

Wright Mons mountain

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In news– Recently a team of scientists claimed that Wright Mons **mountain on Pluto is a volcano**, and cite the lack of impact craters as evidence that it is not likely to be older than 1-2 billion years.

Key findings –

- The scientists have **analyzed the data using NASA's New Horizons probe that made its spectacular flyby of Pluto on July 14, 2015.**
- The team drew particular attention to a mountainous feature named Wright Mons, which rises 4-5km above its surroundings.
- It is about 150km across its base and has a central depression (a hole) 40-50km wide, with a floor at least as low as the surrounding terrain.
- Many other areas of Pluto have been around long enough to accumulate large numbers of impact craters – no recent icy lava flows have covered them.
- As volcanoes go, **Wright Mons is a big one and its volume exceeds 20 thousand cubic kilometers.**
- Although considerably less than the volume of Mars's biggest volcanoes, this is similar to the total volume of Hawaii's Mauna Loa, and much greater than the volume of its above sea-level portion.
- This is particularly impressive given Pluto's small size, with a diameter about a third that of Mars and a sixth that of Earth.
- The slopes of this mountain and much of its surroundings are seen to be **crowded with hummocks, made primarily of water-ice, rather than nitrogen- or methane-ice** that covers some other young regions on Pluto.
- **The hummocks were likely created by some sort of ice volcanism, known by the technical term "cryovolcanism" – erupting icy water rather than molten rock.**

- Small patches of much weaker nitrogen-ice are mainly observed in the central depression.
- Pluto's bulk density shows that it must have rock in its interior, but its outer regions are a mixture of ices (water, methane, nitrogen and probably ammonia and carbon monoxide).
- **The scientists speculate that Pluto somehow held on to heat from its birth,** which was unable to leak out until late in the body's history.
- This would be **consistent with Pluto having a deep internal liquid water ocean, suggested based on other evidence.**

About Pluto-

- **Pluto is a dwarf planet in the Kuiper belt,** a ring of bodies beyond the orbit of Neptune.
- **It was the first object to be discovered in the Kuiper belt,** and remains the largest known body in that area.
- **After Pluto was discovered in 1930, it was declared to be the ninth planet from the Sun.**
- Beginning in the 1990s, its status as a planet was questioned following the discovery of several objects of similar size in the Kuiper belt and the scattered disc, including the dwarf planet Eris.
- This led the **International Astronomical Union (IAU) in 2006 to formally define the term planet—excluding Pluto and reclassifying it as a dwarf planet.**
- **Pluto is the ninth-largest and tenth-most-massive known object directly orbiting the Sun.**
- It is the **largest known trans-Neptunian object** by volume but is less massive than Eris.
- Like other Kuiper belt objects, Pluto is primarily made of ice and rock and is relatively small—one-sixth the mass of the Moon and one-third its volume.
- It **has a moderately eccentric and inclined orbit during which it ranges from 30 to 49 astronomical units** or AU

(4.4–7.4 billion km) from the Sun.

- **Pluto has five known moons: Charon (the largest,** with a diameter just over half that of Pluto), Styx, Nix, Kerberos, and Hydra.
- **Pluto and Charon are sometimes considered a binary system** because the barycenter of their orbits does not lie within either body.
- **The New Horizons spacecraft performed a flyby of Pluto on July 14, 2015, becoming the first and, to date, only spacecraft to do so.**