NASA tells lawmakers to brace for more Pluto secrets revealed by mission

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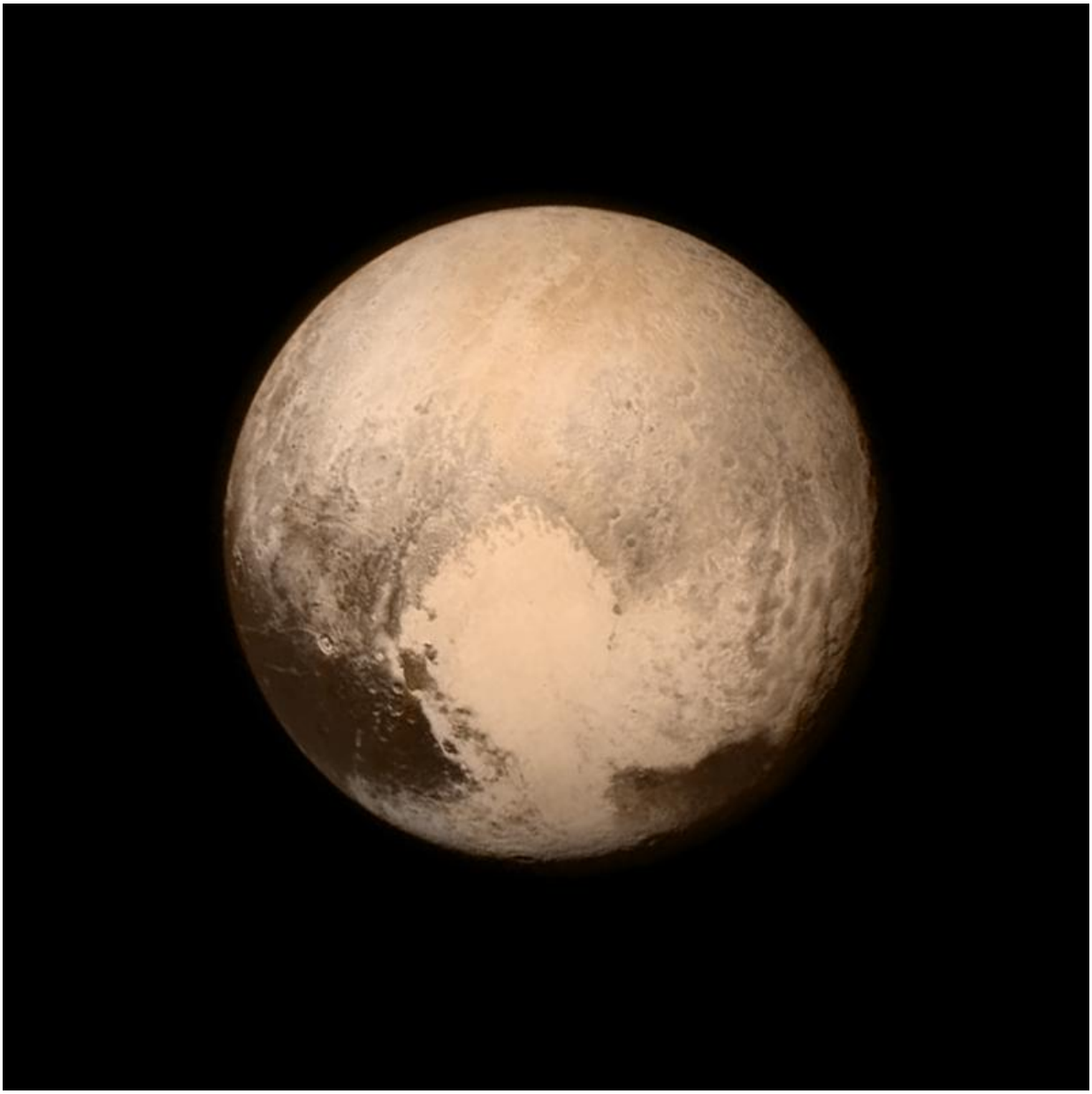

Pluto nearly fills the frame in this image from the Long Range Reconnaissance Imager (LORRI) aboard NASA's New Horizons spacecraft, taken on July 13, 2015 when the spacecraft was 476,000 miles (768,000 kilometers) from the surface. This is the last and most detailed image sent to Earth before the spacecraft's 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

Hoping to capture lawmakers' imaginations and perhaps loosen their purse strings, NASA officials said Tuesday that the new scientific information gleaned from the New Horizons mission to Pluto was "revolutionizing" what they know about the icy dwarf planet.

Among other things, the mission revealed evidence of an internal ocean, atmospheric hazes and "other wonders," Alan Stern, principal investigator of the mission, said before the House Committee on Science, Space and Technology.

New measurements also reveal that Pluto is slightly larger than expected, roughly 1,473 miles in diameter, compared with Earth's diameter of about 7,900 miles. The spacecraft and its seven instruments collected additional data, such as the height of Pluto's mountains, the depth of its valleys and its surface temperature. Stunning pictures from the mission were circulated this month.

And data transmitted from New Horizons revealed differences in the compositions of Pluto and its largest moon, Charon. Pluto seems to be

made of methane gas, nitrogen ice and carbon monoxide ice, while much of Charon is composed of water and ammonia, leading scientists to wonder how Pluto and its largest moon could have traveled together for so many years and yet are so different.

The data is revolutionizing theories about the distant body, Stern said, predicting that even greater discoveries lay ahead.

"With only 5 percent of data on the ground, we all feel we need to fasten our seat belts for the next 95 percent," he said. It will take 16 months for all the collected data from New Horizons to be transmitted to Earth.

Scientists said the mission demonstrates this need for planetary exploration.

"Now is the time to accelerate, not curtail, the pace and scope of our nation's solar system exploration program," said Robert Braun, professor of space technology at Georgia Institute of Technology.

The New Horizons probe - launched in 2006 and powered by plutonium - reached the closest phase of its brief planetary flyby of Pluto and its five moons on July 14.

The decision of whether the mission, which cost about $700 million, will now travel on to another Kuiper belt mission will be made by NASA this summer. According to Stern, the spacecraft can operate for 20 more years, allowing for a flyby of another Kuiper belt building block by 2019.

NASA supporters said the hearing was held in part to inspire and educate the next generation of scientists to join these fields, and to assure them that there will be money to fund space exploration.

Rep. Lamar Smith, R-Texas, committee chairman, urged the Obama administration to "restore these crucial funds to the science and exploration accounts."