

NASA's Perseverance rover captures stunning Mars vista

'Float rocks,' sand ripples and vast distances are among sights captured by ASU-operated camera in latest high-resolution panorama

By Kim Baptista, ASU News
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The imaging team of NASA's [Perseverance Mars rover](#) took advantage of clear skies on the red planet to capture one of the sharpest panoramas of its mission so far.

Visible in the mosaic, which was stitched together from 96 images taken at a location the science team calls "Falbreen," is a rock that appears to lie on top of a sand ripple, a boundary line between two geologic units and hills as distant as 40 miles away. The enhanced-color version shows the Martian sky to be remarkably clear and deceptively blue, while in the natural-color version, it's reddish.

"Our bold push for human space exploration will send astronauts back to the moon," said Sean Duffy, acting NASA administrator. "Stunning vistas like that of Falbreen, captured by our Perseverance rover, are just a glimpse of what we'll soon witness with our own eyes. NASA's groundbreaking missions, starting with Artemis, will propel our unstoppable journey to take human space exploration to the Martian surface. NASA is continuing to get bolder and stronger."

The rover's Mastcam-Z instrument captured the images on May 26, the 1,516th Martian day, or sol, of Perseverance. NASA's Jet Propulsion Laboratory, which is managed for the agency by Caltech, built and manages operations of the Perseverance rover on behalf of NASA's Science Mission Directorate in Washington, D.C., as part of NASA's Mars Exploration Program portfolio. Arizona State University leads the operations of the Mastcam-Z instrument, working in collaboration with Malin Space Science Systems in San Diego on the design, fabrication, testing and operation of the cameras. The mission, which [began in February 2021](#) on the floor of Jezero Crater. Perseverance [reached the top of the crater rim](#) late last year.

"The relatively dust-free skies provide a clear view of the surrounding terrain," said [Jim Bell](#), Mastcam-Z's principal investigator at Arizona State University in Tempe. "And in this particular mosaic, we have enhanced the color contrast, which accentuates the differences in the terrain and sky."

Buoyant boulder

One detail that caught the science team's attention is a large rock that appears to sit atop a dark, crescent-shaped sand ripple to the right of the mosaic's center, about 14 feet from the rover. Geologists call this type of rock a "float rock" because it was more than likely formed someplace else and transported to its current location. Whether this one arrived by a landslide, water or wind is unknown, but the science team suspects it got here before the sand ripple formed.

The bright white circle just left of center and near the bottom of the image is an [abrasion patch](#). This is the 43rd rock Perseverance has [abraded](#) since it landed on Mars. Two inches wide, the shallow patch is made with the rover's drill and enables the science team to [see what's beneath](#) the weathered, dusty surface of a rock before deciding to drill a core sample that would be stored in one of the mission's titanium [sample tubes](#).

The rover made this abrasion on May 22 and performed proximity science (a detailed analysis of Martian rocks and soil) with its arm-mounted instruments two days later. The science team wanted to learn about Falbreen because it's situated within what may be some of the oldest terrain Perseverance has ever explored — perhaps even older than Jezero Crater.

Tracks from the rover's journey to the location can be seen toward the mosaic's right edge. About 300 feet away, they veer to the left, disappearing from sight at a previous geologic stop the science team calls "[Kenmore](#)."

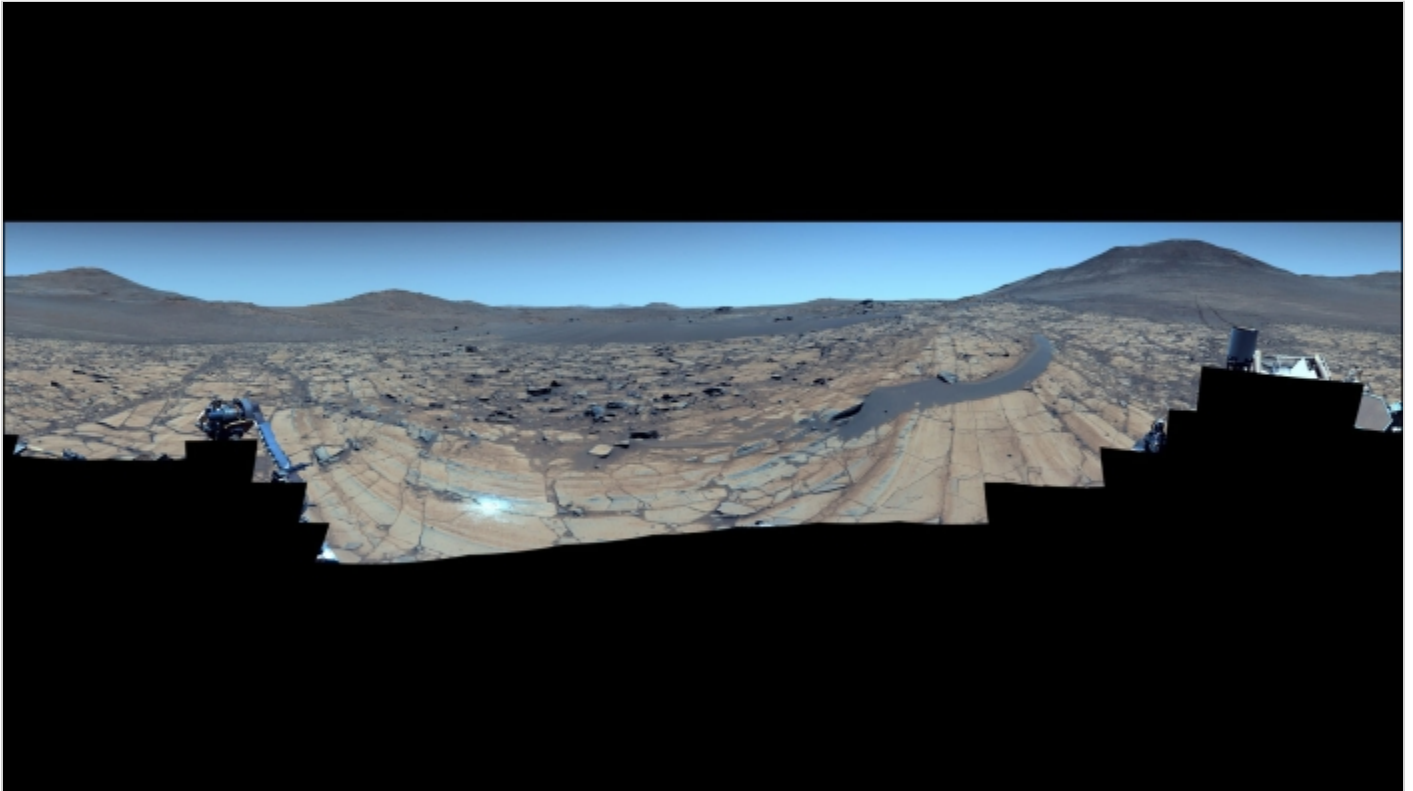
A little more than halfway up the mosaic, sweeping from one edge to the other, is the transition from lighter-toned to darker-toned rocks. This is the boundary line, or contact, between two geologic units. The flat, lighter-colored rocks nearer to the rover are rich in the mineral olivine, while the darker rocks farther away are believed to be much older clay-bearing rocks.

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Main image



Captured at a location called “Falbreen,” this enhanced-color mosaic features deceptively blue skies and the 43rd rock abrasion (the white patch at center-left) of the NASA Perseverance rover’s mission at Mars. The 96 images stitched together to create this 360-degree view were acquired May 26. Photo credit: NASA/JPL-Caltech/ASU/MSSS