

NASA/JPL-Caltech/UA Arizona

## Layering at Ganges Chasma

ESP\_011292\_1720 Science Theme: [Sedimentary/Layering Processes](#)

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This image shows the geologic contact between the walls of Ganges Chasma and the adjacent plains. Ganges Chasma is one of several deep troughs that make up the Valles Marineris system on Mars.

The upper slopes of the walls of Ganges have layering that appears dark, rough, and blocky, consistent with lava flows that are thought to make up the plains around Valles Marineris. Outside of Ganges on the plains is an unusual deposit that appears bright and is eroding back from the walls of Ganges, indicating the deposit isn't as resistant to erosion by the wind as the underlying lava flows.

The bright deposit is mantled by aeolian debris and dust, but along cliffs where erosion has exposed fresher surfaces, one can see meter-scale layering that appears smoother and brighter than the layering visible in the underlying lava

### WALLPAPER

[1280](#)

[1920](#)

[2560](#)

### HIFLYER

[PDF \(11 x 17\)](#)

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volcanism and aeolian airfall can also produce this fine-scale layering.

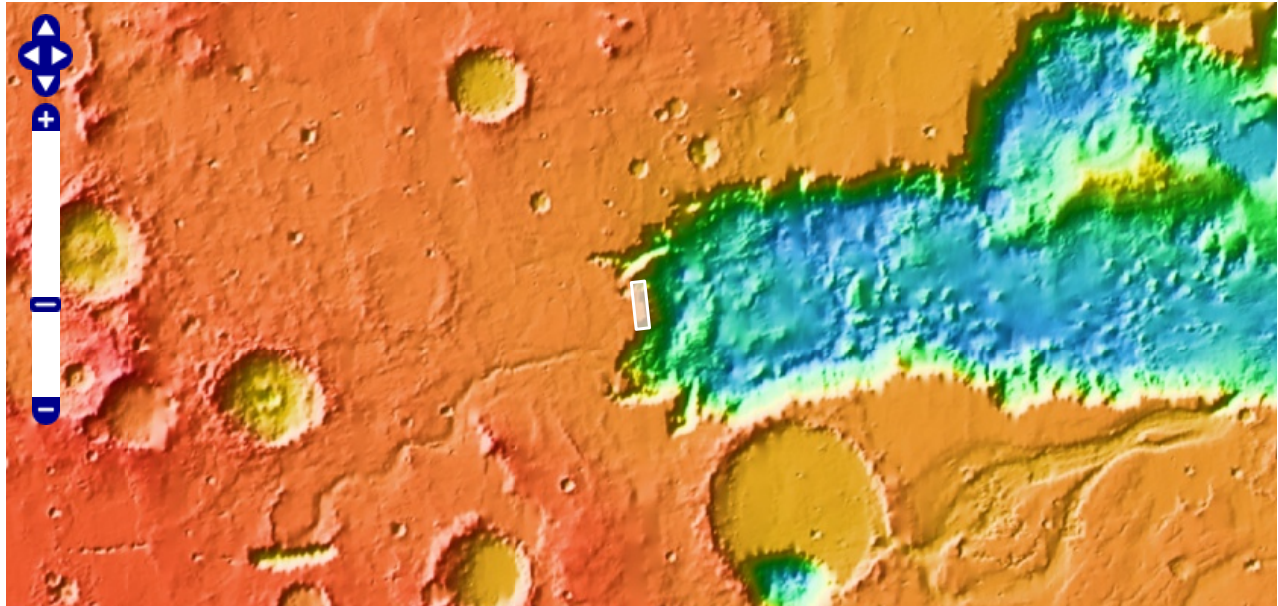
Written by: Cathy Weitz (4 February 2009)

This is a stereo pair with [PSP\\_005939\\_1720](#).

<b>Acquisition date</b> 23 December 2008	<b>JPEG</b> Black and white <a href="#">map projected</a> <a href="#">non-map</a>	<b>ANAGLYPHS</b> <a href="#">Map-projected, reduced-resolution</a> <a href="#">Full resolution JP2 download</a> <a href="#">Anaglyph details page</a>
<b>Local Mars time</b> 15:42	IRB color <a href="#">map projected</a> <a href="#">non-map</a>	<b>ADDITIONAL INFORMATION</b> <a href="#">B&amp;W label</a> <a href="#">Color label</a> <a href="#">Merged IRB label</a> <a href="#">Merged RGB label</a> <a href="#">EDR products</a> <a href="#">HiView</a>
<b>Latitude (centered)</b> -8.083°	Merged IRB <a href="#">map projected</a>	
<b>Longitude (East)</b> 307.489°	Merged RGB <a href="#">map projected</a>	
<b>Spacecraft altitude</b> 266.1 km (165.4 miles)	RGB color <a href="#">non-map projected</a>	<b>NB</b> IRB: infrared-red-blue RGB: red-green-blue <a href="#">About color products (PDF)</a>
<b>Original image scale range</b> 28.7 cm/pixel (with 1 x 1 binning) so objects ~86 cm across are resolved	<b>JP2</b> Black and white <a href="#">map-projected</a> (1431MB)	Black & white is 5 km across; enhanced color about 1 km For scale, use JPEG/JP2 black & white map-projected images
<b>Map projected scale</b> 25 cm/pixel and North is up	IRB color <a href="#">map-projected</a> (596MB)	
<b>Map projection</b> Equirectangular	<b>JP2 EXTRAS</b> Black and white <a href="#">map-projected</a> (648MB) <a href="#">non-map</a> (758MB)	<b>USAGE POLICY</b> All of the images produced by HiRISE and accessible on this site are within the public domain: there are no restrictions on their usage by anyone in the public, including news or science organizations. We do ask for a credit line where possible: NASA/JPL-Caltech/UArizona
<b>Emission angle</b> 25.5°	IRB color <a href="#">map projected</a> (262MB) <a href="#">non-map</a> (556MB)	
<b>Phase angle</b> 81.1°	Merged IRB <a href="#">map projected</a> (341MB)	
<b>Solar incidence angle</b> 56°, with the Sun about 34° above the horizon	Merged RGB <a href="#">map-projected</a> (325MB)	<b>POSTSCRIPT</b> NASA's Jet Propulsion Laboratory, a division of the California Institute of Technology in Pasadena, Calif.,
<b>Solar longitude</b> 178.7°, Northern Summer		

North azimuth: 97°  
Sub-solar azimuth: 11.3°

Directorate, Washington. The HiRISE camera was built by Ball Aerospace and Technology Corporation and is operated by the University of Arizona.



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