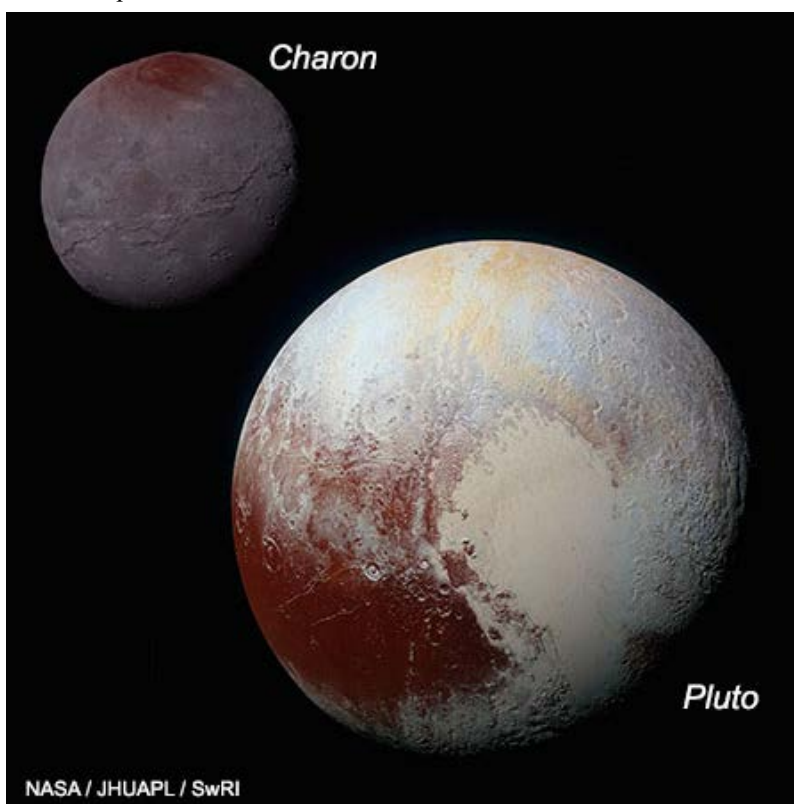


Formal Names for Pluto's Geological Features

NASA announced on February 23, 2017 that the International Astronomical Union (IAU), in conjunction with the ***New Horizons mission*** team, has approved the themes that will guide the selection of names for the surface features on Pluto and its moons. These themes are listed in this ***NASA News Release***.

Speaking of names, a debate persists whether Pluto is a planet or dwarf planet. Alternative definitions of the term "planet" started gaining ground with scientists and the public almost immediately after the definition adopted by the IAU in 2006 famously renamed Pluto as a dwarf planet.



Enhanced-color images of Pluto and Charon were taken by NASA's New Horizons spacecraft. Working with the New Horizons mission team, the IAU has approved the themes that people will use to name the surface features on Pluto and its moons.

A team of scientists with NASA's New Horizons mission submitted a geophysical planet definition to be presented at the Lunar and Planetary Science XLVIII Conference being held March 20-24, 2017 in Texas [[LPSC meeting site](#)]. Their point of view, shared by many others, goes like this, "In keeping with emphasizing intrinsic properties, our geophysical definition is directly based on the physics of the world itself rather than the physics of its interactions with external objects."

Kirby Runyon (Johns Hopkins University, Baltimore, MD), Alan Stern (Southwest Research Institute, Boulder, CO), Tod Lauer (National Optical Astronomy Observatory, Tucson, AZ), Will Grundy (Lowell Observatory, Flagstaff, AZ), Michael Summers (George Mason University, Fairfax, VA), and Kelsi Singer (Southwest Research Institute) promote this geophysical planet definition:

"A planet is a sub-stellar mass body that has never undergone nuclear fusion and that has sufficient self-gravitation to assume a spheroidal shape adequately described by a triaxial ellipsoid regardless of its orbital parameters."

The definition incorporates a body's own geophysical properties, in contrast to the 2006 IAU definition that emphasized a body's extrinsic orbital properties around the Sun.

Under this definition, the team argues, Pluto, Charon, Ceres, and Earth's Moon, are planets. Furthermore, the adjectives "dwarf" and "moon" are as valid as "terrestrial," "giant," and "ice giant" in describing planets in general, as well as the 110 known planets in our own Solar System. PSRD has added this geophysical definition of *planet* to our glossary.

See References:

- Runyon, K. D., Stern, S. A., Lauer, T. R., Grundy, W., Summers, M. E., and Singer, K. N. (2017) A Geophysical Planet Definition, *Lunar and Planetary Science Conference XLVIII*, abstract **#1448**.
- *NASA's New Horizons, IAU Set Pluto Naming Themes: [NASA News Release](#).*

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