# NASA spacecraft poised to launch for clues on Martian air (Update)

November 13 2013

The United Launch Alliance Atlas V rocket with NASA's Mars Atmosphere and Volatile Evolution (MAVEN) spacecraft on board sits at the Cape Canaveral Air Force Station Space Launch Complex 41, on November 17, 2013, in Cape Canaveral, Florida.

NASA is preparing to launch its latest orbiter to Mars Monday on the hunt for clues about why the Red Planet lost much of its atmosphere.

The launch of Mars Atmosphere and Volatile EvolutioN (MAVEN),

could happen as early as 1:28 pm (1828 GMT) from Cape Canaveral, Florida, during a two-hour launch window.

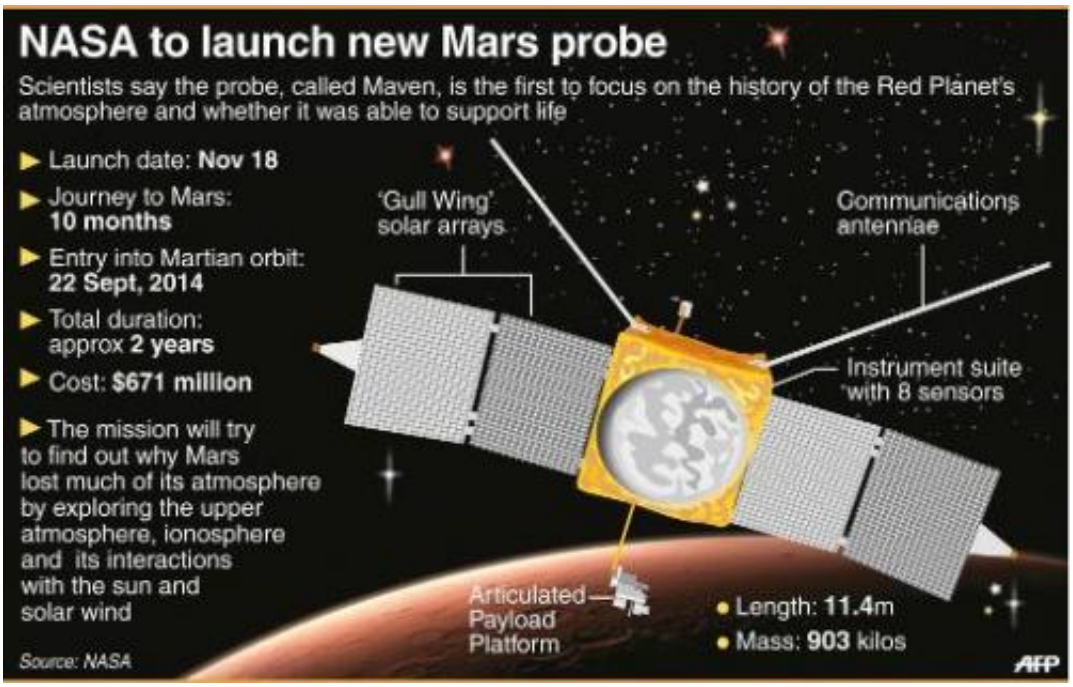
The weather forecast was 60 percent favorable for takeoff of the unmanned orbiter, NASA weather officials said Sunday.

Researchers have described the mission as a search for a missing piece to the puzzle of what happened on Mars, perhaps billions of years ago, to transform Earth's neighbor from a water-bearing planet that might have been favorable for life to a dry, barren desert with hardly any atmosphere.

"MAVEN is the first spacecraft devoted to exploring and understanding the Martian upper atmosphere," the US space agency said.

"The spacecraft will investigate how the loss of Mars' atmosphere to space determined the history of water on the surface."

NASA has sent a series of rovers to explore the surface of the Red Planet, including its latest, Curiosity, which arrived last year.




Graphic illustrating the NASA probe Maven, which will annalyse the history of Mars' atmosphere

The deep space orbiter launched earlier this month by India seeks to find traces of methane from Mars and may arrive two days later than the US spacecraft, if NASA's launch goes ahead as planned on Monday.

The science goals of the two do not overlap much. The Indian probe will be searching for methane which could prove the existence of some ancient life form, while the US probe seeks answers about the planet's climate change.

The entire MAVEN mission cost $671 million.

The journey to Mars will take 10 months in total, with arrival set for September 2014 and the science mission of the solar-wing paneled orbiter set to begin in November 2014.

Much of its year-long mission will be spent circling the planet at a distance of 6,000 kilometers (3,800 miles) above the surface, but it will execute five deep dips to a height of just 125 kilometers (78 miles) to get readings of the atmosphere at various levels.

The eight-foot (2.5 meter) cube-shaped spacecraft weighs 5,410 pounds (2,453 kilograms) and will launch aboard an Atlas V 401 rocket from Cape Canaveral Air Force Station in Florida.

Scientists hope its findings will help pave the way for a future visit by humans to the Red Planet, perhaps as early as the 2030, NASA has said.