DOST PAGASA
The Weather and Climate Authority

PRESS RELEASE APRIL 2025

ASTRONOMICAL DIARY

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

ASTRONOMICAL EVENTS, APRIL 2025

DATE	EVENT	TIME
01-30	Global Astronomy Month	---
03	Close approach of the Moon and Jupiter	07:15 a.m.
03	Conjunction of the Moon and Jupiter	08:23 a.m.
06	Conjunction of the Moon and Mars	03:04 a.m.
06	Close approach of the Moon and Mars	03:59 a.m.
14	Moon at Apogee (Distance = 406,257.448 km)	06:48 a.m.
21	Mercury at highest altitude in morning sky	---
22	Mercury at greatest elongation west	02:49 a.m.
22	Lyrid meteor shower (ZHR = 18)	---
23	π-Puppid meteor shower (ZHR = var)	---
24	Mercury at dichotomy	11:41 p.m.
25	Conjunction of Waning Crescent Moon and Venus	09:21 a.m.
25	Close approach of the Moon and Saturn	10:35 a.m.
25	Close approach of Waning Crescent Moon and Venus	11:19 a.m.
25	Conjunction of the Moon and Saturn	12:23 p.m.
26	Conjunction of the Moon and Mercury	09:04 a.m.
28	Moon at Perigee (Distance = 357,227.990 km)	12:18 a.m.
29	Close approach of Venus, Saturn and Neptune	06:55 a.m.
29	Conjunction of Venus and Saturn	10:00 a.m.

PHASES OF THE MOON

First Quarter
Apr 05 10:15 a.m.

Full Moon
Apr 13 08:22 a.m.

Last Quarter
Apr 21 09:36 a.m.

New Moon
Apr 28 03:31 a.m.

RISE AND SET TIMES OF PLANETS

DATE	MERCURY		VENUS		MARS		JUPITER		SATURN	
	Rise	Set	Rise	Set	Rise	Set	Rise	Set	Rise	Set
Apr 01	05:08 am	05:11 pm	04:49 am	05:03 pm	12:32 pm	01:31 am*	09:49 am	10:42 pm	05:03 am	04:57 pm
Apr 11	04:30 am	04:29 pm	04:06 am	04:14 pm	12:09 pm	01:06 am*	09:17 am	10:10 pm	04:27 am	04:23 pm
Apr 21	04:15 am	04:18 pm	03:36 am	03:41 pm	11:47 am	12:42 am*	08:45 am	09:39 pm	03:52 am	03:48 pm
Apr 30	04:14 am	04:26 pm	03:17 am	03:23 pm	11:30 am	12:21 am*	08:17 am	09:11 pm	03:19 am	03:17 pm

GLOBAL ASTRONOMY MONTH

Astronomy Event of the Month

Global Astronomy Month (GAM), held annually throughout April, is a worldwide celebration of astronomy. GAM is the flagship program of Astronomy without Borders, designed to bring together people from all walks of life to share their passion for the cosmos.

This year, PAGASA celebrates GAM by conducting free Planetarium Shows, Solar Viewing, and Stargazing and Telescope sessions on various days in April. For more information on this event, you may email us at *astronomy@pagasa.dost.gov.ph*

Notes:
*[1] All times displayed are in Philippine Standard Time (PhST); [2] *following day*

Stars and Constellations

April's sky showcases a breathtaking display of celestial wonders from the northern constellations **Ursa Major, Leo**, and **Leo Minor** and the southern constellations **Antlia, Crater, Hydra**, and **Sextans**. The prominent constellations are situated directly overhead at 09:00 p.m. on 15 April 2025 as shown in Figure 1. [1,2]

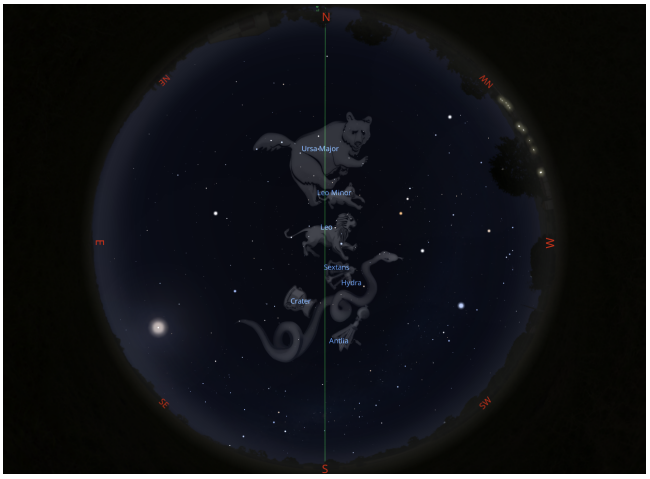

Figure 1: The view of the night sky featuring the prominent April constellations at 09:00 p.m. on 15 April 2025 using the Stellarium software.

Ursa Major, or the Great Bear, is the largest northern constellation and the third in the night sky. It is one of the most renowned constellations due to its iconic feature, the Big Dipper or the Plough asterism. The recognizable seven-star pattern has been used as a celestial navigational aid with its two outer stars, Dubhe and Merak, pointing straight to Polaris, the North Star. Ursa Major stays observable the entire year in the northern hemisphere and never fully disappears beneath the horizon therefore it can be used as a guide from sunset to sunrise. Aside from its notable stars, the constellation also captivates astronomers with several astronomical treasures it hosts. It contains the Pinwheel Galaxy (M101), a face-on spiral galaxy roughly 21 million light-years away from Earth, the Cigar Galaxy (M82), the closest edge-on starburst galaxy to Earth, and Bode's Galaxy (M81), a grand design spiral galaxy. [2,3,4]

Leo, the Lion, is among the constellations of the zodiac that has been a source of human fascination for generations. The constellation contains a large number of stars and deep-sky objects that offer great research opportunities, especially in the areas of galactic dynamics and stellar development. It can be easily identified due to its six bright stars that form the prominent spring asterism, the Sickle, a backward question mark pattern symbolizing the lion's head. At the base of the Sickle is its brightest star, Regulus, representing the heart of the lion, which is among the brightest stars in the sky and one of the stars in a multiple-star system that is approximately 79 light-years away from Earth. Leo hosts some fascinating deep-sky attractions, such as the Leo Triplet, or the M66 Group, a small cluster of galaxies, located about 35 million light-years away, consisting of bright spiral galaxies M65, M66, and NGC 3628. [2,5]

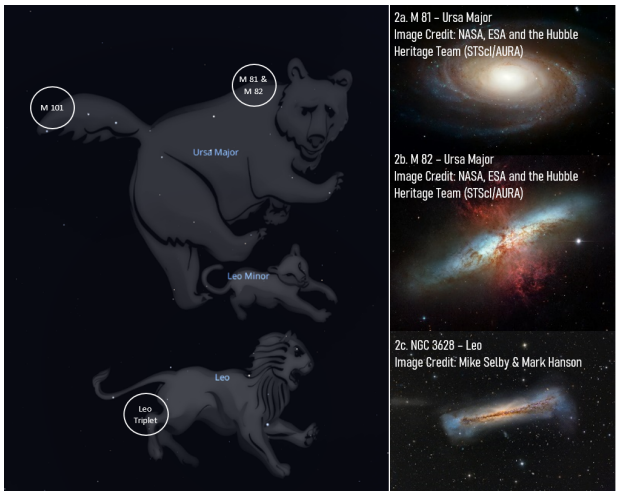

Figure 2: The Northern Constellations

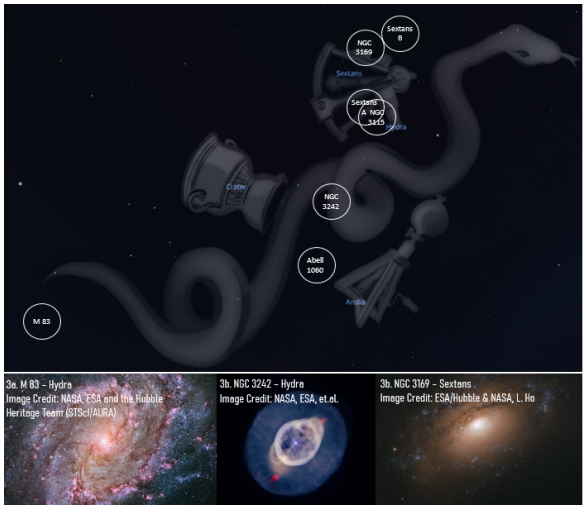

Figure 3: The Southern Constellations

The Water Monster constellation, **Hydra**, is the largest and the longest in the night sky. It encompasses a wide area of the sky, housing a wide array of stars and deep-sky objects that advance our scientific knowledge of the universe. Hydra's brightest star, Alphard, is a giant orange star with an apparent magnitude of 2.0, located around 177 light-years distant from Earth. Numerous deep-sky treasures can be found in Hydra, like, the Southern Wheel Galaxy (M83), one of the most visible barred spiral galaxies from Earth's southern sky, the Hydra Cluster (Abell 1060), one of the closest clusters of galaxies to the Milky Way with 157 luminous galaxies, and the Ghost of Jupiter (NGC 3242), a planetary nebula resembling the planet Jupiter. [2,6]

Despite its modest appearance, the constellation **Sextans** makes a significant contribution to our knowledge of the cosmos. It is challenging to locate the constellation due to its relatively dim stars and lack of recognizable patterns. Its brightest star, Alpha Sextantis, only has an apparent magnitude of 4.49. Though faint, Sextans' distance from the Milky Way's plane makes it home to a wealth of galaxies. Noteworthy objects in Sextans include the Spindle Galaxy (NGC 3115), NGC 3169, and the dwarf irregular galaxies Sextans A and Sextans B. [2,7]

Planetary Location

Jupiter and **Mars** will be readily observable in the night skies of April. **Mercury** and **Saturn** will appear very low on the eastern horizon in the early days of the month but will eventually be visible before dawn as they rise above the horizon by more than 10°. **Venus**, now a "morning planet", can be seen rising in the east, exhibiting its presence, until it gets lost in the glare of the Sun. Venus is at its brightest in its morning apparition on 24 April at 02:02 p.m., shining brightly at mag -4.5. [1,8,9]

On 03 April, at 07:15 a.m., the **Moon** and **Jupiter**, shining brightly at magnitudes -11.3 and -2.1, respectively, will make a close approach, passing within 5°28' of each other. It will be followed by their conjunction separated by 5°30', about an hour later. The exact occurrence of these events will not be observable as the two objects are still below the horizon, but their close pairing can be seen at 06:40 p.m. on the same day [Figure 4]. [8,10,11]

Figure 4: The view of the northwestern sky showing the close pairing of the Moon and Jupiter on 03 April at 06:40 p.m. using Stellarium.

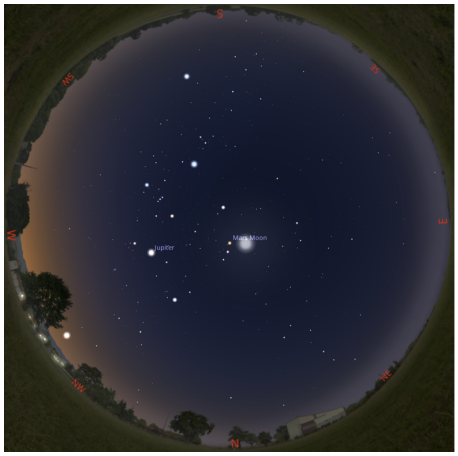

Figure 5: The view of the night sky showing the close pairing of the Moon and Mars on 06 April at 06:40 p.m. using Stellarium.

The 7-day-old **Moon** will pass 2°10' to the north of **Mars** as they will share the same right ascension at 03:04 a.m. on 06 April. The two objects will be in close proximity about an hour later, passing within 2°06' of each other. Both objects are located among the background stars of the constellation Gemini. The two objects are still below the horizon at the exact timing of these events thus the best time to view the pair is at 06:40 p.m. as shown in Figure 5. [8,12,13]

On 21 April, **Mercury** will reach its highest altitude in the morning sky, shining brightly at magnitude 0.3. The planet will reach its greatest elongation or the greatest separation from the Sun by 27.4° in its morning apparition at 02:49 a.m. the following day. It will then undergo *dichotomy*, reaching half phase on 24 April at 11:41 p.m. [8,14,15,16]

The **Waning Crescent Moon** and **Venus** will be in conjunction on 25 April at 09:21 a.m., with the Moon passing 2°23' to the south of Venus. At 11:19 a.m., the two objects will approach closely passing within 2°05' of each other, with the Moon and Venus shining brightly at magnitudes -10.4 and -4.5, respectively. On the same day at 10:35 a.m., the **Moon** and **Saturn** will make a close approach, passing within 2°00' of each other. The conjunction of the two objects follows at 12:23 p.m., separated by 2°17'. These objects lie among the

background stars of the constellation Pisces. The exact timing of these events will not be visible due to the Sun's presence, but the trio can be seen rising on the eastern horizon with the best view at 04:45 a.m. [Figure 6]. [17,18,19,20]

Figure 6: The view of the eastern sky showing the close pairings of the Moon, Venus and Saturn on 25 April at 04:45 a.m. using Stellarium.

Figure 7: The view of the northwestern sky showing the close pairing of the Moon and Mercury on 26 April at 04:55 a.m. using Stellarium.

The next day, at 09:04 a.m., the **Moon** and **Mercury** will share the same right ascension with the Moon passing 4°24' to the north of Mercury. The Moon, lying in the constellation Pisces, will be shining at magnitude -9.5, while Mercury, located in Cetus, will be at magnitude 0.2. The glare of the Sun will hinder the viewing of the event's exact occurrence but the pair can be observed in the eastern horizon at 04:55 a.m. [Figure 7]. [21]

Three planets – **Venus, Saturn**, and **Neptune** – will make a close approach on 29 April at 06:55 a.m., passing within 3°42' of each other. At 10:00 a.m. on the same day, planet **Venus** will pass 3°43' to the north of **Saturn**, as they will be in conjunction. These objects are located in the background stars of Pisces. With the exact events occurring during daytime, the best display of the close pairing of the visible planets will be at 04:00 a.m. [Figure 8]. [22,23]

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 northwestern sky showing the close pairing of Venus and Saturn on 29 April at 04:00 a.m. using Stellarium.

Meteor Shower

The **Lyrid meteor shower** is observable from **16-25 April**, with an expected peak activity predicted to occur on **22 April**. The view of the meteor shower may be observed as soon as the shower's radiant, the constellation Hercules, rises over the eastern horizon around 09:16 p.m. and remains active until dawn breaks. The shower is likely to present its finest views around 4:00 a.m. when the radiant is already at its highest point in the sky [Figure 9]. It is expected to produce up to eighteen (18) visible meteors per hour, at its peak activity. The shower will peak near the new moon phase; thus, moonlight will present minimal interference. [24]

Another meteor shower that can be observed this April is π**-Puppids**. The shower is active from **15-28 April**, peaking on **23 April**. It will be visible each day from sunset until around 10:12 p.m., when its radiant point, the constellation Puppis, is above the horizon. The radiant point is highest in the sky at 05:00 p.m. producing its best display shortly after dusk around 06:40 p.m. as shown in Figure 10. Moonlight will present minimal interference in the meteor observation as the shower peaks near the new moon phase. [25]

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.

Figure 9: The view of the northern sky during the peak of the Lyrid meteor shower on 22 April 2025 at 04:00 a.m. when the shower's radiant is represented by the green solid circle.

Figure 10: The view of the south southwestern sky during the peak of the π-Puppid meteor shower on 23 April 2025 at 06:40 p.m. when the shower's radiant is represented by the green solid circle.

Calendar of Astronomical Events for April 2025

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

Table 1: The summary of astronomical events for April 2025

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18 March 2025

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