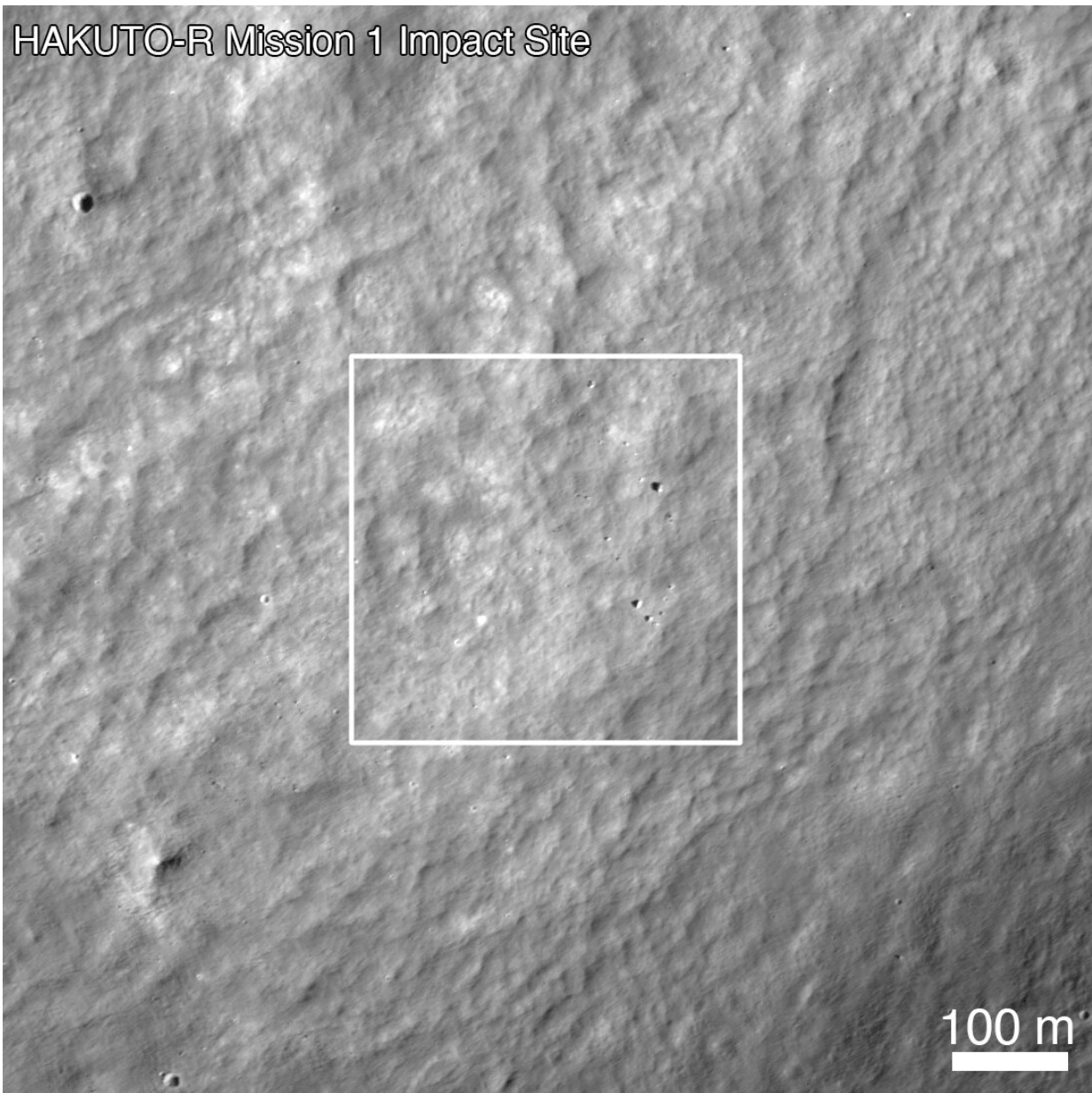


NASA's LRO views impact site of HAKUTO-R mission 1 moon lander

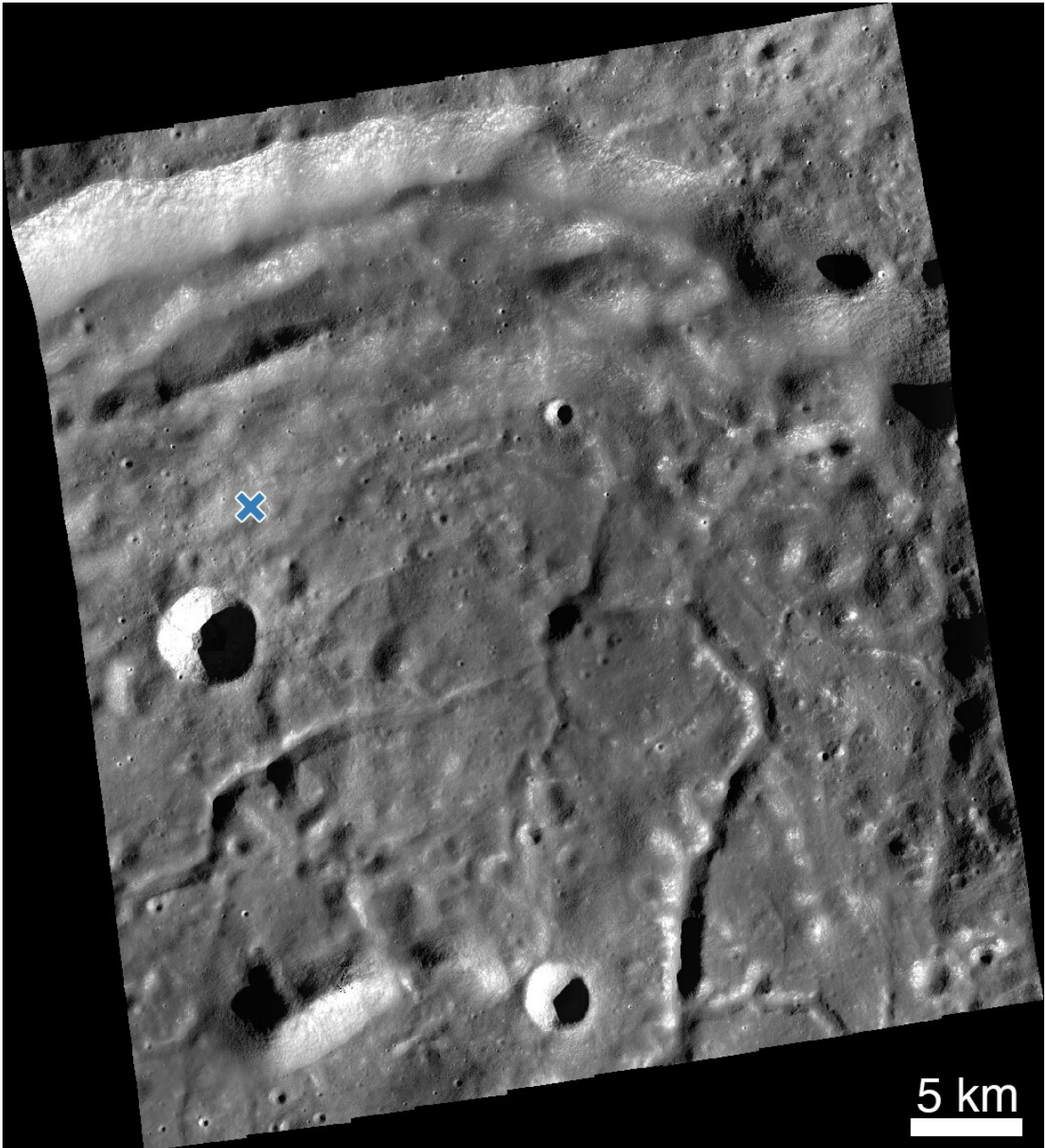
May 24 2023, by Nancy Neal Jones



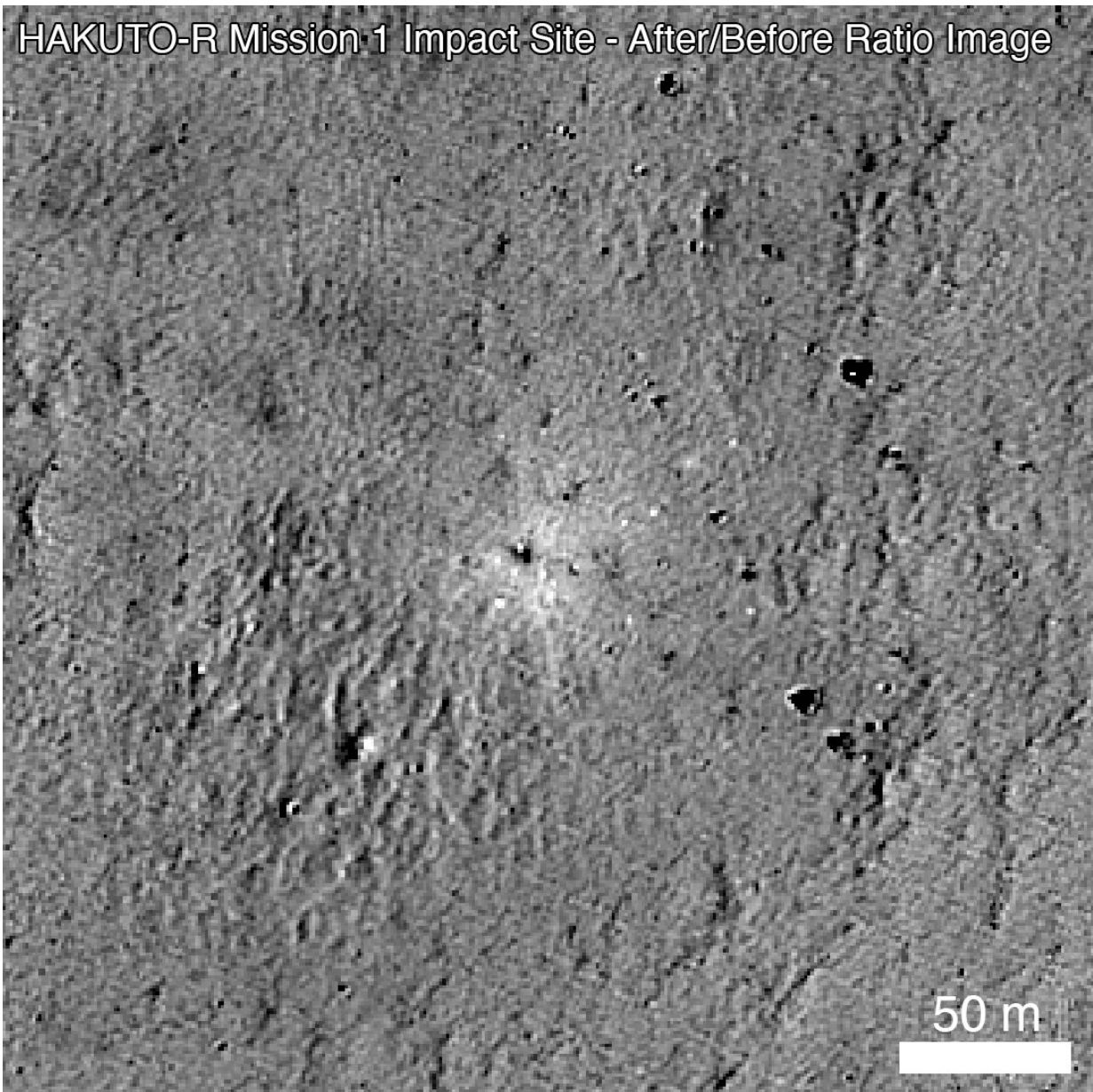
HAKUTO-R Mission 1 lunar lander site, as seen by the Lunar Reconnaissance Orbiter Camera (LROC) on April 26, 2023, the day after the attempted landing. The scale bar is 100 m across. LROC NAC image M1437131607R. Credit: NASA's Goddard Space Flight Center/Arizona State University

The ispace HAKUTO-R Mission 1 lunar lander was launched on Dec. 11, 2022, a privately funded spacecraft planned to land on the lunar surface. After a several-month journey to the moon, the spacecraft started a controlled descent to the surface to land near Atlas crater. The ispace team announced the following day that an anomaly occurred, and the HAKUTO-R Mission 1 lunar lander had not safely touched down on the surface.

On April 26, 2023, NASA's Lunar Reconnaissance Orbiter (LRO) spacecraft acquired 10 images around the landing site with its Narrow Angle Cameras. The images covered a region roughly 40 km by 45 km (about 25 miles by 28 miles). Using an image acquired before the landing attempt, the LRO Camera science team began searching for the lander.



LROC Narrow Angle Camera mosaic of the HAKUTO-R Mission 1 lunar lander site made from the following image pairs: M1437138630L/R, 1437131607L/R, M1437124584L/R, 1437117561L/R, M1437110537L/R. Credit: NASA's Goddard Space Flight Center/Arizona State University



Ratio image created by dividing the after (M1437131607R) and before (M192675639R) images. The impact created an area of higher reflectance, approximately 60-80 m across. The scale bar in the lower right is 50m across. Credit: NASA's Goddard Space Flight Center/Arizona State University

From the temporal image pair, the LRO Camera team identified an unusual [surface](#) change near the nominal [landing site](#). The image shows at least four prominent pieces of debris and several small changes (47.581 degrees North latitude, 44.094 degrees East longitude). The central feature in the image above shows several bright pixels in the upper left and several dark pixels in the lower right. This is the opposite of nearby boulders, suggesting that this could be a small crater or different parts of the lander body. This site will be further analyzed over the coming months as LRO has the opportunity to make additional observations of the site under various lighting conditions and viewing angles.

Provided by NASA

Citation: NASA's LRO views impact site of HAKUTO-R mission 1 moon lander (2023, May 24) retrieved 12 May 2024 from <https://phys.org/news/2023-05-nasa-lro-views-impact-site.html>

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