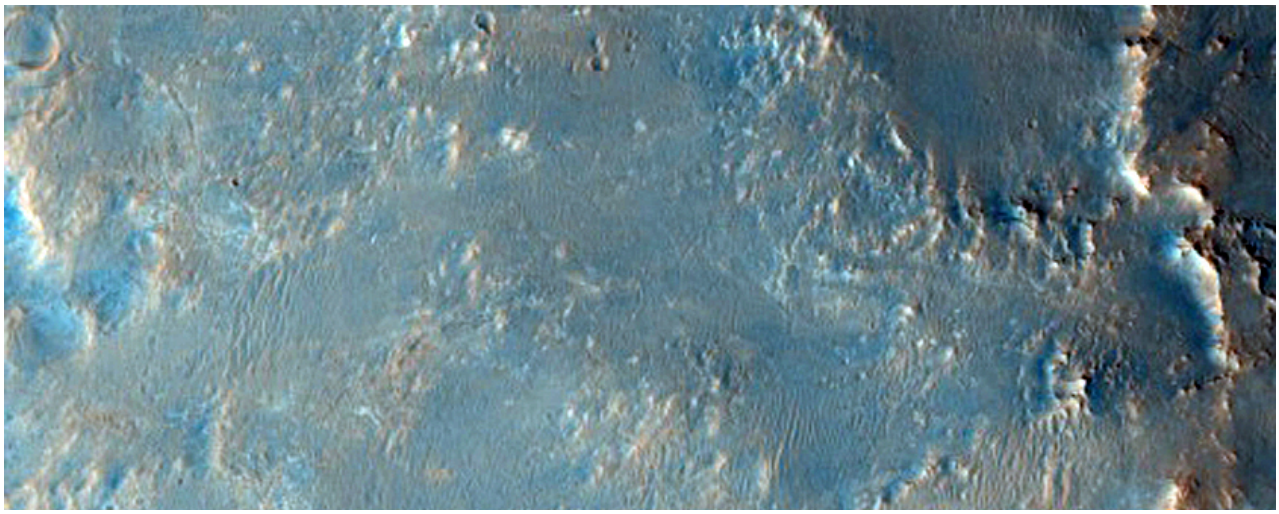


NASA/JPL-Caltech/UArizona

The Dark Spot on Mars

ESP_013951_1955 Science Theme: Geologic Contacts/Stratigraphy

Italian Spanish

On 13 October 1659, Dutch astronomer Christiaan Huygens turned one of his telescopes towards a bright orange spot in the sky and produced what Percival Lowell would later call "the first drawing of Mars worthy of the name ever made by man." Huygens included a dark spot in his drawing that is thought to represent Syrtis Major, a small sliver of which is visible in this HiRISE image.

Syrtis Major is a shield volcano. Its dark color comes from the dark basaltic rock in the area, visible because it lacks the dust that paints the rest of the planet its distinct, rusty red color. Tracking this dark spot in repeated observations, Huygens concluded that Mars rotated every twenty-four hours: a time not too far off from its true rotation period of approximately 24 hours and 39.58 minutes.

WALLPAPER
1280
1920
2560

HIFLYER
PDF (11 x 17)

in diameter, or 30 miles) into this rock exposes layers along its wall. These layers may be made from several different geologic materials, such as lava flows, debris from nearby impact craters, or deposits of dust or sand. They may represent different periods of deposition and erosion. The layers are of varying thickness: some of the lighter, resistant units are less than 10 meters thick, while some of the darker layers are over 100 meters thick.

Written by: Andrea Philippoff Jones (23 December 2009)

This is a stereo pair with ESP_020254_1955.

Acquisition date
18 July 2009

Local Mars time
14:22

Latitude (centered)
15.512°

Longitude (East)
72.814°

Spacecraft altitude
275.4 km (171.1 miles)

Original image scale range
55.6 cm/pixel (with 2 x 2 binning) so objects ~167 cm across are resolved

Map projected scale
50 cm/pixel and North is up

Map projection
Equirectangular

Emission angle
8.5°

Phase angle
43.7°

Solar incidence angle

JPEG
Black and white
map projected non-map

IRB color
map projected non-map

Merged IRB
map projected

Merged RGB
map projected

RGB color
non-map projected

JP2
Black and white
map-projected (498MB)

IRB color
map-projected (247MB)

JP2 EXTRAS
Black and white
map-projected (271MB)
non-map (249MB)

IRB color
map projected (106MB)
non-map (250MB)

Merged IRB

ANAGLYPHS
Map-projected, reduced-resolution
Full resolution JP2 download
Anaglyph details page

ADDITIONAL INFORMATION
B&W label
Color label
Merged IRB label
Merged RGB label
EDR products
HiView

NB
IRB: infrared-red-blue
RGB: red-green-blue
About color products (PDF)

Black & white is 5 km across; enhanced color about 1 km
For scale, use JPEG/JP2 black & white map-projected images

USAGE POLICY

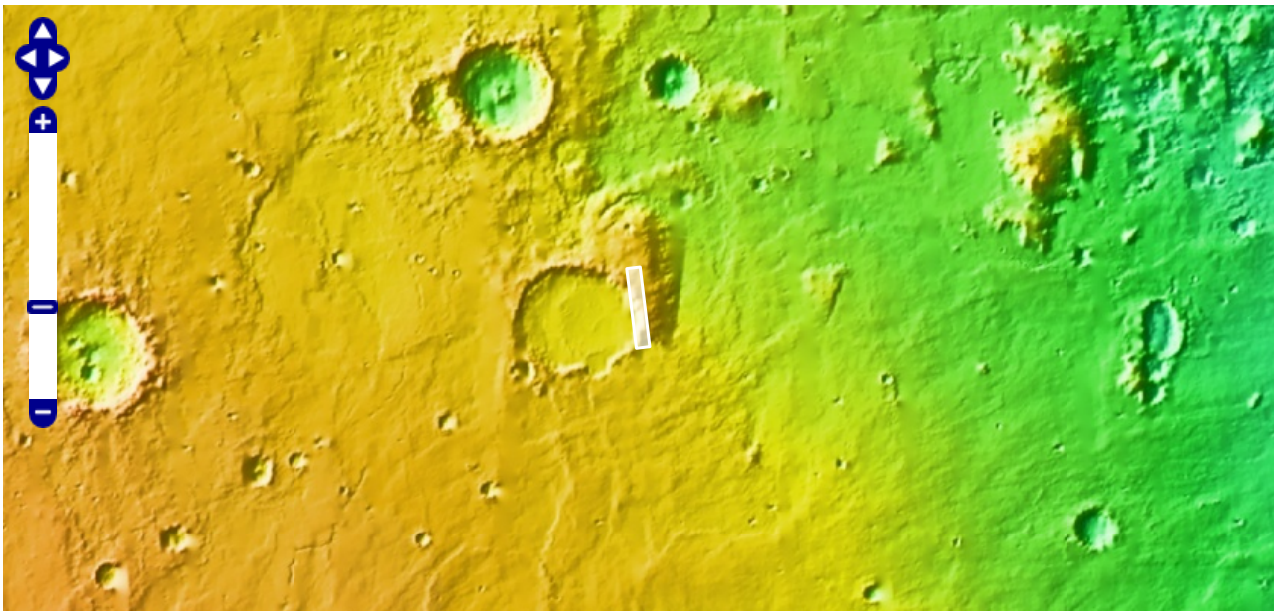
Solar longitude
305.6°, Northern Winter

For non-map projected images
North azimuth: 97°
Sub-solar azimuth: 321.3°

Merged RGB
map-projected (469MB)

RGB color
non map (232MB)

NASA's Jet Propulsion Laboratory, a division of the California Institute of Technology in Pasadena, Calif., manages the Mars Reconnaissance Orbiter for NASA's Science Mission Directorate, Washington. The HiRISE camera was built by Ball Aerospace and Technology Corporation and is operated by the University of Arizona.



High Resolution Imaging Science Experiment
HiRISE Operations Center
1541 E. University Blvd
Tucson, Arizona 85721