

[Sign In](#) | [Register Now](#)

The Washington Post

TODAY'S NEWSPAPER
Subscribe | PostPoints

Ad **ADOBE OPENS UP WASHINGTON**  [Learn more >](#)

Advertisement

- NEWS
- POLITICS
- OPINIONS
- BUSINESS
- LOCAL
- SPORTS
- ARTS & LIVING
- GOING OUT GUIDE
- JOB
- CARS
- REAL ESTATE
- RENTALS
- CLASSIFIEDS

SEARCH: [go](#) washingtonpost.com Web : Results by [Google™](#) | [Search Archives](#)

washingtonpost.com > Nation

Satellite shows signs of water at moon's pole

Advertisement

By [Joel Achenbach](#)

Washington Post Staff Writer
Saturday, November 14, 2009

Water on the moon, once a wild conjecture, appears to be solidifying into a scientific fact. Jubilant NASA scientists announced Friday that they have found the telltale signature of significant quantities of water, in the form of ice and vapor, in a shadowed crater at the moon's south pole.

The discovery came from the Lunar Crater Observation and Sensing Satellite, or LCROSS, which early on the morning of Oct. 9 abjured the tradition of looking at the moon in favor of crashing into it. A spent rocket body went first, trailed by a spacecraft bristling with instruments. The rocket blasted out a hole 60 to 100 feet across. The spacecraft, four minutes in the rear, scrutinized the plume of ejected lunar material and beamed data back to Earth before it, too, crashed.

Having pored over the data, members of the NASA team concluded that they had found unmistakable signs of water -- 220 pounds of it, the equivalent of about 26 gallons had it been in liquid form.

"Can you believe it? Isn't this cool?" said Peter Schultz, a Brown University planetary scientist and team member.

This does not mean there is a lake on the moon, or a frozen pond waiting for the first astronaut with skates. It is not clear how much water is present, nor to what extent it is ice or vapor, nor how it mixes with other material in the lunar regolith. Scientists don't know if the water is as abundant at other locations on the moon. But they were surprised by how much they found. They were prepared to find only about 1 percent of what turned up.

For NASA, the pole turned out to be a water jackpot.

VIDEO



NASA says water discovered on moon

Last month's LCROSS mission helped NASA discover about 26 gallons of water on the moon, the space agency announced Friday.

» [LAUNCH VIDEO PLAYER](#)

TOOLBOX

[Resize](#) [Print](#) [E-mail](#)

[Yahoo! Buzz](#)

Ad [Constant Contact](#) TRY EMAIL MARKETING FREE FOR 60 DAYS!

COMMENT

Comments

COMMENTS ARE CLOSED

WHO'S BLOGGING powered by [sphero](#)

» [Links to this article](#)

- [Business Jobs](#)
- [Computer Jobs](#)
- [Construction Jobs](#)
- [Education Jobs](#)
- [Engineering Jobs](#)
- [Healthcare Jobs](#)
- [Legal Jobs](#)
- [Management Jobs](#)
- [Media Jobs](#)
- [Non-Profit Jobs](#)
- [Sales Jobs](#)
- [Science Jobs](#)

Find Your Dream Job Now!

keywords location

Jobs by [SimplyHired](#)

- FEATURED ADVERTISER LINKS**
- [Lawsuit: Hydrocycut Liver, Cochlear Implants, Zicam Recall, Yaz](#)
 - [Attorney: Mesothelioma, Lawyer, Cancer from Asbestos, Lung Cancer](#)
 - [Debt destroying your day? New Debt Wise helps you decrease your debt!](#)
 - [Create Jobs. Help the Economy. Join the National Gateway.](#)
 - [Russia Now: In-Depth Coverage of Russia News, Business, and More.](#)

Advertisement

Advertisement

"It's pretty much been a 'Holy cow!'"

moment every single day since impact," said NASA scientist Anthony Colaprete, the leader of the LCROSS team.

A dozen astronauts walked on the moon between 1969 and 1972, but the moon as an object was overshadowed by the technology of the missions and the heroics of the astronauts. When Buzz Aldrin stepped on the moon, he looked around and uttered the words "magnificent desolation," and that was the moon's reputation thereafter.

Although there were hints of water in

moon rocks brought back to earth, scientists viewed that as contamination.

The Apollo missions targeted the moon's equatorial regions. No astronauts have explored the poles, where portions of craters are in permanent shadow and temperatures drop to 220 degrees below zero Celsius.

"After the Apollo program ended, we concluded that the moon was dead," Schultz said. "Now what we're seeing is a place with a reservoir of ices that have been collected over billions of years."

"One way of saying it is, this is not your father's moon," said team member Gregory T. Delory of the University of California at Berkeley.

The LCROSS mission will go in the books as a scientific success, but initially it was a public relations flop. It had received a great deal of publicity because of the demolition-derby nature of the investigation, but those watching on live television or via the Internet could not see any sign of a violent impact. Amateur astronomers had hoped to see the impact with backyard telescopes, but the mission's leaders had switched to a target that put the plume behind a ridge.

But the scientific results are dramatic. The search for water relies on spectroscopy, which examines the light of the plume in multiple wavelengths. Certain wavelengths are absorbed by water or by other molecules. The material blasted out by the collision contains not only water but also other complex molecules that are still being analyzed and that may offer clues to the origin of the solar system. These craters are the solar system's dusty attic, the scientists said.

"Oh my goodness, it's a lot more complicated than we really anticipated," Colaprete said. "It wasn't just water -- there was a lot more interesting stuff in there."

This is the second time in two months that scientists have announced they found water on the moon. The first announcement preceded the LCROSS impact by a couple of weeks: It was based on remote sensing instruments that picked up signatures of a slight amount of water, in the form of molecules clinging to particles and not in liquid form, distributed like a thin film across the lunar surface.

Water on the moon, if sufficiently bountiful, could prove to be a valuable resource for space exploration. It could provide drinking water for astronauts in a long-duration lunar mission, and the hydrogen and oxygen in the water could be used to create rocket fuel. This would make a return to the moon a more attractive option for NASA as it sorts through its exploration strategy.

NASA's long-term strategy has been focused for the past five years on getting back to the moon. The moon, with only a fraction of the Earth's mass, is a much easier place from which to launch rockets that could explore the solar system. But the NASA strategy is unsettled while the Obama administration examines alternatives that might include bypassing the moon and focusing on missions to more distant targets.

Sponsored Links

Unemployed Man Makes \$74/Hr!

Discover How an Unemployed Man Makes \$7000/Month Working from Home!
www.PACourierNews.com/Feature

Breaking News: See How a Mom Makes 77/hr (Online)

Jobless Mom makes \$8,673/Month Part-Time! Read her story to find out how she did it.
www.NewYorkGazetteNews.com/Finance

Acai Berry EXPOSED (News 4 Reports)

We Investigate Acai Berry. Is Acai a Miracle Diet or Internet Scam?
www.HealthNews4.net

[Buy a link here](#)

Share

More ways to share this Article...

- [Reddit](#)
- [Twitter](#)
- [myspace](#)
- [del.icio.us](#)
- [NewsTrust](#)
- [Stumble It!](#)

Understand more about...

- [Splash! NASA moon crash struck lots of water](#)
- [Moon Thud a Dud](#)
- [Crashed satellite detects water at moon's pole](#)
- [LCROSS Takes Aim At the Moon](#)
- [NASA, Searching for Water, Is Going to Crash Spacecraft Into the Moon](#)
- [Workers in Manassas Make Computers That Power Spacecraft Sent to Moon](#)
- [Moon Shot Not Much to See, but Data Could Prove Exciting](#)
- [Sky Watch: Summer Solstice to Bring More Daylight](#)
- [U.N. mulls exit strategy for Congo troops: diplomats](#)
- [21-year-old becomes youngest WSOP champion ever](#)



From Our Partners



- [Hitchens: Seven Essential Facts About Nidal Malik Hasan](#)
- [Can You Believe What Sarah Palin Said on Oprah?](#)
- [What Makes a Prison "State of the Art"?](#)
- [I Made a Stop-Motion Animation Movie](#)
- [The New Call of Duty Is the Most Anti-War War Game Ever Made](#)
- [The European Countries That Think Swine Flu Is a Swiss Hoax](#)
- [The Year's Least-Annoying Pharmaceutical Ads](#)
- [The Most Depressing Thing About Sammy Sosa's New Complexion](#)

© 2009 The Washington Post Company

[NEWS](#) | [POLITICS](#) | [OPINIONS](#) | [BUSINESS](#) | [LOCAL](#) | [SPORTS](#) | [ARTS & LIVING](#) | [GOING OUT GUIDE](#)

[JOBS](#) | [CARS](#) | [REAL ESTATE](#) | [RENTALS](#) | [CLASSIFIEDS](#)

SEARCH: washingtonpost.com Web: Results by

[Search Archives](#)

washingtonpost.com : [About Us](#) | [Work for Us](#) | [Advertisers](#) | [Site Map](#) | [Search Terms](#) | [Topics Index](#) | [Make Us Your Home Page](#) | [Newsletters](#) | [Mobile](#) | [RSS](#) | [Widgets](#)
The Washington Post: [Subscribe](#) | [Home Delivery Service](#) | [Advertisers](#) | [PostPoints](#) | [e-Replica](#) | [Online Photo Store](#) | [The Washington Post Store](#) | [About The Post](#) | [National Weekly](#)
The Washington Post Company: [Information and Other Post Co. Websites](#)

© Copyright 1996-2009 The Washington Post Company | [User Agreement and Privacy Policy](#) | [Rights and Permissions](#)

[Help](#) | [Contact Us](#)