

Cassini to Dive Low through Titan Atmosphere

July 6 2010



This artist's concept shows NASA's Cassini's spacecraft taking a deep plunge through the Titan atmosphere this week. The altitude for the upcoming Titan flyby, whose closest approach occurs shortly after midnight on July 7, UTC, and in the evening of July 6, Pacific time, will be 1,005 kilometers (624 miles).
Image credit: NASA/JPL-Caltech

(PhysOrg.com) -- As American schoolchildren head out to pools for a summer splash, NASA's Cassini spacecraft will be taking its own deep plunge through the Titan atmosphere this week.

The altitude for the upcoming Titan flyby, whose closest approach occurs in the evening of July 6, Pacific and Eastern time (or shortly after midnight on July 7, Coordinated Universal Time) will be about 125 kilometers (78 miles) higher than the super-low flyby of June 21. The altitude of this flyby - 1,005 kilometers (624 miles) -- is still considered a low dip into Titan's [atmosphere](#). Cassini will not go lower again until

May 2012.

During closest approach, Cassini's ion and neutral mass spectrometer will be sniffing out the chemical composition of Titan's atmosphere to refine estimates of the densities of nitrogen and [methane](#) there. The radar instrument will be mapping an area south of the dark region known as Senkyo and the Belet sand seas. It is an area that had not been well studied by radar until this flyby.

Because the geometry of this flyby is similar to the previous one, the [magnetometer](#) and other instruments measuring the [magnetic bubble](#) around Saturn will be conducting similar experiments. Though the magnetometer will be too high to detect any whisper of an internal magnetic field from Titan - which was the focus of the search on the last flyby -- scientists will be looking into the interaction of Titan's atmosphere with the magnetic bubble around Saturn.

This latest flyby is dubbed "T71," though planning changes early in the orbital tour have made this the 72nd targeted flyby of Titan.

Provided by JPL/NASA

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