

Cassini Spacecraft to Monitor North Pole on Titan

December 28 2009



Artist concept of NASA's Cassini spacecraft flying by the north polar region of Saturn's moon Titan on Dec. 27. Image credit: NASA/JPL

(PhysOrg.com) -- Though there are no plans to investigate whether Saturn's moon Titan has a Santa Claus, NASA's Cassini will zoom close to Titan's north pole this weekend.

The flyby, which brings [Cassini](#) to within about 960 kilometers (600 miles) of the Titan surface at 82 degrees north latitude, will take place the evening of Dec. 27 Pacific time, or shortly after midnight Universal Time on Dec. 28.

The encounter will enable scientists to gather more detail on how the lake-dotted north polar region of Titan changes with the seasons. Scientists will be using high-resolution radar to scan the large and numerous lakes in the north polar region for shape-shifting in size and

depth. The ion and neutral mass spectrometer team will take baseline measurements of the atmosphere to compare with the moon's south polar region when Cassini flies by that area on Jan. 12. Cassini will also be collecting images for a mosaic of a bright region called Adiri, where the Huygens probe landed nearly five years ago.

Cassini will have released the Huygens probe exactly five years and three days before this latest flyby. Huygens began its journey down to Titan on the evening of Dec. 24, 2004 California time, or early Dec. 25 Universal Time, and reached the surface Jan. 14, 2005.

Cassini last flew by Titan on Dec. 11, 2009 California time, or Dec. 12 Universal Time. Although this latest flyby is dubbed "T64," planning changes early in the orbital tour have made this the 65th targeted [flyby](#) of Titan.

Provided by JPL/NASA

Citation: Cassini Spacecraft to Monitor North Pole on Titan (2009, December 28) retrieved 26 April 2024 from <https://phys.org/news/2009-12-cassini-spacecraft-north-pole-titan.html>

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