

Jupiter moon Ganymede found to have a large bulge at equator

2 April 2015, by Bob Yirka



This natural color view of Ganymede was taken from the Galileo spacecraft during its first encounter with the Jovian moon. North is to the top of the picture and the sun illuminates the surface from the right. The dark areas are the older, more heavily cratered regions and the light areas are younger, tectonically deformed regions. The brownish-gray color is due to mixtures of rocky materials and ice. Bright spots are geologically recent impact craters and their ejecta. The finest details that can be discerned in this picture are about 13.4 km across. The images which combine for this color image were taken 26 June 1996 beginning at Universal Time 8:46:04. Credit: NASA/JPL

(Phys.org)—A pair of space scientists, one with the Lunar and Planetary Institute in Houston Texas the other with Washington University in St. Louis, has found evidence of a large bulge on Ganymede—the largest satellite in our solar system. In their [presentation](#) at this year's Lunar and Planetary Science Conference, Paul Schenk and William McKinnon outlined what they had observed and

offered possible explanations for the existence of the bulge. As noted by National Geographic, the bulge, or protuberance, is approximately the size of Ecuador and about half the height of Mount Kilimanjaro.

Ganymede was first observed by Galileo Galilei in 1610—since that time more has been learned about its characteristics—it is bigger than either Pluto or Mercury, for example, and nearly $\frac{3}{4}$ the size of Mars, which means were it to orbit the sun instead of a planet, it would be categorized as a planet itself. Scientists have also found that it has a metal core, covered by a rock mantle which is itself covered by a very thick sheet of ice. In this new observation, as Schenk was studying data from NASA's Galileo space probe—he noticed an unusual and previously unknown [bulge](#) on the moon's equator.

The researchers proposed at the conference that the bulge came about due to polar wandering—where ice built up at one of the poles and then slid over the top of an ocean below, to the equator, which provides more [evidence](#) for the existence of such an ocean (another team announced just two weeks ago that study of the moon's auroras had provided evidence of an ocean)—polar wandering can only happen if an ice cap sits atop something slippery, like an ocean—if that explanation holds true, than other researchers have pointed out that another similar bulge should exist on the other side of the moon, but we will not know if that is true until another space craft makes its way to the moon.

Ganymede was named after the boy (disguised to look like an eagle) carried to Olympus by Zeus, henceforth known as the cupbearer to the Olympian gods. Its discovery was among those that led to the idea that the planets orbit the sun, including ours, rather than the sun orbiting us.

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APA citation: Jupiter moon Ganymede found to have a large bulge at equator (2015, April 2) retrieved 17 October 2019 from <https://phys.org/news/2015-04-jupiter-moon-ganymede-large-bulge.html>

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