SkyNews Astronomical events for Indian observers

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Sun, Planets and Transitions

The Sun will be in Ophiuchus, the Serpent Bearer (*Sarpadhar*), on 1 December; its angular diameter will be 32'26". It will move to Sagittarius, the Archer (*Dhanu*) on 19 December.

The December solstice will be on the 21st at 20:33 hours IST. At this hour, the Sun will be at its southernmost declination.

Mercury will be in Libra, the Scales (*Tula*), on 1 December. Now in prograde motion, it crosses over to Scorpio, the Scorpion (Vrushchika) on the 14th, then to Ophiuchus on the 18th, and finally to Sagittarius on the 30th.

Mercury makes a glorious appearance in the predawn sky. On 8 December, it reaches its maximum western elongation of 21° west. On 18 December, the Moon (4% illuminated) passes south of Mercury.

Ephemeris of Mercury:

Date	Alt*	Diam"	Mag	El°
01 Dec	+12°06'	7.96	0.1	18.4 W
10 Dec	+12°59'	6.34	-0.5	20.6 W
20 Dec	+08°24'	5.40	-0.5	17.5 W
30 Dec	+02°31'	4.93	-0.5	12.9 W

Venus will be lost in the glare of the Sun in December 2025. It will be in superior conjunction on 6 January next year. For the record, it will be in Libra on 1 December. It crosses over to Scorpio on 3 December. It then moves to Ophiuchus on 7 December and then to Sagittarius on 22 December.

Ephemeris of Venus:

Date	Alt*	Diam"	Mag	El°
01 Dec	+02°42'	9.92	-3.9	8.9 W

* Too close to the Sun

List of Events in December 2025 (Time in IST)

Dt	Dy	Time	Event
04	Th	06:30	Uranus 5.0° S of Moon
04	Th	08:24	Moon-Pleiades: 0.8° S
04	Th	16:36	Moon Perigee: 357000 km
05	Fr	04:44	Full Moon
06	Sa	03:21	Moon north declination: 28.3° N
07	Su	21:18	Moon-Jupiter: 3.7° S
07	Su	21:51	Moon-Pollux: 2.9° N
08	Mo	02:29	Mercury elongation: 20.7° W
08	Mo	02:30	Venus 5.0° N of Antares
08	Mo	19:53	Moon-Beehive: 1.5° S
10	We	12:02	Moon-Regulus: 0.8° S
10	We	05:47	Neptune stationary (in RA)
11	Th	13:04	Moon descending node
12	Fr	02:22	Last quarter
14	Su	12:51	Geminid shower: ZHR = 120
14	Su	21:57	Moon-Spica: 1.5° N
17	We	11:39	Moon apogee: 406300 km
18	Th	02:11	Jupiter-Pollux: 6.5° S
18	Th	18:34	Antares 0.4° N of Moon
19	Fr	19:37	Mercury-Antares: 5.5° N
20	Sa	04:48	Moon south declination: 28.2° S
20	Sa	07:13	New Moon
21	Su	20:33	Winter (December) solstice
22	Mo	21:30	Ursid shower: ZHR = 10
26	Fr	03:33	Moon ascending node
27	Sa	08:54	Moon-Saturn: 4.2° S
28	Su	00:40	First quarter
31	We	18:51	Moon-Pleiades: 0.9° S

Venus will reappear above the western horizon at dusk by mid-February 2026.

Mars is in Ophiuchus on 1 December. It moves to Sagittarius on 11 December.

Ephemeris of Mars:

Date	Alt*	Diam"	Mag	El°
01 Dec	+01°41'	3.86	1.3	10.1 E
10 Dec	+00°23'	3.86	1.3	7.7 E

* Too close to the Sun

Jupiter remains in Gemini, the Twins (*Mithuna*), in December. It is now in retrograde motion.

Ephemeris of Jupiter:

Date	Alt*	Diam"	Mag	El°
01 Dec	+51° 04'	44.13	-2.5	134.6 W
10 Dec	+42° 12'	45.04	-2.6	144.4 W
20 Dec	+32° 10'	45.83	-2.6	155.6 W
30 Dec	+22° 04'	46.34	-2.7	167.0 W

Saturn is in Aquarius, the Water Bearer (*Kumbha*). It continues its retrograde motion, that is, it moves from east to west with respect to the stars.

You can see this from Saturn's elongations given below, which are decreasing continuously.

Ephemeris of Saturn:

Date	Alt*	Diam"	Ring#	Mag	El°
01 Dec	+60° 57'	17.95	40.7	1.0	105.6 E
10 Dec	+65° 20'	17.67	40.1	1.1	96.6 E
20 Dec	+67° 13'	17.37	39.4	1.1	86.7 E
30 Dec	+65° 29'	17.07	38.7	1.1	77.0 E

Angular diameter of the major axis of ring.

***** Altitudes of a planet are given for the beginning of civil twilight if the planet is to the west of the Sun, or for the end of civil twilight if the planet is to the east of the Sun.

(*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

The month begins with an 85 per cent illuminated lunar disk well above the eastern horizon at sunset.

On 3 December, the Moon is to the west of the Pleiades. The next day, it can be seen east of the Pleiades.

On 5 December, it will be less than one degree north of Elnath (β Tau, *Agni*), a 1.7 magnitude star.
The Moon will be in the Gateway of Heaven on 7 December, along with Jupiter to its north. (See the list of events involving the moons of Jupiter).

On 10 December, the Moon will be almost overhead at dawn and nearly due west of Regulus (*Magha*).

At dawn on 14 December, the Moon will be due west of Spica (*Chitra*). Both of them will be nearly halfway between zenith and horizon. Then on the next day, the Moon will be east of Spica.

On 18 December, Mercury, the Moon, and Antares (*Jyeshtha*) can be seen together, forming a nice equilateral triangle. The Moon will be a thin crescent with just about four per cent of its surface shining with sunlight. The other part of the Moon, illuminated by the sunlight reflected by the Earth, can also be made out. The trio rise about 1.5 hours before the Sun.

The Moon then reappears above the western horizon on 22 December as a thin crescent. Between 26 and 27 December, it passes north of Saturn.

In the early hours of the night of 31 December, the Moon will occult quite a few stars of the Pleiades cluster. Unfortunately, for most of the observers in India, the sky will not be dark enough to observe these events.

Geminid Meteor Shower

Geminids are the most reliable meteor shower of the year and are very suitable for observers in India. This shower is known for its bright meteors and fireballs.

The shower is active from December 4 to 17, peaking around mid-December. Around this time the radiant of the shower is well above the horizon by 10 pm and sets well after daybreak, giving us nearly eight hours of observing time.

Conditions for observing the shower are pretty favourable this year.

According to the International Meteor Organisation's prediction, the shower this year is expected to peak on 14 December at about 1:30 pm (Indian Standard Time). The Moon will rise nearly seven hours after the rise of the radiant.

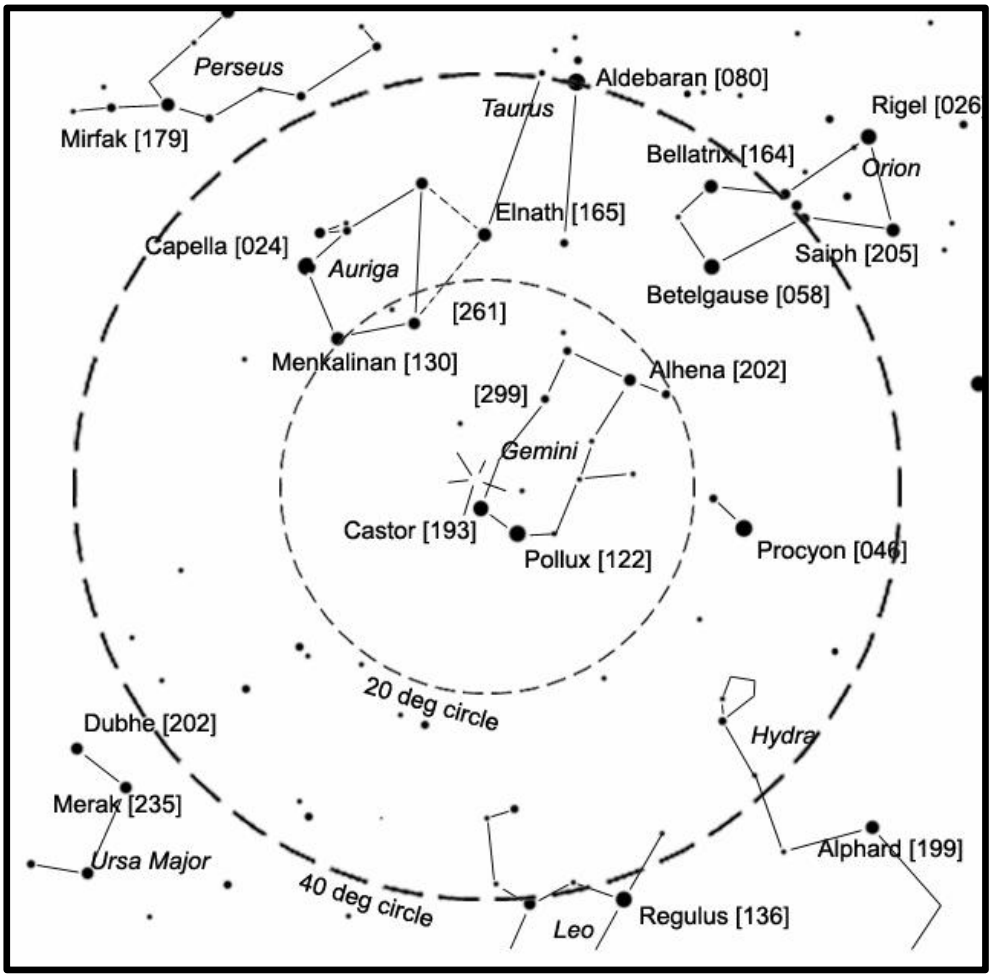
The zenithal hourly rate (ZHR) is expected to be between 120 and 150, corresponding to about 1 meteor every 24 to 30 seconds.

However, this shower shows a 'clumping' effect: the sky remains silent for four to five minutes, and then there is a sudden burst of four or five meteors within one minute.

Follow these basic rules to enjoy the shower. Firstly, take a good rest before starting your observations. Secondly, these are winter days, so cover yourself adequately, and wear warm clothes. Thirdly, find a place where you do not face direct light. During the observation, gaze in any direction between 20 and 40 degrees from the radiant. (See the diagram below.) If you are in a group, then note that no one should shout when a meteor is seen. This will distract the others.

For further details about how to observe the shower, and for the dos and don'ts, please visit: https://skytonight.wordpress.com/2015/12/09/geminids/ .

The numbers in [square brackets] are the magnitudes of the stars; Mirfak [179] means that Mirfak is a 1.79 magnitude star.



Events Involving the Moons of Jupiter

In the table below, we list the events visible 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 = Europa; 3 = Ganymede; and 4 = Callisto.

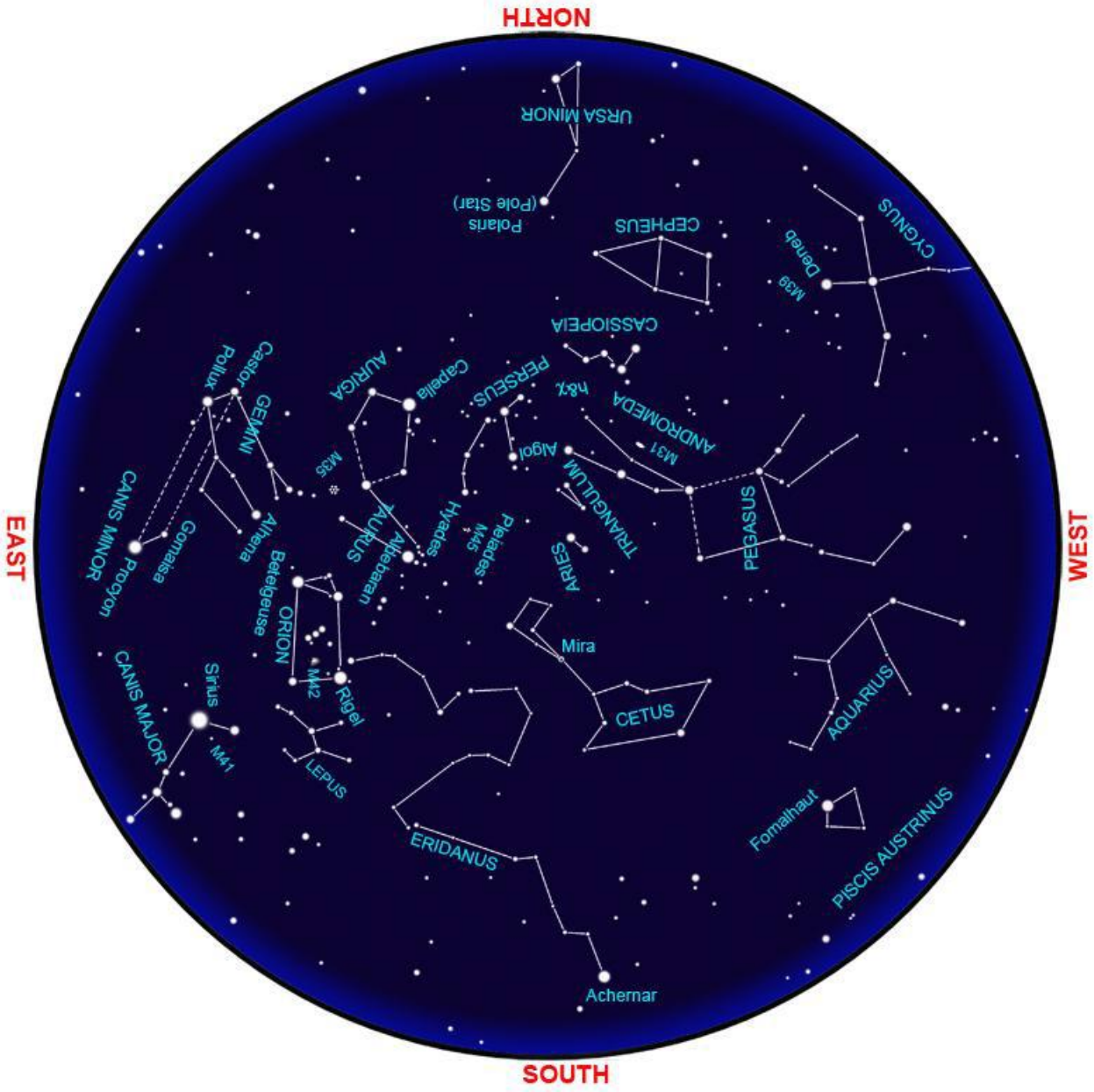
Event type: Ec = eclipse; Oc = occultation; Tr = transit; and Sh = shadow transit.

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

Satellites of Jupiter in December 2025

1	2	3	1	2	3	1	2	3	1	2	3
01	21:52:18	1.Sh.I	09	21:57:18	3.Tr.E	17	22:58:12	1.Tr.E	25	04:54:24	2.Sh.I
01	22:45:30	1.Tr.I	10	00:06:18	1.Oc.R	18	02:18:12	2.Sh.I	25	05:44:00	2.Tr.I
02	00:07:36	1.Sh.E	10	20:29:42	1.Sh.E	18	03:27:54	2.Tr.I	25	19:20:42	1.Ec.D
02	01:01:18	1.Tr.E	10	21:13:24	1.Tr.E	18	05:08:48	2.Sh.E	25	22:01:42	1.Oc.R
02	02:07:48	2.Ec.D	10	23:42:06	2.Sh.I	18	20:17:30	1.Oc.R	26	18:45:48	1.Sh.E
02	22:20:30	1.Oc.R	11	01:10:18	2.Tr.I	19	20:33:00	2.Ec.D	26	19:08:18	1.Tr.E
03	21:06:00	2.Sh.I	11	02:32:24	2.Sh.E	20	00:26:54	2.Oc.R	26	23:07:30	2.Ec.D
03	22:50:48	2.Tr.I	11	04:01:24	2.Tr.E	21	19:27:36	2.Tr.E	27	02:41:30	2.Oc.R
03	23:56:00	2.Sh.E	12	22:11:06	2.Oc.R	23	03:32:48	1.Sh.I	28	18:51:54	2.Tr.I
04	01:41:54	2.Tr.E	13	05:29:30	3.Ec.D	23	04:00:06	1.Tr.I	28	21:03:36	2.Sh.E
06	01:30:18	3.Ec.D	15	04:29:18	1.Ec.D	23	05:48:54	1.Sh.E	28	21:43:00	2.Tr.E
06	04:44:06	3.Ec.R	16	01:39:12	1.Sh.I	23	23:35:24	3.Sh.I	30	05:26:36	1.Sh.I
06	04:49:00	3.Oc.D	16	02:15:54	1.Tr.I	24	00:52:06	1.Ec.D	30	05:43:42	1.Tr.I
07	05:17:24	1.Sh.I	16	03:55:00	1.Sh.E	24	01:20:00	3.Tr.I	31	02:46:24	1.Ec.D
08	00:31:06	4.Sh.I	16	04:32:06	1.Tr.E	24	02:50:12	3.Sh.E	31	03:33:42	3.Sh.I
08	02:35:12	1.Ec.D	16	19:37:30	3.Sh.I	24	03:35:36	1.Oc.R	31	04:36:30	3.Tr.I
08	04:09:36	4.Sh.E	16	22:01:24	3.Tr.I	24	04:37:54	3.Tr.E	31	05:19:30	1.Oc.R
08	05:40:00	1.Oc.R	16	22:51:06	3.Sh.E	24	22:01:12	1.Sh.I	31	23:55:06	1.Sh.I
08	23:45:42	1.Sh.I	16	22:57:48	1.Ec.D	24	22:17:36	4.Sh.E	01*	00:09:36	1.Tr.I
09	00:31:06	1.Tr.I	17	01:19:18	3.Tr.E	24	22:22:30	4.Tr.I	01*	02:11:24	1.Sh.E
09	02:01:12	1.Sh.E	17	01:51:18	1.Oc.R	24	22:26:00	1.Tr.I	01*	02:26:00	1.Tr.E
09	02:47:06	1.Tr.E	17	20:07:30	1.Sh.I	25	00:17:24	1.Sh.E			
09	04:41:48	2.Ec.D	17	20:42:00	1.Tr.I	25	00:42:24	1.Tr.E			
09	21:03:42	1.Ec.D	17	22:23:30	1.Sh.E	25	02:19:24	4.Tr.E	* Night of 31 Dec / 1 Jan		

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



For the latest updates, please visit https://skytonight.wordpress.com/monthly-sky-notes-and-links/