

NASA Studies Origins of 'Weird' Dwarf Planet Haumea

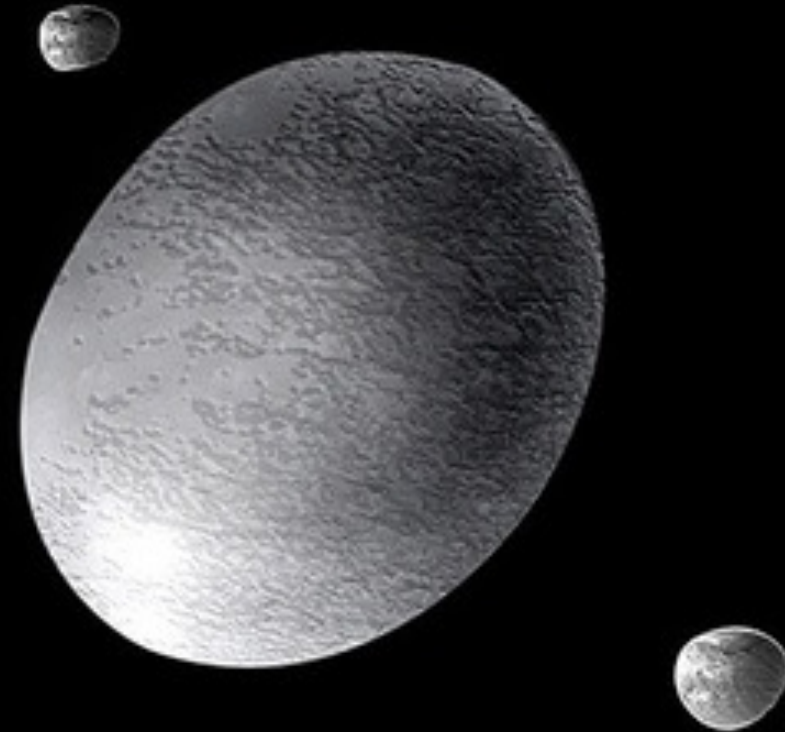


Using computer simulations, scientists based at Goddard pieced together the story of how the dwarf planet Haumea, found in the Kuiper Belt, became one of the most unusual objects in the solar system.

Nearly the size of Pluto, Haumea spins faster than anything else of its size, whirling on its axis in only four hours. Because of its fast spin, Haumea is shaped like a deflated American football instead of a sphere and its surface is made largely of water ice. Haumea is related to several smaller objects made almost entirely of water ice – the only known family in the Kuiper Belt.

The researchers hypothesize that Haumea's spin was first increased by a collision, and then, Haumea was scattered into its current elliptical orbit, spun up even faster as its core was forming, which is when it ejected the ice fragments that make up the Haumean family.

Jessica Noviello (693), Marc Neveu (699), and their colleagues used a geophysical code to model Haumea's modern internal structure. They then tracked its interior physical and chemical evolution back 4.5 billion years and found that **Haumea could have sustained an ocean for 250 million years.**



Artist's conception of Haumea and its moons, Namaka (top) and Hi'iaka (bottom). Not to scale. Credit: NASA/JPL/GSFC.