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Recent NASA missions have changed our view of the moon



'Stargazing' by David Abbou

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IT IS TIME to look at the moon differently than we have in the past. Thanks to NASA's recent Lunar Reconnaissance Orbiter (LRO) and Lunar Crater Observation and Sensing Satellite (LCROSS) missions, our knowledge and view of our closest neighbor in space have forever changed.

Launched in June 2009, both missions have made major discoveries about the moon.

The LCROSS mission gained media attention last fall because its impact in a permanently shadowed crater on the moon in search of water was supposed to be visible to amateur astronomers worldwide with modest-size telescopes.

Unfortunately, the impact came and went with no plume visible to Earth-bound observers. While the public was disappointed, the best was yet to come.

In early November, NASA announced that the LCROSS impact on the moon had definitely uncovered water--not just minuscule amounts, but the equivalent of about 25 gallons of water from the one crater alone!

A discovery of this magnitude was not expected, because the moon was thought to be a dry, dead place. The presence of water means that future astronauts may be able to use water from the moon for drinking and building instead of bringing water from Earth, a costly and inconvenient proposition.

The source of the water and how much more of it exists are questions that have yet to be answered, but the discovery of plentiful water on the moon will certainly write a new chapter in the astronomy textbooks.

Not to be outdone by its sister mission, the LRO made eye-opening discoveries as its high-resolution cameras photographed the moon's surface in stunning detail.


Easily visible in several LRO photographs are the Apollo landing sites from the late 1960s and early 1970s, with the lunar modules, scientific instruments and astronauts' footprints visible.

While the LRO's main mission is to photograph and study the moon in great detail for future exploration, the photographs of the Apollo landing sites were an added bonus that received worldwide attention.

The LRO will continue to orbit the moon at an altitude of 30 miles as it collects valuable data for at least the next several months.

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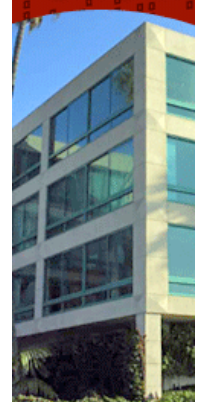
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