

Neptune Finishes First Orbit Around Sun Since Its Discovery

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This image of Neptune is one of a series of snapshots that were taken by NASA's Hubble Space Telescope to capture the blue-green planet's 16-hour rotation on June 25th to 26th.

Today marks Neptune's first orbit around the Sun since it was discovered nearly 165 years ago. This image and the others in the series were taken to commemorate the event.

The Hubble images, taken with the Wide Field Camera 3, reveal high-altitude clouds in the northern and southern hemispheres. These appear as raised areas crossing the planet's round disk, which is located on the far right of the tactile image.

The clouds are composed of methane ice crystals. In the Hubble images, absorption of red light by methane in Neptune's atmosphere gives the planet its distinctive aqua color. The clouds look pink because they are reflecting near-infrared light.

A faint, dark, curved band near the bottom of the southern hemisphere is probably caused by a decrease in the hazes in the atmosphere that scatter blue light. The band was imaged by NASA's Voyager 2 spacecraft in 1989, and may be tied to circumpolar circulation created by high-velocity winds in that region.

The tactile image also reveals four of Neptune's 13 known moons. They appear as tiny dots. At the top left corner is Proteus, the largest of Neptune's moons. At center of the image, three moons sit in a zig-zag vertical alignment. Larissa is at top, center. Next down and slightly to the left of Larissa is Thalassa, and below and slightly to right of Thalassa is Naiad.

Neptune is the most distant major planet in our solar system. German astronomer Johann Galle discovered the planet on September 23, 1846. At the time, the discovery doubled the size of the known solar system.

The planet is 2.8 billion miles (4.5 billion kilometers) from the Sun , 30 times farther than Earth. Under the Sun's weak pull at that distance,

Neptune plods along in its huge orbit, slowly completing one revolution approximately every 165 years.

For more information on Tactile Astronomy projects from the Space Telescope Science Institute in Baltimore, Maryland, go to the following page at the Web site, Amazing Space:

<http://amazing-space.stsci.edu/tactile-astronomy/>