon, and Venus
08/20	06:11:18	SSW	45	NE	Exits Earth's shadow above the horizon
08/22	06:11:34	WSW	43	NNE	Exits Earth's shadow above the horizon
09/09	06:06	NNW	20	ESE	
09/11	06:06:28	NW	66	SE	Exits Earth's shadow above the horizon. Gets close to Capella.
09/12	20:18	SSW	19	E	Enters Earth's shadow above the horizon. Gets close to Saturn.
09/13	21:05	SW	51	NNE	Enters Earth's shadow above the horizon.
09/14	20:16	SW	72	NE	Close to Antares.
09/15	21:04	W	17	NNE	

- ✚ **The Moon** dances with planets and stars.
- ✚ **Mars** rises late night with Uranus. It pairs up with Aldebaran in Taurus on September 8.
- ✚ **Jupiter** is speeding toward opposition. It rises late in the night but by September is rising around 9pm CDT.
- ✚ **Saturn** rises after sunset and dominates the evening sky.
- ✚ **Uranus** is in Aries, rising late night (east) and a morning planet in the southeast – use binoculars or telescope.
- ✚ **Neptune** is heading for a September opposition and an all-night planet in northern Aquarius – use binoculars or telescope.

Comet(s)

- PanSTARRS (C/2017 K2) is from the Oort Cloud and still lurking. Mag 8+



My Celestial Pick: Saturn

Queen of the solar system! Oops...not. Saturn in Roman mythology was a male god, the god of time. Seems the Romans were as good as the Greeks with soap-opera stories. Saturn had a bunch of kids (Jupiter, Neptune, Pluto, Juno, Ceres, and Vesta) with his sister, Ops.

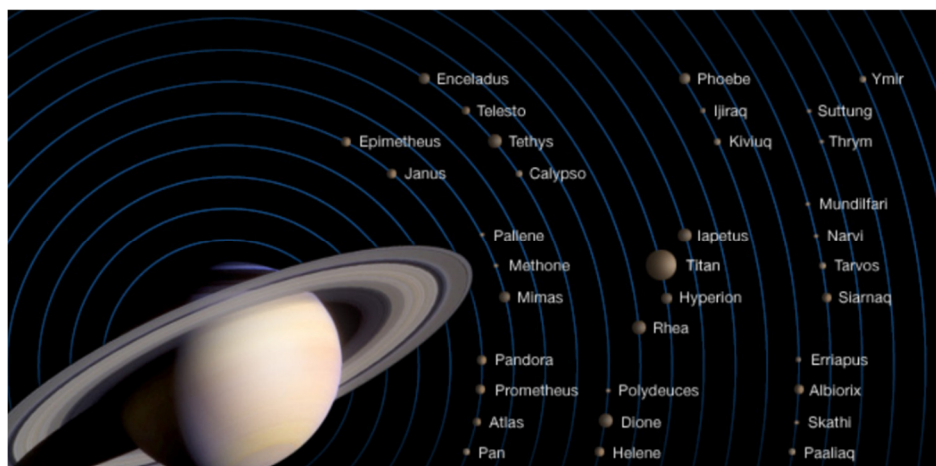
Sixth planet from the Sun, Saturn is a gas giant like Jupiter and about 80% Jupiter's size (excluding Saturn's rings). Also like Jupiter, Saturn is composed mainly of Hydrogen and Helium, with a smattering of other stuff like ammonia, sulfur, and water. Its average distance from Earth is 793 million miles, so if you sent a message via laser beam it would take around 72 minutes to reach Saturn.

Saturn spins like a top, with a day equal to 10.7 Earth hours. Two of Saturn's moons (Titan and Enceladus) are intriguing – think about the possibility of life on them.

But it's the rings, those gorgeous knife-edged rings, made of ice and rock, that command attention. Saturn's rings are labeled, going toward Saturn, E, G, and F rings are too faint for most telescopes. Next are the three main rings, A, Cassini Division, B, and C (Crepe). Then closest to Saturn is D. With most telescopes, rings A and B are easily visible as is the Cassini Division between them. The C ring is very thin and faint but can be seen with good seeing and knowing to look for a slight dimming of the planet inside the B ring, where the rings cross in front. A challenge for scopes and observers is seeing the Encke Gap at the outer part of the A ring. Another challenge is observing spokes in Saturn's rings. They are very faint, variable, and probably need a telescope in the 10 inch, and preferably larger range. Saturn is a great target so dust off your scope and take a look. You will not be disappointed. See how many of Saturn's satellites you can spot while you're at it.



Sky & Telescope



Ars Technica

Cover Story: Wolf-Rayet Stars



ESO image

Wolf-Rayet star WR124 with its M1-67 "wind" nebula

Wild kids of the universe, Wolf-Rayet (WR) stars are massive and young, just millions of years, and they blow off their great mass in spasms. They live hard and die young.

Discovered in 1897 by Paris Observatory astronomers Charles Wolf and Georges Rayet, WR stars start out way more massive than the Sun – at least 20x the Sun's mass. WRs go through hydrogen fusion in a couple million years, then helium, and on and on...to iron. No matter how massive the star, gravity just cannot squeeze enough energy from iron to sustain fusion. Stars like our Sun just bloat and puff off matter in relatively benign bursts as fusion sputters to a halt. WR stars' gravity puts the hammer down on iron but to no avail. Iron fusion takes much more energy from gravity than it produces. So, outward fusion pressure loses while gravity still puts the hammer down, and bam! Supernova!

Stars like our Sun, and our Sun will go through a phase that resembles WR stars, named Wolf-Rayet Type stars. This phase, during their final stage of fusion, is much milder however, on their way to becoming a white dwarf.

WR stars typically show one of two spectra:

- WN – Emission lines of helium and nitrogen
- WC – Emission lines of carbon, oxygen, and hydrogen

WR stars are not different stars, they simply represent the final stages of very massive stars' lives. As they go through spasmodic fusion cycles, WRs produce a planetary-like nebula called a *wind nebula* before going supernova, blowing themselves and the nebula into our universe. Elemental seed dispersion.

-Eric Erickson

Lagniappe



This comic was supplied by Steve Ellery for inclusion in our Astronomy Night Orientations – perfect!

CARPE DIEM



MACANUDO

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WUMO

BY WULFF & MORGENTHAUER

