

Five things about NASA's Voyager mission

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Artist concept of NASA's Voyager spacecraft. Image credit: NASA/JPL-Caltech

(PhysOrg.com) -- Here are five facts about NASA's twin Voyager 1 and 2 spacecraft, the longest continuously-operating spacecraft in deep space. The Voyagers were built by NASA's Jet Propulsion Laboratory in Pasadena, Calif., which continues to operate both spacecraft.

Long-Distance Space Runners

[Voyager 2](#) launched on Aug. 20, 1977, and Voyager 1 launched about two weeks later, on Sept. 5. Since then, the spacecraft have been traveling along different flight paths and at different speeds. Now some 17.4 billion kilometers (10.8 billion miles) from the sun and hurtling toward [interstellar space](#), Voyager 1 is the farthest human-made object from Earth. Voyager 2 is about 14.2 billion kilometers (8.8 billion miles) from the sun.

Can You Hear Me Now?

Both spacecraft are still sending scientific information about their surroundings through NASA's [Deep Space Network](#). A signal from the ground, traveling at the speed of light, takes about 13 hours one way to reach Voyager 2, and 16 hours one way to reach Voyager 1.

Planetary Tour

The primary five-year mission of the Voyagers included the close-up exploration of Jupiter and Saturn, Saturn's rings and the larger moons of the two planets. The mission was extended after a succession of discoveries, and between them, the two spacecraft have explored all the giant outer planets of our solar system -- Jupiter, [Saturn](#), Uranus and Neptune, 49 moons, and the systems of rings and magnetic fields those planets possess.

The current mission, the Voyager Interstellar Mission, was planned to explore the outermost edge of our solar system and eventually leave our sun's sphere of influence and enter interstellar space – the space between the stars.

The Golden Record

Both Voyager [spacecraft](#) carry recorded messages from Earth on golden phonograph records – 12-inch, gold-plated copper disks. A committee chaired by the late astronomer Carl Sagan selected the contents of the records for [NASA](#). The records are cultural time capsules that the Voyagers carry with them to other star systems. They contain images and natural sounds, spoken greetings in 55 languages and musical selections from different cultures and eras.

Where No Spacecraft Has Gone Before

Voyager 1 has reached a distant point at the edge of our [solar system](#), where the outward motion of solar wind ceases. The event is the latest milestone in Voyager 1's passage through the heliosheath, the outer shell

of the sun's sphere of influence, before entering interstellar space. Interstellar space begins at the heliopause, and scientists estimate Voyager 1 will cross this frontier around 2015.

More information: For more information about the Voyager mission, visit: www.nasa.gov/voyager

Provided by JPL/NASA

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