

Amalthea moon

May 16, 2022

In news– NASA has predicted that Amalthea will eventually lose its orbit and crash into Jupiter.

About Amalthea moon-

- It is **one of Jupiter's 53 named satellites.**
- It was the **first to be discovered after the four Galilean moons**, and it is **the fifth-largest overall.**
- It orbits Jupiter at a distance of 112,717 miles, taking 11 hours, 54 minutes to circle the planet – **it is the third closest moon to Jupiter, belonging to the “inner moon” group alongside Metis, Adrastea, and Thebe.**
- According to infrared photometry, Amalthea has a **temperature of 155 Kelvin ± 15 Kelvin.**
- **Astronomer Edward Emerson Barnard discovered it on September 9, 1892**, while astronomer Camille Flammarion suggested the name Amalthea after the Greek mythological figure.
- **It was the final planetary satellite in the solar system to be discovered by direct observation** – that is, via a telescope rather than an imaging device like a satellite or a probe.
- **Not much is known about Amalthea, as it has only been observed by three spacecrafts:** Voyager 1 and Voyager 2 in 1979, and the Galileo spacecraft in 2002.
- Both the Voyager 1 and Voyager 2 spacecraft photographed the Jovian moon during their flybys in 1979.
- Then the Galileo spacecraft captured images of Amalthea at the turn of the 21st century with its Solid State Imaging (SSI) experiment, revealing more details about the unusual moon.
- What is known about Amalthea is that **it is an irregularly shaped celestial body marked by large impact craters, hills, and valleys, and it contributes to Jupiter's faint outer Gossamer Rings.**

- According to NASA, it is a potato-shaped, rocky body with a mean radius of 83.5 kilometres.
- **Amalthea has a dark, reddish surface marked by impact craters.**
- **The leading hemisphere (that facing the direction of motion) is some 30 percent brighter than the trailing one,** presumably as a result of bombardment by small meteoroids that have entered the Jovian system.
- **The red colour probably results from contamination by particles of sulfur and sulphur compounds** that are continually shed by the nearby volcanically active satellite 'Io'.

About Jupiter-

- Jupiter is the **largest planet in the solar system.**
- Jupiter is so large that all of the other planets in the solar system could fit inside it. More than 1,300 Earths would fit inside Jupiter.
- It is the **fifth planet from the sun and its** average distance from the sun is 5.2 astronomical units, or AU.
- When viewed from Earth, **Jupiter is usually the second brightest planet in the night sky, after Venus.**
- The planet is **named after Jupiter, the king of the Roman gods in mythology.**
- It is also called a gas giant planet and its **atmosphere is made up of mostly hydrogen gas and helium gas, like the sun.**
- The planet is covered in thick red, brown, yellow and white clouds and the clouds make the planet look like it has stripes.
- One of Jupiter's **most famous features is the Great Red Spot,** a giant spinning storm, resembling a hurricane.
- It **rotates, or spins, faster than any other planet.**
- **One rotation equals one day** and Jupiter's day is only about 10 hours long.

- Its orbit around the sun is elliptical, or oval-shaped.
- Jupiter takes 12 Earth years to make one revolution around the sun, so one year on Jupiter is equal to 12 years on Earth.
- Scientists now think Jupiter has 79 moons (includes 53 named moons) and the most recent moons were discovered in 2017.
- **The planet's four largest moons are** Ganymede, Callisto, Io (eye-0H), and Europa and these are called the **Galilean satellites** as Italian astronomer **Galileo Galilei discovered these moons** in 1610.
- **The largest of Jupiter's moons is Ganymede.** It is the **largest moon in the solar system** and is larger than the planet Mercury and three-fourths the size of Mars.
- **Ganymede is the only moon in the solar system known** to have its own magnetic field.
- Ganymede and Callisto have many craters and appear to be made of ice and rocky material.