Chagrin Valley Astronomical Society

Sky Report April 2026 – by Laz Ilyes

Note: We are currently on EDT which is equivalent to UTC -4.

Comets and Meteor Showers

The "**sungrazing**" **comet** designated **C/2026 A1 MAPS** may still give us a show in early **April 2026**, but it will first have to survive a fiery pass near the **Sun**. This **Kreutz sungrazer** comet discovered on **January 13th, 11.5 weeks prior to perihelion**, continues its very close encounter with the **Sun**.

Kreutz comets (or **Kreutz sungrazers**) are members of a rare group of **comets** characterized by very peculiar orbits that bring them incredibly close to the **Sun's** surface. They are believed to be fragments of a single, giant "parent" **comet** that broke up centuries earlier.

On **March 14th**, comet **C/2026 A1 MAPS** displayed a blue-green coma with a well-condensed nuclear region, as well as a faint, 25 arc-minute tail pointed east-southeast, as seen in the photo below.

Image of **C/2026 A1 MAPS** by – Gerald Rhemann and Michael Jäger

At the time this Sky Report was written, **Comet C/2026 A1 (MAPS)** had already reached a magnitude of **+8.5**. The comet has been estimated to be anywhere from **0.25 to 1.5 miles in diameter**, with a diffuse greenish coma indicative of diatomic carbon (C_2). It was observed in late March, low in the western evening sky (altitude between 10° – 15°) just after sunset. The comet will reach **perihelion on April 4**, disappearing in the Sun's intense glare.

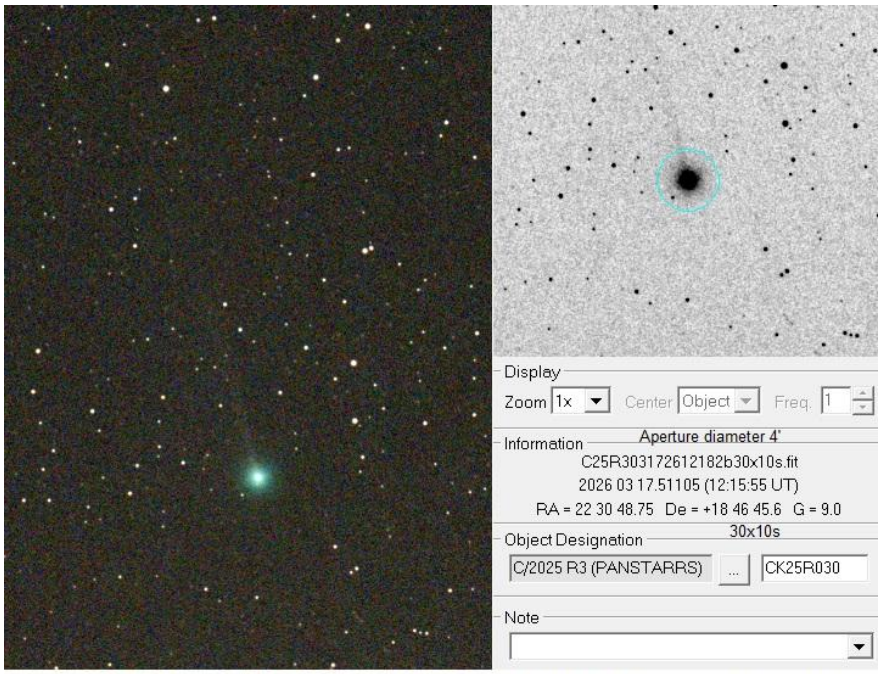
Assuming it survives this close pass, it should then re-emerge on **April 5** with **estimated magnitude** ranging anywhere from **-5.5 to -9.0**. Temper your expectations… the comet will be only **12° from the Sun on April 7**, and then, **only 5° above our NE Ohio western horizon** at sunset, so it will be difficult to spot

even if it does attain its predicted brightness. On **April 9**, it is expected to be about **10° above the horizon at 8:00pm EDT**.

Sky & Telescope published some images approximating the position of the comet with respect to the **Sun** and the west horizon at our approximate latitude. Consider the following images as an example of what we may see on a clear night early this month, should the comet withstand our **Sun's** intense heat.

For an up-to-date ephemeris for **Comet C/2026 A1 (MAPS)**, refer to https://cobs.si/comet/2688/

Comet C/2025 R3 (**PanSTARRS**) is a newly discovered long-period comet expected to brighten significantly in **April 2026**. It reaches perihelion (closest approach to the Sun) around **April 19–20, 2026**, and makes its **closest approach to Earth on April 26–27, 2026**, potentially becoming visible to the naked eye under dark skies.



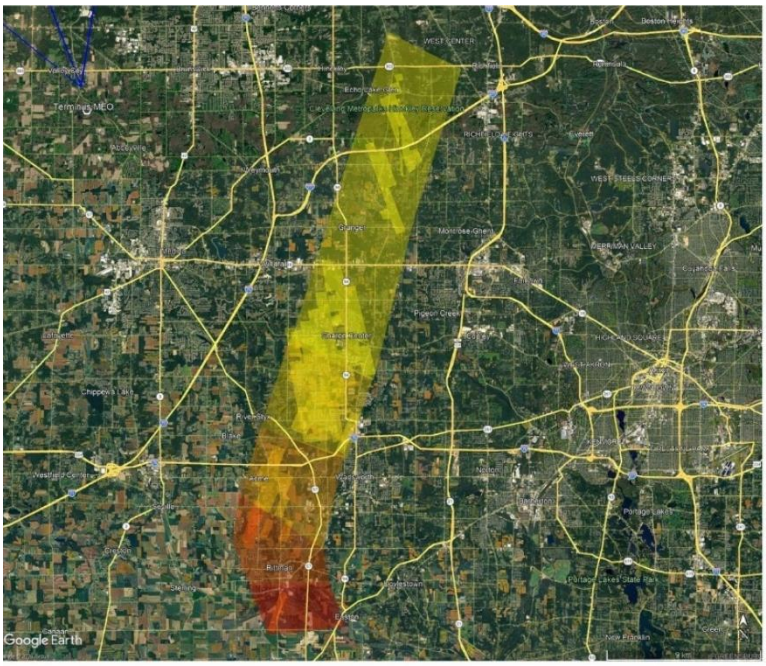
Comet C/2025 R3 (PANSTARRS) magnitude 9.0 coma 4' tail 14' PA 316 degrees FOV 32'x43'
50mm f/5 Refractor IMX462 2.4"/pixel 2026 March 17 1215UT 30x10s Mike Olason, Tucson Arizona

As comet **C/2025 R3** (**PANSTARRS**) gets higher in the morning sky before twilight its tail is now becoming visible. The comet has a tail 1/4 degree long extending from the 4 arc-minute-wide coma. The comet is now magnitude 9.0 as it continues to brighten as it moves closer to the **Sun**.

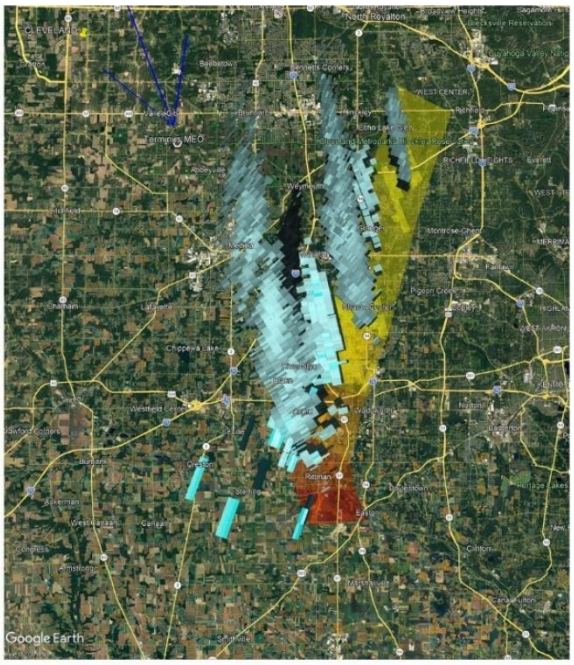
Here in **NE Ohio**, we were surprised **at around 9am EDT** on **March 17** when a **7-ton**, **6ft diameter meteor** roared overhead at a speed of **45,000 mph** (**~ Mach 60**). The resulting sonic boom rattled buildings, and in a few cases shattered windows. The meteor exploded over the city of **Brunswick**, with an equivalent force of 250 tons of TNT, showering the area with meteorite fragments of various sizes.

The **Meteor** Seen in a Frame of Surveillance Camera Video Shot in **Olmstead Falls, OH**

The recovered fragments of this daytime fireball that have been analyzed so far, suggest that it was mostly of stony composition, comprised of achondrite material which represents only about 8% of all recovered meteorites here on Earth. In the image below, meteorite hunter Mike Hankey of Baltimore MD shows off fragments of the asteroid he discovered in **Sharon Center, OH**.



STREWN FIELD
Red shows where ~10kg meteorites would land if this fall produced any.
Dark orange is ~1kg, orange is ~100g, light orange is ~10g, and yellow is ~1g and smaller.

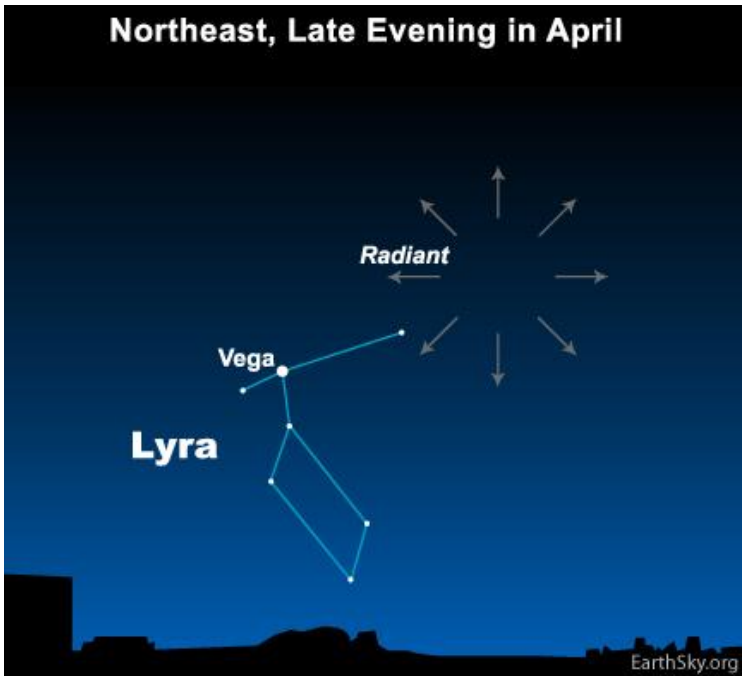


RADAR SUMMARY
Composite image of weather radar signatures of falling meteorites.
View is straight down, total elapsed time is 12 min.

The estimated debris field of meteorite fragments are suggested in the images above. They show the incoming track of the fireball as well as an overlay of weather radar showing signatures of the falling fragments.

If you think you found a meteorite, **do not pick it up with bare hands** to avoid contaminating it with skin oils. Use gloves, aluminum foil, or tongs to pick it up, document the exact location (GPS/photos), and keep it dry, ideally by wrapping it in foil and sealing it in a plastic bag. You may then consult experts, for example a geology department at a local College or University, the Cleveland Museum of Natural History, or the folks at the American Meteor Society.

The next **major meteor shower** in **2026** is the **Lyrid shower** which will peak on the night of **April 21-22, 2026**, producing about **10–18 meteors per hour**, with occasional bright fireballs. This shower is best viewed in the Northern Hemisphere during the pre-dawn hours. The meteors originate from debris left by **Comet Thatcher** (**C/1861 G1**).



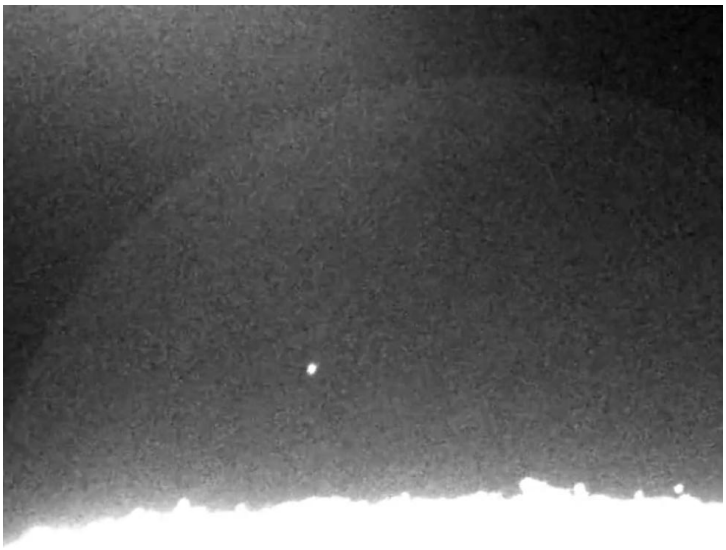
Radiant point of the Lyrid Meteor Shower – by Bruce McClure & Joni Hall EarthSky.org CC by SA 3.0

If you were wondering, the Moon will be in a waxing crescent phase (< 23%) on the night of peak activity. So, if the weather permits, we'll have a nice dark sky for observing, with only minimal interference from the **Moon** until it sets at about **1:30am EDT** on **April 22nd**. By that time, the constellation **Lyra** will be at an **altitude** of **35°** in the eastern sky.

The **Lyrid meteor shower** is one of the oldest known meteor showers. The **Lyrids** have been **observed for 2,700 years**. The first recorded sighting of a **Lyrid** meteor shower goes back to **687 BC** by the **Chinese**.

On an interesting note, amateur astronomers can observe meteorite impacts on the **Moon**, known as **lunar impact flashes**, when small space rocks strike the airless surface, creating short-lived sparks of light (usually lasting a fraction of a second to a few seconds). Observers typically use **telescopes with 8-inch apertures or larger** equipped with **high-sensitivity video cameras**, often recording for hours to capture a single, momentary flash.

Japanese astronomer **Daichi Fujii** has successfully captured several impacts, including a large flash on February 23, 2023, near the Ideler L and Pitiscus craters.



These impacts, often occurring at over **38,000 mph**, are best spotted on the **Moon's unlit side** during a **crescent phase** (or an eclipse) during meteor showers when both **Earth** and the **Moon** pass through dense trails of debris.

Moon 

April 2026						
Sunday	Monday	Tuesday	Wednesday	Thursday	Friday	Saturday
			1 Full Moon 10:13 P.M. 14 days	2 Waning gibbous 99.6% 15 days	3 Waning gibbous 97.5% 16 days	4 Waning gibbous 93.5% 17 days
5 Waning gibbous 88.0% 18 days	6 Waning gibbous 81.2% 19 days	7 Waning gibbous 73.3% 20 days	8 Waning gibbous 64.5% 21 days	9 Waning gibbous 55.2% 22 days	10 Last Quarter 12:55 A.M. 23 days	11 Waning crescent 35.9% 24 days
12 Waning crescent 26.5% 25 days	13 Waning crescent 17.8% 26 days	14 Waning crescent 10.3% 27 days	15 Waning crescent 4.5% 28 days	16 Waning crescent 1.0% 29 days	17 New Moon 7:54 A.M. 0 days	18 Waxing crescent 2.0% 1 day
19 Waxing crescent 6.8% 2 days	20 Waxing crescent 14.1% 3 days	21 Waxing crescent 23.4% 4 days	22 Waxing crescent 33.9% 5 days	23 First Quarter 10:33 P.M. 6 days	24 Waxing gibbous 56.1% 7 days	25 Waxing gibbous 66.7% 8 days
26 Waxing gibbous 76.2% 9 days	27 Waxing gibbous 84.5% 10 days	28 Waxing gibbous 91.1% 11 days	29 Waxing gibbous 96.0% 12 days	30 Waxing gibbous 99.0% 13 days		

Moon Visualization:

Almanac.com/Astronomy

Daily Moon Guide | Observe – Moon: NASA Science

Moon Atlas

Occultations and Conjunctions:

There will be a **lunar occultation** of a **principal star**, visible from NE Ohio this month!

On **Saturday, April 25, 2026** we will be able to observe a lunar occultation of the star **Regulus** (**α Leonis**). This event will be visible in NE Ohio, beginning with the disappearance of **Regulus** behind the **Moon** at **twilight** at **20:30 EDT**. Its reappearance from behind the **Moon** will be visible at **21:15 EDT**, at an **altitude of 60°**.

On **Wednesday, 22 Apr 2026**, here in **NE Ohio**, **Jupiter and the Moon** will make a **close approach**, passing within **3°29' of each other**. The **Moon** will be 5 days old. From **NE Ohio**, the pair will become visible at around **20:32 EDT, 59°** above our **south-western horizon**, as dusk fades to darkness. They will then continue westward, toward the horizon, **setting at 02:09 EDT**.

Lunar Features:

We again consider some of the more interesting lunar features. You can look these up by name and explore the surrounding terrain using the **Moon** atlas compiled from the images taken by **NASA's Lunar Reconnaissance Orbiter Camera** (**LROC**) at the link: Moon Atlas

In this issue, we look at a few of the features on the **Moon's** surface along its **eastern limb**. These are the features that you will see when the Moon is in its waxing crescent phase, as shown below:

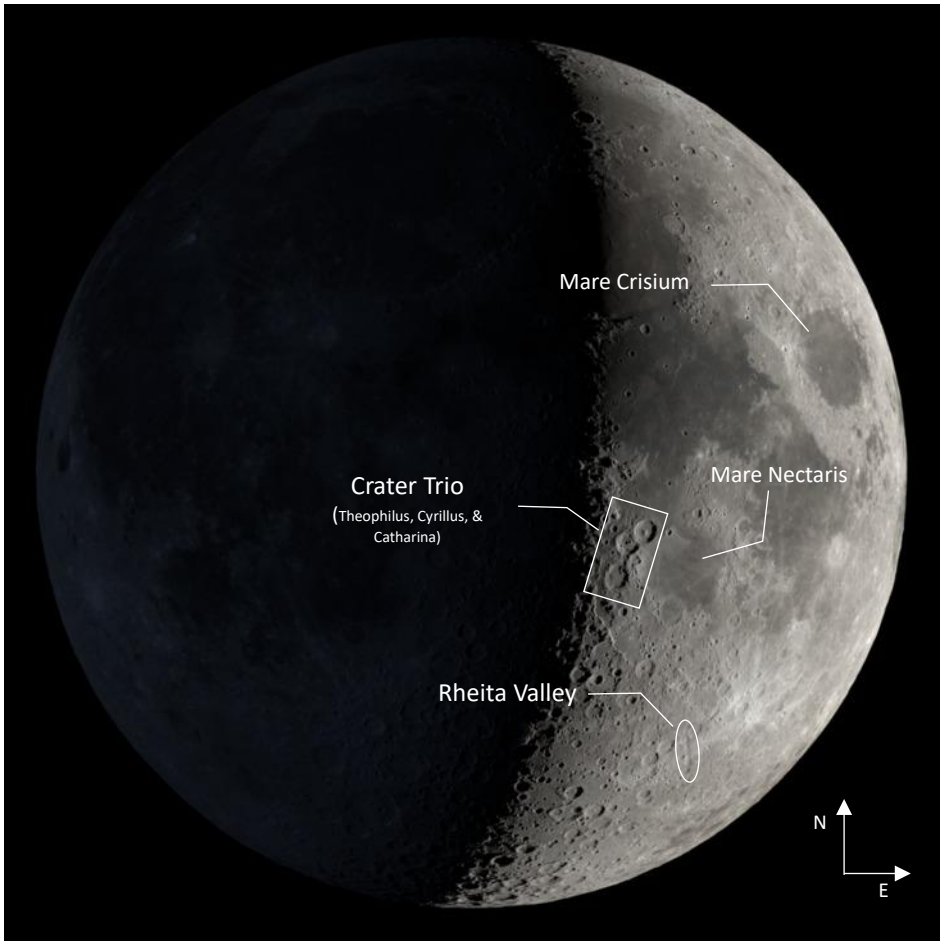
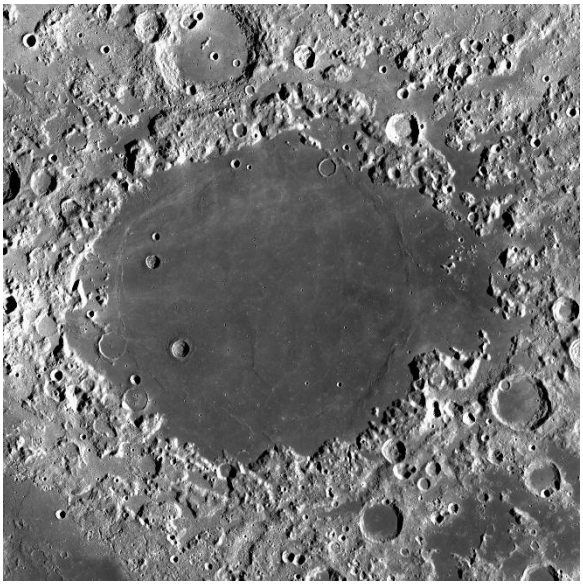


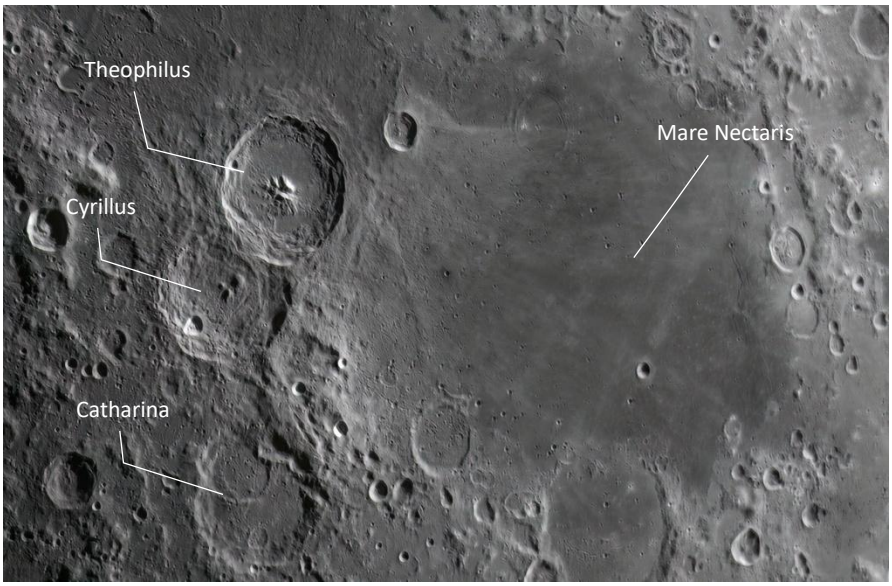
Image of **Mare Crisium** – by NASA



Mare Crisium, Latin for **'Sea of Crises'**, is a **lunar mare** located just northeast of **Mare Tranquillitatis**. **Mare Crisium** is a **350-mile-diameter** basin that was formed approximately **3.9 billion years ago** by the flooding of basaltic lava that filled an ancient asteroid impact. It is located about **16° north of the Moon's equator**.

Like most of the other **maria** on the **Moon**, **Mare Crisium** was named by **Giovanni Riccioli**, whose **1651** nomenclature system has become standardized.

Most of the **Apollo** lunar missions landed in the region of linked **maria** to the west, whose crust has later been shown to be compositionally distinct. **Mare Crisium** lies outside of this anomalous region. So, as part of the **Artemis** exploration campaign, **NASA** plans to land **Firefly's Blue Ghost lander** inside **Mare Crisium**. This location provides a smooth landing site on the near side of the **Moon**, while also offering a region having a more representative composition of the Moon than those explored by the earlier **Apollo** programs.



Mare Nectaris and the **Crater Trio** (**Theophilus**, **Cyrillus**, & **Catharina**) can be observed after the waxing crescent phase of the Moon is 5 – 6 days old. At that time, the terminator will be just west of the craters, the prevailing shadows revealing their shape and dimensions. The trio is a prominent **lunar** landmark on the western edge of **Mare Nectaris**, easily visible in small telescopes. The craters represent a distinct geological timeline, young **Theophilus** (**101 km wide**), roughly estimated to have formed **1 – 3 billion years ago** features sharp, terraced walls and a central peak. **Theophilus** overlaps the older, and clearly eroded **Cyrillus** crater which is estimated to have formed during the late **Nectarian Epoch** (about **3.8 billion years ago**). Further south, **Catharina** is the oldest and most degraded of the three. **Catharina** is

believed to have formed earlier in the **Nectarian epoch** – perhaps **3.9 billion years ago**. See if you can spot these three craters in your binoculars the next time the moon is 5 – 6 days old.

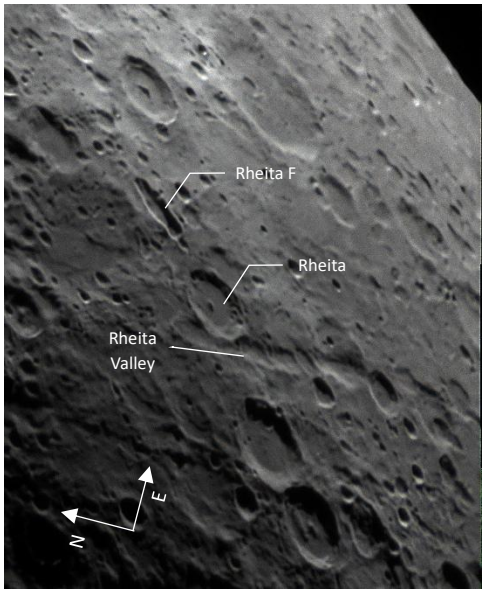


Image of the **Rheita Valley –** by Laz Ilyes

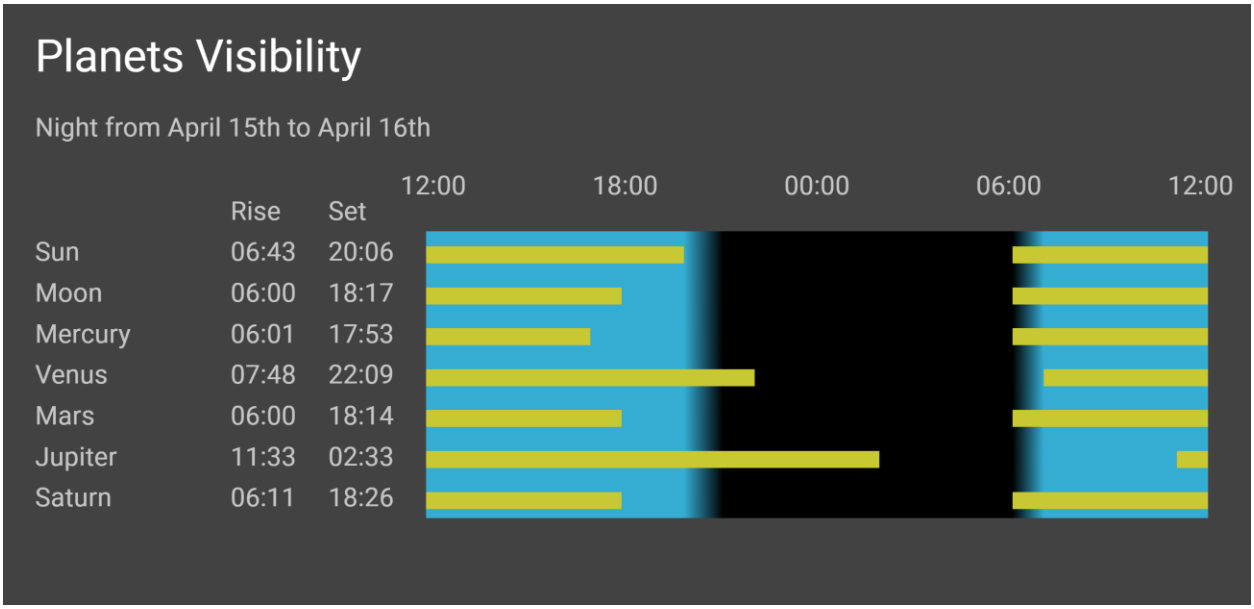
A slightly more difficult feature to spot on the lunar surface is the **Rheita Valley** (**Vallis Rheita**). It was formed approximately **3.9 billion years ago** as a chain of interlocking craters created by secondary impacts. The valley is a **240-mile-long** trough, oriented as a line pointing back to the **Nectaris Basin**, suggesting its place of origin. It is believed to have formed when mountain-sized rocks were ejected as the Mare Nectaris basin was struck by a massive meteorite (and subsequently filled with lava to form the **Mare Nectaris**). This enormous mass of impact debris then landed in a straight line across the Moon's surface to cut the valley we see today.

Vallis Rheita is a significantly larger feature than **Earth's** Grand Canyon, comparable to the Grand Canyon in length—but with a much wider (5-mile maximum) width.

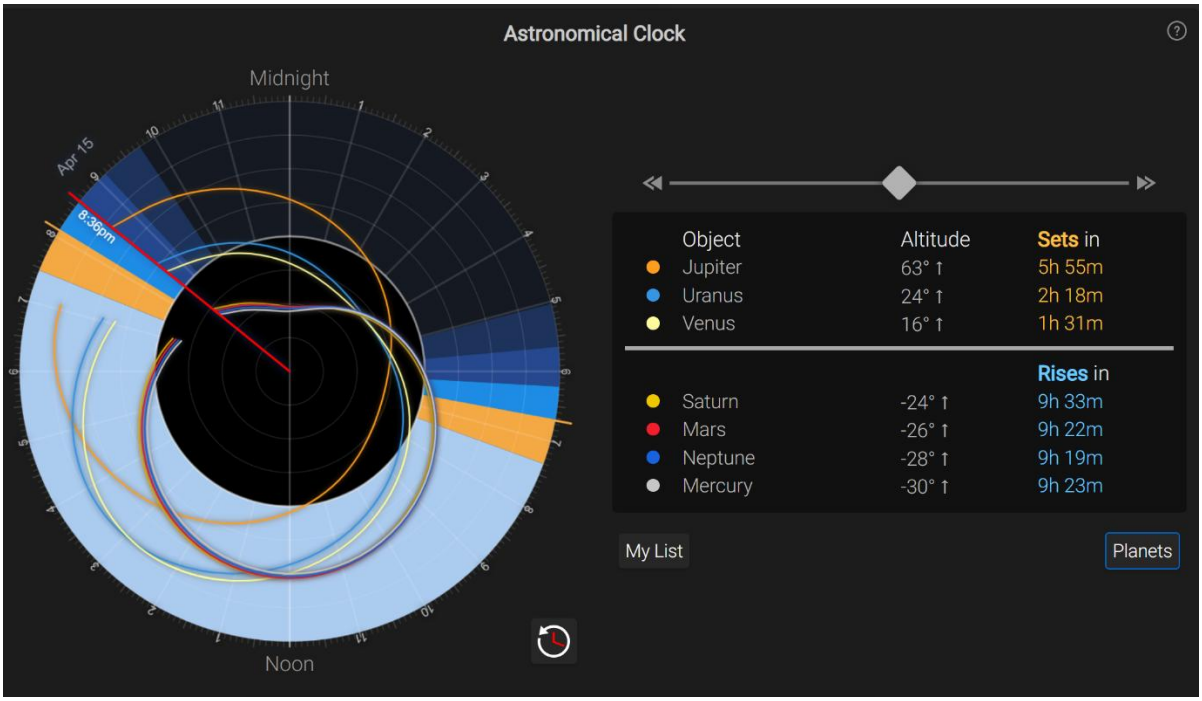
One other gross feature to consider during a waxing gibbous Moon is referred to as Earthshine. You have probably already noticed this before. Earthshine, also known as the Da Vinci glow, is the faint, ghostly illumination of the Moon's dark side caused by sunlight reflecting off Earth's oceans, clouds, and continents. This phenomenon occurs when a crescent moon is visible, allowing the earth-reflected light to illuminate the shadowed portion. **Leonardo da Vinci** correctly explained this phenomenon in the early 1500s, and so bears his name.

Planets

For this month, here is chart summarizing the visibility of those planets visible to unaided observers on the night of April 15, 2026. https://stellarium-web.org/



And here is a graphical representation from astrospheric.com summarizing the planets' relative altitudes at dusk on the night of April 15, 2026:



Mercury offers its best opportunity for viewing in the early morning sky, **reaching its greatest separation from the Sun** (in its current morning apparition) on **April 3-4, 2026**. It will be shining brightly at **mag 0.2**. Weather permitting, expect to find the planet at the low **altitude of ~10°** above the southeastern horizon between the constellations **Pisces** and **Aquarius**.

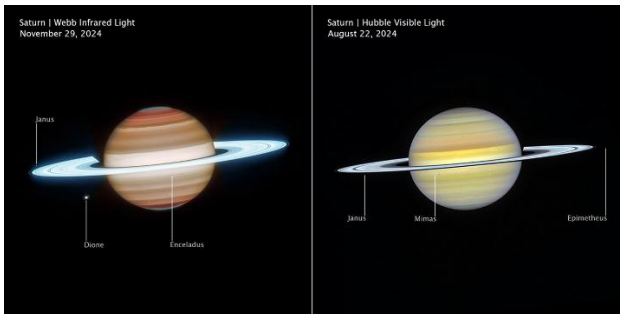
Venus acts as a brilliant "Evening Star" in the western sky after sunset, somewhat low in our sky early in the month of April. It moves through **Taurus**, passing the **Pleiades Star Cluster** around **April 23** and appearing near the **Hyades cluster** at month's end, providing viewing opportunities for binoculars just after sunset.

Mars will be difficult to observe in **April 2026**. It will rise in the morning shortly before sunset and never reach an **altitude** higher than **10**° above the horizon before sunset during this month.

Jupiter is best observed in the early evening, appearing low in the western sky in the constellation **Gemini**. It remains bright and visible after sunset for most of the month, but it will be setting around midnight by month's end. A notable conjunction with the **Moon** occurs on April 22.

In addition to the interesting tool made available online by "**Sky and Telescope®**" magazine described in many past issues of the sky report (https://skyandtelescope.org/wp-content/plugins/observing-tools/jupiter_moons/jupiter.html), another excellent free online tool is available at TheSkyLive.com to track the four Galilean Moons as well as the Great Red Spot (GRS) at the following link: https://theskylive.com/galilean-moons

Saturn will be a morning object in **April**, appearing low in the eastern sky before sunrise. The press is reporting a close planetary alignment around April 18, 2026, where **Saturn**, **Mars**, **Mercury**, and **Neptune** appear close together in the sky but these planets will only be visible about **5° above the eastern horizon** about **30–40 minutes before sunrise**. It will be rather difficult to view even in ideal weather. Space telescopes have an advantage over us. Try observing Saturn through their eyes, for now!



Uranus will be difficult to observe in the month of April. It can be observed with some effort but only during the first half of the month. It will be located in the constellation Taurus, low in the western sky just after sunset. It will be challenging to spot as it sits very low on the horizon.

Neptune will be part of an early morning planetary grouping with **Mars**, **Saturn**, and **Mercury** very low in the eastern sky before sunrise. While the other planets may be visible to the naked eye, **Neptune** is extremely faint and very difficult to spot, even with binoculars or a telescope. You will be looking through approximately 10 airmasses in twilight, given the low altitude of these planets. Likewise, **Neptune** will not be conveniently observable throughout the month **April**.

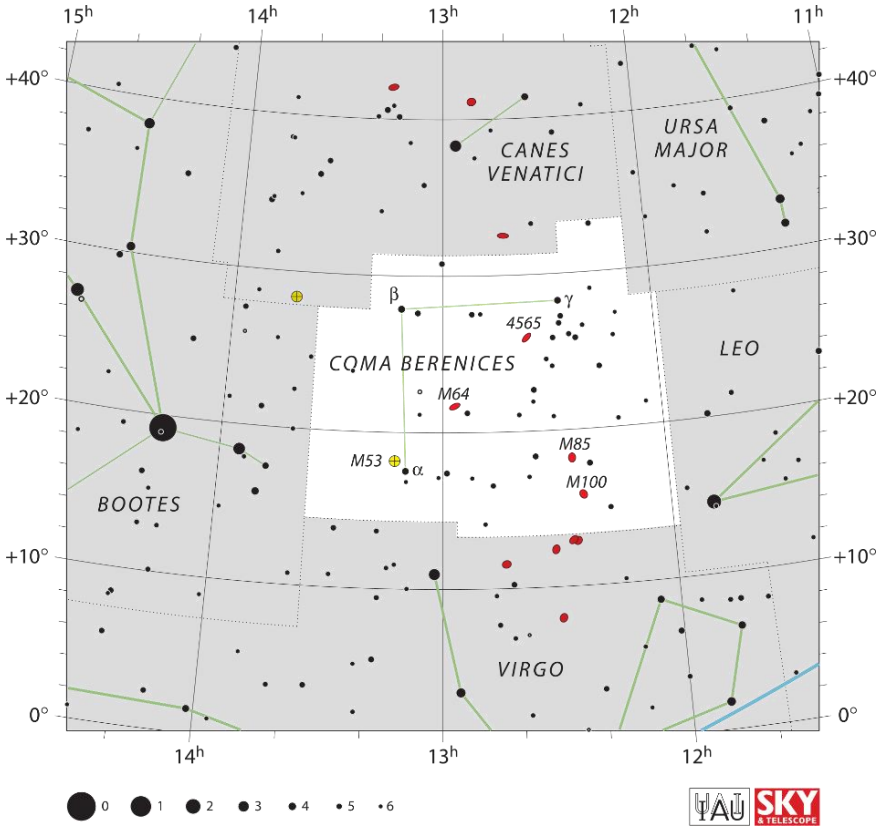
Constellations

NOTE: With my apologies, I became aware too late that I released last month's Sky Report with a considerable error. In this section last month, I introduced the constellation **Coma Berenices**, but then proceeded to describe **Canes Venatici** in the text, afterward. I will make up for this error in this month's edition. ***Mea Culpa***. With that said…

April is a month of transition. We are still in "**Galaxy Season**," when we have a better view of our intergalactic neighborhood. The numerous deep sky objects discussed in the last few Sky Reports can still generally be found in our night sky as weather permits. However, by **mid-May**, the **Milky Way's** bright center will rise earlier, signaling the beginning of "**Milky Way season**". So, in **April** we find ourself between these two "seasons." Let us take a look of some of the more interesting constellations that present themselves to us in this transitional month.

Coma Bernices (Com)

Coma Berenices ("**Berenice's Hair**") is a faint, ancient, northern constellation representing the sacrificed hair of **Egyptian Queen Berenice II**. According to myth, **Queen Berenice II of Egypt** (**c. 243 BC**) offered her long hair to the goddess **Aphrodite** to ensure her husband, **Ptolemy III**, returned safely from war. When the hair vanished from the temple, court astronomer claimed the gods placed it in the sky as a new constellation.



The **North Galactic Pole** (**NGP**) is located in the constellation **Coma Berenices**. It is defined by **galactic latitude +90°** and is positioned at approximately **RA: 12^{h} 51^{m} Dec: 27° 07'**. The **NGP** provides a clear view of the distant universe, looking out of the **Milky Way's** disk. This is the axis on which the entire **Milky Way Galaxy** revolves from west to east.

Because the alignment with the **NGP** affords us a clear view out of our galaxy**, Coma Berenices** is a treasure trove for **deep-sky observing**, containing the **Black Eye Galaxy** (**M64**), the edge-on **Needle Galaxy** (**NGC 4565**), and the vast **Coma Cluster of galaxies** (**Abell 1656**). It also features the **Messier** objects **M53**, **M85**, and **M100** as well as the bright **Melotte 111 open cluster**.

English astronomer **Edward Pigott** first spotted **Black Eye Galaxy** (**M64**) in **March of 1779**, just 12 days before German astronomer **Johann Elert Bode**, and roughly a year before **Charles Messier** independently rediscovered it in **March of 1780**. The galaxy is located **17 million light-years from Earth** in the constellation **Coma Berenices**. Its apparent **magnitude of 9.8** requires a moderately-sized telescope and dark sky site to observe it. The **Black Eye Galaxy**, is characterized by its bizarre internal motion where the gas in the outer regions rotate in the opposite direction from the gas and stars in its inner regions. This is thought to be the result of a merger between **M64** and a satellite galaxy **over a billion years ago**.

The **Black Eye Galaxy** (**M64**) – by Laz Ilyes

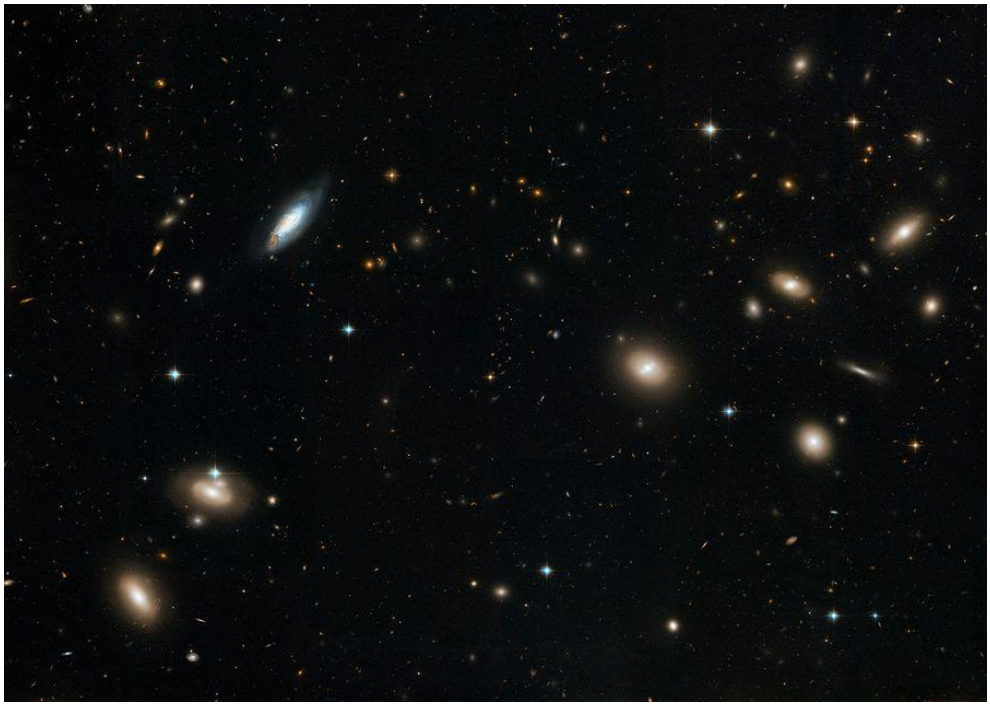
HST Image of **Messier 64** – by NASA

The **Needle Galaxy** (**NGC 4565**) is a prominent, bright edge-on spiral galaxy located approximately **40 million light-years** away in the **Coma Berenices** constellation. Known for its extremely thin profile and dark dust lane, it is a popular target for astronomers, often described as a larger, "edge-on" analogue to our **Milky Way**. Due to its orientation, it appears as a narrow, pencil-thin streak of light with a pronounced central bulge. The galaxy is about **150,000 light-years across**, making it similar to or slightly larger than our own **Milky Way**.

It was discovered by astronomer **William Herschel in 1785** in the constellation **Coma Berenices** constellation, and it is best observed in the spring from our Northern Hemisphere. It is a spiral galaxy containing a central bar structure, which is visible in high-resolution images.

Needle Galaxy (**NGC 4565**) – by Jeff Ratino

The **Coma Cluster** (also known as **Abell 1656**) is a massive, dense collection of over **1,000 galaxies** located **~320 million light-years away**. Best observed in **April/May**, it is a premier target for studying galaxy evolution and dark matter, featuring predominantly elliptical and lenticular galaxies. Spanning an **apparent size** of over **2°** in the sky, roughly four times the angular diameter of the full **Moon**, most members of the galaxy cluster have an apparent **magnitude of 12 to 14**, requiring at least an **8–10 inch telescope** to resolve clearly. The brightest central galaxies, **NGC 4889** and **NGC 4874**, are approximately **11.5–11.7 magnitude**, while many smaller members are **15th magnitude or fainter**.



HST Image of the **Coma Galaxy Cluster** – by NASA

Discovered by the German astronomer **Johann Elert Bode** in **1775**, **Messier 53** (also known as **M53** and **NGC 5024**) is **59,700 light-years away**, one of the most distant known globular clusters from **Earth**. **Charles Messier** independently rediscovered the globular cluster on **February 26, 1777**. The cluster has an apparent **magnitude +7.6** and an apparent size of **13 arc-minutes**.

HST Image of **Messier 53** – by NASA

Messier 85 (**M85**) is either an elliptical or a lenticular galaxy. (Lenticular galaxies have qualities of both elliptical and spiral galaxies and are sometimes called armless spirals). **M85** is interacting with two neighboring galaxies, the spiral **NGC 4394** and the elliptical **MCG 3-32-38**. **Messier 85** is a member of the **Virgo cluster of galaxies** and was discovered by **Charles Messier's** colleague **Pierre Méchain in 1781**. It lies approximately **60 million light-years away from Earth**.

HST Image of **Messier 85** – by NASA

Messier 100 (**M100**) and **NGC 4312** are neighboring galaxies in the **Virgo Cluster**, located approximately **56 million light-years away** in the **Coma Berenices**. **M100** is a large, face-on "grand design" spiral, while **NGC 4312** is a smaller, edge-on spiral often imaged together in deep-sky photography.

M100 is a rotating system of gas and stars, similar to our own galaxy, the **Milky Way**. The **Hubble Space Telescope** has the ability to resolve individual stars in the galaxy's spiral arms. Some these stars, classified as "**Cepheids**" are reliable cosmic distance mileposts. The time interval it takes for the **Cepheid**

to complete one pulsation is a direct indication of the star's intrinsic brightness. This value is then used to make a precise measurement of the galaxy's distance from **Earth**.

NGC 4312 is also a member of the **Virgo Galaxy Cluster**. It was discovered by **William Herschel** in **1787**. **NGC 4312** is classified as a **LINER** (Low-Ionization Nuclear Emission-line Region) galaxy. A **LINER** galaxy is a common type of galaxy defined by specific spectral emission lines in its central region. These types of galaxies feature gas ionized by a weak **AGN** (**Active Galactic Nucleus**), or commonly, by hot, evolved **post-AGB** (**Asymptotic giant branch**) stars and are found in about one-third of all nearby galaxies, often in elliptical or spiral.

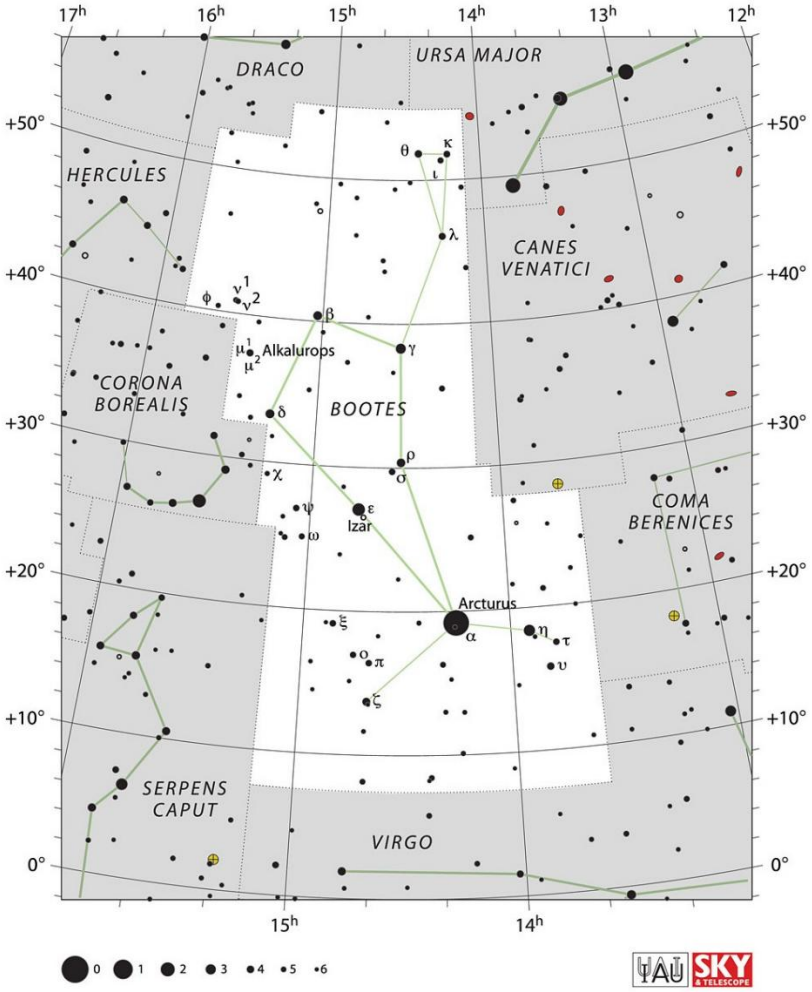
Image of **M100** and **NGC 4312** – by Laz Ilyes

Melotte 111, also known as the **Coma Star Cluster** or **Coma Berenices Cluster**, is a large, loose, and nearby open star cluster found near the star **γ Comae Berenices**. Located about **280–290 light-years away**, it is the **second closest open cluster to Earth**, covering over **7.5 degrees of the sky and easily visible to the naked eye**. Due to its large size, it is best viewed using binoculars or a low-magnification telescope. The brightest stars in cluster are around magnitude +5.

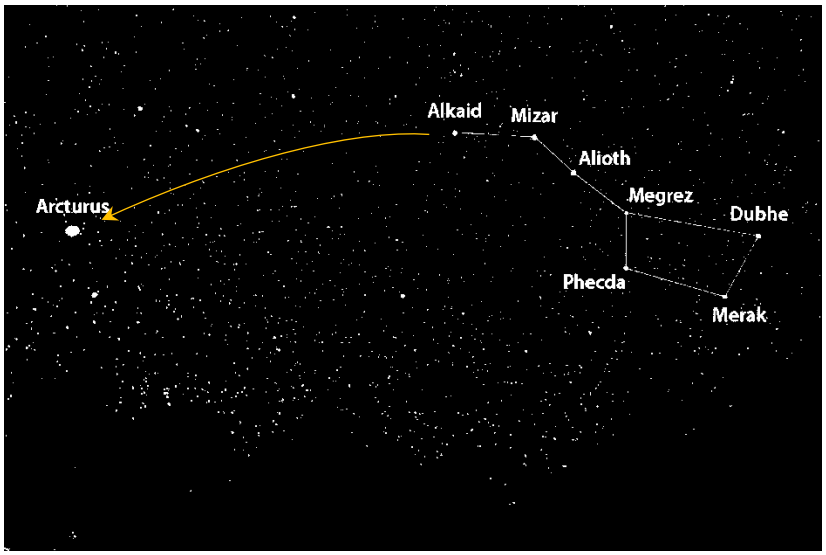
Melotte 111 Open Star Cluster – by Graham Wilcock

Boötes (Boo)

Boötes, the "**Herdsman**" or "**Ploughman**," is a large, prominent spring and summer constellation in the northern sky recognizable by its **kite-shaped asterism**. It is anchored by **Arcturus** (**Alpha Boötis**), the **fourth-brightest star in the night sky** and a distinct, brilliant **orange giant star**. It is frequently depicted as a herdsman watching the nearby bears (**Ursa Major/Minor**). In fact, the name **Arcturus** is derived from **Greek** for "**Guardian of the Bear**".

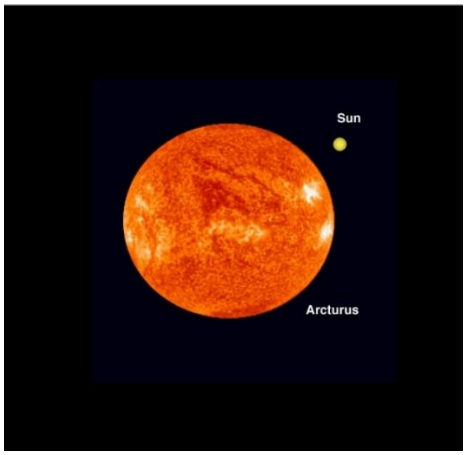


In the middle of April here in **NE Ohio**, **Arcturus** (**α Boötis**) will appear about **20°** above the eastern horizon at sunset and **cross the meridian** around **2am EDT**. The star is easily located using the **Big Dipper** asterism as a guide. Find the **Big Dipper** in the northern sky and follow the curve of its handle away from the bowl. Extending this arc path for a distance roughly equal to the length of the handle will lead you directly to **Arcturus**, as shown in the illustration below.

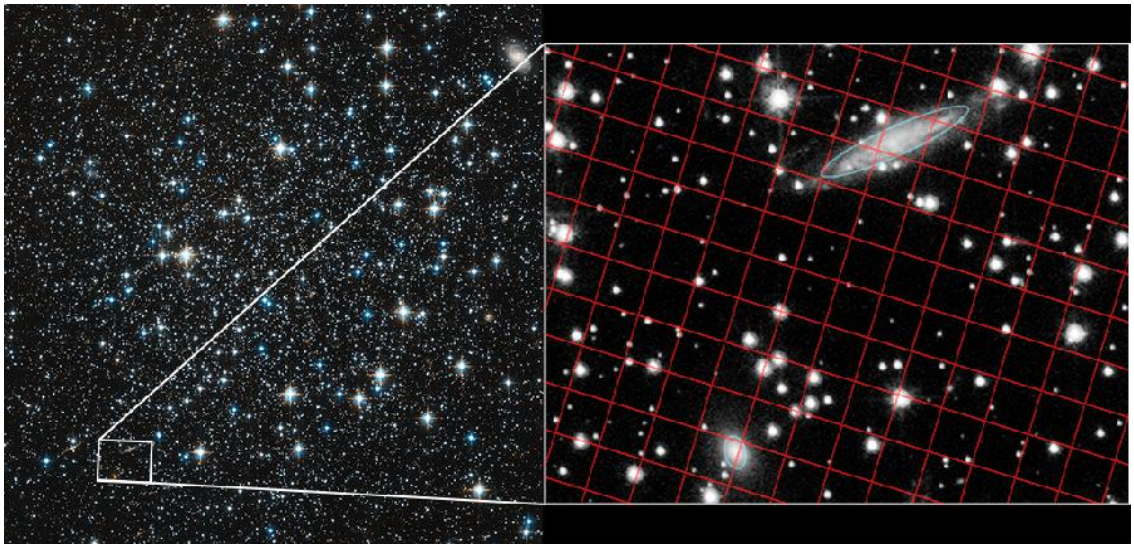


Following the “Arc to Arcturus”

Arcturus is located about **36.7 light-years away from Earth**, relatively “close” in astronomical terms. It is **25 times the size** of the **Sun** and **~170 times more luminous** though it is cooler than our **Sun**, with a surface temperature of about **4,290K**. (In comparison, our Sun’s surface is approximately **5,800 K**). While common in science fiction, no actual planets have been confirmed in orbit around this bright orange giant. Despite being a bright, nearby star studied for potential planetary systems, as of 2026, it shows no definitive evidence of orbiting companions.



Boötes is not very well known for spectacular deep sky objects. However, one may consider looking for the globular cluster **NGC 5466** (**magnitude +9.7**) or the faint spiral galaxy **NGC 5248**, also known as **Caldwell 45** (**magnitude +10.0**).



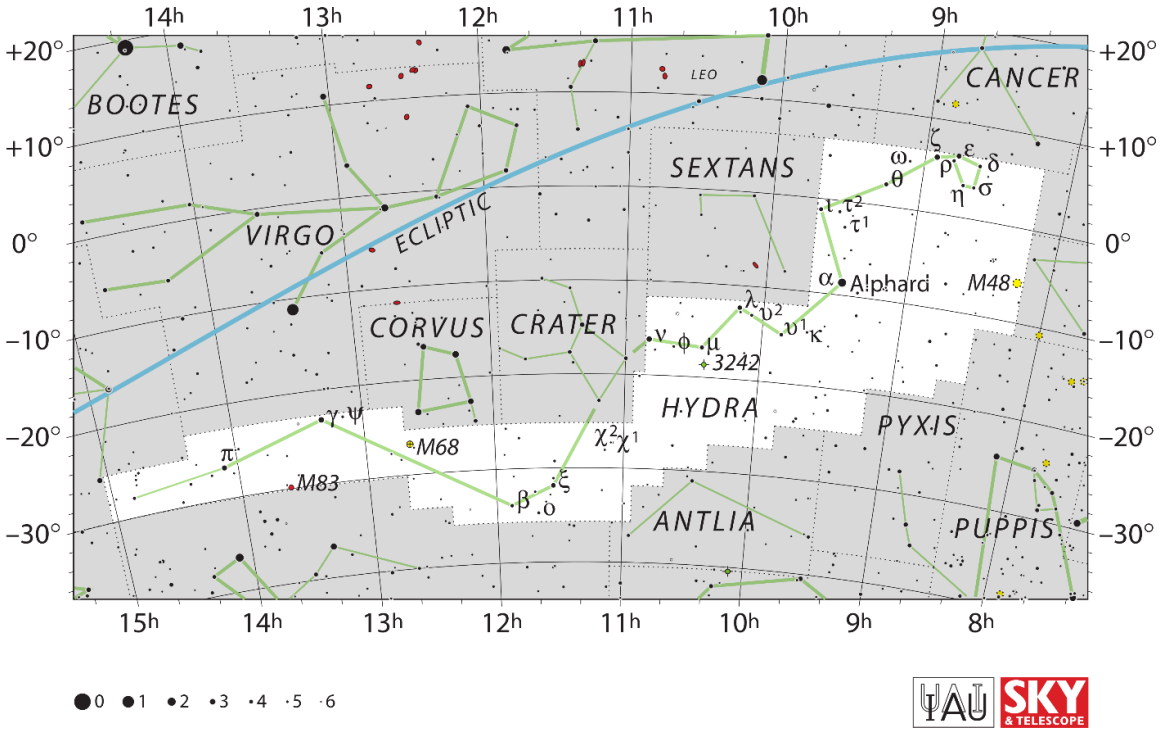
HST “Visualization” Image of Globular Cluster **NGC 5466** and Distant Background Galaxies – by NASA

Caldwell 45, or **NGC 5248**, is a spiral galaxy located in the constellation **Boötes** and is notable for the ring structure around its nucleus. These nuclear rings are characterized by “hot spots” of starburst activity where stars form at a much higher rate than usual. At a distance of **59 million light-years**, the starburst regions in **Caldwell 45** are actually some of the nearest to **Earth** and are less visually obstructed than many others.

Galaxy **NGC 5248** – by Adam Block (Mount Lemmon Sky Center)

Hydra (Hya)

Hydra is the **largest** of the 88 modern constellations, measuring **1,303 square degrees**, and also the **longest** at over **100°**. Its southern end borders **Libra** and **Centaurus** and its northern end borders **Cancer**. It was included among the **48 constellations** listed by the **2nd century astronomer Ptolemy**. Commonly represented as a water snake, it straddles the **celestial equator**.



Although **Hydra** is the largest constellation, it has few bright stars. **Alphard** (**α Hydrae**) is the brightest, shining at **magnitude +2.0**. **Alphard** is an orange giant **177 light-years away**. **β Hydrae** is a blue-white star shining at **magnitude +4.3**, **365 light-years away**. **γ Hydrae** is a yellow giant of **magnitude 3.0**, and lies **132 light-years from Earth**.

Hydra has its share of interesting deep sky objects. The **Messier** objects, **M68**, a globular star cluster, and the open star cluster **M48** (also known as **NGC 2548**) are both located in **Hydra**. Another fine **Messier** object found in this constellation is **M83**, also commonly known as the **Southern Pinwheel Galaxy**. **Hydra** contains other interesting deep sky objects, for example, the bright planetary nebula **NGC 3242** (**Ghost of Jupiter**), and the spiral disk galaxy **NGC 3621**.

Discovered by **Charles Messier** in **1780**, **Messier 68** (**M68**) is a dense collection of stars known as a globular cluster. Mutual gravitational attraction amongst the hundreds of thousands or even millions of stars in such a cluster keeps stellar members packed tightly together for many billions of years. **M68** is located **33,000 light-years from Earth**. It has an **apparent magnitude of +8** and can be **spotted with a pair of binoculars**. The cluster is best observed during **April**.

HST Image of the **M68** Globular Star Cluster – by NASA

Messier 48 (**M48**) is an open star cluster with an apparent **magnitude of +5.5**. It lies at a distance of **1,500 light-years from Earth**. It has the designation **NGC 2548** in the **N**ew **G**eneral **C**atalogue. **M48** can be seen without binoculars in a dark sky under good conditions near the border with the constellation **Monoceros**. The cluster is quite conspicuous, occupying an area of **54 arc minutes of apparent sky**, which corresponds to a **spatial diameter of 23 light years**.

Image of Open Star Cluster **Messier 48** – by Laz Ilyes

Messier 83 (**M83**), or the **Southern Pinwheel Galaxy**, is a prominent barred spiral galaxy located roughly **15 million light-years away** in the constellation **Hydra**. Known for its active, high-rate star formation and six observed supernovae, this bright, face-on galaxy possesses a unique "double nucleus" at its core, suggesting a complex central structure.

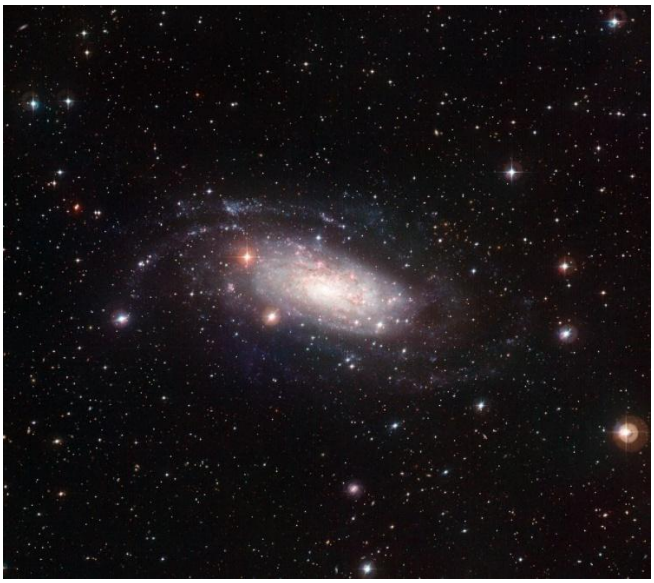
At ~118,000 light-years in diameter, it is similar in size to our own Milky Way Galaxy. It is a classic, bright barred spiral galaxy with sweeping spiral arms that are rich in young, blue stars and glowing gas clouds, often nicknamed the "Thousand-Ruby Galaxy" due to these numerous red star-forming regions.

Image of the **Southern Pinwheel Galaxy** (**M83**) – by Laz Ilyes

NGC 3242 (also known as the **Ghost of Jupiter Nebula,** the **Eye Nebula**, or **Caldwell 59**) is a planetary nebula of **magnitude +7.5**. This deep sky object, discovered by **William Herschel in 1785**, appears as a bluish-green disc in small telescopes. Located about 1,400 light-years away, it represents the final, dying stage of a sun-like star, which has shed its outer layers, creating a bluish, elliptical gas cloud roughly the same apparent size as Jupiter in our night sky, when viewed through a small telescope.

HST Image of the **Ghost of Jupiter** Nebula – by NASA

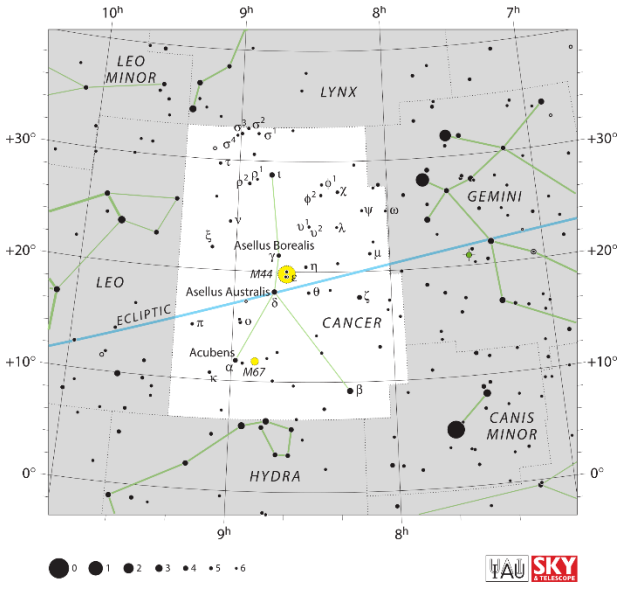
NGC 3621 is a **"pure-disk" spiral galaxy** located approximately **22 million light-years away** in the constellation **Hydra.** Unlike most spiral galaxies, it lacks a central bulge, featuring a flat, pancake-like structure with loosely wound arms filled with young, blue stars. It is relatively bright and visible in a moderate-sized telescope. It was discovered by German-British astronomer **William Herschel in 1790**.



The Galaxy **NGC 3621** – by ESO CC by 4.0

Cancer (Cnc)

Cancer is a faint, northern zodiac constellation representing a crab, located between **Gemini** and **Leo**. Faint indeed, as it has earned a reputation as one of the hardest zodiac constellations to find because it contains no stars brighter than **magnitude 3.6**. In **Greek mythology**, **Cancer** represents the crab sent to distract **Heracles** (**Hercules**) during his battle with the **Hydra**.



Best viewed in the early spring, **Cancer** is known for the **Beehive Cluster** (**M44**), a bright, open star cluster visible to the naked eye. And **Cancer** hosts another **Messier** object, the 4-billion-year-old open star cluster **M67**.

The **Beehive Cluster** (**Messier 44** or **Praesepe**) is a bright, young open cluster containing **over 1,000 stars**, located roughly **600 light-years away** in the constellation **Cancer**. It appears as a faint, blurry spot to the naked eye but resolves into a sparkling swarm of colorful stars through binoculars or low-power telescopes. It is one of the closest open clusters to **Earth** and is sometimes known by the Latin name **Praesepe** (meaning manger).

A pair of 10x50 or similar **binoculars** will resolve the patch into dozens of individual stars. As for telescopes, use low-magnification, in other words, a wide-field. High magnification will make it too spread out. The cluster is large, **covering about 1.5°of the night sky**, which is roughly three times the width of the full **Moon**.

The **Beehive Cluster** (**M44**) – by Laz Ilyes

Messier 67 (**M67**) is an open star cluster located approximately **2,800 light-years away**. It is estimated to be **~4 billion years old** making it one of the oldest known open star clusters and the oldest in the Messier catalog. The cluster contains over **500 stars**, many similar to our **Sun**. **M67** is a key "laboratory" for studying stellar evolution, including 3 confirmed exoplanets orbiting member stars.

The **M67** Open Star Cluster – by Laz Ilyes

Spring Observing Challenge

The faint, ephemeral glow of the planetary nebula **Abell 36** persists for only a *short time* — around 10,000 years, that is… a blink of an eye in astronomical terms. The **European Space Observatory's** (**ESO's**) "**Very Large Telescope**" (**VLT**) captured this shell of glowing ionized gas — the last breath of the dying star whose simmering remains are visible at the heart of this image. As the gaseous shell of this planetary nebula expands and grows dimmer, it will slowly disappear from sight. This stunning planetary nebula was imaged by one of the **VLT's** most versatile instruments, **FORS2**. The instrument captured the bright, central star, as well as the surrounding planetary nebula.

Abell 36 is a faint, barrel-shaped planetary nebula roughly **780 light-years away** in the constellation **Virgo**. Discovered by **George Ogden Abell** in **1955**, this **10,000-year-old nebula** represents the final stage of a **Sun-like star**, featuring an extremely hot (**73,000K**) central white dwarf, a complex inner structure, and a large, halo. This halo surrounding the star is a very faint, very large, cloud of (primarily) ionized hydrogen (**HII**) that spans **4° - 5° in diameter**! It is considered extremely dim and challenging to observe. The **total integrated magnitude** of this elusive deep sky object is only between **+12.2 - +14.4** and the **central white dwarf** shines at a very dim **mag +15.4**. Adding to the challenge, **Abell 36** will be rather low to our horizon here in the northern hemisphere.

Constellation: **Virgo, RA** (J2000): **13^h 40^m 41.34^s**, **Dec** (J2000): **-19° 52' 55.32"**

Our challenge for spring is to try using your "**Very Average Telescope**" (**VAT**) to also try observing this faint wonder. But be warned, it is only recommended for telescopes with an aperture of **≥200mm** (~**8**"), in a good, dark sky. So, hurry up! Time flies and the 10,000 years may pass before you know it (*wink*). Let us know how you do.

ESO's Image of **Abell 36** – by ESO

Epilogue

Consider Trying Astrospheric

Please consider taking a look at the Astrospheric phone/web app to help you plan your observing. Astrospheric is a leading, free weather service designed for astronomers and astrophotographers, offering highly precise, location-specific forecasts predicting cloud cover, transparency, seeing, and much more. The tool is available for download to **iPhone** or **Android** smartphones. Or you can use the **web-based application** that runs in a browser on your own personal computer. If you go ahead and create an account, feel free to join our **Astrospheric CVAS Group** (which BTW, now has full professional privileges) by clicking on the "Subspace" tab in the upper right corner of the app and entering the following code in the entry field prompted: **S_f83fdd4f**

The Messier Marathon

The ultimate spring challenge involves **locating all 110 Messier deep-sky objects from dusk till dawn**. While the best window of opportunity for this challenge in 2026 has passed (March 14–22), you can still **give it a try in early April** if the weather permits. Let us know how many you can find in one night!

Interested in Making More Observations?

Take a look at the list of programs and awards that are available through your membership in the **Astronomical League** (**AL**)! Here is a link to an alphabetical list of available programs. You can earn certificates, and/or pins, and perhaps possibly, contribute to scientific research with your observations. Talk to other members about your interests. It's always fun to observe together! Ask an officer in our club if you need help getting started. If anyone is interested in joining me, I am about a third of the way through making observations for the Jupiter Observing Program. If you are also engaged in an **AL** program, let us know!

Special thanks to **Jeff Ratino** for his image featured in this month's issue of the **Sky Report**. Thanks to **Conny Meier**, **Russ Swaney,** and **Eric Wright** for getting the report out to all of you.

Clear Skies and Excellent Observing!

Laz