

PRESS RELEASE JUNE 2025





ASTRONOMICAL DIARY

PREPARED BY ASTRONOMICAL PUBLICATION AND PLANETARIUM UNIT, SPACE SCIENCE AND ASTRONOMY SECTION

ASTRONOMICAL EVENTS, JUNE 2025

DATE	EVENT	TIME
01	Venus at greatest elongation west	11:29 a.m.
01	Conjunction of the Moon and Mars	05:49 p.m.
01	Close approach of the Moon and Mars	06:52 p.m.
02	Venus at dichotomy	05:31 a.m.
07	Daytime Arietid meteor shower (ZHR = 50)	---
07	Moon at Apogee (Distance = 405,500.897 km)	06:44 p.m.
19	Close approach of the Moon and Saturn	09:11 a.m.
19	Conjunction of the Moon and Saturn	11:58 a.m.
21	June solstice	10:42 a.m.
22	Conjunction of the Moon and Venus	04:35 p.m.
23	Moon at Perigee (Distance = 363,256.274 km)	12:44 p.m.
26	Conjunction of the Moon and Mercury	02:02 p.m.
27	June Boötid meteor shower (ZHR = var)	---
28	Venus at highest altitude in morning sky	---
29	Mercury at dichotomy	05:25 a.m.
30	Conjunction of the Waxing Crescent Moon and Mars	09:05 a.m.
30	Close approach of the Waxing Crescent Moon and Mars	09:16 a.m.
30	International Asteroid Day	---

PHASES OF THE MOON

	First Quarter Jun 03 11:41 a.m.
	Full Moon Jun 11 03:44 p.m.
	Last Quarter Jun 19 03:19 a.m.
	New Moon Jun 25 06:32 p.m.

RISE AND SET TIMES OF PLANETS

DATE	MERCURY		VENUS		MARS		JUPITER		SATURN	
	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
Jun 01	05:34 am	06:34 pm	02:42 am	03:03 pm	10:33 am	11:11 pm	06:40 am	07:35 pm	01:23 am	01:22 pm
Jun 11	06:24 am	07:29 pm	02:38 am	03:05 pm	10:17 am	10:50 pm	06:11 am	07:06 pm	12:45 am	12:45 pm
Jun 21	07:05 am	08:03 pm	02:35 am	03:10 pm	10:01 am	10:30 pm	05:41 am	06:36 pm	12:08 am	12:08 pm
Jun 30	07:24 am	08:13 pm	02:36 am	03:16 pm	09:47 am	10:11 pm	05:15 am	06:10 pm	11:29 pm	11:33 am*



INTERNATIONAL ASTEROID DAY ASTRONOMY EVENT OF THE MONTH

International Asteroid Day, observed every June 30th of each year, is a global campaign to increase awareness of the possible risks of asteroid impacts and to support efforts to identify, monitor, and deflect asteroids that could endanger Earth. This day, declared on December 6, 2016 by the United Nations General Assembly (UNGA), through resolution A/71/492, is conducted to commemorate the anniversary of the Tunguska asteroid event over Siberia, which was the largest asteroid impact on Earth in recorded history.

Image credit: ESA/Pierre Carril

Notes:

[1] All times displayed are in Philippine Standard Time (PhST);

[2] *following day

"tracking the sky...helping the country"

Science Garden Compound, Senator Miriam P. Defensor-Santiago Avenue
Brgy. Central, Quezon City, Metro Manila, Philippines

Telephone Number: 8-284-0800 loc 3015, 3016, 3017

Website: <https://bagong.pagasa.dost.gov.ph>

Stars and Constellations

June is the best time to observe the enchanting constellations of **Ursa Minor** and **Boötes** in the northern sky and **Lupus**, **Libra**, and **Circinus** in the south. The prominent constellations are positioned directly overhead at 09:00 p.m. on 15 June 2025 as shown in Figure 1. [1]

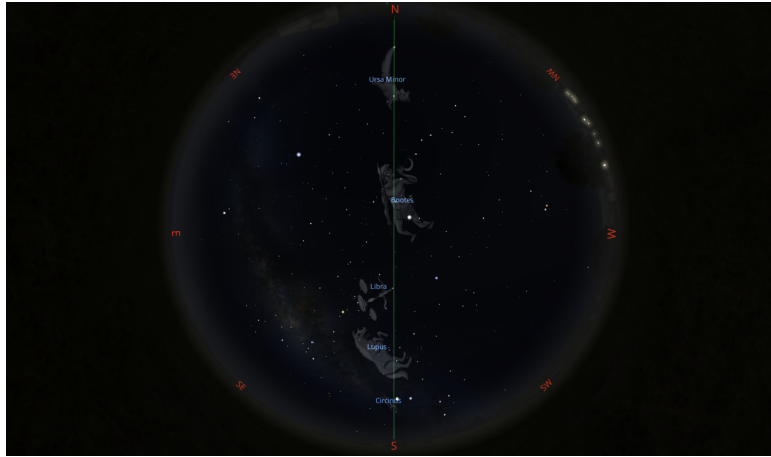


Figure 1: The view of the night sky featuring the prominent June constellations at 09:00 p.m. on 15 June 2025 using the Stellarium software.

Ursa Minor, the Little Bear, is among the most identifiable constellations in the northern hemisphere. Its most distinctive feature is the Little Dipper asterism, with the tip of its handle marked by the North Star, Polaris, a triple star system consisting of a yellow supergiant and two smaller companions. Polaris, or Alpha Ursae Minoris, is the brightest star in the constellation and serves as a reliable navigation star in the Northern Hemisphere because of its comparatively fixed position near the North Celestial Pole. Other noteworthy stars in Ursa Minor are Kochab and Pherkad, referred to as the “guardians of the pole star”, which were formerly the pole stars due to the precession of Earth’s rotational axis. Despite being a relatively small and faint constellation, Ursa Minor contains several fascinating deep-sky objects. Included in the list are the Ursa Minor Dwarf, a dwarf spheroidal galaxy; NGC 6217 [Figure 2a], a starburst galaxy; and NGC 6251, an active supergiant elliptical radio galaxy. [2,3]

Known as the Herdsman, **Boötes** is a large northern constellation, ranking 13th in the sky in terms of size. It is renowned for hosting Arcturus, the fourth brightest star in the sky and the brightest in the north. This orange giant, located approximately 36.7 light years away from Earth, having an apparent magnitude of -0.05, marks the left foot of the Herdsman. Aside from its famous bright star, the constellation also boasts a number of noteworthy deep-sky treasures. These include the Boötes Dwarf Galaxy, a dwarf spheroidal galaxy, which is a satellite of the Milky Way, and the Boötes Void, a vast, nearly empty region of space that spans 250 million light years. NGC 5466, NGC 5676 [Figure 2b], and NGC 5248 [Figure 2c] are also situated in the constellation Boötes. [2,4]

Libra, Latin for scales, is a relatively faint zodiac constellation that is frequently linked to equality and justice. Its brightest star, Zubeneshamali (Beta Librae), shining at magnitude 2.61, is a blue dwarf around 185 light-years distant from Earth. The next brightest, Zubenelgenubi (Alpha Librae), with a visual magnitude of 2.75, is a binary star system located about 77 light-years away. These two stars symbolize the beam of the scales, while the weighing pans are represented by the two stars, Zubenelhakrabi (Gamma Librae) and Brachium (Sigma Librae). Even though Libra does not contain many distinguished deep-sky objects, astronomers are nevertheless interested in it. The constellation hosts the globular cluster NGC 5897, the unbarred lenticular galaxy NGC 5890, and the barred galaxies NGC 5792 and NGC 5885 [Figure 3a]. [2,5]

While not as famous or as bright as the other constellations, **Lupus** offers astronomers a wealth of stars and deep-sky attractions to explore. Its brightest star, Alpha Lupi (or Men or Kakkab), a blue giant star with an apparent magnitude of 2.30 and located around 460 light years from Earth, is among the nearest prospects for a supernova. The remnant of the supernova, SN 1006 [Figure 3b], the brightest star explosion recorded in history, can be found in Lupus. Other interesting deep-sky objects in Lupus are the globular clusters NGC 5927 and NGC 5824; planetary nebulae NGC 5882 and Retina Nebula (IC 4406) [Figure 3c]; and open clusters NGC 5822 and NGC 5749. [2,6]

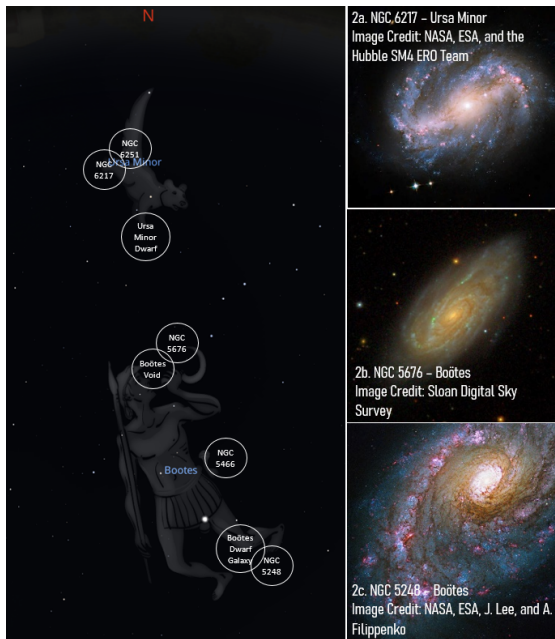


Figure 2: The Northern Constellations



Figure 3: The Southern Constellations

Planetary Location

Mars remains an evening object, displaying its presence for the entire night until it dives into the western horizon before midnight. **Venus** and **Saturn** are observable in the early morning as they rise in the eastern sky. Venus will be at its greatest separation from the Sun, referred to as the greatest western elongation, on 01 June at 11:29 a.m. The following day at 05:31 a.m., Venus will undergo dichotomy, or be in its half-phase. It will be at its highest point in the morning sky on 28 June. **Jupiter** can be seen sitting low on the western horizon until it is challenging to view due to the glare of the Sun. **Mercury** will not be readily available at the beginning of the month, but can be spotted towards the middle until the end of June above the western horizon. On 29 June at 05:25 a.m., Mercury will also undergo dichotomy. [1,7,8,9,10,11,12]

The 5-day-old **Moon** and **Mars** will be in conjunction on 01 June at 05:49 p.m., separated by $1^{\circ}23'$. It will be followed by the two making a close approach, also referred to as appulse, passing within $1^{\circ}16'$ of each other, about an hour later. Both objects lie behind the background stars of the constellation Leo. The exact timing of their close approach can be observed in the night sky as shown in Figure 4; however, their conjunction will not be visible due to the Sun's presence. [7,13,14]

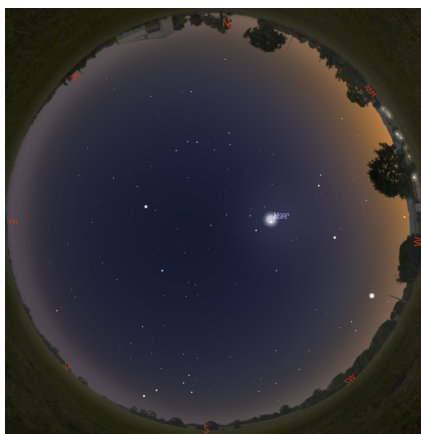


Figure 4: The view of the night sky showing the appulse of the 5-day-old Moon and Mars on 01 June at 06:52 p.m. using Stellarium.

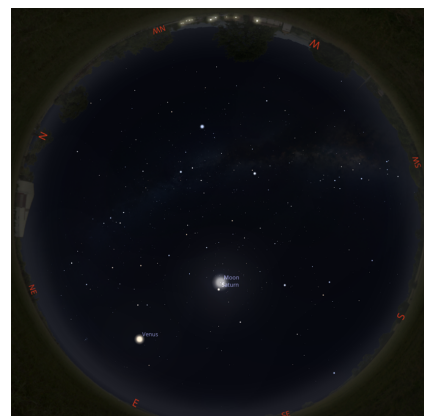


Figure 5: The view of the night sky showing the close pairing of the Moon and Saturn on 19 June at 04:00 a.m. using Stellarium.

The **Moon** and **Saturn** will be in close proximity on 19 June at 09:11 a.m., passing within $2^{\circ}58'$ of each other. On the same day, at 11:58 a.m., they will be in conjunction, with the Moon passing $3^{\circ}23'$ to the north of Saturn. The exact timing of these events will not be visible due to the brightness of the Sun, but their close pairing will be observable from 04:00 a.m. until they get lost in the glare of the Sun, with the Moon shining at magnitude -11.8 while Saturn is at magnitude 0.8. [Figure 5]. [7,15,16]

The **Moon** and **Venus** will share the same right ascension on 22 June at 04:35 p.m., with the Moon passing 7°10' to the north of Venus. Both objects are located in the constellation Aries, with the Moon shining brightly at magnitude -10.5, while Venus is at magnitude -4.2. The two objects are already below the horizon at the exact timing of their conjunction, however, the pair can be seen above the eastern horizon from 04:00 a.m. the same day until they disappear in the Sun's brightness [Figure 6]. On the other hand, the **Moon** and **Mercury**, lying behind the background stars of the constellation Cancer, will also share the same right ascension on 27 June, at 02:02 p.m., separated by 2°51'. Their conjunction, occurring during daytime, will not be observable, but their close pairing can be viewed at 07:00 p.m. until they sink in the western sky [Figure 7]. [7,17,18]



Figure 6: The view of the eastern sky showing the pairing of the Moon and Venus on 22 June at 04:00 a.m. using Stellarium.



Figure 7: The view of the northwestern sky showing the close pairing of the Moon and Mercury on 27 June at 07:00 p.m. using Stellarium.

The **Moon** and **Venus**, shining brightly at magnitudes -10.7 and -4.4, respectively, will make a close approach, passing within 3°32' of each other on 24 May, at 04:38 a.m. It will be followed by the Moon passing 3°59' to the north of Venus at 07:51 a.m. Their close approach can be seen on the eastern horizon as shown in Figure 7, however, their conjunction, occurring during daytime, will not be observable. [17,18]

On 30 June at 09:05 a.m., the **Waxing Crescent Moon** will pass 12' to the north of **Mars**, as the two will, once again, be in conjunction. At about the same moment, these objects will approach closely, passing within 11.1' of each other. The exact occurrence of these events will not be visible as the Moon and Mars are still below the horizon; however, their close pairing can be seen from 07:30 p.m. until they set on the western horizon [Figure 8]. [7,19,20]

All the conjunctions and near approaches mentioned between the planet and the moon, or planet to planet, will be visible enough to fit within the field of view of a telescope and can also be viewed with the naked eye or using a pair of binoculars.



Figure 8: The view of the western sky showing the close pairing of the Waxing Crescent Moon and Mars on 30 June at 07:30 p.m. using Stellarium.

June Solstice

The **June Solstice**, also referred to as the **Summer Solstice**, will be on 21 June at 10:42 a.m. On this day, the Sun, in the constellation Cancer, will reach its northernmost point in the sky at a declination of 23.5°N. During the June Solstice, the northern hemisphere will experience the longest day, and this day also marks its first day of summer. Consequently, this day marks the first day of winter in the southern hemisphere, wherein the Sun is above the horizon for a shorter period than any other day of the year. [21]

Meteor Shower

The **Daytime Arietid** meteor shower is active from **14 May to 24 June**, with peak activity occurring on **07 June**. The shower is predicted to generate a nominal rate of roughly 50 meteors per hour at its peak. It becomes visible when its radiant point, the constellation Aries, rises above the eastern horizon at around 03:08 a.m. The constellation Aries culminates around 10:00 a.m. [Figure 9]; thus, Daytime Arietids will most likely produce its spectacular displays shortly before dawn. The meteor shower will reach its peak near the full moon phase, presenting significant interference in meteor shower observation. [22, 23]

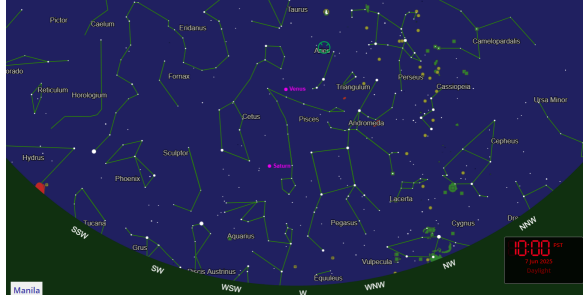


Figure 9: The view of the western sky during the peak of the Daytime Arietid meteor shower on 07 June 2025 at 10:00 a.m. when the shower's radiant is represented by the green solid circle.

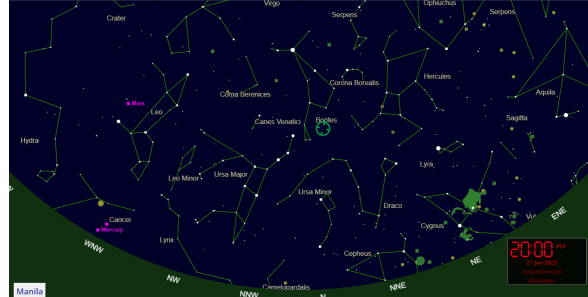


Figure 10: The view of the northern sky during the peak of the June Boötid meteor shower on 27 June 2025 at 08:00 p.m. when the shower's radiant is represented by the green solid circle.

June Boötid is another annual meteor shower observable in June, active from **22 June to 02 July**, with its peak activity on **27 June**. The comet 7P/Pons-Winnecke is the parent body responsible for the meteor showers' occurrence. The view of the meteor shower can be enjoyed once the radiant of the shower, located in the constellation Boötes, is rising above the horizon, from dusk until around 03:39 a.m. The radiant point will be at its highest in the sky around 08:00 p.m., therefore, the shower will be best seen in these hours [Figure 10]. Favorably, the Moon will be close to the new moon phase on the day of the shower's peak, producing minimal interference throughout the night. [24]

Meteor showers are observable through the naked eye, and no special equipment such as telescopes or binoculars is needed. Maximize the viewing experience by choosing a dark observation site away from the city lights under clear and moonless sky conditions.

Calendar of Astronomical Events for June 2025

Table 1 shows a summary of the astronomical events for June 2025. All times displayed are in Philippines Standard Time (PhST).

Table 1: The summary of astronomical events for June 2025

Date	Event	Time
01	Venus at greatest elongation west	11:29 a.m.
01	Conjunction of the Moon and Mars	05:49 p.m.
01	Close approach of the Moon and Mars	06:52 p.m.
02	Venus at dichotomy	05:31 a.m.
07	Daytime Arietid meteor shower (ZHR = 50)	—
07	Moon at Apogee (Distance = 405,500.897 km)	06:44 p.m.
19	Close approach of the Moon and Saturn	09:11 a.m.
19	Conjunction of the Moon and Saturn	11:58 a.m.
21	June solstice	10:42 a.m.
22	Conjunction of the Moon and Venus	04:35 p.m.
23	Moon at Perigee (Distance = 363,256.274 km)	12:44 p.m.
26	Conjunction of the Moon and Mercury	02:02 p.m.
27	June Boötid meteor shower (ZHR = var)	—
28	Venus at highest altitude in morning sky	—
29	Mercury at dichotomy	05:25 a.m.
30	Conjunction of the Waxing Crescent Moon and Mars	09:05 a.m.
30	Close approach of the Waxing Crescent Moon and Mars	09:16 a.m.
30	International Asteroid Day	—

Original Signed:

Ms. SHARON JULIET M. ARRUEJO
OIC, RDTD

21 May 2025

For more information, call or email:

Ms. MA. ROSARIO C. RAMOS
Chief, SSAS-RDTD
PAGASA-DOST
Quezon City
Trunkline: 8284-0800 local 3015, 3016, 3017
Email address: astronomy@pagasa.dost.gov.ph

References

- [1] PAGASA Special Publication No. 840; The Philippine Star Atlas 2019/Stellarium Software
- [2] C. Guide, "Constellations: A Guide to the Night Sky." <https://www.constellation-guide.com/constellations-by-month/june-constellations/>, Last accessed on 2025-05-20, 2025.
- [3] Go Astronomy, "URSA MINOR CONSTELLATION" <https://www.go-astronomy.com/constellations.php?Name=Ursa%20Minor>, Last accessed on 2025-05-20, 2025.
- [4] Go Astronomy, "BOOTES CONSTELLATION" <https://www.go-astronomy.com/constellations.php?Name=Bootes>, Last accessed on 2025-05-20, 2025.
- [5] Go Astronomy, "LIBRA CONSTELLATION" <https://www.go-astronomy.com/constellations.php?Name=Libra>, Last accessed on 2025-05-20, 2025.
- [6] Go Astronomy, "LUPUS CONSTELLATION" <https://www.go-astronomy.com/constellations.php?Name=Lupus>, Last accessed on 2025-05-20, 2025.
- [7] Multi-Interactive Computer Almanac (MICA), Last accessed on 2025-05-20, 2025.
- [8] D. Ford, "In-The-Sky.org Guide to the night sky: "Objects in your sky: Planets" <https://in-the-sky.org/data/planets.php>, Last accessed on 2025-05-20, 2025.
- [9] D. Ford, "In-The-Sky.org Guide to the night sky: "Venus at greatest elongation west" https://in-the-sky.org/news.php?id=20250531_11_102, Last accessed on 2025-05-20, 2025.
- [10] D. Ford, "In-The-Sky.org Guide to the night sky: "Venus at dichotomy" https://in-the-sky.org/news.php?id=20250601_11_100, Last accessed on 2025-05-20, 2025.
- [11] D. Ford, "In-The-Sky.org Guide to the night sky: "Venus at highest altitude in morning sky" https://in-the-sky.org/news.php?id=20250531_11_101, Last accessed on 2025-05-20, 2025.
- [12] D. Ford, "In-The-Sky.org Guide to the night sky: "Mercury at dichotomy" https://in-the-sky.org/news.php?id=20250628_11_100, Last accessed on 2025-05-20, 2025.
- [13] D. Ford, "In-The-Sky.org Guide to the night sky: "Conjunction of the Moon and Mars" https://in-the-sky.org/news.php?id=20250601_20_100, Last accessed on 2025-05-20, 2025.
- [14] D. Ford, "In-The-Sky.org Guide to the night sky: "Close approach of the Moon and Mars" https://in-the-sky.org/news.php?id=20250601_15_100, Last accessed on 2025-05-20, 2025.
- [15] D. Ford, "In-The-Sky.org Guide to the night sky: "Close approach of the Moon and Saturn" https://in-the-sky.org/news.php?id=20250619_15_100, Last accessed on 2025-05-20, 2025.
- [16] D. Ford, "In-The-Sky.org Guide to the night sky: "Conjunction of the Moon and Saturn" https://in-the-sky.org/news.php?id=20250619_20_100, Last accessed on 2025-05-20, 2025.
- [17] D. Ford, "In-The-Sky.org Guide to the night sky: "Conjunction of the Moon and Venus" https://in-the-sky.org/news.php?id=20250622_20_100, Last accessed on 2025-05-20, 2025.
- [18] D. Ford, "In-The-Sky.org Guide to the night sky: "Conjunction of the Moon and Mercury" https://in-the-sky.org/news.php?id=20250627_20_100, Last accessed on 2025-05-20, 2025.
- [19] D. Ford, "In-The-Sky.org Guide to the night sky: "Conjunction of the Moon and Mars" https://in-the-sky.org/news.php?id=20250630_20_100, Last accessed on 2025-05-20, 2025.
- [20] D. Ford, "In-The-Sky.org Guide to the night sky: "Close approach of the Moon and Mars" https://in-the-sky.org/news.php?id=20250630_15_100, Last accessed on 2025-05-20, 2025.
- [21] D. Ford, "In-The-Sky.org Guide to the night sky: "June solstice" https://in-the-sky.org/news.php?id=20250621_07_100, Last accessed on 2025-05-20, 2025.
- [22] D. Ford, "In-The-Sky.org Guide to the night sky: "Daytime Arietid meteor shower 2025" https://in-the-sky.org/news.php?id=20250610_10_100, Last accessed on 2025-05-20, 2025.
- [23] IMO – International Meteor Organization. "List of Meteor Showers for Observation Session" https://www.imo.net/members/imo_showers/working_shower_list, Last accessed on 2025-05-20, 2025.
- [24] D. Ford, "In-The-Sky.org Guide to the night sky: "June Bootid meteor shower 2025" https://in-the-sky.org/news.php?id=20250627_10_100, Last accessed on 2025-05-20, 2025.