

# Scientists see red on NASA cuts of Mars missions

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In this photo taken on Wednesday, Feb. 22, 2012, National Aeronautics and Space Administration, NASA administrator, Charles Bolden, third from right, checks out a replica of the Mars Science Laboratory rover at NASA's Jet Propulsion Laboratory in Pasadena, Calif. President Barack Obama's proposed budget calls for a 20 percent cut in NASA's planetary budget, forcing a restructuring of the Mars exploration program. Far left, Richard Cook, Deputy Project Manager Mars Science Lab Mission. (AP Photo/Damian Dovarganes)

NASA said Monday it's not giving up on Mars, but it'll have to get there later and at a lower price.

Earlier this month, the president's budget canceled joint U.S.-European robotic missions to Mars in 2016 and 2018. Now top science officials say they are scrambling to come up with a plan by the end of the summer

for a cut-rate journey to the red planet in 2018.

NASA sciences chief John Grunsfeld said he thinks there's a better than even chance that NASA will not miss the 2018 opportunity. That's when Mars passes closest to Earth, something that only happens once every 15 years. It offers a chance at fuel cost-savings and the ability to send up more equipment.

Agency officials who met with upset scientists on Monday seemed intent on salvaging a program that took some of the deepest science spending hits in the president's budget. Until this month, NASA had been ramping up its Martian ambitions.

Meanwhile, this summer, the most high-tech rover ever, Curiosity, will land near the [Martian equator](#) in search of the chemical building blocks of life. The more scientists study Mars, the closer they get to answering whether [microbial life](#) once existed there, a clue to the ultimate question: Are we alone?

Two years ago, President [Barack Obama](#) stood at [Kennedy Space Center](#) and said it was more of a priority than going to the moon. He wanted astronauts there by the mid-2030s.

But the two upcoming missions were then canceled along with the most ambitious Mars flight yet - one the [National Academy of Sciences](#) endorsed as the No. 1 solar system priority. That was a plan to grab [Martian rocks](#) and soil and bring them back to Earth. Now that's "not an option" given the current budget, Grunsfeld said.

Mars researcher Steve Squyres of Cornell University, who headed the national academy panel said if NASA couldn't make progress on a [Mars sample return](#), the space agency should think about moving on to the next priorities, such as visiting Jupiter's [moon Europa](#).

"We're really at a crossroads," NASA planetary sciences chief Jim Green said.

NASA said it doesn't quite know what a reconfigured 2018 mission would look like, but it would be cost-capped at \$700 million and it won't be landing. If it's lucky, it may orbit Mars.

After Curiosity lands in August, the next NASA Mars surface mission is probably close to a decade away, Grunsfeld said.

To scientists, the message from the White House seems simple: Bye-bye, Mars.

If Obama's budget sails through as outlined, "in essence, it is the end of the Mars program," said Phil Christensen, a Mars researcher at Arizona State University. It's like "we've just flown Apollo 10 and now we're going to cancel the Apollo program when we're one step from landing," he said.

Stanford University professor Scott Hubbard, who used to run NASA's Mars programs, said Mars researchers at the Monday meeting "were just sitting there sort of stunned and depressed."

It's not that NASA officials don't think Mars is worth exploring further; it's just that they don't think they can afford it anymore. Obama has proposed cutting 10 other federal agency budgets this year including Defense, Homeland Security and Education. NASA's 0.3 percent budget cut was among the smallest. In fact, the \$28.3 billion cuts to the Defense Department dwarf NASA's entire \$17.7 spending plan for 2013.

"We're trying to identify a way to (explore Mars) in these very difficult fiscal times," NASA Administrator Charles Bolden said last week at the Jet Propulsion Laboratory in Pasadena, Calif., the epicenter of Mars

research.

Researchers are partly to blame because they promise to do a mission cheaply and when they get approval, costs soar, said Alan Stern, a former NASA sciences chief. He called it "committing suicide in slow motion" and said it's been happening in the Mars program since 2006. An even more over-budget space telescope forced more cuts to NASA science.

The Curiosity mission costs \$2.5 billion - almost \$1 billion over budget.

Many scientists believe the life question can only be answered by examining Martian samples back on Earth and that astronauts should not set foot on Mars before that happens. Stern said: "We are probably back to being 15 to 20 years from a Mars sample return."

If NASA ignores Mars for a decade, it runs the risk of a brain drain, said Ed Weiler, who resigned last year as NASA's sciences chief because of budget battles over Mars.

"Landing on Mars is a uniquely American talent and there aren't too many things that are uniquely American," Weiler said.

In 19 tries, Russia has had little to no success when it comes to Mars. The European Space Agency currently has a spacecraft circling the planet but its lander crashed. NASA has had six Martian failures during its 20 tries.

The Europeans are talking to the Russians and Chinese to replace the U.S. in the upcoming missions.

Earthlings have been captivated by Mars since the 1900s when amateur astronomer Percival Lowell saw what looked like canals. The life question was tackled by the twin Viking spacecraft, which landed in

1976. Their rudimentary experiments failed to turn up signs of life and NASA lost interest.

After a 1992 return attempt failed, NASA came up with a blueprint for Mars: Each mission followed up on discoveries found in the previous flight, and all focused on water, a key element for life.

"It's become a more interesting planet every time we go back there," said Wesley Huntress, who spearheaded the new [Mars](#) program and went on to run NASA's sciences division.

**More information:** NASA's Mars program: <http://mars.jpl.nasa.gov/>

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