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We, like Labour politicians, have fought shy of using the "c" word
George Osborne

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June 18, 2009

Nasa blasts off for mission to the Moon

Jacqui Goddard in Miami

Nasa's most ambitious lunar exploration mission since the Apollo era blasted off from Florida's Kennedy Space Centre last night — with scientists hoping that a crash landing will pave the way for man to return to the Moon for the first time since 1972.



(AP)

The Atlas V rocket blasts off from its launchpad heading for the moon

One half of the \$580 million project (£350 million) is designed to smash a piece of rocket casing the size of a pick-up truck into a remote crater on the dark side of the Moon, sending up 350 tons of lunar debris that will be analysed by a probe following four minutes behind in an attempt to confirm the existence of water.

The other half, a four-metre long robotic satellite known as the Lunar Reconnaissance Orbiter, will spend years circling the Moon at an altitude of 31 miles, scanning its surface in greater detail than ever before and sending back to Earth unprecedented images of areas that could be used as future landing sites and human habitats.

The exercise is essential if Nasa is to meet its objective of returning astronauts to the Moon by 2020.

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"We have better maps of Mars than we do of our own Moon," said Craig Tooley, the agency's LRO project manager, adding: "This is an amazingly sophisticated spacecraft. Its suite of instruments will send us data in areas where we've been hungry for information for years."

Mission managers also hope the LRO will provide a timely public relations coup, returning the first comprehensive images of the six Apollo landing sites by July 20, the 40th anniversary of Neil Armstrong's first lunar steps.

The launch, delayed several times from October for various

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reasons, most recently a clash of dates with Wednesday's failed attempt to send the shuttle Endeavour to the International Space Station, took place at 5.32pm Florida time yesterday.

The LRO and its twin, the Lunar Crater Observation and Sensing Satellite (LCROSS), were stacked atop an Atlas V rocket carrying them on the first stage of their four-day, 226,000-mile journey.

The various stages were scheduled to separate after 45 minutes of flight, sending each component the rest of the way independently. As they near the Moon, both spacecraft will enter and maintain separate orbits.

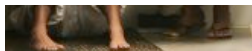
The Apollo missions, and robotic explorers that have voyaged there since, including the smaller scale Lunar Prospector in 1998, concentrated mainly on examining the sunlit areas already visible from Earth.

Much of the exploration on this mission will therefore focus on the lesser-known dark side of the Moon, which scientists believe is cold enough to trap water molecules as ice.

The discovery of water at the lunar south pole would be "like finding a gold mine," Dr Tooley said. Lunar water could be used for more than drinking because it could be broken down into hydrogen and oxygen for rocket fuel and breathable air, a crucial part of Nasa's planning for a permanent, manned base.

Doug Cooke, associate administrator of Nasa's Exploration Systems Mission Directorate, said advances in technology would provide images of the Moon that would have been impossible in the past.

Nasa plans to publish all the data, including video, from the mission in real time on the internet.



Times photographer Peter Nicholls inside Guantanamo Bay

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HAVE YOUR SAY

Although I find it very interesting finding out about space, wedon't know enough aboutour own planet. Why doesn't man spend the money and time to find out what is in our oceans and how far down we could go to explore further.

Nigel, WORTHING,

Oh no! Not another planet to destroy with global warming :)

I think we should focus on fixing Earths eco system before trying to create another eco system we can screw with like on the moon! Isn't there some useful meaning in the concept that you can't fix others if you aren't fixed yourself?

Tim, North Shore City, NZ

I see lots of comments comparing success rate between the Apollo programme and the (dying) Shuttle programme.

NASA, at the time of the Apollo programme, was funded with 0.75% of US GDP. In today's figures, that would be over \$100bln annually. NASA's budget is \$18bln, I think that explains it ;)

Hugo, Madrid, Spain

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