

Voyager

B U L L E T I N

MISSION STATUS REPORT NO. 95

OCTOBER 2, 1989



A geyser-like eruption of dark material shoots several kilometers straight up from the surface of Triton, forming a cloud that drifts 150 kilometers westward. (The same image is shown in both panels; the lower panel is marked to indicate the top and bottom of the plume, the extent of the cloud, and the visible extent of the cloud's shadow.) (P-34940)



Triton Geyser Is a Corker!

A five-mile-tall, geyser-like plume of dark material has been discovered erupting from the surface of Neptune's cold moon Triton in images returned last month by Voyager 2.

The discovery comes just as the Neptune encounter—Voyager 2's fourth and final planetary flyby in 12 years—officially ends today, October 2.

This is the first time geyser-like phenomena have been seen on any solar system object, other than Earth, since Voyager 1 discovered eight active geysers shooting sulfur above the surface of Jupiter's moon Io in 1979. The new finding augments Triton's emerging reputation as the most perplexing of all the dozens of moons Voyagers 1 and 2 have explored. Surface temperatures on Triton have been measured to be about -390°F, and the terrain is among the most varied seen anywhere else in the solar system.

Voyager 2's camera captured the eruption shooting dark particles high into Triton's thin atmosphere. Resembling a smokestack, the narrow stem of the dark plume, measured using stereo images, rises vertically nearly eight kilometers (five miles) and forms a cloud that drifts 150 kilometers (90 miles) westward in Triton's winds.

While Voyager scientists are trying to determine the mechanism responsible for the eruption, one possibility being considered is that pressurized gas, probably nitrogen, rises from beneath the surface and carries aloft dark particles and possibly ice crystals. Whatever the cause, the plume takes the particles to an altitude where they are left suspended to form a cloud that drifts westward.

The dark plume was first discovered in stereo images taken by Voyager 2. The image reproduced here was taken on August 24 from a distance of 99,920 kilometers (approximately 62,000 miles). The image shows the geyser-like column nearly in profile, since the spacecraft was only 16 degrees above the horizon as seen from Triton's surface at the base of the plume.

Voyager 2's working life among the planets may be at an end, but the spacecraft and its twin, Voyager 1, are expected to continue returning information about the various fields and particles they encounter while approaching and eventually crossing the boundary of our solar system. The plutonium-based generators that provide electricity to the spacecraft are expected to keep alive the computers, science instruments, and radio transmitter for up to 25 or 30 more years.

As of today, the long-lived project will now be known as the Voyager Interstellar Mission.

The Voyager Project is managed for NASA's Office of Space Science and Applications by the Jet Propulsion Laboratory.



National Aeronautics and
Space Administration

Jet Propulsion Laboratory
California Institute of Technology
Pasadena, California

JPL 410-15-95 10/89

Editor
Anita Sohus (818) 393-0683

Technical Review
Voyager Project Staff

Public Information Office
(818) 354-5011

Public Education Office
(818) 354-8594