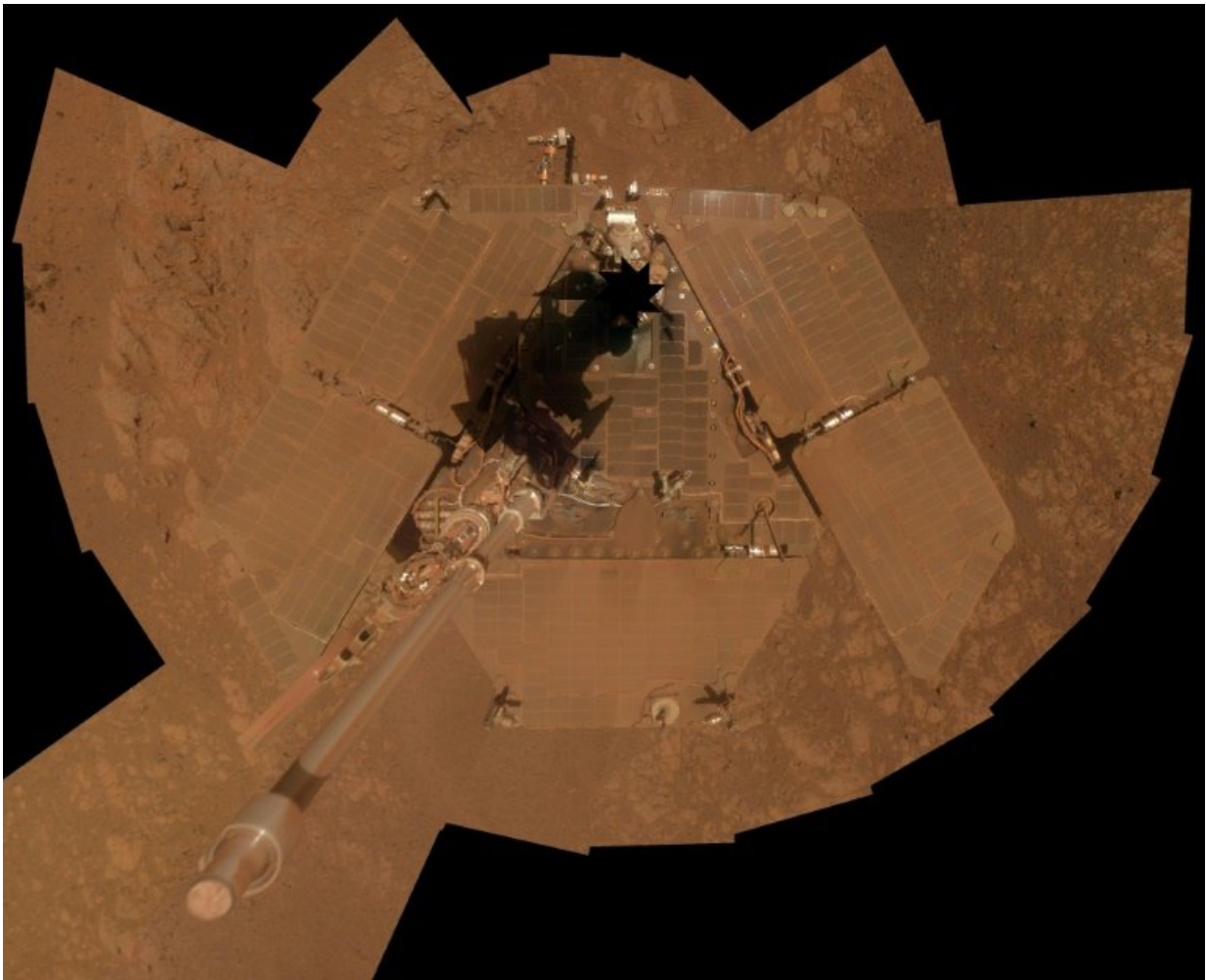


Mars dust storm clears, raising hope for stalled NASA rover

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A self-portrait by NASA's Mars Exploration Rover Opportunity, seen from above, released in January 2014

One of the biggest Martian dust storms on record is clearing up after nearly three months, raising hope that NASA's stranded, solar-powered robotic vehicle, Opportunity, will soon come back to life.

The storm was first detected on May 30, and the US space agency's 15-year-old rover was last heard from on June 10, when it went into "sleep" mode as dust blocked out the Sun and darkness enveloped the Red Planet.

A NASA statement issued late Thursday called the situation "critical," but added that "the rover team is cautiously optimistic, knowing that Opportunity has overcome significant challenges during its 14-plus years on Mars."

If no successful contact can be made, NASA says it will give up active efforts in mid-October.

"If we do not hear back after 45 days, the team will be forced to conclude that the Sun-blocking dust and the Martian cold have conspired to cause some type of fault from which the rover will more than likely not recover," said John Callas, Opportunity project manager at NASA's Jet Propulsion Laboratory.

"At that point, our active phase of reaching out to Opportunity will be at an end."

However, "passive listening efforts will continue for several months," Callas said, because of the "unlikely chance that there is a large amount of dust sitting on the solar arrays that is blocking the Sun's energy."

Twin rovers on Mars

Opportunity and its twin rover, Spirit, are a pair of unmanned robotic

vehicles designed by NASA to tool around on the Martian surface and transmit data about conditions there back to Earth.

They landed on Mars in 2003 on a mission meant to last 90 days and span 1,000 yards (meters).

Spirit lasted 20 times longer than that. It became stuck in soft soil in 2009, and its mission was formally declared over in 2011.

Opportunity is going on 60 times its planned mission life, has traveled 28 miles (45 kilometers) and found evidence of water on Mars and conditions that may have been suitable for sustaining microbial life.

And even though it is hobbled, having lost the use of its front steering and 256-megabyte flash memory, not everyone is ready to give up so fast.

The hashtags #SaveOppy and #WakeUpOppy have gained popularity on Twitter, with appeals to keep trying to contact the rover led by a former flight director and Earth-based rover driver for Opportunity, Mike Siebert.

For Siebert, 45 days is too short, considering that NASA spent up to 15 months listening for contact from Spirit before giving up.

"100% Grade A B.S. the amount of time given to recover Opportunity is woefully insufficient," he tweeted late Thursday.

"Whoever made this decision is a coward."

NASA is the only space agency to have successfully landed a robotic vehicles on Mars.

Its larger, newer vehicle, Curiosity, touched down in 2012 and has been largely unaffected by the dust because it operates using a nuclear-powered battery.

Martian dust storms are common, and can be more easily whipped up there than on Earth because Mars has a thinner atmosphere.

They typically last between a few weeks and a few months.

"The dust haze produced by the Martian global dust storm of 2018 is one of the most extensive on record, but all indications are it is finally coming to a close," said Mars Reconnaissance Orbiter project scientist Rich Zurek at NASA's JPL.

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