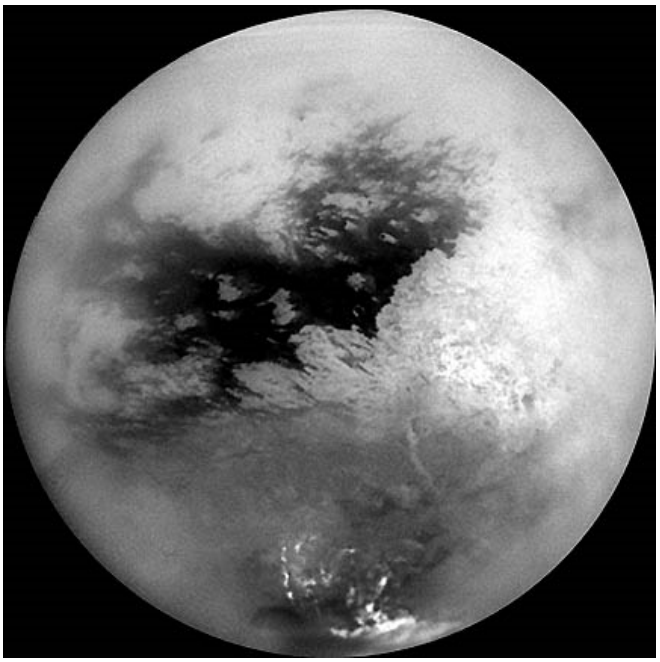
Closest Look At Mysterious Titan from Cassini Spacecraft



Scientists are trying to understand what they call "bizarre surface brightness patterns" seen in this October 26, 2004,
composite image of Saturn's mysterious moon, Titan. Note the peculiar "noodle" features in the upper right corner of the unidentified dark area. Image Credit: NASA/JPL/Space Science Institute.

November 25, 2004 Pasadena, California - This week, NASA released this extraordinary mosaic of nine processed images of Saturn's mysterious moon, Titan. This image overlay is the most detailed view of Titan ever seen from Earth and were acquired during the Cassini spacecraft's close flyby of Titan on October 26, 2004.

NASA reports: "The images that comprise the mosaic have been processed to reduce the effects of the atmosphere and to sharpen surface features. The mosaic has been trimmed to show only the illuminated surface and not the atmosphere above the edge of the moon. The Sun was behind Cassini, so nearly the full disc is illuminated. Pixel scales of the composite images vary from 2 to 4 kilometers per pixel (1.2 to 2.5 miles per pixel). The view is centered on 15 degrees south latitude, and 156 degrees west longitude. Brightness variations across the surface and bright clouds near the south pole are easily seen.

"Surface features are best seen near the center of the disc, where the spacecraft is looking directly downwards; the contrast becomes progressively lower and surface features become fuzzier toward the outside, where the spacecraft is peering through haze, which washes out surface features.

"The brighter region on the right side and equatorial region is named Xanadu Region. Scientists are actively debating what processes may have created the bizarre surface brightness patterns seen here. The images hint at a young surface with no obvious craters. However, the exact nature of that activity, whether tectonic, wind-blown, fluvial, marine or volcanic is still to be determined. The images comprising this mosaic were acquired from distances ranging from 650,000 kilometers (400,000 miles) to 300,000 kilometers (200,000 miles).

"The Cassini-Huygens mission is a cooperative project of NASA, the European Space Agency and the Italian Space Agency. The Jet Propulsion Laboratory, a division of the California Institute of Technology in Pasadena, manages the Cassini-Huygens mission for NASA's Science Mission Directorate, Washington, D.C. The Cassini orbiter and its two

onboard cameras were designed, developed and assembled at JPL. The imaging team is based at the Space Science Institute, Boulder, Colorado.

Websites:

http://saturn.jpl.nasa.gov

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