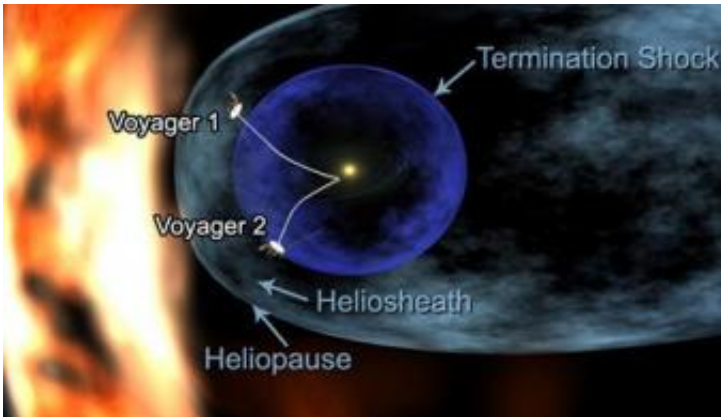


Voyager 1 Hits New Milestone

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Artist concept of the two Voyager spacecraft as they approach interstellar space. Image credit: NASA/JPL

Voyager 1, already the most distant human-made object in the cosmos, reaches 100 astronomical units from the sun on Tuesday, August 15 at 5:13 p.m. Eastern time (2:13 p.m. Pacific time). That means the spacecraft, which launched nearly three decades ago, will be 100 times more distant from the sun than Earth is.

In more common terms, Voyager 1 will be about 15 billion kilometers (9.3 billion miles) from the sun. Dr. Ed Stone, Voyager project scientist and the former director of NASA's Jet Propulsion Laboratory in Pasadena, Calif., says the Voyager team always predicted that the spacecraft would have enough power to last this long.

"But what you can't predict is that the spacecraft isn't going to wear out or break. Voyager 1 and 2 run 24 hours a day, seven days a week, but they were built to last," Stone said. The spacecraft have really been put to the test during their nearly 30 years of space travel, flying by the outer planets, and enduring such challenges as the harsh radiation environment around Jupiter.

The spacecraft are traveling at a distance where the sun is but a bright point of light and solar energy is not an option for electrical power. The Voyagers owe their longevity to their nuclear power sources, called radioisotope thermoelectric generators, provided by the Department of Energy.

Voyager 1 is now at the outer edge of our solar system, in an area called the heliosheath, the zone where the sun's influence wanes. This region is the outer layer of the 'bubble' surrounding the sun, and no one knows how big this bubble actually is. Voyager 1 is literally venturing into the great unknown and is approaching interstellar space. Traveling at a speed of about one million miles per day, Voyager 1 could cross into interstellar space within the next 10 years.

"Interstellar space is filled with material ejected by explosions of nearby stars," Stone said. "Voyager 1 will be the first human-made object to cross into it."

Voyager Project Manager Ed Massey of JPL says the survival of the two spacecraft is a credit to the robust design of the spacecraft, and to the flight team, which is now down to only 10 people. "But it's these 10 people who are keeping these spacecraft alive. They're very dedicated. This is sort of a testament to them, that we could get all this done."

Between them, the two Voyagers have explored Jupiter, Uranus, Saturn and Neptune, along with dozens of their moons. In addition, they have

been studying the solar wind, the stream of charged particles spewing from the sun at nearly a million miles per hour.

Source: by Jane Platt, JPL NASA

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