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Scientific
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Tel.: (+264) 61 225 372

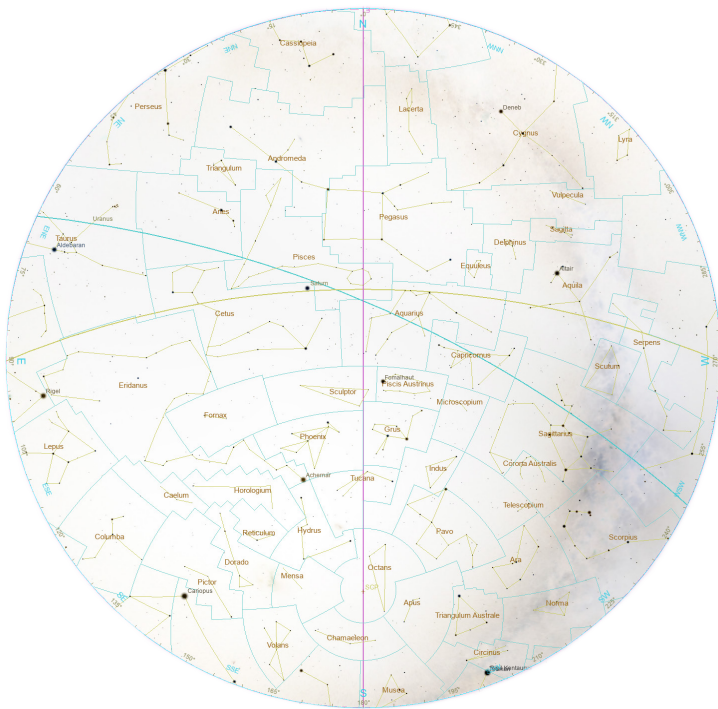
email: info@namscience.com

www.namscience.com

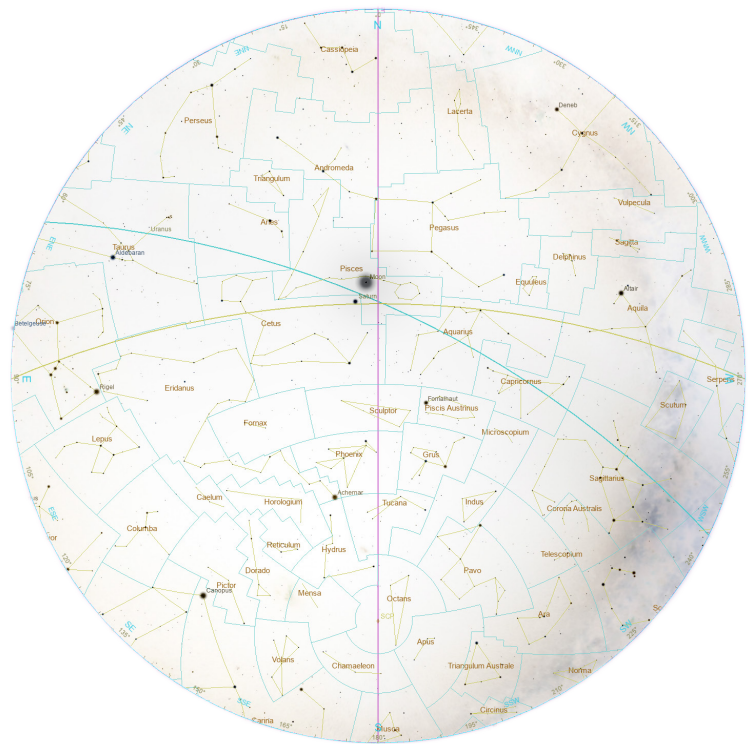
110 Robert Mugave Ave, Windhoek

Astro News November 2026

by Lutz von Dewitz for the Namibia Scientific Society

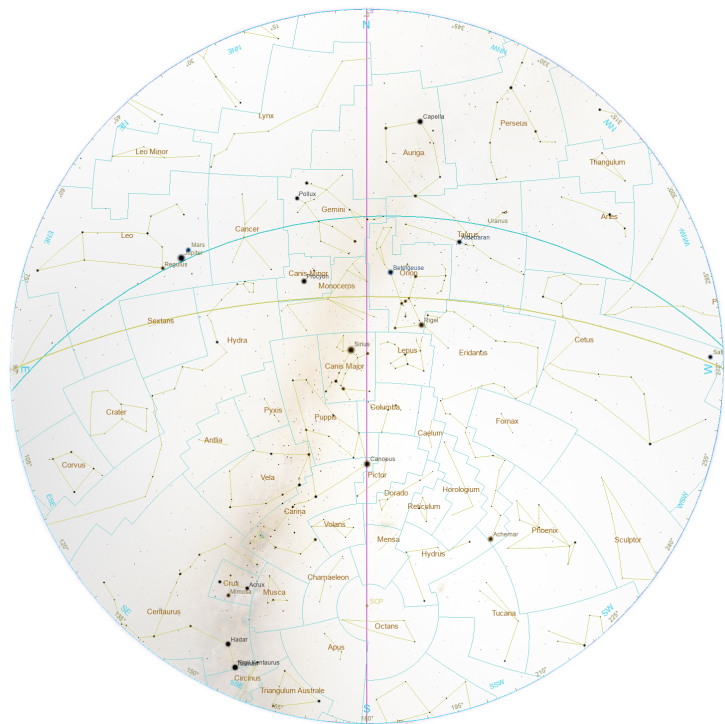


Skychart at Windhoek on 10 November 2026
at 21h00 (GMT + 2hH Central African Time)

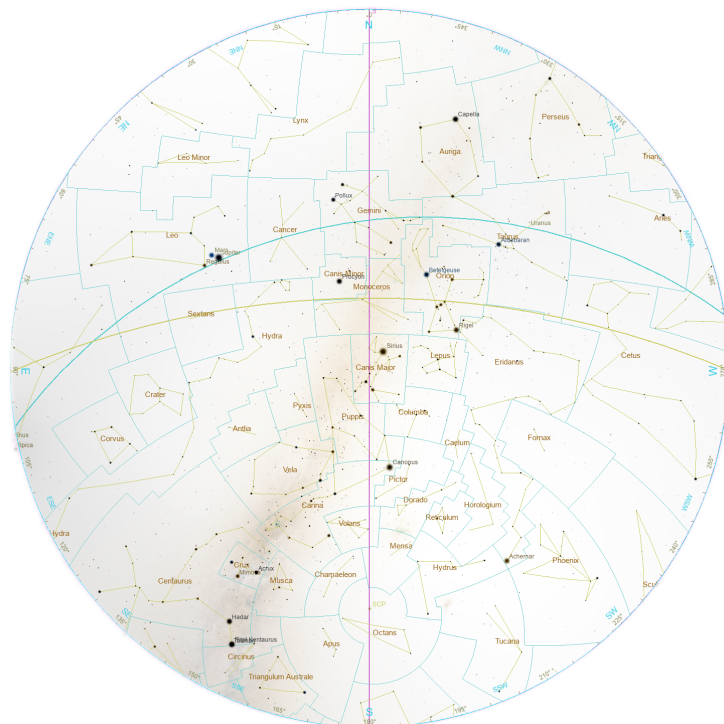


Skychart at Windhoek on 20 November 2026
at 21h00 (GMT + 2hH Central African Time)

Ecliptic Line – Celestial Equator – Meridian – Constellation Borders / SCP = Southern Celestial Pole – Z = Zenith



Skychart at Windhoek on 10 November 2026
at 04h00 (GMT + 2hH Central African Time)



Skychart at Windhoek on 20 November 2026
at 04h00 (GMT + 2hH Central African Time)

Ecliptic Line – Celestial Equator – Meridian – Constellation Borders / SCP = Southern Celestial Pole – Z = Zenith

Moon Phases

01 Nov 2026	– Last Quarter
09 Nov 2026	– New Moon
17 Nov 2026	– First Quarter
24 Nov 2026	– Full Moon

Solar System

Planet Visibility	Rise	Culm.	Set
Mercury	05:05	11:26	17:47
Venus	04:15	10:34	16:54
Mars	01:28	07:05	12:42
Jupiter	01:26	07:06	12:45
Saturn	15:45	21:46	03:47

Planets in gray are not visible

Above Times accurate for 15 November 2026 and CAT

Mercury will pass close to the Sun as its orbit carries it between the Sun and Earth. This event occurs once every 116-day synodic cycle, ending Mercury's evening apparition and marking its transition to the morning sky over the following weeks. During its November–December 2026 morning apparition, Mercury will reach its greatest separation from the Sun and shine brightly at magnitude -0.6 . From Namibia, however, it will remain inconspicuous and difficult to observe, reaching a maximum altitude of 13° above the horizon at sunrise on 24 November 2026.

Venus recently passed in front of the Sun at inferior solar conjunction. It is visible in the dawn sky, rising an Hour before the Sun and reaching an altitude of 19° above the eastern horizon before fading from view as dawn breaks.

Mars is currently visible as a morning object. The Planet is rising at 01:30 and reaching an altitude of 45° above the north-eastern horizon before fading from view at dawn. On Monday, 16 November 2026 at 04:04 the planets Jupiter and Mars will make a close approach, passing within $1^\circ 11'$ of each other. Both objects will lie in the constellation Leo. Look for Regulus next to the Planets.

Jupiter is also visible before dawn, rising at 01:30 and reaching an altitude of 48° above the north-eastern horizon before fading from view as dawn breaks at around 05:45.

Saturn becomes visible in the evening sky at around 19:20 51° above your north-eastern horizon, as dusk fades to darkness. It will then reach its highest point in the sky at 21:46, 66° above your northern horizon. It will continue to be observable until around 03:00 when it sinks below the western horizon.

Other Occurrences:

Voyager 1 reaches 24 light-hours from Earth

Launched in 1977 for flybys of Jupiter and Saturn, Voyager 1 entered interstellar space in August 2012 and continues to collect data. More than 49 years into its mission, it is nearing another unprecedented milestone to become the first spacecraft to reach the distance of one light-day (24 light hours) from Earth (25,902,068,356 kilometres). It is expected to cross this threshold on 18 November 2026 at 10:16 UTC (12:16 in Namibia).

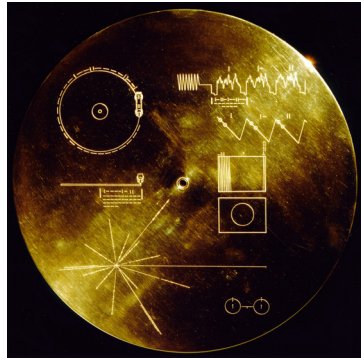
Voyager 1 is now beyond the helio-pause—the boundary of the Sun’s bubble of energetic particles and magnetic fields. Although launched after Voyager 2, its faster trajectory carried it through the asteroid belt sooner, and it overtook its twin on 15 December 1977.

The Pale Blue Dot an image taken by Voyager 1 showing Earth from 6 billion kilometres (beyond Saturn) appearing as a tiny dot within the darkness of deep space

G ring. The spacecraft is now also the first human-made ob-

ject to enter interstellar space. It travels at a speed of approximately 60,773 km/h or 17 km/s relative to the Sun.

Both Voyager probes carry a gold-plated audiovisual record designed to represent the diversity of life and culture on



Earth in case either spacecraft is discovered by extraterrestrial life. Created under the direction of a team that included Carl Sagan and Timothy Ferris, it contains images of Earth and its life forms, scientific information, spoken greetings—including one from United Nations Secretary-General Kurt Waldheim—and a compilation titled “Sounds of Earth”.



The record features whale calls, a baby crying, waves breaking on a shore, and music from different cultures and eras, including works by Wolfgang Amadeus Mozart, Blind Willie Johnson, Chuck Berry, and Valya Balkanska. It also includes Eastern and

Western classics, Indigenous and folk music from around the world, and greetings in 55 languages. The project was intended to portray the richness of life on Earth and reflect humanity’s creativity and desire to connect with the cosmos.

Objects of the Month

Asteroids, Comets, Meteoroids, Meteors and Meteorites

Compiled by Lutz von Dewitz

Asteroids

Asteroids, also known as minor planets, are rocky, airless remnants of our solar system’s formation about 4.6 billion years ago. Most asteroids orbit the Sun in the main belt between Mars and Jupiter. Their sizes range from Vesta, the largest at about 530 kilometres in diameter, to objects less than 10 metres across. Together, they have less mass than Earth’s Moon.

Objects beyond Neptune



Pluto [left] and Arrokoth [right], the primary flyby targets of NASA’s New Horizons spacecraft in 2015 and 2019.

The total of 1,575,564 known asteroids includes Kuiper Belt objects (KBOs), trans-Neptunian objects (TNOs) and dwarf planets. TNOs are minor planets whose average distance from the Sun exceeds Neptune’s

orbital semi-major axis of 30.1 astronomical units (AU). The first TNO Pluto was discovered in 1930. The second known to orbit the Sun directly, 15760 Albion, was discovered in 1992. Eris is the most massive known TNO, followed by Pluto, Haumea, Makemake and Gonggong. More than 80 satellites have been found orbiting TNOs.

Comets

Comets are made of frozen gases, rock and dust and orbit the Sun. Billions may exist in the Kuiper Belt and the more distant Oort Cloud.



Comet C/2023 A3 (Tsuchinshan-ATLAS), also known as the Great Comet of 2024 – 25 October 2024 (Pic. - Lutz von Dewitz ©)

As a comet nears the Sun, it warms and releases dust and gas, forming a glowing head larger than most planets and a tail that can extend millions of miles away from the Sun. Comets follow highly elliptical, or oval-shaped, orbits and are classified

by their orbital periods:

Short-period comets: These complete an orbit in less than 200 years and originate in the Kuiper Belt beyond Neptune. Halley's Comet, which returns about every 75 to 76 years, is a well-known example.

Long-period comets: These take between 200 years and millions of years to orbit the Sun and originate in the distant, spherical Oort Cloud at the solar system's outer edge.



The Gibeon Meteorites in Zoo Park Windhoek.
(Pic. E.A. Scheibe, NSS Library ©)

Meteoroids, meteors and meteorites

The objects associated with the bright streaks we call "shooting stars" have different names depending on where they are: meteoroids in space, meteors in the atmosphere and meteorites on the ground.

Meteoroids: objects in space

Meteoroids range from dust grains to small asteroids and consist of rock, metal or both. Most are fragments broken or blasted off larger bodies, including comets, asteroids, the Moon and other planets.

Meteors: bright trails in the atmosphere

When meteoroids enter Earth's atmosphere—or another planet's, such as Mars's—at high speed and burn up, they produce bright streaks called meteors or "shooting stars." Meteors brighter than Venus are called bolides or fireballs. Scientists estimate that about 48.5 tons (44,000 kilograms) of meteoritic material reaches Earth each day. Almost all of it vaporises in the atmosphere, producing these bright trails.



The Gibeon Meteorites in central Windhoek.

Meteor showers

On most nights, several meteors are visible each hour. A dramatic increase in their number is called a meteor shower. Showers recur annually or at regular intervals when Earth crosses a comet's trail of dusty debris. Most comet debris ranges from the size of a sand grain to a pea and burns up in the atmosphere before reaching the ground. Meteor showers are usually named after a star

or constellation near their apparent origin in the sky. Notable examples and their source comets include:

Perseids: Peak each August. Every Perseid meteor comes from Swift-Tuttle, which passes the Sun every 135 years.

Leonids: Tempel-Tuttle, Aquariids and Orionids: Halley, Taurids: Encke.

Meteorites: rocks that reach the ground

A meteoroid that survives its passage through the atmosphere and reaches the ground is called a meteorite. Most

space rocks smaller than a football field break apart in Earth's atmosphere. Travelling at tens of thousands of miles per



Hoba Meteorite near Grootfontein

hour, they disintegrate when pressure exceeds their strength, producing a bright flare. Usually, less than 5% of the original object reaches the ground.

Meteorites can be difficult to distinguish from Earth rocks, but deserts make them easier to

spot. Dark meteorites stand out against broad stretches of sand with few rocks, or against the ice of cold deserts such as Antarctica's frozen plains.

Origins and evidence

Most meteorites found on Earth are fragments of shattered asteroids; some come from Mars or the Moon. Fragments of Mercury or Venus could theoretically have reached Earth, but none have been conclusively identified. Meteorites can be up to 4.6 billion years old.



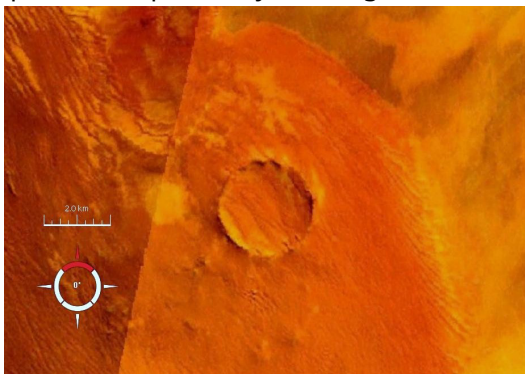
Cut through a Gibeon Meteorite "Amalia"
(Pic. Prof. Löbe - NSS Archive ©)

Recognising and classifying meteorites

Meteorites can resemble Earth rocks, but usually have a burned, sometimes shiny exterior. This "fusion crust" forms when the outer surface melts during passage through the atmosphere. Meteorites fall into three main groups: iron, stony and stony-iron. Most meteorites that reach Earth are stony, but those discovered long after falling are usually iron. Iron meteorites are heavier and easier to distinguish from Earth rocks than stony meteorites.

What meteorites reveal

Meteorites preserve varied primordial materials from which planets formed billions of years ago. Studying them helps reveal the solar system's history, including the age and composition of planetary building blocks.



Roter Kamm (German: Red Ridge) is a meteorite crater in the Sperrgebiet, in Namibia's Namib Desert. It lies about 80 kilometres north of

Oranjemund and 12 kilometres southwest of Aurus Mountain in the IlKaras Region. The crater is 2.5 kilometres wide and 130 metres deep. Its estimated age of 4.81 ± 0.5 million