

Cassini Returns to Southern Hemisphere of Titan

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Artist's concept of Cassini's Jan. 12, 2009, flyby of Titan. Image credit: NASA/JPL

(PhysOrg.com) -- NASA'S Cassini spacecraft will return to Titan's southern hemisphere on a flyby tomorrow, Jan. 12, plunging to within about 1,050 kilometers (about 670 miles) of the hazy moon's surface.

During this pass, the onboard radar instrument will scan Ontario Lacus, the largest lake in the southern hemisphere, in a quest to learn more about the [liquid methane](#) and ethane in the lake and obtain more detailed topographical information about the shoreline. Titan is the only other body in the solar system besides Earth that is known to have stable liquid on its surface.

This will also be the most southern pass in the mission for the ion and neutral [mass spectrometer](#) instrument, which will probe the composition

and density of the atmosphere near Titan's south pole. The atmospheric data collected on this pass will be paired with a similar sampling mission near Titan's north pole during the most recent flyby, 16 days earlier.

Cassini last flew by Titan on Dec. 27, 2009 California time, or Dec. 28 Universal Time. Although this latest flyby is dubbed "T65," planning changes early in the orbital tour have made this the 66th targeted flyby of Titan. This flyby also comes two days before the fifth anniversary of the landing of the Huygens probe on the surface of Titan.

The Cassini-Huygens mission is a cooperative project of NASA, the European Space Agency and the Italian Space Agency. JPL, a division of the California Institute of Technology in Pasadena, manages the [Cassini mission](#) for NASA's Science Mission Directorate, Washington, D.C. JPL designed, developed and assembled the Cassini orbiter. The Huygens probe, built and managed by the European Space Agency, was bolted to Cassini and rode along during its nearly seven-year journey to Saturn, before being released for its descent through Titan's atmosphere.

Provided by JPL/NASA

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