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NASA Launches Probes On Moon Mission

Posted on: Thursday, 18 June 2009, 17:30 CDT

NASA launched two probes into space on Thursday in a landmark mission to search for water sources and potential landing sites on the Moon.

The mission is a critical step in NASA's plan to return astronauts to the moon by 2020.

The space agency launched the Lunar Reconnaissance Orbiter (LRO) and Lunar Crater Observation and Sensing Satellite (LCROSS) via an Atlas V rocket at about 5:32 p.m. EDT from Cape Canaveral Air Force Station in Florida.

"LRO is the ever important first step in America's human return to the moon. We have much to learn as we restart exploring our nearest neighbor," said Arizona State University professor Mark Robinson, who led development on many key

instruments aboard LRO.

"We are returning to the moon as humankind's first step in leaving planet Earth to explore the Solar System. Learning to live and work on the moon will allow us to build the skills and technologies to take the next steps to Mars, the asteroids, and beyond."

The launch comes just one month shy of the 40th anniversary of NASA's historic first landings on the moon in 1969, and comes a day after the scrubbing of the shuttle Endeavour launch for the second time in a week because of a nagging hydrogen fuel leak.

Both LRO and LCROSS will play key roles in paving the way for NASA's return to the moon, but this time officials are looking for information to show how hospitable the planet would be to human life.

"We're going to measure the topography with the level of detail civil engineers need when they're building a building," Jim Garvin, chief scientist at NASA's Goddard Space Flight Center told Time.

LRO is scheduled to orbit the moon for 18 months, while LCROSS is scheduled to impact the moon's surface on Oct. 13, 2009.

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LRO's mission is to seek out safe landing spots, locate potential resources, characterize the radiation environment, and demonstrate new technology, said NASA.

"The robotic mission will give us information we need to make informed decisions about any future human presence on the moon," program manager Todd May told reporters.

"Earth is subject to erosion processes from air and water. The moon itself doesn't have this process... LRO will send back pictures daily on things we have barely seen before."

NASA will use LRO to create high resolution, three-dimensional maps of the Moon's surface as well as survey it in the far ultraviolet spectrum in order to gauge how the lunar radiation environment may affect humans.

"LRO is an amazingly sophisticated spacecraft," said Craig Tooley, LRO project manager at NASA's Goddard Space Flight Center in Greenbelt, Md.

"Its suite of instruments will work in concert to send us data in areas where we've been hungry for information for years."

Meanwhile, LCROSS will be searching for the presence of water ice in a crater at the Moon's South Pole.

NASA said the LCROSS would be directed to an impact in a crater at one of the moon's poles. The impact is expected to make a plume of debris that will rise more than six miles, during which a network of ground-based telescopes, LRO and the Hubble Space Telescope will have an opportunity to search for water ice by examining the plume in direct sunlight.



"We look forward to engaging a wide cross section of the public in LCROSS' spectacular arrival at the moon and search for water ice," said LCROSS project manager Dan Andrews, of NASA's Ames Research Center at Moffett Field, Calif.

"It's possible we'll learn the answer to what is increasingly one of planetary science's most intriguing questions."

But even as NASA has high hopes for its lunar future, the agency is facing budget constraints that could deny a return to the moon and a visit to Mars by 2020.



"NASA simply can't do the job it's been given -- the president's goal of being on the moon by 2020," said Senator Bill Nelson.

Nelson added that NASA's budget has not been large enough to keep up with its ambitions in recent years.

"And that has led us to the point where we are now: with a space shuttle that's going to shut down but without the new rocket developed in time to pick up where the shuttle leaves off," said Nelson, a former space shuttle astronaut.

NASA is set to retire its space shuttle fleet next year. NASA is currently developing a replacement called Aries-Orion, but the project isn't expected to be finished before 2015.

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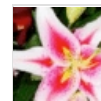
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