

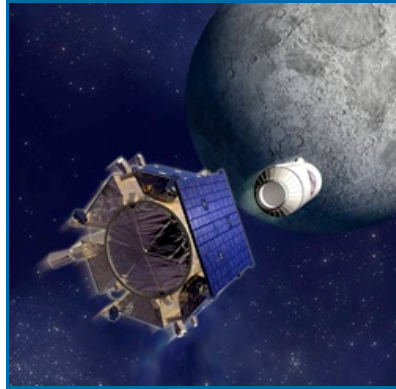
News

The Lunar Crater Observation and Sensing Satellite reveals target crater for lunar south pole impacts

Cabeus A will be the target crater for the LCROSS dual impacts scheduled for October 9, 2009.
Provided by NASA, Washington, DC

September 11, 2009

NASA selected a final destination for its Lunar Crater Observation and Sensing Satellite (LCROSS) after a journey of nearly 5.6 million miles (9.0 million kilometers) that included several orbits around Earth and the Moon. The mission team announced September 9 that Cabeus A will be the target crater for the LCROSS dual impacts scheduled for 7:30 a.m. EDT on October 9, 2009. The crater was selected after an extensive review as the optimal location for LCROSS' evaluation of whether water ice exists at the lunar south pole.



LCROSS will search for water ice by sending its spent upper-stage Centaur rocket to impact the permanently shadowed polar crater. The satellite will fly into the plume of dust left by the impact and measure the properties before colliding with the lunar surface. The LCROSS team selected Cabeus A based on a set of conditions that include proper debris plume illumination for visibility from Earth, a high concentration of hydrogen, and mature crater features such as a flat floor, gentle slopes, and the absence of large boulders.

"The selection of Cabeus A was a result of a vigorous debate within the lunar science community that included review of the latest data from Earth-based observatories and our fellow lunar missions Kaguya, Chandrayaan-1, and the Lunar Reconnaissance Orbiter," said Anthony Colaprete, LCROSS project scientist and principal investigator at NASA's Ames Research Center in Moffett Field, California. "The team is looking forward to the impacts and the wealth of information this unique mission will produce."

A cadre of professional astronomers using many of Earth's most capable observatories is helping maximize the scientific return from the LCROSS impacts. These observatories include the Infrared Telescope Facility and Keck telescope in Hawaii; the Magdalena Ridge and Apache Ridge Observatories in New Mexico; the MMT Observatory in Arizona; the newly refurbished Hubble Space Telescope; and the Lunar Reconnaissance Orbiter, among others.

"These and several other telescopes participating in the LCROSS Observation Campaign will provide observations from different vantage points using different types of measurement techniques," said Jennifer Heldmann, lead for the LCROSS Observation Campaign at Ames. "These multiple observations will complement the LCROSS spacecraft data to help determine whether or not water ice exists in Cabeus A."

During a media briefing September 11, Daniel Andrews, LCROSS project manager at Ames, provided a mission status update indicating the spacecraft is healthy and has enough fuel to successfully accomplish all mission objectives. Andrews also announced the dedication of the LCROSS mission to the memory of legendary news anchor, Walter Cronkite, who provided coverage of NASA's missions from the beginning of America's manned space program to the age of the space shuttle.

"The LCROSS team has long been preparing for its final destination on the Moon, and we're looking forward to October 9," Andrews said. "The next 28 days will undoubtedly be very exciting."

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