



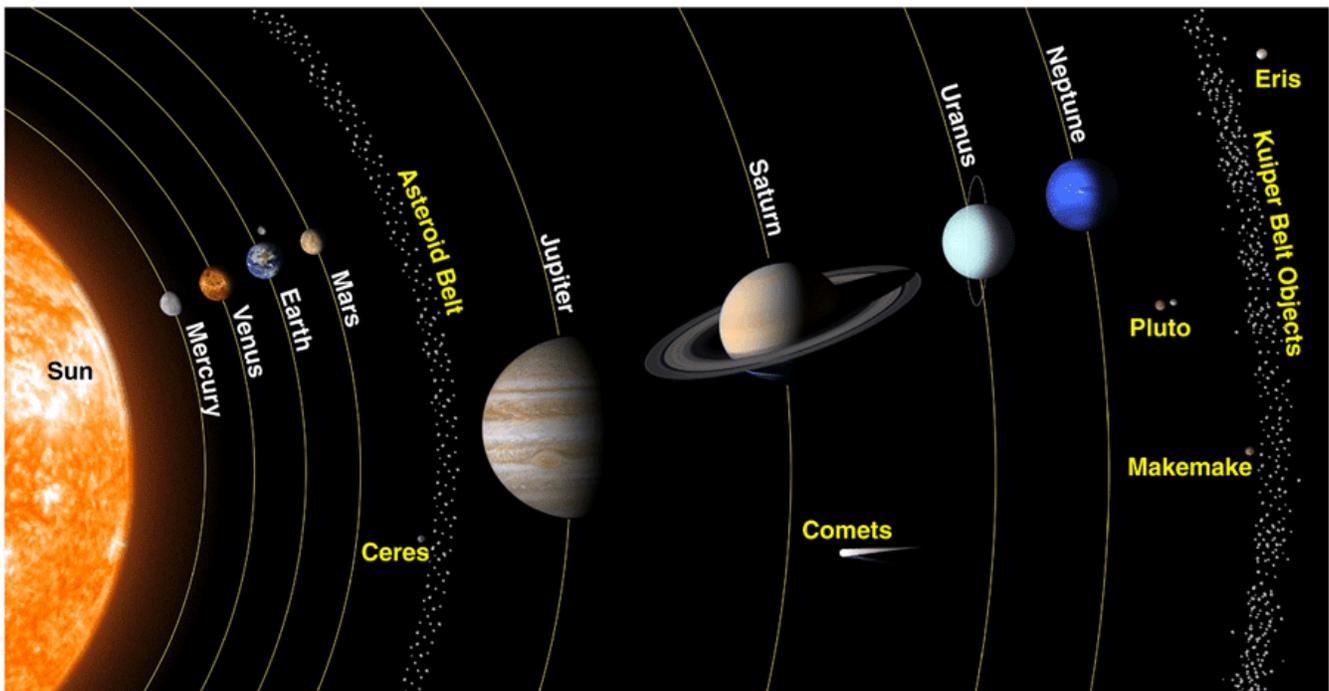
Dwarf Planet Ceres

 drishtiias.com/printpdf/dwarf-planet-ceres

Why in News

As per the data collected by NASA's Dawn spacecraft, dwarf planet **Ceres** reportedly has **salty water underground**.

Dawn (2007-18) was a **mission** to the **two** most massive bodies in the main **asteroid belt** - **Vesta** and **Ceres**.



Key Points

- **Latest Findings:**

- The scientists have given **Ceres** the status of an “**ocean world**” as it has a big **reservoir of salty water underneath its frigid surface.**
 - This has led to an increased interest of scientists that the **dwarf planet was maybe habitable or has the potential** to be.
 - **Ocean Worlds** is a term for ‘**Water in the Solar System and Beyond**’.
- The salty water originated in a **brine reservoir** spread hundreds of miles and about 40 km beneath the surface of the Ceres.
- Further, there is an evidence that Ceres remains **geologically active** with **cryovolcanism - volcanoes oozing icy material.**

Instead of molten rock, cryovolcanoes or **salty-mud volcanoes release frigid, salty water sometimes mixed with mud.**

- **Subsurface Oceans on other Celestial Bodies:** Jupiter’s moon Europa, Saturn’s moon Enceladus, Neptune’s moon Triton, and the dwarf planet Pluto.

This provides scientists a means **to understand the history of the solar system.**

- **Ceres:**

- It is the **largest object in the asteroid belt** between Mars and Jupiter.

It was the **first member of the asteroid belt** to be discovered when **Giuseppe Piazzi spotted it in 1801.**
- It is the **only dwarf planet located in the inner solar system** (includes planets Mercury, Venus, Earth and Mars).

Scientists classified it as a **dwarf planet in 2006.**
- It has a **diameter of about 950 km**, which is **more than one-fourth of Earth’s moon.**
 - It takes **1,682 Earth days, or 4.6 Earth years**, to make **one trip around the sun.**
 - It completes one **rotation around its axis** every **9 hours.**
- It **does not have any moon or rings.**
- It has a 92 km wide **crater named Occator** located in its northern hemisphere.

Dwarf Planets

- According to the **International Astronomical Union (IAU)**, which sets definitions for planetary science, a dwarf planet is a celestial body that - orbits the sun, has enough mass to assume a nearly round shape, has not cleared the neighborhood around its orbit and is not a moon.
- The **first five recognised dwarf planets** are **Ceres, Pluto, Eris, Makemake and Haumea.**

Source: IE