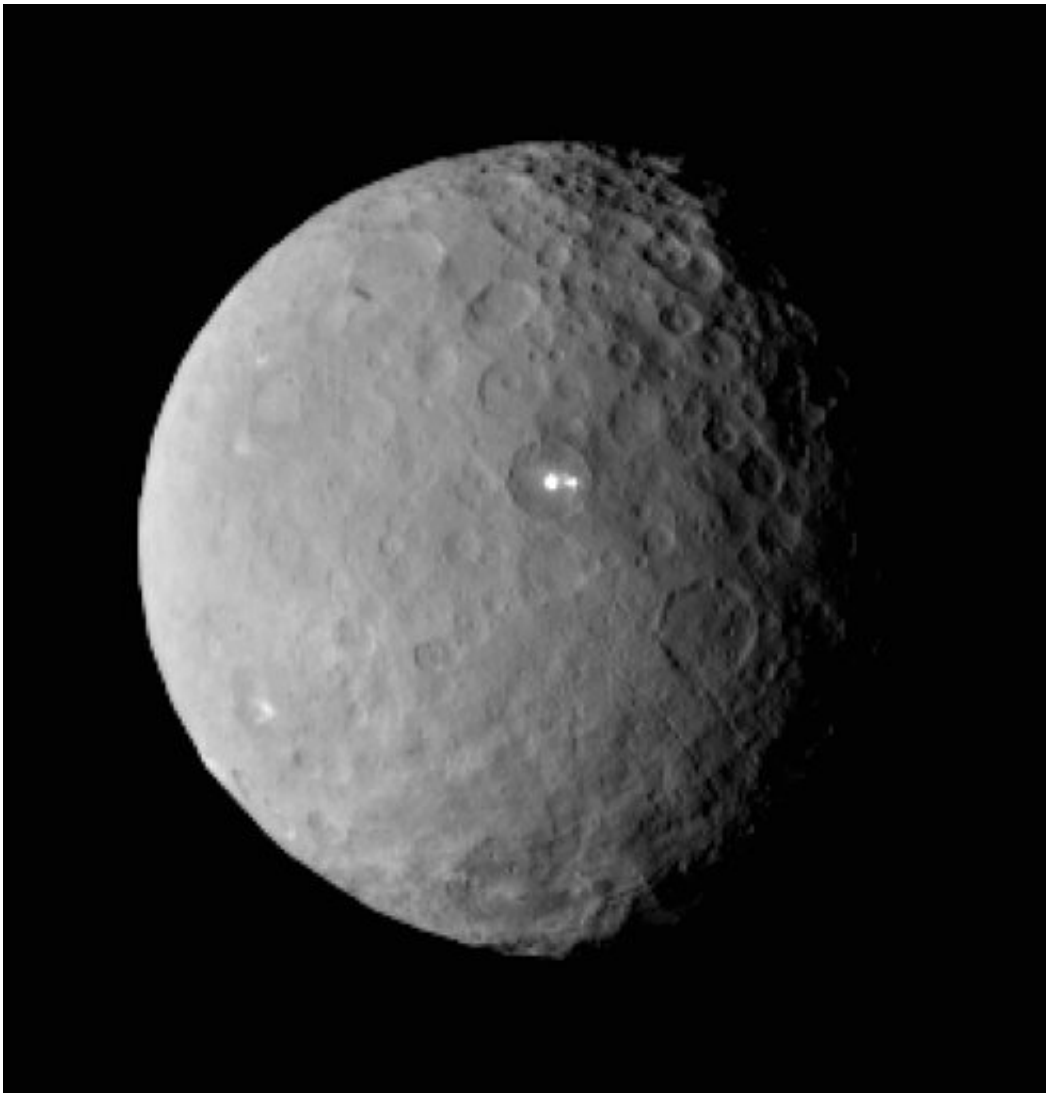


Mysterious dwarf planet Ceres gets ready for the spotlight

March 5 2015, by Alicia Chang



This Feb. 19, 2015 file image provided by NASA shows the dwarf planet Ceres, taken by the space agency's Dawn spacecraft from a distance of nearly 29,000 miles (46,000 kilometers). On Friday, March 6, 2015, NASA's Dawn spacecraft

arrives at the mysterious dwarf planet located in the asteroid belt between Mars and Jupiter after a nearly eight-year journey. Dawn, which previously visited Vesta, also in the asteroid belt, has already beamed back images of Ceres as it closes in. (AP Photo/NASA/JPL-Caltech/UCLA/MPS/DLR/IDA, File)

The mysterious dwarf planet Ceres is ready for its close-up.

Located in the [asteroid belt](#) between Mars and Jupiter, Ceres is the largest unexplored space rock in the inner solar system. But that distinction ends Friday, when NASA's Dawn spacecraft arrives after nearly an eight-year journey, which included a stopover at the asteroid Vesta.

Dawn has already beamed back images of Ceres from its approach.

Five things to know about Ceres:

THE DISCOVERY

Ceres was spotted on New Year's Day in 1801 by Italian monk and astronomer Giuseppe Piazzi who was searching for a star. It was the first object discovered in the asteroid belt, a zone littered with rocky debris left over from the formation of the sun and planets 4½ billion years ago.

THE NAME

Piazzi named the object "Ceres Ferdinandea" after the Roman goddess of harvest and in honor of King Ferdinand IV of Naples and Sicily. Other astronomers shortened it to Ceres. The word cereal also has its origins in Ceres. The chemical element cerium, discovered in 1803, was named after Ceres.

THE IDENTITY CRISIS

Located about 250 million miles from the sun, Ceres was deemed a comet when it was first discovered. Then it was promoted to a planet and later downgraded to an asteroid. Since 2006, it has been classified as a [dwarf planet](#) like Pluto, the one-time ninth planet. Dwarf planets are spherical in shape like planets, but they share the same celestial neighborhood with other similar-sized objects.

THE BRIGHT SPOTS

Ceres—with a diameter of about 600 miles—is thought to have a rocky core surrounded by an icy mantle. Long ago it might have harbored an underground ocean. As Dawn approached Ceres, it spotted a pair of puzzling bright spots inside a crater. Scientists think the shiny dots may be exposed ice or salt.

THE MISSION

Launched in 2007 and powered by ion propulsion engines, Dawn will make the first close-ups of a dwarf planet. It will study Ceres for 16 months from varying altitudes, getting as close as 235 miles above Ceres' surface, or the distance of the International Space Station above Earth.

The spacecraft will take sharper images of the mysterious spots and use its instruments to confirm whether Ceres' surface is still active and spewing plumes of water vapor.

This summer, another NASA spacecraft dubbed New Horizons will make the first visit to the dwarf planet Pluto.

More information: Dawn mission: dawn.jpl.nasa.gov/

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