

NASA spacecraft now circling Mercury -- a first

March 18 2011



Image: NASA

For the first time, Earth has a regular orbiting eye-in-the-sky spying on the solar system's smallest and strangest planet, Mercury.

NASA's spacecraft called Messenger successfully veered into a pinpoint orbit Thursday night after a 6 1/2-year trip and 4.9 billion miles and tricky maneuvering to fend off the [gravitational pull](#) of the sun. It is the fifth planet in our solar system that NASA has orbited, in addition to the Earth and the moon.

"It was right on the money," Messenger's chief engineer, Eric Finnegan, said. Messenger is in orbit that brings it as close as 120 miles above the planet's surface. "This is as close you can possibly get to being perfect."

"Everybody was whooping and hollering; we are elated," Finnegan said.

"There's a lot of work left to be done, but we are there."

[Mercury](#) is not only difficult to get to, but it's has some of the most extremes in the solar system. Temperatures there swing wildly by 1,100 degrees. While it gets up to 800 degrees on the planet closest to the sun, it also is so cold and dark in some craters that the temperatures don't get above 300 degrees below zero. Radar even shows that there is likely frozen ice in those craters, something Messenger will try to confirm.

In the 1970s, NASA sent a spacecraft, Mariner, whizzing by Mercury, but only got pictures of less than half of the tiny rock. Robert Strom of the University of Arizona was a scientist on the Mariner and current Messenger missions and he said for a while he thought he wouldn't get a second peek at the eccentric Mercury.

"I am just so thrilled it isn't funny," Strom said by telephone minutes after NASA confirmed that Messenger was in orbit. "Thirty-six years waiting for this day. It's just unbelievable."

Strom said he and all his colleagues were nervous as the desk-sized spacecraft automatically shifted into an egg-shaped orbit, with controllers on Earth unable to change commands because it took eight minutes for signals to travel the approximately 100 million miles from Mercury to Earth.

"This was not easy. This was a very, very difficult maneuver to get into orbit," Strom told The Associated Press.

A NASA Twitter account under Messenger's name gave play-by-play accounts as it arrived at the small planet. This "Messenger" "exchanged tweets" with Voyager 2, one of NASA's oldest and most-distant spacecraft. Voyager 2, launched in 1977 and now at the edge of the solar system, tweeted good luck and Messenger "answered" with a tweet:

"Many thanks! Cold out there? Kinda warm where I am."

Messenger, which cost [NASA](#) \$446 million, was launched in 2004. Next month it should start transmitting pictures and investigate Mercury's mysterious magnetic field and unusual density.

"This is when the real mission begins," Messenger chief scientist Sean Solomon said an hour after Messenger was safely in Mercury's [orbit](#). "We are really ready to learn about one of Earth's nearest neighbors for the first time."

For example, Solomon said Mercury, Venus, Earth and Mars formed at the same time, but Mercury "came out very different."

"Mercury is a planet where there are many things going on," Solomon said.

More information: Messenger spacecraft: <http://bit.ly/eqUYR8>

©2010 The Associated Press. All rights reserved. This material may not be published, broadcast, rewritten or redistributed.

Citation: NASA spacecraft now circling Mercury -- a first (2011, March 18) retrieved 13 April 2024 from <https://phys.org/news/2011-03-nasa-spacecraft-circling-mercury-.html>

This document is subject to copyright. Apart from any fair dealing for the purpose of private study or research, no part may be reproduced without the written permission. The content is provided for information purposes only.
