

## **NASA: Voyager 1 enters new region of solar system**

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LOS ANGELES (AP) -- The unstoppable Voyager 1 spacecraft has sailed into a new realm of the solar system that scientists did not know existed.

Voyager 1 and its twin, Voyager 2, have been speeding away from the sun toward interstellar space, or the space between stars.

Over the summer, Voyager 1, which is farther along in its journey, crossed into this new region where the effects from the outside can be felt.

"We do believe this may be the very last layer between us and interstellar space," said chief scientist Ed Stone of the NASA Jet Propulsion Laboratory, which manages the spacecraft.

Stone presented Voyager 1's latest location at a meeting of the American Geophysical Union in San Francisco.

Voyager 1 is on track to become the first manmade object to exit the solar system. Exactly when that day will come is unknown, partly because there's no precedent.

Stone estimated Voyager 1 still has two to three years to travel before reaching the boundary that separates the solar system from the rest of space.

Scientists were surprised to discover the unexpected region at the fringes of the solar system - a testament to the mysteries of space.

For the past year, the team has seen tantalizing clues that heralded a new space environment. The amount of high-energy cosmic rays streaming in from outside the solar system spiked. Meanwhile, the level of lower-energy particles originating from inside the solar system briefly dropped.

Because there was no change in the direction of the magnetic field lines, scientists were confident that Voyager 1 had not yet broken through. They have dubbed this new zone a kind of "magnetic highway."

The Voyagers launched 35 years ago on a mission to tour the outer planets. Though Voyager 2 - currently 9 billion miles from the sun - launched first, Voyager 1 is closer to leaving the solar system behind. It's more than 11 billion miles from the sun.

That's because after the duo beamed home stunning pictures of Jupiter's big red spot, Saturn's shimmering rings and their moons, Voyager 2 ventured onward to

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Uranus and Neptune. To this day, it's the only spacecraft to explore these two icy worlds.

Instead of following its twin, Voyager 1 used Saturn's gravity to propel itself toward the solar system's edge.

Though the cameras aboard the nuclear-powered Voyagers have long been turned off, the probes have enough power to operate the other instruments until around 2020.

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