

NASA spacecraft whizzes by Pluto in historic flyby (Update)

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This July 11, 2015, image provided by NASA shows Pluto from the New Horizons spacecraft. On Tuesday, July 14, NASA's New Horizons spacecraft will come closest to Pluto. New Horizons has traveled 3 billion miles over 9½

years to get to the historic point. (NASA/JHUAPL/SWRI)

An unmanned NASA spacecraft whizzed by Pluto on Tuesday, making its closest approach in the climax of a decade-long journey to explore the dwarf planet for the first time, the US space agency said.

Moving faster than any spacecraft ever built at a speed of about 30,800 miles per hour (50,000 kph), the nuclear-powered New Horizons—about the size of a baby grand piano—snapped pictures of Pluto as it hurtled by on auto-pilot.

The photos will reveal details of Pluto never seen before in the history of space travel.

"The New Horizons spacecraft passes its closest approach mark at Pluto after a three-billion-mile journey," a NASA commentator said as spectators cheered and waved flags in a crowded room at the Johns Hopkins Applied Physics Center outside the US capital Washington.

The spacecraft was a bit closer to Pluto's surface than initially planned, 7,750 miles—or about the distance from New York to Mumbai, India—and may have been one minute earlier than the 1149 GMT target time, the US space agency said.

"I have to pinch myself. Look what we accomplished," mission operations manager Alice Bowman said.

"It is truly amazing that humankind can go out and explore these worlds. And to see Pluto be revealed just before our eyes—it is just fantastic."

New Horizons principal investigator Alan Stern described "a moment of

celebration," with the promise of a "16-month data waterfall" ahead that will help scientists write whole new textbooks about Pluto.

"We have completed the initial reconnaissance of the solar system, an endeavor started under President (John F.) Kennedy more than 50 years ago, continuing today under President (Barack) Obama," Stern told reporters.

Obama cheered the mission on Twitter.

"Congratulations to @NASANewHorizons on completing a three-billion-mile journey," the US president wrote.

'Hallmark in human history'

Never before has a spacecraft ventured into the Kuiper Belt, and New Horizons has been on its way there for more than nine years.

The spacecraft launched in 2006, the same year that Pluto was downgraded to "dwarf planet" status due to the celestial body's small size.

New Horizons is the first spacecraft to fly past Pluto and its seven scientific instruments aim to reveal up-close details of the surface, geology and atmosphere of Pluto and its five moons.

Already, scientists have learned from New Horizons that Pluto is 12-18 miles larger than previously thought, with a radius of 736 miles.

Scientists have also confirmed the existence of a polar ice cap on Pluto and found nitrogen escaping from Pluto's atmosphere.

"This is truly a hallmark in human history," said NASA's head of the

science mission directorate, John Grunsfeld.

The spacecraft has enough fuel to carry on its exploration for years to come.

Stern plans to ask NASA for funding to continue using New Horizons beyond its Pluto mission.

But first scientists need to know if it survived the chaotic Kuiper Belt, the region beyond Neptune which Stern has described as a "shooting gallery" of cosmic debris.

"A collision with a particle as small as a grain of rice could incapacitate the spacecraft," NASA said in a statement.

The space agency expects to receive a signal from New Horizons at 9:02 pm (0102 GMT Wednesday) to find out whether or not the spacecraft made it through intact.

Experts said there was a one in 10,000 chance that the spacecraft could be lost in a debris strike.

"I am feeling a little bit nervous just like you do when you send your child off," said Bowman.

"But I have absolute confidence that it is going to do what it needs to do and it is going to turn around and send us that burst of data and tell us that it is okay."

Some key facts about Pluto

On Tuesday, a NASA spacecraft will become the first to fly past Pluto, and will send back images in unprecedented detail. Here are some of the

key facts known about Pluto:

- Pluto was discovered in 1930.
- Its diameter is about 1,471 miles (2,367 kilometers), making it smaller than the Earth's moon, which has a diameter of 2,159 miles.
- Pluto has 500 times less mass than the Earth. It is a rocky body that contains ice made of methane and frozen water.
- Pluto orbits the sun once every 247.7 years.
- Pluto has five moons, the largest of which is the size of Texas and is named Charon.
- Pluto was discovered in 1930 by the American astronomer Clyde Tombaugh. It was initially considered the furthest planet in our solar system, after Neptune.
- The International Astronomical Union retracted Pluto's planet status in 2006 and reclassified it as a [dwarf planet](#), leaving the solar system with just eight planets.
- The reason for Pluto's change in status was the small celestial body had not "cleared the neighborhood around its orbit," the IAU said. However, some planetary scientists still consider Pluto a planet.

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