



## NASA's Dawn Mission

---

 [drishtiias.com/printpdf/nasas-dawn-mission](https://drishtiias.com/printpdf/nasas-dawn-mission)

NASA's Dawn spacecraft (launched in 2007) which orbited the **two largest objects (Vesta and Ceres) in the asteroid belt** has run out of fuel, ending a historic 11-year mission that unravelled many mysteries of our solar system.

Mission managers of Dawn Mission concluded that the spacecraft finally ran out of **hydrazine, the fuel that enables the spacecraft to control its pointing.**

### Significance of the Mission

---

- The astounding images and data that Dawn collected from Vesta and Ceres are critical to understanding the history and evolution of the solar system.
- In 2011, when Dawn arrived at Vesta, **the spacecraft became the first to orbit a body in the region between Mars and Jupiter.**
- In 2015, when Dawn went into orbit around Ceres, a dwarf planet that is also in the asteroid belt, the mission became the **first to visit a dwarf planet** and go into orbit around two destinations beyond Earth.
- The data Dawn beamed back to Earth from its four science experiments enabled scientists to compare two planet-like worlds that evolved very differently.
- Among its accomplishments, Dawn **showed how important location** was to the way objects in the early solar system formed and evolved.
- Dawn also reinforced the idea that **dwarf planets could have hosted** oceans over a significant part of their history and potentially still do.
- Dawn's data sets will be deeply mined by scientists working on **how planets grow and differentiate**, and when and where life could have formed in our solar system.
- Ceres and Vesta are **important to the study of distant planetary systems**, too, as they provide a glimpse of the conditions that may exist around young stars.