

New Braunfels Astronomy Club

Texas, USA

January 16th, 2020

246th Meeting

Larry's Celestial Calendar & Newsletter

-by Eric Erickson

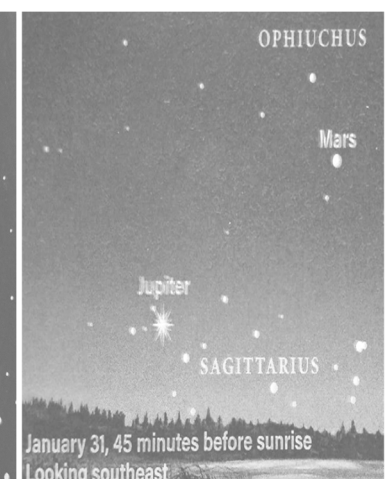
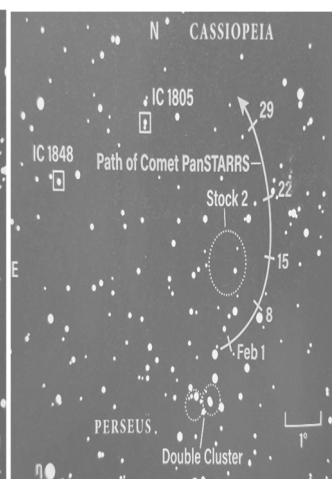
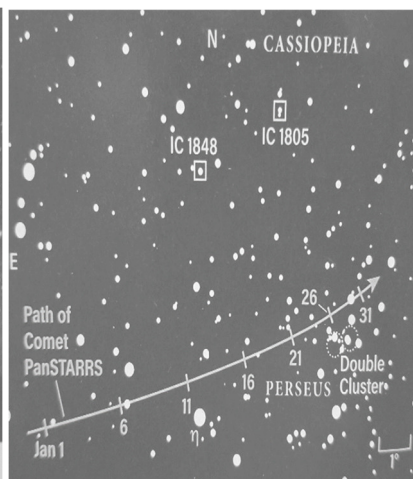
270th Edition

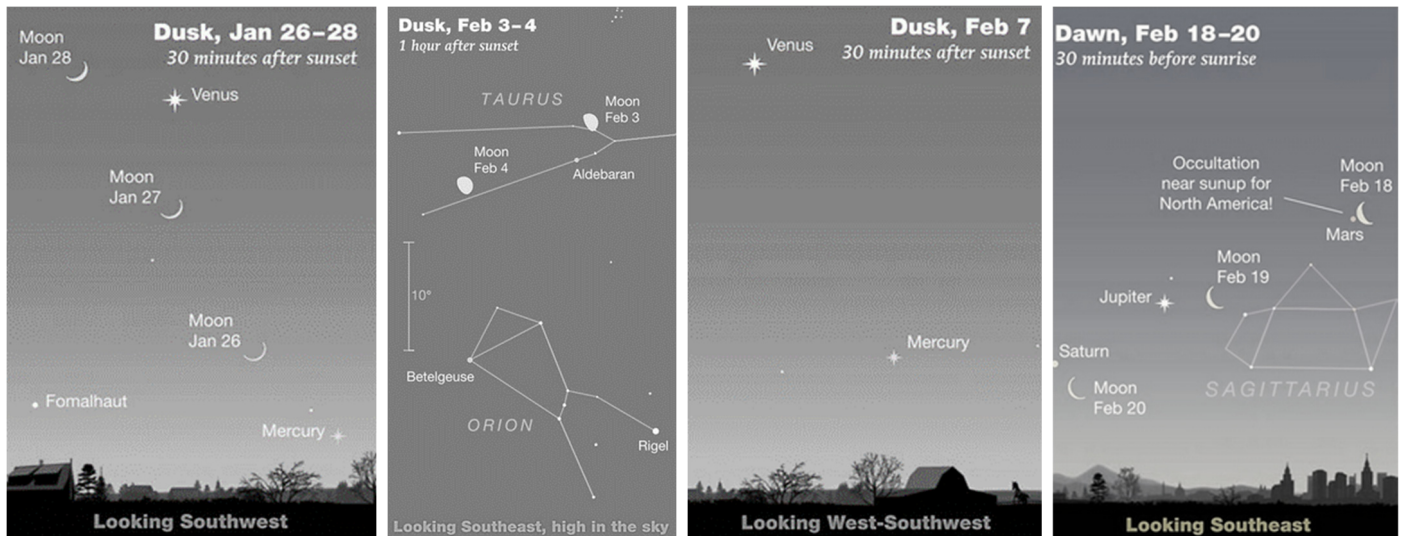
Zodiacal Light

ISS and Hubble on January 16th
Comet and Double Cluster Meet
Comet and Cluster Stock 2 Meet
Mars Slips Behind the Moon

Observer's Highlight Calendar for Clear Skies

-From Astronomy Magazine





Month Date Time/Direction Event

ft	17	6:58 am CST	Last Quarter Moon
Jan	24	3:42 pm CST	New Moon
Jan	27	30+ min after sunset/SW	Neptune is $\frac{1}{4}$ degree from Venus
Feb	1	7:42 pm CST	First Quarter Moon
Feb	9	1:33 am CST	Full Moon
Feb	10	8:00 am CST	Mercury is at greatest eastern elongation from the Sun
Feb	15	4:17 pm CST	Last Quarter Moon
Feb	18	Before sunrise/SE	The waning crescent Moon occults Mars
Feb	10-24	After twilight fades/W	Zodiacal Light – caused by cometary dust along Earth's orbit

Solar System Roundup

- ✚ **Mercury** is visible in early February when it's in the southwest after sunset
- ✚ **Venus** is an evening "star" and dances with the Moon and Saturn in the southwest
- ✚ **Earth** still spins, and we are still here to marvel at the wonders of our universe
- ✚ **The Moon** dances with planets and stars. It Occults Mars on February 18th
- ✚ **Mars** is a morning "star", and is joined by the Moon, Jupiter, and Saturn in the SE
- ✚ **Jupiter** is visible in the SE - early morning hours before sunrise
- ✚ **Saturn** is visible in the SE - early morning hours before sunrise
- ✚ **Uranus** is in Aries, high in the south at nightfall and sets after midnight
- ✚ **Neptune** is in Aquarius, setting shortly after nightfall
- ✚ **Comet(s)**
 - PANSTARRS (C/2017 T2) is around magnitude 9-10 and should be visible in 4" or larger scopes. On January 26/27 it is nicely placed just north of the Double Cluster in Perseus. On February 15th it is just west of cluster Stock 2 in Cassiopeia

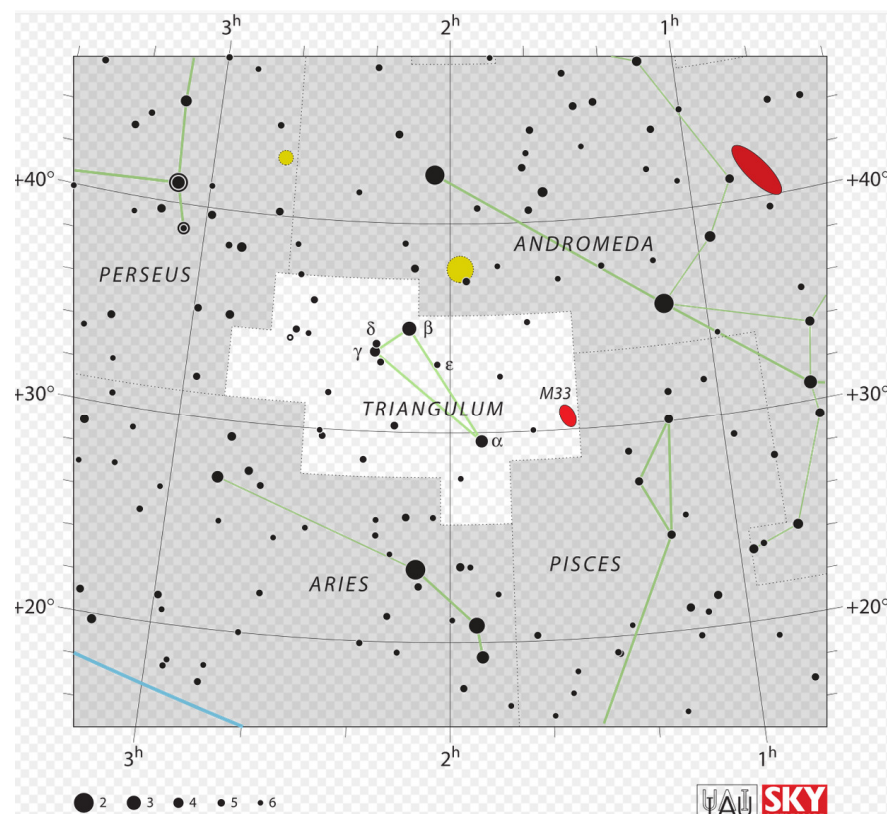
✚ Satellite viewing for New Braunfels (works for Canyon Lake too). After 5 am and before midnight.

▪ From Heavens Above.

Satellite	Date	Start Time	Start Loc	Max Alt °	Travel Toward	Note
ISS	01/16	19:04	S	19	ESE	Enters Earth's shadow at 19:07
"	01/18	19:04	SW	79	NE	
"	01/19	18:16	SSW	36	NE	
"	01/20	19:05	WSW	27	NE	
"	02/07	19:16	NW	45	SE	
"	02/08	20:05	WNW	21	SSE	Close to Venus. Enters shadow at 20:09:52
"	02/09	19:17	NW	42	SSE	
"	02/11	19:18	WNW	11	SSE	Hugs the horizon
"	02/17	06:18	S	12	E	Hugs the horizon – Close to Jupiter
"	02/19	06:17	SSE	43	NE	
Hubble	01/16	18:27	W	23	SE	Passes south of Venus
"	01/17	18:17	W	18	SSE	"
"	01/25	06:47	SSW	11	E	Very close to Jupiter near horizon
"	01/28	06:15	SW	23	E	
"	02/07	06:11:30	W	50	SE	Exits shadow at 06:11:30
"	02/19	19:25	SW	33	SE	Passes S of Sirius

My Observing Pick: M31 vs M33

This is an exercise in contrast – between two big galaxies.



Let's see what 2020 has in the que.

Tye Preston Memorial Library in Canyon Lake has another year of Astronomy programs. Here is their schedule for the year: January 18, 7:30-9:30; February 15, 7:30-9:30; March 14, 9:00-11:00; April 18, 9:00-11:00, May 16 (*Daytime Sun Party*), 2:00-4:00; NO PROGRAMS FOR JUNE, JULY, AND AUGUST; September 12, 9:00-11:00; September 26 (International Observe the Moon night), 7:30-9:30; October 10, 9:00-11:00; November 7, 7:30-9:30; December 5, 7:00-9:00. As always, we depend on the sky's cooperation so if it's inclement there will be a presentation inside the library. When the sky is clear and before going to the observatory there will be a short update in the library on what's going on in astronomy and what's in the sky that night. The New Braunfels Astronomy Club will have members present to show off our night sky.

New Braunfels Astronomy Club meets the third Thursday of each month (no meeting in December) at 7pm in TJ's restaurant on Loop 337. Join the party!

NASA has a few notable launches planned for 2020: February 5 with ESA (European Space Agency), Solar Orbiter will explore the Sun's heliosphere; April, ISS Expedition 62 launch; July, Mars 2020 Rover; Artemis 1, the first mission (no crew) of their Orion spacecraft

Space X continues to test its mettle: January 11 or later, test the flight abort capability of the Crew Dragon. It also plans additional launches of their Starlink satellites, 60 at a time until they have as many as 35,000 in orbit. The objective for Starlink is to make internet access available everywhere on Earth.

China's CHANG'E 5 will attempt to collect and return material from the Moon. China also plans a Mars orbiter and rover mission combination.

ESA is planning a Mars mission called ExoMars 2020 including a rover

UAE (United Arab Emirates) is planning Hope Mars, a Mars orbital craft, their first spacecraft mission beyond Earth orbit

Boeing's CST-100 Starliner was tested in December 2019 and successfully landed after a couple of technical hiccups. Boeing is planning other test flights in 2020.

OneWeb is the European competition to Space X and their Starlink program. They plan to deploy 650 satellites initially. They have contracted with Russia to provide launches.

Texas Star Party is planned for May 17-24 at the Prude Ranch, near Fort Davis, TX. This party draws over 400 participants each year and the location is just about perfect. Contact texasstarparty.org

Eric Erickson

Coming up: OUR 247th ASTRONOMY CLUB MEETING

Thursday, **February 20th**, 2020, from 7 – 9:00 p.m., held in the conference room of TJ's restaurant on Loop Road (337). Have dinner, snack, dessert, and/or a beverage if you like. The New Braunfels Astronomy Club can be reached at www.astronomynbtx.org or Mick Homer mhomer2012@yahoo.com

New Braunfels Astronomy Club Meeting

Date:

Agenda

- Open meeting and introduce new members

- Interesting observations, experiences

- Show and tell

- What's in our sky this month? [Newsletter and Abrams Sky Calendars](#)
- What's going on – events, outreach

- Main feature(s)
 - Astrophotography – Bob Keyser

- Open for discussion

- Feedback and close the meeting