SkyNews Astronomical events for Indian observers

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Sun, Planets and Transitions

On 1 July, **the Sun** will be in Gemini, the Twins (*Mithuna*). On 4 July, the Earth passes through its aphelion point at 01:23 hours IST. At this time, Earth will be 152 km away from the Sun, and the angular diameter of the latter will be 31’27”. After this, the distance between the Earth and the Sun will begin to decrease, while the angular diameter of the Sun will increase. On 21 July the Sun will move into Cancer, the Crab (*Karka*). On 31 July, its angular diameter will be 31’30”.

Mercury will remain in Cancer this month. On 17 July, it will be stationary in right ascension (RA) at 12:51 hours. After that it will enter into retrograde motion.

Ephemeris of Mercury:

Date	Alt*	Diam"	Mag	El°
01 Jul	+18°00'	7.7	0.4	26 E
10 Jul	+15°25'	9.1	1.0	25 E
20 Jul	+06°44'	10.8	2.2	18 E

Venus is in Taurus, the Bull (*Vrushabha*). On 29 July it crosses over to Orion, the Hunter (*Mrugha*). From about 8 – 12 July, it can be seen passing through the Hyades cluster in Taurus. On 11 July it will be on the line joining the Pleiades and Aldebaran.

Ephemeris of Venus:

Date	Alt*	Diam"	Mag	El°
01 Jul	+33°26'	17.8	-4.1	43 W
10 Jul	+32°40'	16.6	-4.1	42 W
20 Jul	+31°12'	15.5	-4.0	40 W
30 Jul	+29°11'	14.5	-4.0	38 W

Mars is in Leo, the Lion (*Simha*) on 1 July. It moves to Virgo, the Virgin (*Kanya*) on 28 July.

Ephemeris of Mars:

Date	Alt*	Diam"	Mag	El°
01 Jul	+45°25'	4.8	1.5	58 E
10 Jul	+41°01'	4.7	1.5	55 E
20 Jul	+36°06'	4.6	1.6	51 E
30 Jul	+31°13'	4.4	1.6	48 E

List of Events in July 2025 (Time in IST)

Dt	Dy	Time	Event
01	Tu	09:16	Moon descending node
02	We	23:09	Mercury-Beehive: 1.3° S
03	Th	01:00	First quarter
04	Fr	03:09	Moon-Spica: 0.9° N
04	Fr	03:29	Aphelion: 1.0166 AU
04	Fr	19:19	Venus 2.4 S° of Uranus
04	Fr	09:29	Mercury elongation: 25.9° E
04	Fr	21:14	Venus-Pleiades: 6.6° S
05	Sa	07:58	Moon apogee: 404600 km
07	Mo	23:07	Moon-Antares: 0.4° N
09	We	11:33	Moon south declination: 28.4° S
11	Fr	02:07	Full Moon
13	Su	13:59	Venus-Aldebaran: 3.1° N
14	Mo	13:26	Saturn stationary
15	Tu	16:12	Moon ascending node
16	We	15:49	Moon-Saturn: 3.9° S
17	Th	12:51	Mercury stationary
18	Fr	06:08	Last quarter
20	Su	15:57	Moon-Pleiades: 0.8° S
20	Su	19:22	Moon perigee: 368000 km
22	Tu	15:13	Moon north declination: 28.5° N
23	We	09:50	Moon-Jupiter: 5° S
25	Fr	00:41	New Moon
27	Su	01:14	Moon-Regulus: 1.4° S
28	Mo	09:23	Delta Aquarid shower: ZHR =20
28	Mo	14:00	Moon descending node
29	Tu	01:15	Moon-Mars: 1.4° N
31	Th	11:15	Moon-Spica: 1.1° N

Jupiter remains in Gemini, the Twins (*Mithuna*) this July. It will start becoming visible above the eastern horizon at dawn by mid-month; by the last week of the month, it will be well above the eastern horizon in the pre-dawn sky.

Ephemeris of Jupiter:

Date	Alt*	Diam"	Mag	El°
10 Jul	+04°05'	32.0	-1.9	11 W
20 Jul	+10°27'	32.2	-1.9	18 W
30 Jul	+17°02'	32.6	-1.9	26 W

Saturn remains in Pisces, the Fishes (*Meena*) in July this year. It rises close to local midnight, and is almost overhead by sunrise. It passes less than one degree from Neptune on 1 July. On 14 July, it will be stationary and will then be in retrograde motion. It will pass less than a degree from Neptune once again in February 2026, after it resumes its regular motion early next year.

Ephemeris of Saturn:

Date	Alt*	Diam"	Mag	El°
01 Jul	+68°19'	17.6	1.0	98 W
10 Jul	+69°44'	17.9	0.9	106 W
20 Jul	+67°08'	18.2	0.9	116 W
30 Jul	+61°09'	18.5	0.8	125 W

(*Disclaimer: We categorically mention here that we do not believe in astrology and believe that the only influence a planet has on us is to give us the viewing pleasure of its beauty. The sole purpose of giving the transition of planets and the Sun is to acquaint the reader with the Indian nomenclature of planets and constellations and also to show that the actual positions of the Sun and planets, which are based on modern computing, are very different from those given in astrology tables.*)

March of the Moon

On 3 July, the Moon can be seen west of Spica (*Chitra*). On 7 July, the nearly 90% illuminated Moon can be seen rising with Antares (*Jyeshtha*). Between 9 and 10 July, it will cross Sagittarius (*Dhanu*).

On 15 July, the 72% waning Moon will rise about an hour before local midnight. Neptune and Saturn will follow it.

The dawn hours of 20 July will be a visual treat for observers. Jupiter, Venus, Aldebaran (*Rohini*), the Pleiades (*Kruttika*) and the Moon will be seen together. The Moon will be west of the Pleiades cluster. Aldebaran, Venus and Jupiter, in that order, will be seen below them.

The next day on 21 July, the Moon will make a right-angled triangle with the Pleiades and Aldebaran. On 22 July, the Moon will occult Elnath (Beta Tauri or *Agni*). On 23 July, the thin lunar crescent can be seen north of Jupiter.

New Moon is on 25 July. On 26 July, the thin lunar crescent can be seen west of Regulus (*Magha*), over the western horizon. On 28 July it will be west of Mars. This will be a good time to photograph the Moon and Mars together. On the last day of the month, the Moon will be east of Spica (*Chitra*).

Events Involving the Moons of Jupiter

Jupiter is now reappearing over the eastern horizon just before sunrise. This month we have five events involving its moons, just close to dawn.

In the table below, we have listed events that can be seen from India. The table gives the timings of eclipses, occultations, transits and shadow transits of the moons of Jupiter, suitable for Indian observers. The timings are given in Indian Standard Time (IST).

The output is given as per the following abbreviations and notations:

Columns: 1 = date; 2 = time; and 3 = satellite number.event type.phase.

Satellite numbers: 1 = Io; 2 = Callisto; 3 = Europa; and 4 = Ganymede.

Event type: Ec = eclipse; Oc = occultation; Tr = transit; and Sh = shadow transit.

Phase: D = disappear; R = reappear; I = ingress; and E = egress.

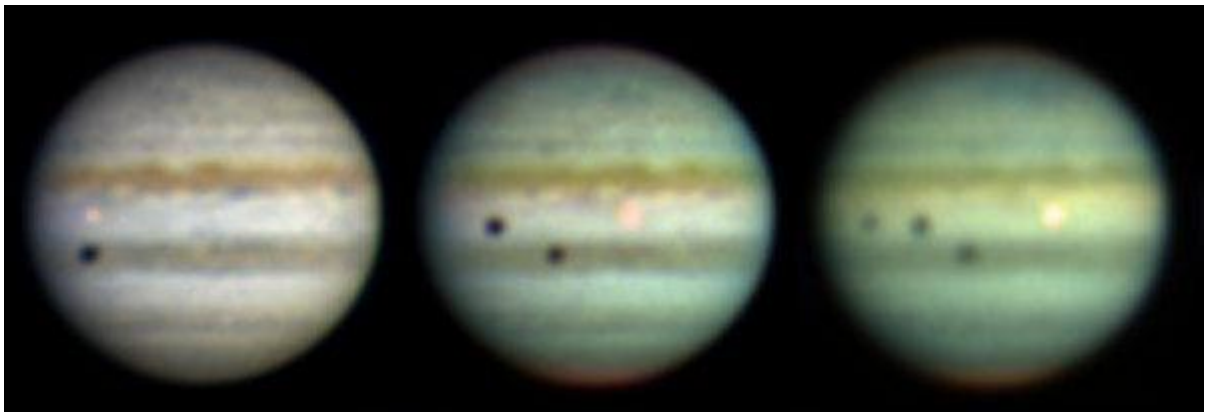
Example:

11 23:52:06 3.Tr.I

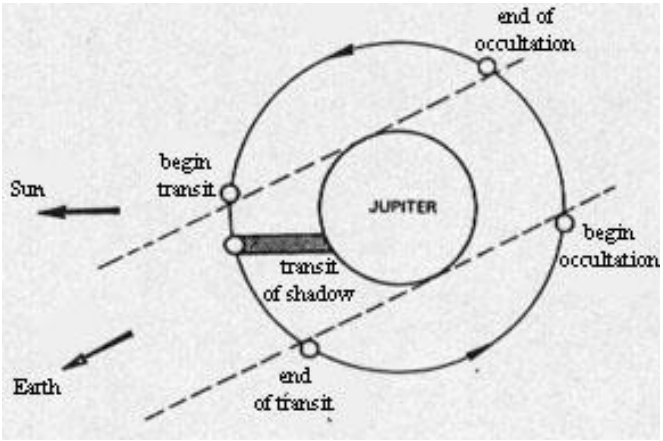
Means that

At 23:52:06 hours on 11 July, Europa will begin transiting across Jupiter’s disc.

Satellites of Jupiter in July 2025									
1	**2**	**3**		**1**	**2**	**3**		**1**	**2**	**3**
11	23:52:06	3.Tr.I		19	23:33:12	2.Oc.R		27	0:03:18	4.Tr.I
13	23:40:36	1.Ec.D		21	23:22:48	1.Tr.I				



Credit : Karkoshka et Murrell, NMSU (tel. de 60cm). Shadows of the Galilean satellites Io, Callisto and Ganymede on 10 November 1987 on Jupiter. (Picture courtesy: https://promenade.imcce.fr/en/pages3/365.html)



Transits of shadow occur when the shadow of a satellite passes over the apparent disc of Jupiter. (Picture courtesy: https://promenade.imcce.fr/en/pages3/365.html)

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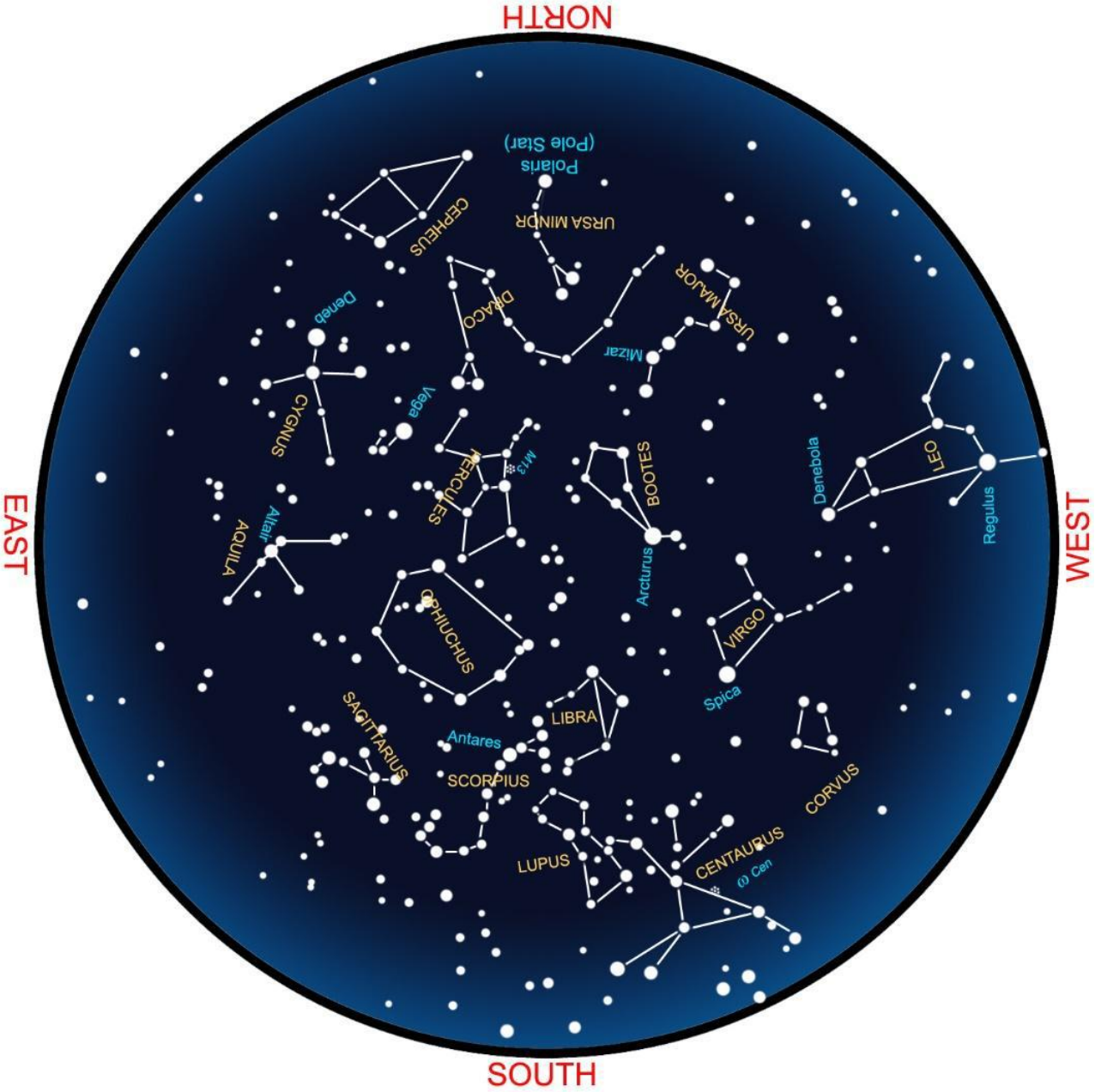
This sky map for July is drawn for mid-northern latitudes, to be used around 9:30 p.m. local time



For notes on stargazing click here.
Or visit https://skytonight.wordpress.com/monthly-sky-notes-and-links/

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