NASA launches two probes to the moon

AAP June 19, 2009, 3:02 pm

NASA has sent two probes into space on a lunar exploration mission to scout water sources.

NASA has successfully blasted two probes into space on a landmark lunar exploration mission to scout water sources and landing sites in anticipation of sending mankind back to the moon in 2020.

The launch marked "America's first step in a lasting return to the moon," a NASA official said moments after a rocket carrying the probes launched at 5:32pm local time, one day after the US space agency scrubbed the shuttle Endeavour launch for the second time in a week because of a nagging hydrogen fuel leak.

The liftoff of the dual LRO and LCROSS missions atop an Atlas V rocket from Florida's Cape Canaveral Air Force Station, adjacent to Kennedy Space Centre, took place one month shy of the 40th anniversary of NASA's historic first landings on Earth's natural satellite in 1969.

Americans have been the only astronauts to walk on the moon - with the last such outing in 1972 - and the new mission is the first step on the long journey to launch manned missions further into our solar system, to the planet Mars and beyond, from lunar colonies.

US President Barack Obama has said the program, dubbed the Constellation project, needs to be reviewed, but so far has not cast doubt on its goals.

NASA's Lunar Reconnaissance Orbiter (LRO) separated from the Centaur upper stage rocket and the other probe, the Lunar Crater Observation and Sensing Satellite (LCROSS), at 2216 GMT.

LCROSS in particular looks set to be one of NASA's most spectacular bids at discovery for years.

It will remain attached to the Centaur until October, when NASA sends the Centaur smashing into a crater on the side of the moon that never gets sunshine. LCROSS will analyse the lunar material blasted out by the impact for any sign of water ice - a critical component for any planning for manned lunar colonies.

After examining the lunar matter, LCROSS will follow the rocket's lead by also hurling itself into the moon at a speed of 9,000 km/h.

In total, NASA said, the two impacts will kick up some 500 metric tons of lunar material and begin the search for a long-frozen water source. The project will also examine the moon's mineral makeup.

The LRO hopes to learn more about the moon through a one-year stay at an orbit of about 50km - the closest continual lunar orbit of any spacecraft.

The orbiter is expected to reach the moon on Tuesday.

The probes' four-day, 384,000km return to the moon 40 years after humans first set foot on its surface is expected to illuminate our closest extra-terrestrial neighbour like never before.

"Earth is subject to erosion processes from air and water," noted May.

"The moon itself doesn't have this process ... LRO will send back pictures daily on things we have barely seen before."