

# IS THERE LIFE ON MARS?

1 x 60 HD



International

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## CONTACT

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On July 31st 2008, scientists heading NASA's Phoenix mission announced the first definitive proof that water exists on Mars—opening up the tantalizing possibility that life may exist there, too. The sensational announcement was the capstone of an astonishing five years of robotic exploration on the Red Planet, pioneered by the Jet Propulsion Lab's twin rovers, Spirit and Opportunity. Surviving far longer than originally expected, the hardy little rovers had found many tantalizing hints that liquid water must have been present. On top of their success, Phoenix's final confirmation is the triumphant finale to an enthralling scientific detective story and intense drama, one told with unique behind-the-scenes access in NOVA's

NASA's quest to explore Mars had unpromising beginnings in the late 90s, when two of its probes failed in one year alone. In the shadow of these twin catastrophes, a NOVA crew started following the JPL engineering team and its charismatic leader, Steve Squyres, as they worked to rebuild the Mars exploration program. Over the course of more than two years, NOVA captured the tension-filled process of building, testing, launching and landing the twin rovers. Technological challenges turned to high-drama when, on the verge of success, problems with the parachute and airbags almost scuttled the mission. Following the landing, however, the mission team had little time to enjoy their success. After two weeks on Mars, Spirit suddenly fell silent ... and then, inexplicably, started spewing gibberish. Racing the clock as Spirit's batteries slowly drain, Spirit's engineers try to control the unhinged rover while facing the specter of a third consecutive catastrophic failure until they finally figure out the problem and save the rover from an untimely death.

Although the difficulties provided for high drama and high stress for the mission team, some crises proved to be a boon for science. When one of Spirit's wheels locked up in the Columbia Hills, it scraped a white-colored trail through the red Martian topsoil, revealing the presence of silica—a mineral typically produced on earth in environments like hot springs that are a wellspring for life. In conjunction with other observations, the quest to discover definitive proof of water, not only in the Red Planet's past, but existing today, moved into high gear.

Scientists concluded that the Martian polar region are the best bet for finding water. So they send the Phoenix probe—a stationary robot, not a rover. Again, the mission is beset with complications and problems. Mission scientists struggle to make Phoenix's miniature moon lab function properly, wrestle with a broken filament and with a stuck door. Finally, and worst of all, soil samples that will establish the presence of water are too sticky to drop into its testing oven. In , NOVA exposes the cliffhanger that led to eventual triumph and stirs up an array of provocative questions about the possibility of life beyond earth.

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# NOVA

## CREDITS

*Executive Producer:* Paula S. Apsell

*Producers:* Jonathan Gruppera

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*Photo Credit:* NASA



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