

Supermoon

Prelims: Current events of national and international events

Why in news?

According to NASA, the first supermoon of 2025 will rise on October 7.

- **Supermoon** - A full moon that occurs when a **full moon or new moon coincides with a perigee**, or the closest point in its elliptical orbit to Earth.
- When the moon is near its perigee and also directly opposite the sun, the full moon appears about **14% larger and 30% brighter** than when it is at its farthest point (apogee).
- **Scientific name** - "Perigee-syzygy of the Earth-Moon-Sun system".
- **Key characteristics** -
 - **Orbital mechanics** - The moon's orbit around Earth is not a perfect circle, but an ellipse, so the supermoon occurs when the full moon coincides with a perigee.
 - **Enhanced appearance** - A supermoon's enlarged and brightened appearance is most noticeable to the naked eye when it is low on the horizon, where the "moon illusion" makes it seem even bigger.
 - **Effects on tides** - The moon's gravitational pull is strongest during a supermoon, causing higher-than-usual tides, known as perigean spring tides.
 - **Frequency** - Supermoons occur three to four times a year, always in consecutive months.
- **Supermoon variations** -
 - **Super Blood Moon** - A combination of a total lunar eclipse and a supermoon. During the eclipse, the moon passes into Earth's shadow and takes on a reddish hue, appearing both larger and redder than usual.
 - **Super Blue Blood Moon** - Extremely rare event combines a supermoon, a total lunar eclipse, and a Blue Moon (the second full moon in a calendar month).

Reference

[The Hindu | Supermoon](#)

