

# NASA rover lands on Mars to look for signs of ancient life

By **MARCIA DUNN**  
AP Aerospace Writer

CAPE CANAVERAL, Fla. — A NASA rover streaked through the orange Martian sky and landed on the planet Thursday, Feb. 18, accomplishing the riskiest step yet in an epic quest to bring back rocks that could answer whether life ever existed on Mars.

Ground controllers at the space agency's Jet Propulsion Laboratory in Pasadena, California, leaped to their feet, thrust their arms in the air and cheered in both triumph and relief on receiving confirmation that the six-wheeled Perseverance had touched down on the red planet, long a deathtrap for incoming spacecraft.

"Now the amazing science starts," a jubilant Thomas Zurbuchen, NASA's science mission chief, said at a news conference, where he theatrically ripped up the contingency plan in the event of a failure and threw the document over his shoulders.

The landing marks the third visit to Mars in just over a week. Two spacecraft from the United Arab Emirates and China swung into orbit around Mars on successive days last week. All three missions lifted off in July to take advantage of the close alignment of Earth and Mars, journeying some 300 million miles in nearly seven months.

Perseverance, the biggest, most advanced rover ever sent by NASA, became the ninth spacecraft since the 1970s to successfully land on Mars, every one of them from the U.S.

The car-size, plutonium-powered vehicle arrived at Jezero Crater, hitting NASA's smallest and trickiest target yet: a 5-by-4-mile strip on an ancient river delta full of pits, cliffs and rocks. Scientists believe that if life ever flourished on Mars, it would have happened 3 billion to 4 billion years ago, when water still flowed on the planet.

Over the next two years, Percy, as it is nicknamed, will use its 7-foot (2-meter) arm to drill down and collect rock samples containing possible signs of bygone microscopic life. Three to four dozen chalk-



Bill Ingalls/NASA

Members of NASA's Perseverance Mars rover team watch in mission control at NASA's Jet Propulsion Laboratory in Pasadena, California, as the first images arrive moments after the spacecraft successfully touched down on Mars, Thursday, Feb. 18, 2021.

size samples will be sealed in tubes and set aside to be retrieved eventually by another rover and brought homeward by another rocket ship. The goal is to get them back to Earth as early as 2031.

Scientists hope to answer one of the central questions of theology, philosophy and space exploration.

"Are we alone in this sort of vast cosmic desert, just flying through space, or is life much more common? Does it just emerge whenever and wherever the conditions are ripe?" said deputy project scientist Ken Williford. "We're really on the verge of being able to potentially answer these enormous questions."

China's spacecraft includes a smaller rover that will also seek evidence of life, if it makes it safely down from orbit in May or June. Two older NASA landers are still humming along on Mars: 2012's Curiosity rover and 2018's InSight.

Perseverance was on its own during its descent, a maneuver often described by NASA as "seven minutes of terror."

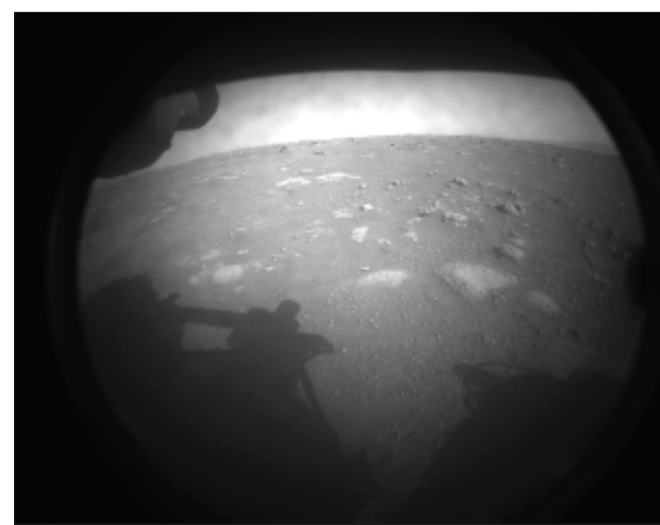
Flight controllers waited helplessly as the preprogrammed spacecraft hit the thin Martian atmosphere at 12,100 mph, or 16 times the speed of sound, slowing as it plummeted. It released its 70-foot parachute and then used a rocket-steered platform known as a sky crane to lower the rover the final 60 or so feet to the surface.

It took a nail-biting 1 1/2 minutes for the signal confirming the landing to

reach Earth, setting off back-slapping and fist-bumping among flight controllers wearing masks against the coronavirus.

Perseverance promptly

sent back two grainy, black-and-white photos of Mars' pockmarked, pimply-looking surface, the rover's shadow visible in the frame of one picture.



NASA/Contributed Photo

This is the first photo NASA's Perseverance rover beamed back to Earth after it landed on Mars on Feb. 18, 2021. The rover's shadow is visible in the photo.

"Take that, Jezero!" a controller called out.

NASA said that the descent was flawless and that the rover came down in a "parking lot" — a rel-

atively flat spot amid hazardous rocks. Hours after the landing, Matt Wallace, NASA deputy project manager, reported that the spacecraft was in great shape.

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## More than 100,000 Oregon customers still without power

Associated Press

PORTLAND — More than 100,000 customers remained without power Thursday, Feb. 18, in Oregon, a week after a massive snow and ice storm swept into the Pacific Northwest and brought the "most dangerous conditions" seen by utility workers.

Maria Pope, the CEO of Portland General Electric, said during a news conference Thursday she expects power to be restored to more than 90% of the remaining customers who are still in the dark by the end of Friday.

"Customers in this final stretch are those at the epicenter of the storm — people who have been hardest hit," Pope said. "Crews working there are doing damage assessment work as well as restoration work. This is happening so we can get clarity on the issues we are facing as well as restore power as quickly as possible."

While Portland General Electric officials are hopeful all but about 15,000 customers will have power Friday, they also reiterated there still is a lot of work to do.

"Since Feb. 11 we have had all hands on deck," said Quintin Gaddis, the

senior manager of substation and meter operations for Portland General Electric. "Right now we have all work crews focused on hard hit areas — the southern and eastern regions."

Many of the places without power are in more remote areas or have extensive damage, Pope said.

The damage the storm wrought to the power system was the worst in 40 years. At the peak of the storm, more than 350,000 customers were without power and 5,000 power lines and three substations were down.

Many school districts in the hardest-hit areas canceled classes. Some districts, including Salem-Keizer Public Schools — the state's second-largest school district — remained closed Thursday.

COVID-19 shipments to the state have been delayed due to weather. At least four people have died of carbon monoxide poisoning, as they attempted to stay warm without their electricity.

Gov. Kate Brown on Wednesday declared a state of emergency and issued a warning to hotels that authorities would investigate any reports of price gouging as residents sought out warm places to stay.



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