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Phoenix lander's Mars mission over, NASA says

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The solar-powered Phoenix lander, which searched for signs of life on Mars, has succumbed to frigid weather and a dust storm after five months on the Red Planet.

The golf-cart-size probe survived two months longer than expected, making its last radio contact Nov. 2, NASA said today. Windy, dusty weather obscured the sun and probably forced the probe to drain its batteries while powering heaters, said mission manager Barry Goldstein in a call with reporters from NASA's Jet Propulsion Laboratory in Pasadena, Calif.
Phoenix discovered ice beneath Mars's rocky red terrain in June, confirming theories that water, a key ingredient for life, exists there in some form. Tests showed that the alkaline soil could support plants like asparagus if heat, water and sunlight were provided.
"The mission is all about water," principal investigator Peter Smith of the University of Arizona in Tucson said during the call. "At the terminus of our mission, we're now seeing snow falling and frost on the ground."
While it's still summer on Mars, temperatures have dipped as low as minus 141 Fahrenheit (minus 96 degrees Celsius). That's colder than the chilliest Antarctic day ever recorded.
Gusts of 25 mph (40 kph) or higher have battered the probe, which cost $475 million to build and deliver to Mars. The journey took nine months and ended with a parachute landing May 25 near Mars's arctic circle.
During the mission, Phoenix took 25,000 pictures, from panoramas to pictures of the sky. A windsock measured the Martian breezes.
The probe watched clouds develop and dug trenches in the ice. An onboard microscope examined the color and size of dirt grains. Tiny ovens heated soil samples to look for trace chemicals that are the building blocks of life.
Temperatures will drop as low as minus 238 Fahrenheit in the next year, and the sun will sink below the horizon for three months. Mars's four seasons last about twice as long as Earth's.
It's "highly unlikely" the one-armed craft will survive until the spring, which begins in late October.
"The vehicle is going to be pretty much encased in dry ice," which will render its solar panels brittle and prone to cracking, said Goldstein. "But this vehicle has been so superlative since we landed, nothing would surprise me."