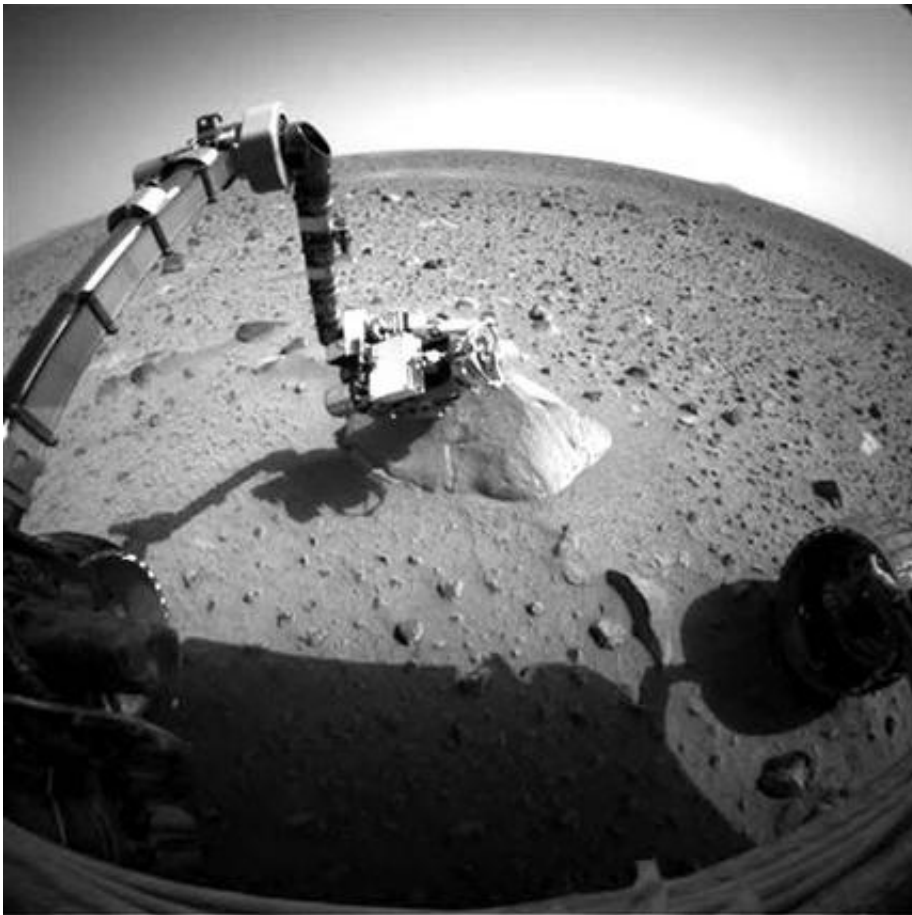


NASA: Mars rover, phone home after yearlong sleep

March 29 2011, By ALICIA CHANG , AP Science Writer



This file photo taken Jan. 28, 2004, shows NASA's Exploration Rover Spirit when communication problems began. The prospect of ever hearing from the stuck Mars rover Spirit is fading after it failed to respond to repeated calls from Earth. (AP Photo/NASA/JPL Rover Spirit, File)

The prospect of ever hearing from the stuck Mars rover Spirit is fading after it failed to respond to repeated calls from Earth.

Despite the dismal outlook, [NASA](#) will make a last-ditch effort to communicate with Spirit, which fell silent a little over a year ago. If there's still no contact in the next month or so, the space agency will scale back its listening campaign for Spirit and focus on its healthy twin, Opportunity.

That Spirit has not called home suggests that something is more seriously wrong than just a power issue, said program manager John Callas at the NASA Jet Propulsion Laboratory in Pasadena, Calif.

The solar-powered rover became bogged in a sand trap in 2009 during a routine drive. Despite efforts to wiggle free, it remained stuck and could not tilt itself toward the sun as the [Martian winter](#) approached. Without an adequate amount of energy reaching its [solar panels](#), it went into hibernation.

Engineers had expected Spirit to wake up once there was maximum sunlight where it's trapped. But that point came and went earlier this month with no response.

Ray Arvidson, of Washington University in St. Louis, had put the odds of hearing a signal by now at less than 50-50. Still, he stands behind attempts to call it.

"I would be surprised if we re-establish communication - happy but surprised," said Arvidson, a mission deputy principal investigator. "It's been so long."

Ground controllers are paging Spirit over a range of frequencies and at various times during the day in case its internal clock stopped working

and it lost track of time. They also are commanding the rover to turn on its backup [radio transmitter](#) in case the main one died.

At some point, NASA will have to declare Spirit lost if there's no word. When that happens, efforts will be reduced to sporadic listening for it through the end of the year, Callas said.

Spirit and Opportunity parachuted to opposite sides of Mars in 2004. Both have worked beyond their original, three-month mission during which they discovered geologic evidence of water on the red planet.

While Spirit's odometer remains stuck at 4.8 miles, Opportunity finished exploring the rim of Santa Maria crater on Mars and is rolling toward another crater. It has racked up 16.6 miles so far.

Arizona State University astronomer Jim Bell said the loss of communication came at the worst possible time because Spirit was doing valuable science while immobile.

"It's disappointing if we have, in fact, lost the mission," he said. "But it's the best kind of disappointment you can have. We had a phenomenal adventure with that rover."

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