

NASA launching robotic explorer to Mars

November 18 2013, by Marcia Dunn



This photo provided by NASA shows a full moon rising behind the United Launch Alliance Atlas V rocket with NASA's Mars Atmosphere and Volatile Evolution (MAVEN) spacecraft onboard at the Cape Canaveral Air Force Station Space Launch Complex 41, Sunday, Nov. 17, 2013, Cape Canaveral, Florida. NASA's next Mars-bound spacecraft, the Mars Atmosphere and Volatile Evolution, or MAVEN, is the first spacecraft devoted to exploring and

understanding the Martian upper atmosphere. (AP Photo/NASA, Bill Ingalls)

NASA's newest Martian explorer is on its launch pad in Florida, ready to soar.

The Maven spacecraft was scheduled to blast off aboard an unmanned Atlas V rocket Monday afternoon.

NASA is sending Maven to Mars to study its [upper atmosphere](#). Scientists want to know why Mars went from being warm and wet during its first billion years, to the cold and dry place it is today.

The early Martian atmosphere was thick enough to hold water and possibly support microbial life. But much of that atmosphere may have been lost to space, eroded by the sun.

"Something clearly happened," the University of Colorado's Bruce Jakosky, the principal Maven scientist, said on the eve of Maven's flight. "What we want to do is to understand what are the reasons for that change in the climate."

Maven—bearing eight science instruments—will take 10 months to reach Mars, entering into orbit around the red planet in September 2014.

The mission costs \$671 million.

A question underlying all of NASA's 21 Mars missions to date is whether life could have started on what now seems to be a barren world.



The United Launch Alliance Atlas V rocket with NASA's Mars Atmosphere and Volatile Evolution (MAVEN) spacecraft onboard is seen at the Cape Canaveral Air Force Station Space Launch Complex 41, Sunday, Nov. 17, 2013, Cape Canaveral, Fla. The robotic explorer called Maven is due to blast off Monday, Nov. 18, 2013 on a 10-month journey to the red planet. There, it will orbit Mars and study the atmosphere to try to understand how the planet morphed from warm and wet to cold and dry. (AP Photo/NASA, Bill Ingalls)

"We don't have that answer yet, and that's all part of our quest for trying to answer, 'Are we alone in the universe?' in a much broader sense," said John Grunsfeld, NASA's science mission director.

Maven stands for Mars Atmosphere and Volatile Evolution, with a capital "N" in EvolutionN.

It is NASA's 21st shot at Mars. Fourteen of the previous 20 missions have succeeded, the most recent being the Curiosity rover that was

launched in 2011 and landed in 2012.

That's a U.S. success rate of 70 percent. No other country comes close.

Curiosity's odometer reads 2.6 miles after more than a year of roving. An astronaut could accomplish that distance in about a day on the Martian surface, Grunsfeld noted Sunday.

Grunsfeld, a former astronaut, said considerable technology is needed, however, before humans can fly to Mars in the 2030s, NASA's ultimate objective.

The launch is scheduled for Monday afternoon from Cape Canaveral Air Force Station.

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