

TITAN TREK: A NEW ONLINE NASA VISUALIZATION AND ANALYSIS PORTAL FOR SATURN'S LARGEST MOON. Brian H. Day¹ and Emily S. Law², ¹ NASA Solar System Exploration Research Virtual Institute. (NASA Ames Research Center. M/S 17-1. Moffett Field, CA, USA. 94035. Brian.H.Day@nasa.gov), ² Jet Propulsion Laboratory, California Institute of Technology. (M/S 168-200. 4800 Oak Grove Dr. Pasadena, CA, USA 91109. Emily.S.Law@jpl.nasa.gov).

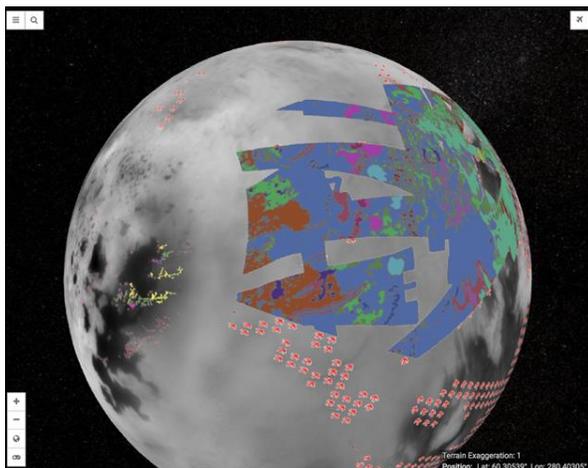
Introduction: In its investigations of Saturn's moons, NASA's Cassini mission and ESA's Huygens lander have returned an immense amount of data detailing the dynamic surface of Saturn's largest moon, Titan. In order to greatly facilitate dissemination, visualization, and analysis of this data, the Cassini mission has partnered with NASA's Solar System Treks Project (SSTP). SSTP has recently released a new online portal, Titan Trek (<https://trek.nasa.gov/titan>), that enables mission planners, planetary scientists, engineers, students, and the general public to interactively access, visualize, and analyze Cassini's mapped data products of Saturn's largest moon.

A Comprehensive Titan Portal: The initial release of Titan Trek provides a suite of interactive tools and incorporates over 130,000 data products from the range of Cassini encounters with Titan, creating a comprehensive Titan research and educational web portal. Titan Trek data products include: global radar mosaic, radar SAR BIDR BIFQI (corrected, uncorrected, incidence angle) swaths, global VIMS mosaics (2, 5, 2/1.27 microns), global ISS mosaic (Titan_ISS_Globe_65Sto54N_450M_AvgMos, Titan_ISS_P19658_Mosaic_Global_4km), vector data (geological units of Afekan region, material flux based on dune orientation, fluvial networks), nomenclature, ISS footprints, VIMS footprints, and global radar topography.

With the vast number of data products served, Titan Trek implements a sophisticated catalog allowing users to find and retrieve data in many different ways including spatial searching within user defined polygons, searches by instrument, temporal searching, and more.

We intend to continue to enhance the new Titan Trek portal with new data products as they are released by the Cassini mission including Huygens DISR, global radiometry, scatterometry, VIMS, ISS, UVIS, CIRS, and other topography products.

One Component in an Integrated Suite: Titan Trek is the latest addition to the NASA Solar System Treks Project, available at <https://trek.nasa.gov>. NASA's Solar System Trek online portals for lunar and planetary mapping and modeling provide web-based suites of interactive data visualization and analysis tools to enable mission planners, planetary scientists, students, and the general public to access mapped data products from past and current missions for the Moon, Mars, Vesta, Ceres, and Titan. As web-based toolsets, the portals do not require users to purchase or install any software beyond current web browsers. These portals are being used for site selection and analysis by NASA and a number of its international partners, supporting upcoming missions.



Fluvial network, Material flux vectors, Geomorphological map