STELLAR SENTINEL
Grand Traverse Astronomical Society
July 2026



The constellation we know as Cygnus the swan, or asterism of the Northern Cross is seen as Ajijaak, the Crane, seen here, or Bineshi Okanin, the Skeleton Bird flying among the stars of the Summer Triangle by the Anishinaabek peoples.

Anishinaabek summer skies

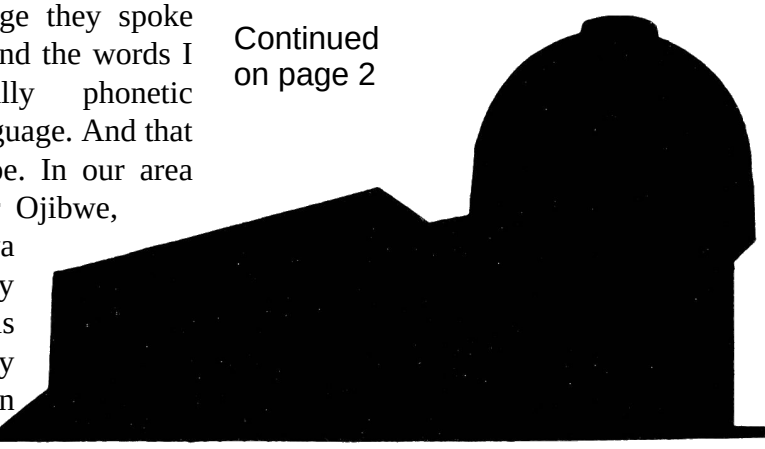
By Bob Moler

The constellations that we're all familiar with are those from the Middle East and Europe. They have become the official constellations of the International Astronomical Union (IAU). Other cultures have their own constellations including those of the indigenous people of our shared land. IAU constellations main purpose now is to divide up blocks of celestial real estate into 88 parcels, although the star patterns, romance and the constellation names remain along with their stories.

The indigenous people of our area whose land we share are the Anishinaabek. The language they spoke was Anishinaabemowin. And the words I will use are basically phonetic representations of their language. And that changes depending on tribe. In our area we have the Chippewa or Ojibwe, and the Ottawa or Odawa tribes. I don't have to worry about pronunciation in this article, but I do on my Ephemeris program on Interlochen Public Radio. I've found the *Ojibwe Peoples Dictionary* on the Internet which has audio samples of how the words are pronounced. I've found two sources for the constellations. The first is *Ojibwe Sky Star Map Constellation Guide*, and the star map it explains; and the website zhaawanart.com by Zhaawano Giizhik, a non-commercial artist and storyteller.

Flying high in the east is Ajijaak (Sand Hill Crane) over the stars of Cygnus the Swan. Unlike Cygnus, it is flying northward. It is also known as Bineshi Okanin (Skeleton Bird). I found no reason

Continued on page 2



Anishinaabek Summer Skies (Continued from page 1)

for that name, other than it looks to me to be a stick figure in the stars, suggesting a skeleton.

Zhaawano also adds Midewigaan (Medicine Lodge), where Lyra is, seen in the upper center of the page 1 image. The star Vega itself is Gichi-Ogimaa Anung (Great Chief Star). It earns that title due to its brilliance, being the 5th brightest star, and it being in the sky all or in part any night of the year. It's not quite circumpolar for our latitude, but is above the horizon for 19 hours a day, and even longer the farther north you go. The word Anung or Anang in its name means star. At the very bottom of the first page illustration is Delphinus the dolphin. That is Maang Anangoons (Little Loon Star). The star Altair, the second brightest star in the Summer Triangle, lower right in the image, is Gichi Biidaabaan Anung (Big Dawn Star).

The Milky Way is known by three names, the first two from the *Ojibwe Sky Star Map Constellation Giude*: Jiibaykona (Spirit Path), and Jiibay Ziibi (River of Souls). This is the path that deceased souls take to their final destination, the Clan of the Deceased. Zhaawano adds Binesiwi-miikana (Thunderbird's Path), again a path of souls.

Looking northward are two constellations that have no season, because they are circumpolar, never setting. The more famous of them, using the stars of the Big Dipper and Ursa Major the Great Bear is Ojiig (Fisher) the magical creature that brought summer to the earth according to the stories. I've recounted his story for the society, also on my radio program and blog, So I won't tell it here. The second constellation uses the stars we call the Little Dipper or Ursa Minor. It is Maang (Loon). We met the Little Loon earlier. In the tail of the loon is Giiwedin Anung, literally the North Star which is Polaris. The image for these two are on page 3.

It's good to look up in the sky sometimes and see the stars as others see them.

References

"**Ojibwe Sky Star Map Constellation Guide: An Introduction to Ojibwe Star Knowledge**" by Annette S. Lee, William Wilson, Jeffrey Tibbetts and Carl Gawboy. (2014)

Ojibwe People's Dictionary https://ojibwe.lib.umn.edu/

Continued on page 3



Nanaboujou, a trickster figure of many creation stories uses Scorpius' stars. His bow, using the front three stars is aimed at Curly Tail or the Great Underwater Panther, setting in the west. It's tail, the front stars of Leo is what's left of his body above the horizon. The brilliant star low in the west is Venus (Ikwe'anung (Women's Star). In this position it is Onaagoshi'anung (Evening Star). Created using Stellarium.

Grand Traverse Astronomical Society - Est. June 1982 – 44 years of service

-----Officers-----		*-----Directors-----*	*----------Patrons----------*
President	Jerry Dobek	Charles Bell	Charles Bell, Robert Carroll & Terri Mills, Daniel Dall'Olmo, Don and Kathy Flegel, Bill Hathaway, Judy Moler, Chris & George Renner, Ronald & Jan Uthe
Vice President	Tony Pernicano	Joe Brooks	
Secretary	Don Flegel	Kim Dobek	
Treasurer	Gary Carlisle	Bill Hathaway	
Editor	Bob Moler		

Upcoming Society Events

Events not held at the Joseph H. Rogers Observatory depend on the weather.

Friday, July 10* – Monthly meeting and star party at NMC Rogers Observatory. Also available via **Zoom**. See our website http://www.gtastro.org. for instructions and a link to click.

8 PM – Board of Directors Meeting

9 PM – General Meeting... Postponed from June: Review and discussion of the images brought back from the Artemis II Mission.

10 PM – Star Party, if it is clear.

* Date pushed back due to Holiday

Saturday, July 18 – Star Party at the Sleeping Bear Dunes, Dune Climb, 9 PM.

Saturday, August 8 – GTAS Annual Picnic at Evelyn Brandt's Farview Orchards, Suttons Bay.

7 PM to ? – More details next month.

Saturday, August 15 – Star Party at the Sleeping Bear Dunes, Dune Climb, 9 PM.

Friday, September 4 – Monthly meeting and star party at NMC Rogers Observatory. Also available via **Zoom**. See our website http://www.gtastro.org. for instructions and a link to click.

7 PM – Board of Directors Meeting

8 PM – General Meeting.

9 PM – Star Party, if it is clear.

Zoom Meeting Link: https://us02web.zoom.us/j/8388913229?omn=88435646093

NativeSkyWatchers website https://nativeskywatchers.com books and planispheres for purchase, videos, events, resources.

Ojibwe Indigenous Star Map - An Artist's Rendition (website) by Zhaawano Giizhik,

★

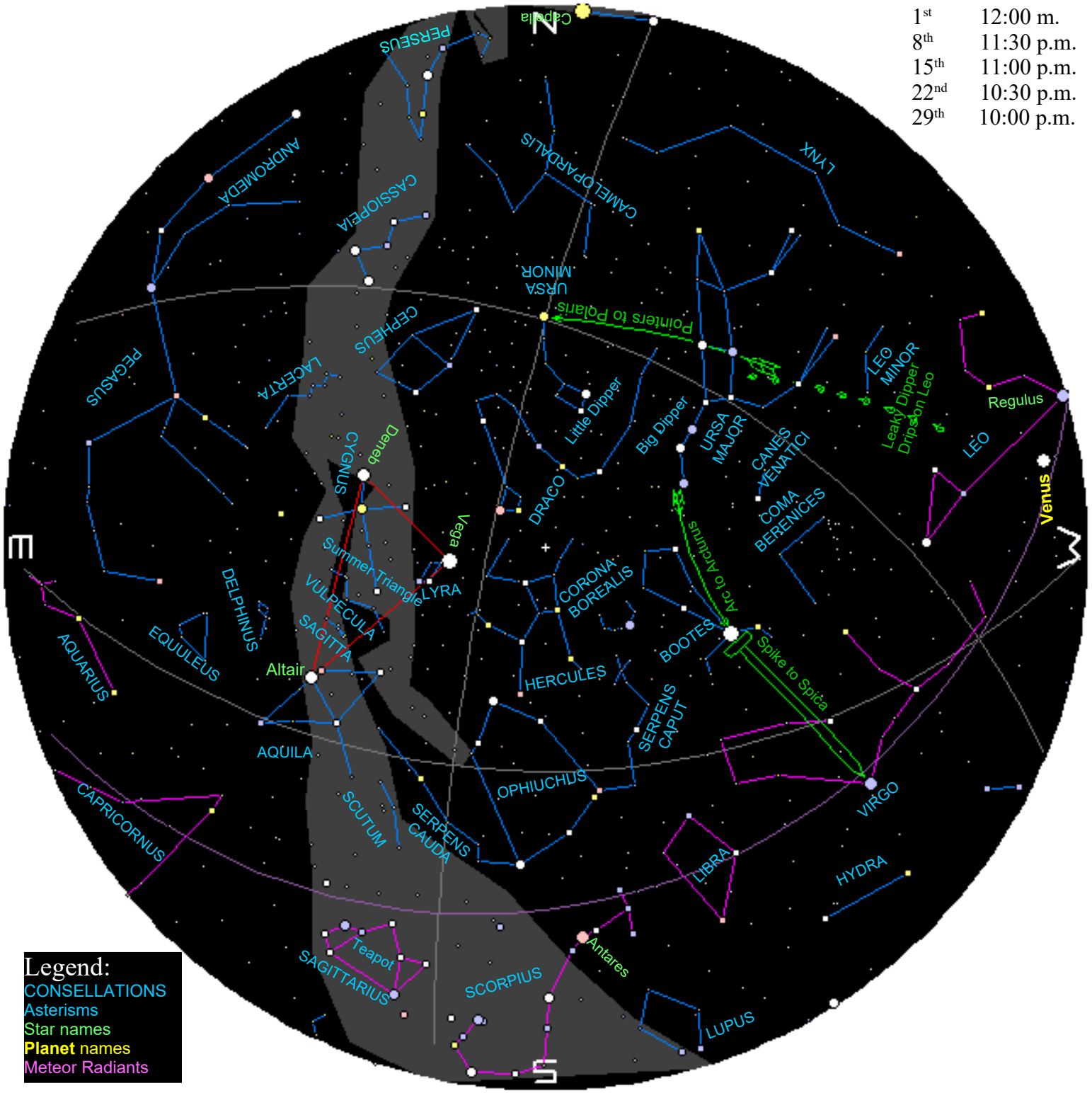


The Stars and Planets for July 2026

By Bob Moler

Planets are plotted for mid month. The star positions are correct for:

1st	12:00 m.
8th	11:30 p.m.
15th	11:00 p.m.
22nd	10:30 p.m.
29th	10:00 p.m.



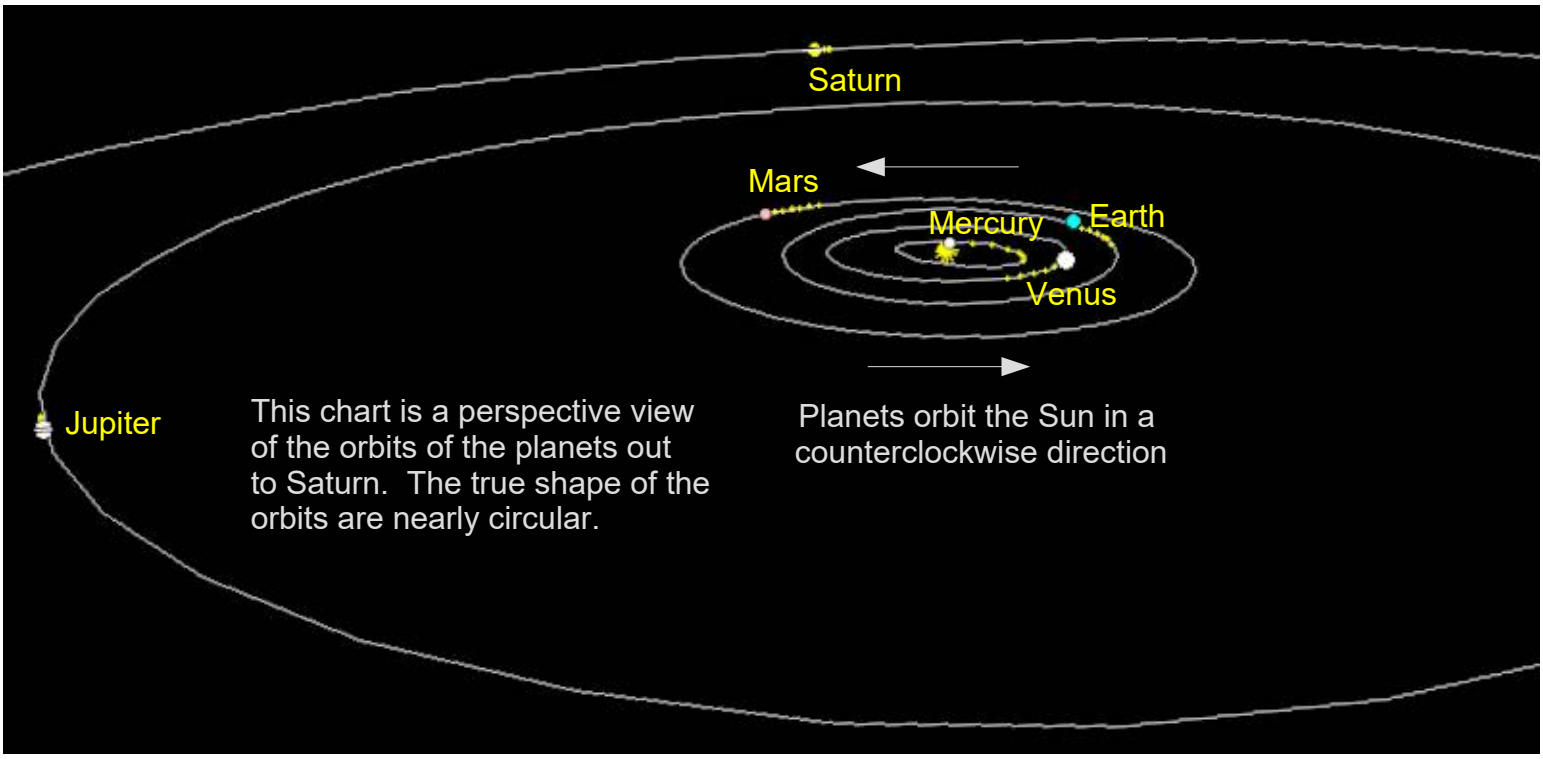
Legend:
CONSELLATIONS
Asterisms
Star names
Planet names
Meteor Radiants

Scorpius lies due south at chart time. Chart time is at mid month at 11 PM, in tune with the later sunset and twilight end times. Venus is low in the west, and will reach greatest eastern elongation on August 15th. The summer Milky Way will appear as the skies darken. Its wonders will be on full display in dark moonless skies. The center of the Milky Way lies behind the dust clouds in the area above the spout of the Teapot asterism of Sagittarius.

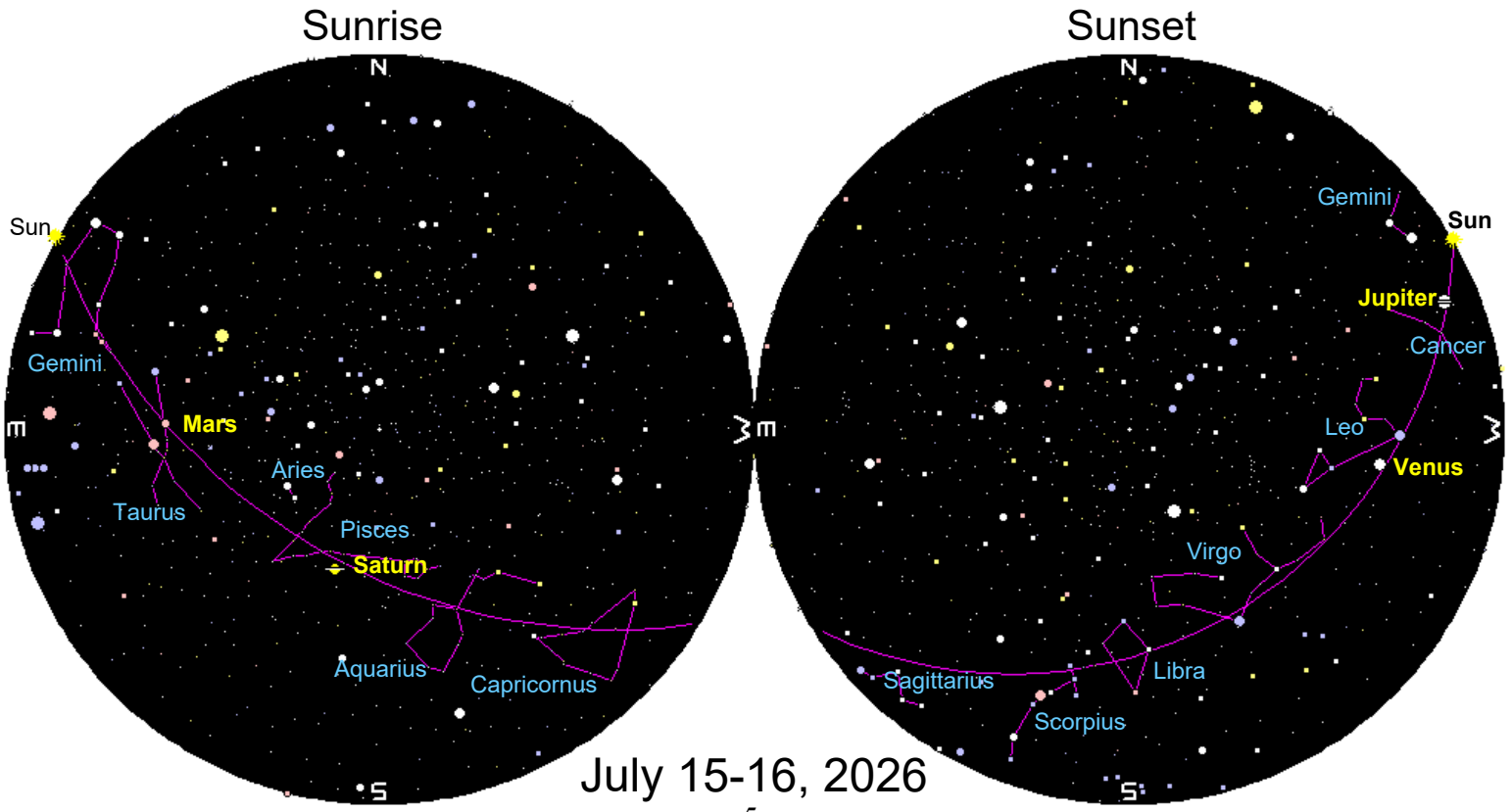
For more information on the planets each Wednesday:
https://bobmoler.blog

The Naked Eye Planets

July 1st, 6th, 11th, 16th, 21st, 26th, & 31st



The Planets as Seen From Northern Michigan



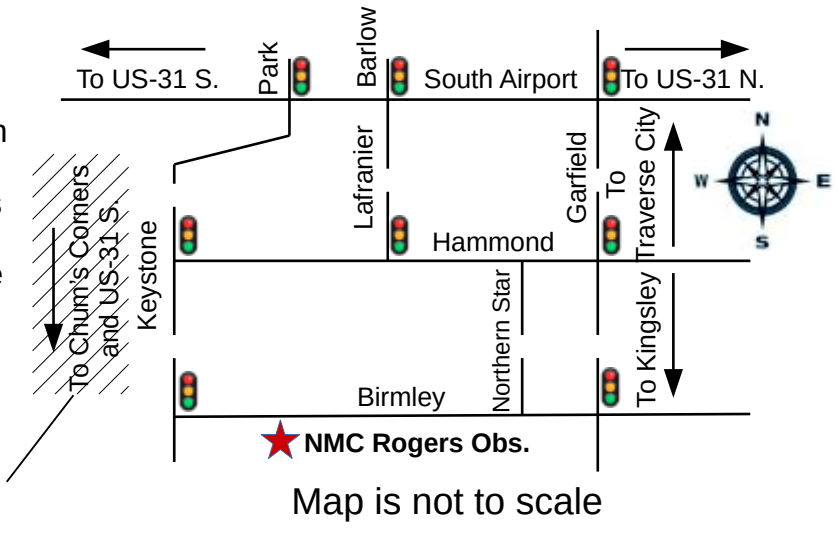
July 15-16, 2026

CELESTIAL CALENDAR

	Date		Time	Event
Jul	1	We		Venus: 41.1° E
	4	Sa	3:51 AM	Moon Ascending Node
	6	Mo	10:59 AM	Aphelion: 1.0166 AU
	7	Tu	3:29 PM	Last Quarter
	9	Th	10:36 AM	Venus-Regulus: 1° N
	10	Fr	6:54 PM	Moon-Pleiades: 1.1° S
	12	Su	9:17 AM	Mars-Aldebaran: 5.3° N
	12	Su	11:18 AM	Moon North Dec.: 28° N
	12	Su	9:24 PM	Mercury Inferior Conjunction
	13	Mo	3:50 AM	Moon Perigee: 359100 km
	14	Tu	5:43 AM	New Moon
	16	Th	8:07 PM	Moon-Regulus: 0.5° N
	16	Th	8:27 PM	Moon Descending Node
	17	Fr	12:31 PM	Moon-Venus: 2.1° N
	20	Mo	11:21 PM	Moon-Spica: 2.5° N
	21	Tu	7:06 AM	First Quarter
	24	Fr	5:00 PM	Moon-Antares: 0.6° N
	25	Sa	12:45 PM	Moon Apogee: 405500 km
	25	Sa	11:56 PM	Moon South Dec.: 28.1° S
	28	Tu	6:02 AM	Delta Aquarid Shower: ZHR = 20
	29	We	8:28 AM	Jupiter Conjunction (See you on the other side!)
	29	We	10:36 AM	Full Moon
	31	Fr	7:54 AM	Moon Ascending Node
Aug	1	Sa		Venus: 45.3° E

Sky Events Calendar by Fred Espenak and Sumit Dutta (NASA's GSFC), http://eclipse.gsfc.nasa.gov/SKYCAL/SKYCAL.html to make your own for any year. Some additions and clarifications were made by the editor.

The Grand Traverse Astronomical Society meets on the 1st Friday of each month except August at the Northwestern Michigan College Rogers Observatory. The public is invited to all society functions as our guests. We are a non-profit group dedicated to the study of astronomy. If you'd like more information about us, our meeting and outreach schedule, see our website: www.gtastro.org.



Map is not to scale

Sun, Moon, and Twilight for NMC Observatory (Traverse City)

July, 2026 Local time zone: EDT

DATE	SUN RISE	SUN SET	DAYLIGHT HOURS	TWILIGHT* END	TWILIGHT* START	MOON PHASE	RISE OR SET**	TIME	ILLUM FRACTN
Wed 1	06:01a	09:31p	15:30	10:56p	04:36a		Rise	11:00p	96%
Thu 2	06:01a	09:31p	15:29	10:55p	04:36a		Rise	11:25p	92%
Fri 3	06:02a	09:30p	15:28	10:55p	04:37a		Rise	11:46p	86%
Sat 4	06:03a	09:30p	15:27	10:54p	04:38a		Rise	12:05a	78%
Sun 5	06:03a	09:30p	15:26	10:54p	04:39a		Rise	12:23a	69%
Mon 6	06:04a	09:29p	15:25	10:53p	04:40a		Rise	12:41a	59%
Tue 7	06:05a	09:29p	15:24	10:53p	04:41a	L Qtr	Rise	01:02a	48%
Wed 8	06:05a	09:28p	15:23	10:52p	04:42a		Rise	01:26a	37%
Thu 9	06:06a	09:28p	15:21	10:51p	04:43a		Rise	01:57a	26%
Fri 10	06:07a	09:27p	15:20	10:50p	04:44a		Rise	02:38a	17%
Sat 11	06:08a	09:27p	15:19	10:49p	04:45a		Rise	03:33a	9%
Sun 12	06:09a	09:26p	15:17	10:49p	04:46a		Rise	04:43a	3%
Mon 13	06:09a	09:26p	15:16	10:48p	04:47a		Rise	06:04a	0%
Tue 14	06:10a	09:25p	15:14	10:47p	04:48a	New	Set	10:03p	1%
Wed 15	06:11a	09:24p	15:13	10:46p	04:50a		Set	10:34p	4%
Thu 16	06:12a	09:24p	15:11	10:44p	04:51a		Set	10:59p	9%
Fri 17	06:13a	09:23p	15:09	10:43p	04:52a		Set	11:20p	17%
Sat 18	06:14a	09:22p	15:08	10:42p	04:53a		Set	11:39p	26%
Sun 19	06:15a	09:21p	15:06	10:41p	04:55a		Set	11:57p	35%
Mon 20	06:16a	09:20p	15:04	10:40p	04:56a		Set	12:17a	45%
Tue 21	06:17a	09:19p	15:02	10:38p	04:57a	F Qtr	Set	12:39a	55%
Wed 22	06:18a	09:18p	15:00	10:37p	04:59a		Set	01:05a	65%
Thu 23	06:19a	09:17p	14:58	10:36p	05:00a		Set	01:36a	74%
Fri 24	06:20a	09:16p	14:56	10:34p	05:02a		Set	02:15a	81%
Sat 25	06:21a	09:15p	14:54	10:33p	05:03a		Set	03:04a	88%
Sun 26	06:22a	09:14p	14:52	10:32p	05:04a		Set	04:00a	94%
Mon 27	06:23a	09:13p	14:50	10:30p	05:06a		Set	05:04a	97%
Tue 28	06:24a	09:12p	14:47	10:29p	05:07a		Set	06:11a	100%
Wed 29	06:25a	09:11p	14:45	10:27p	05:09a	Full	Rise	09:30p	100%
Thu 30	06:26a	09:10p	14:43	10:26p	05:10a		Rise	09:52p	98%
Fri 31	06:27a	09:09p	14:41	10:24p	05:12a		Rise	10:11p	94%

* Nautical Twilight
** Moonrise or moonset, whichever occurs between sunset and sunrise

Grand Traverse Astronomical Society

Membership Application / Renewal for 2026

For renewing members, all we need is your name and email or street address to identify you, plus any information that has changed.

___ I am interested, please send me more information about the next GTAS meeting. (Also see www.gtastro.org)

___ I'll join, payment enclosed

___ Membership renewal

Membership term runs from January to December

Email Address:_____

Newsletter Delivery: ___ Email ___ Mail (Postcard only)

Interests: _____

Name(s): _____ Home Phone: _____ Cell:_____

Address: _____

(Street, City, State ZIP)

Dues: ___ Single Membership $25.00/yr

___ Family.....….....$30.00/yr

___ Student (up to 18 years age)....$15.00/yr

___ Patron (Donation)……..……..$_____

Mail check to: G.T.A.S.

Gary Carlisle, Treasurer

1473 Birmley Road

Traverse City, MI 49696-8808

For new members just joining mid-year, pro rate the dues thus: Annual Dues x months remaining in the year / 12.
Example: Single Joining in June: $25.00 X 6 (Jul-Dec) / 12 = $12.50

Eileen Carlisle
Avon Representative
1473 Birmley Road
Traverse City, MI 49696-8808
Phone: 946-8123 Fax: 929-0859
E-Mail: EileenAvonRep@charter.net

WANTED: Astronomers interested in working with Project ASTRO POLARIS.
Willingness to work with K-12 students and teachers. Visiting classrooms and conducting experiments, discussing astronomy interests and events. Sharing your love of astronomy with others. Will provide; training, materials, instuctionals and support.
Please contact: Jerry Dobek Site Coordinator Project ASTRO POLARIS NMC Science & Math 1701 East Front Street Traverse City, MI 49686 email jdobek@nmc.edu phone 946-1787 obsv. 223-4545 home

Great Lakes Bees and Supplies
Pollination, Honey and Bee Supplies
Millie Hathaway
(231)271-6243
P.O. Box 333
Suttons Bay, MI 49682

Giant Astronomical Binoculars
Astronomical Telescopes
by
Orion & Celestron
Call and ask for Dick
Enerdyne
212 St. Joseph Suttons Bay 231 -271-6033