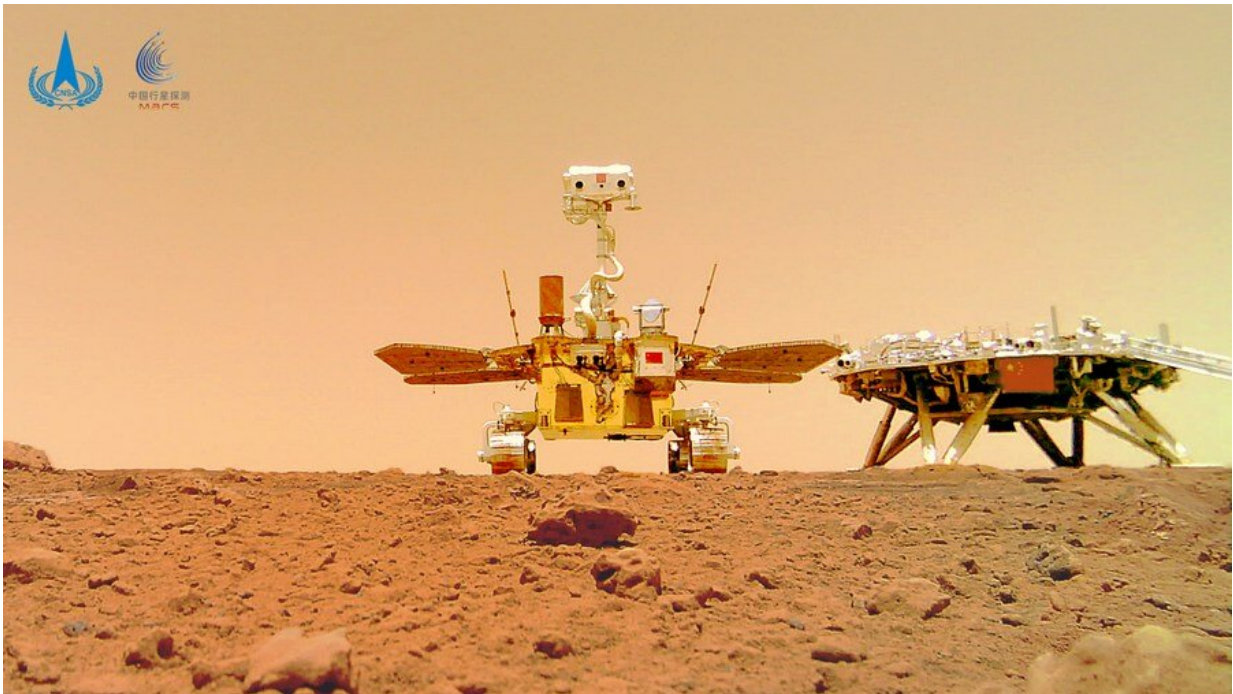


China unable to reestablish contact with its Zhurong Mars rover

January 10 2023, by Nancy Atkinson



A wireless camera took this 'group photo' of China's Tianwen-1 lander and rover on Mars' surface. Credit: Chinese Space Agency

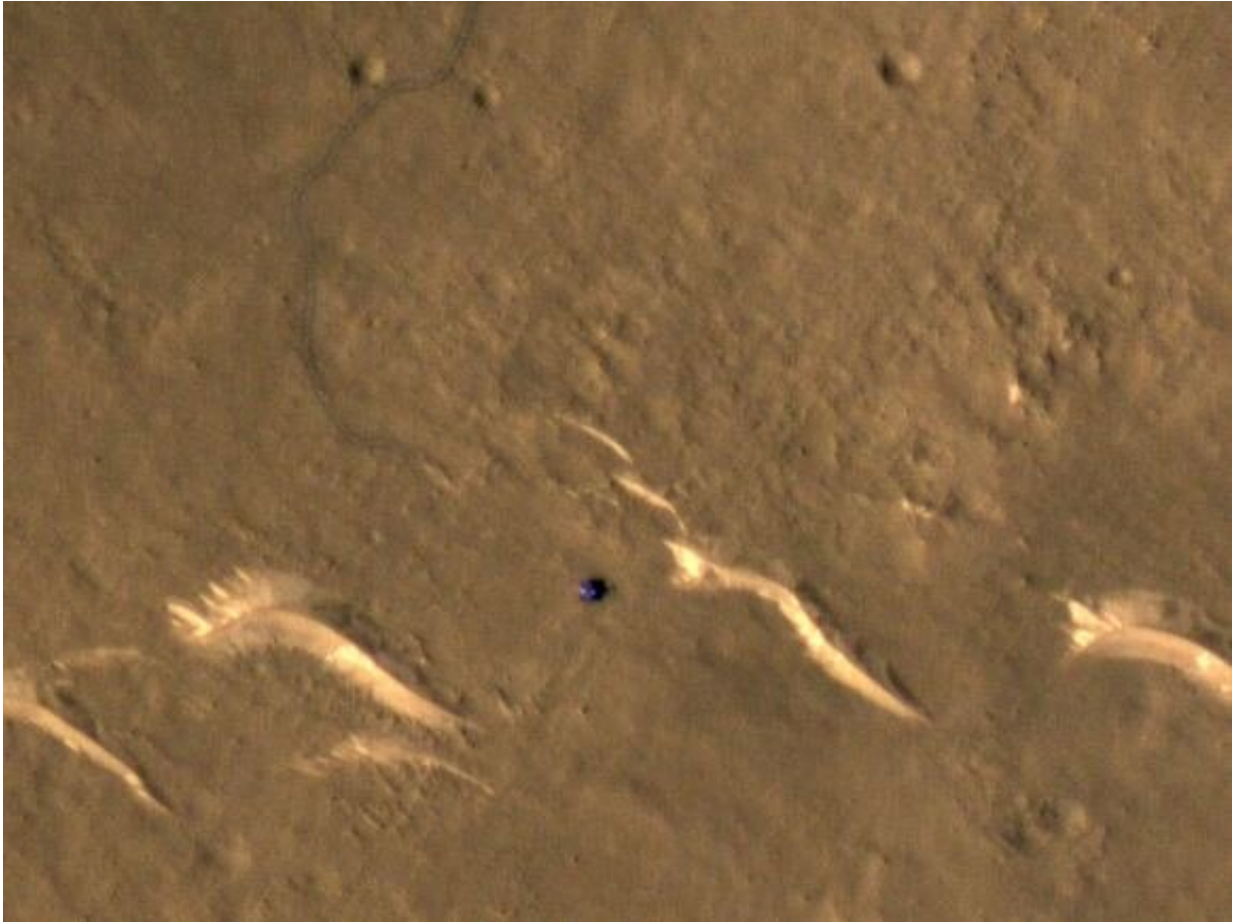
China's National Space Administration (CNSA) has been hoping to reestablish communications with the Zhurong Mars rover, but so far, their efforts have been unsuccessful. Zhurong was put into hibernation over six months ago as it hunkered down in attempts to survive the Martian winter.

But it's been a tough winter in Utopia Planitia in Mars northern hemisphere where Zhurong is located. Not only were the temperatures extremely low, colder than -100°C (-148°F), but a regional dust storm severely reduced the likelihood of the [rover](#) collecting any power with its solar panels. This is the same dust storm that has hastened the end of NASA's Mars InSight mission.

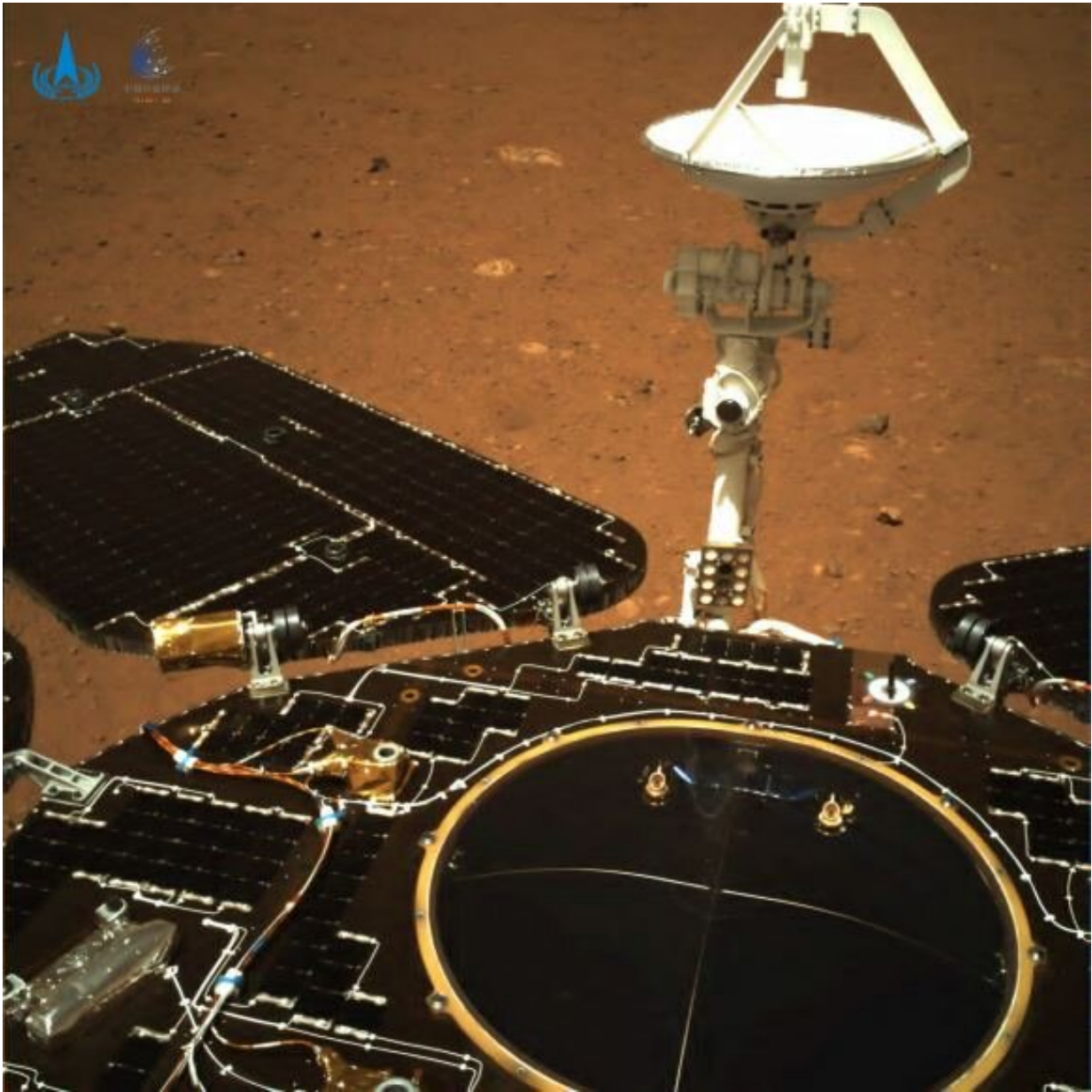
According to the South China Morning Post, the mission team predicted Zhurong would resume operations around December 26 as the planet's northern hemisphere entered its spring season and [environmental conditions](#) improved. But so far, no contact has been established.

Zhurong landed on Mars on May 15, 2021, making China the second country ever to successfully land a rover on Mars. The cute rover, named after a Chinese god of fire, explored its [landing site](#), sent back pictures—including a selfie with its lander, taken by a remote camera—studied the topography of Mars, and conducted other science experiments.

The South China Morning Post also quoted sources saying that the Chinese space authorities planned to send their orbiter, the Tianwen-1 probe, to take pictures of the rover. However, the sources said "ground control had encountered difficulty when downloading the latest data from the orbiting probe, which is equipped with two cameras."



The Chinese Zhurong rover landed on Mars in May 2021. This HiRISE image, acquired on 11 March 2022, shows the rover's new location. Credit: NASA/JPL/UofA



An image from China's Zhurong rover shows spacecraft hardware in the foreground and Martian terrain in the background. Credit: CNSA

The [winter solstice](#) in the [northern hemisphere](#) of Mars began on July 26, 2022 (on Earth) and conditions should have improved by the end of December

According to Jia Yang, deputy chief designer of the Tianwen-1 probe system, the rover is programmed to wake up on its own when two conditions are met: its power level must hit 140 watts and the temperature of key components, batteries included, must exceed minus 15 degrees Celsius (5 degrees F.)

The Zhurong lander had a primary mission of three months, but it remained operational for one year and has traveled nearly 2 km (1.24 miles) across the terrain. Using its ground-penetrating radar, scientists found evidence for two major flooding events on Mars, believed to have occurred millions of years ago.

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