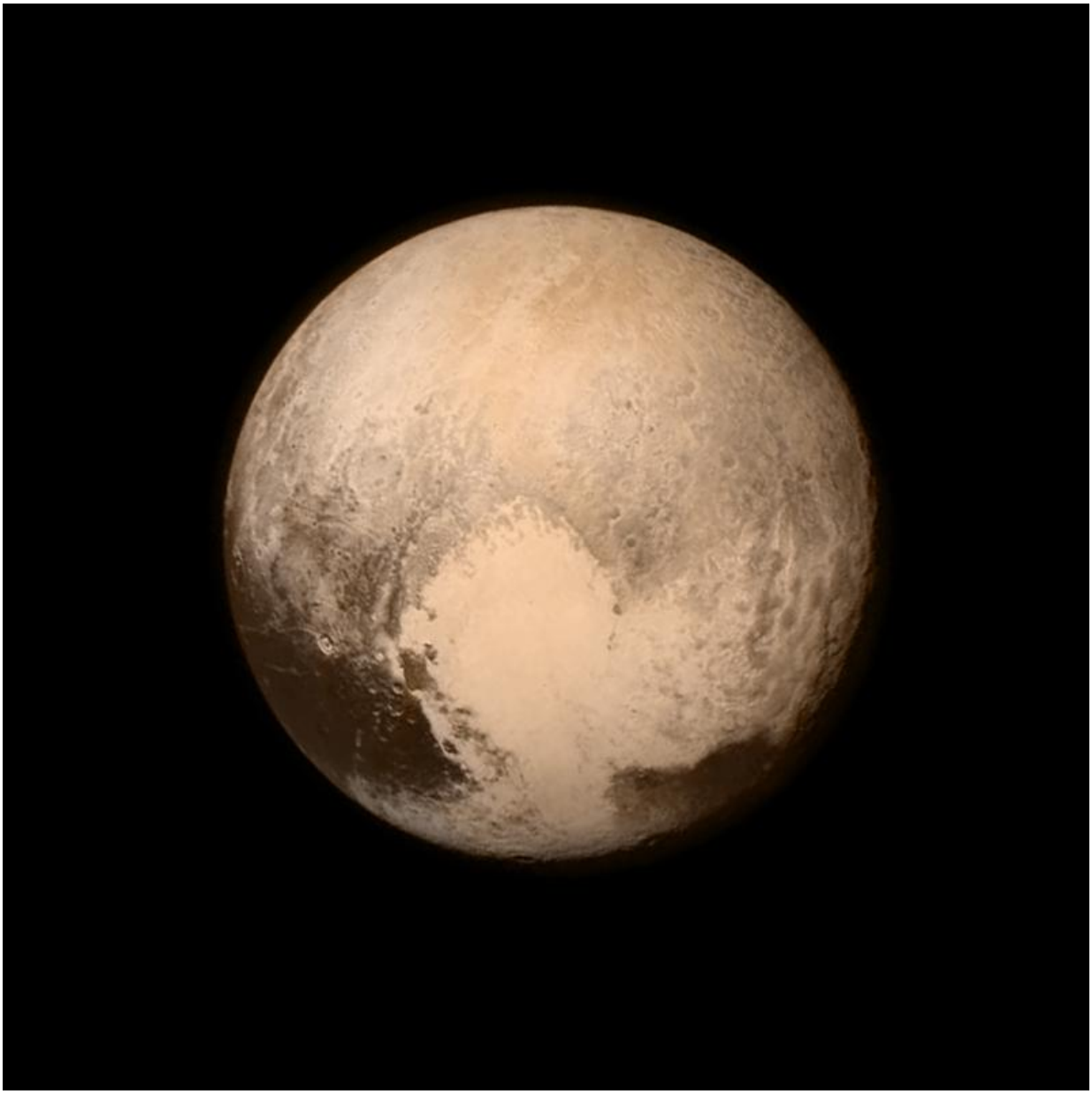
Is Pluto a planet? It is no longer considered one, but some believe it should be

August 31 2022, by Clare Mulroy



Pluto nearly fills the frame in this image from the Long Range Reconnaissance Imager (LORRI) aboard NASA's New Horizons spacecraft, taken on July 13, 2015 when the spacecraft was 476,000 miles (768,000 kilometers) from the surface. This is the last and most detailed image sent to Earth before the spacecraft's closest approach to Pluto on July 14. The color image has been combined with lower-resolution color information from the Ralph instrument that was acquired earlier on July 13. This view is dominated by the large, bright feature informally named the "heart," which measures approximately 1,000 miles (1,600 kilometers) across. The heart borders darker equatorial terrains, and the mottled terrain to its east (right) are complex. However, even at this resolution, much of the heart's interior appears remarkably featureless—possibly a sign of ongoing geologic processes. Credit: NASA/APL/SwRI

Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus, Neptune and Pluto. Subject to memorization in school and known as the definitive planetary lineup, Pluto was included in the list until the International Astronomical Union determined it did not meet qualifications in 2006.

Though Pluto is no longer considered a major planet, it's still beloved by the science community and regularly makes headlines. The National Aeronautics and Space Administration recently posted a technicolor photo of Pluto, created by scientists to show subtle differences between its regions.

Here's why Pluto isn't officially considered a planet anymore.

Why is Pluto not a planet?

Pluto came into the lexicon in 1930 when astronomer Clyde Tombaugh discovered it when searching for signs of a planet. It wasn't until the early 2000s that researchers began developing the qualifications for a celestial body to be considered a planet.

In 2006, the IAU voted that the definition of a planet relied on three specifications:

1. It orbits around the sun
2. It has sufficient mass so that it becomes a nearly round shape
3. It has cleared the neighborhood around its orbit

IAU members also concurred that dwarf planets and planets are two distinct classifications. They determined the solar system contains eight planets: Mercury, Venus, Earth, Mars, Jupiter, Saturn, Uranus and Neptune.

Pluto does not meet the third criteria because it is not gravitationally dominant, the Library of Congress reports. This means Pluto is classified as a dwarf planet rather than a major planet like its formerly assumed siblings.

What are dwarf planets?

Dwarf planets are smaller planets that do not meet all three categories of a planet. According to NASA, they are round in shape and orbit the sun, but don't clear their orbital path. There are currently five recognized dwarf planets in our solar system, listed here in order of closest proximity to the Earth:

- Ceres: Located in the Asteroid Belt between Mars and Jupiter, discovered in 1801
- Pluto: Located in the Kuiper Belt, discovered in 1930
- Eris: Located in the Kuiper Belt, discovered in 2003
- Makemake: Located in the Kuiper Belt, discovered in 2005
- Haumea: Located in the Kuiper Belt, discovered in 2003

Controversial categories

While the IAU definition of planets remains the globally adopted one, that doesn't mean it's unanimously accepted. Some planetary experts dispute the 2006 vote, saying the definitions are arbitrary. In 2018, scientist Philip Metzger from the University of Central Florida published a study that suggested the standard for classifying planets is not scientifically sound.

Metzger argues that planetary scientists use the word "planet" in a number of ways because it's a functionally useful term, and that a planet should be defined by its intrinsic properties rather than its orbit, which can change over time.

"It's more dynamic and alive than Mars," Metzger said in a UCF press release, referring to its underground ocean, multiple moons, organic compounds and multilayer atmosphere. "The only planet that has more complex geology is the Earth."

NASA's Alan Stern also disagrees with the IAU. In an interview with Forbes, he said all dwarf planets should be considered planets for a number of reasons—one being that the solar system contains so many asteroids that no celestial body has cleared the neighborhood of its orbit.

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