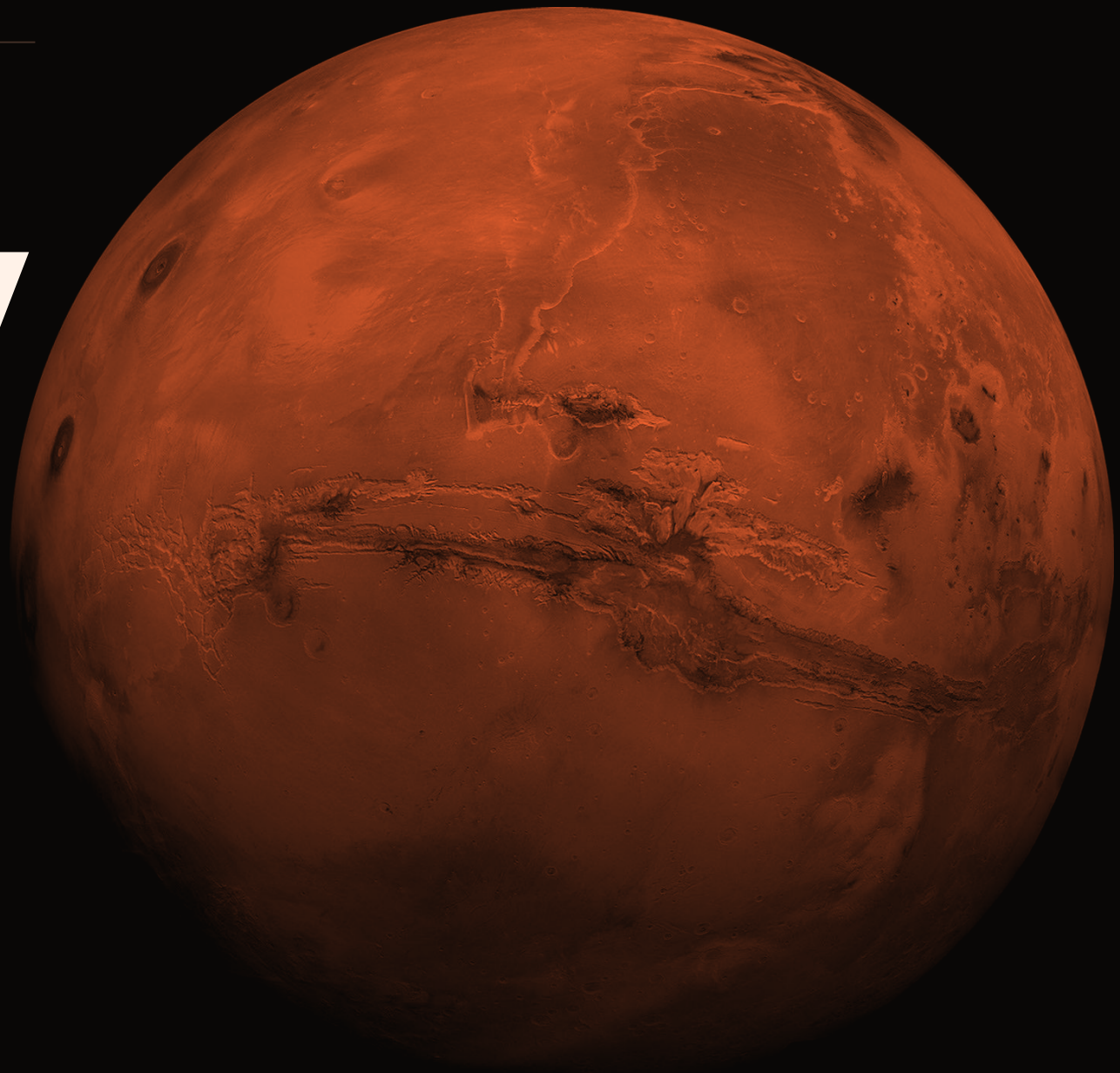
ASTRID

REVISION 1

PROCTOR CRATER / MARS

ANOMALY REPORT



A new era of systematic analysis of Mars data.

ESP_024515_1320

HiRISE orbital imaging / Mars Reconnaissance Orbiter

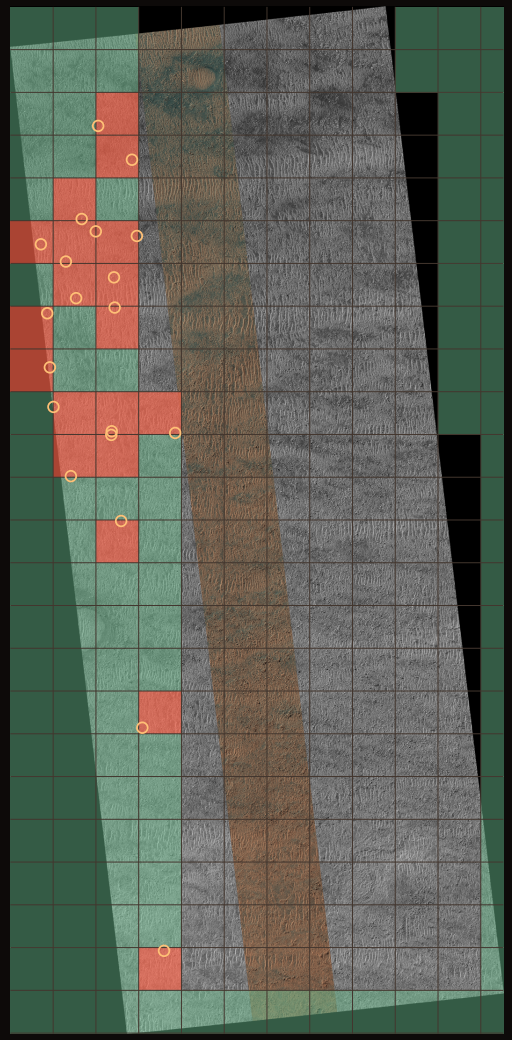
24 November 2026 / Review in progress
A later revision will follow completion of the remaining tiles.

Observation imagery NASA / JPL-Caltech / UArizona

Cover globe NASA / JPL-Caltech

Review coverage

Field of transverse aeolian ridges in Proctor Crater



124 / 300
tiles checked

19
red flags

20
bookmarked areas

THE SURVEY ON THIS DATE

The 12 × 25 grid displays 123 green and 19 red tiles. The checked count includes 1 red tile also saved as checked. Tile counts cover the rectangular raster, including its blank margins.

A GEOGRAPHIC CONTEXT

Acquired 19 October 2011 by HiRISE aboard Mars Reconnaissance Orbiter. The released MRGB map product is 12,532 × 26,109 pixels. The rectangle dimensions use the official 0.50 m/pixel map-grid scale.

READING THE MAP

- Checked tile
- Red flag tile
- Bookmark center

The overlay pins bookmark centers at overview scale. Full bounding rectangles and their native pixel coordinates appear in the evidence pages.

Image credit NASA / JPL-Caltech / UArizona

With thanks to Thomas Rice (@runozwritu) for bringing the image to our attention and assisting with the review.

How the views were made

Every panel uses the same registered native window. Source is the initial unadjusted ASTRID display using a single source-wide range. The other panels combine the saved Live Looks recipe with ASTRID Terrain Structure. Enhance emphasizes local texture, Relief suppresses smooth areas, and Edges isolates brightness transitions.

LIVE LOOKS	
Look	Natural
Light	−0.46 EV
Contrast	1.28
Clarity	1.00
Texture	1.00
Saturation	1.00

TERRAIN STRUCTURE	
Structure strength	1.09
Feature size	1.38
Noise protection	0.65
Structure color	On where supported
Smooth suppression	0.65
Detail balance	0.00
Invert relief	Off

Source-wide display mapping used black 0 and white 212 for all panels. Edges renders in grayscale.
Areas 1, 2 and 6 use wider native windows. Printed dimensions describe the saved bookmarks.

SCALE & INTERPRETATION

Panel extents are the measured widths and heights of the bookmarked rectangles in map coordinates. Feet use 1 m = 3.28084 ft. At the projection standard parallel (45°S), 0.50 m corresponds to one native pixel. The panels show image contrast, texture, and edge response. Surface height and the origin of candidate forms remain unconfirmed.

HiRISE observation · Original MRGB JP2 · PDS product label · HiRISE RDR specification · Mars cover globe

JP2 SHA-256 d9874474fd937dcd0ab7fb2c37db7a7eb124c11d8b59700ba7db2f0fc0f028e4

Area 1

15.5 × 13.5 m / 50.9 × 44.3 ft

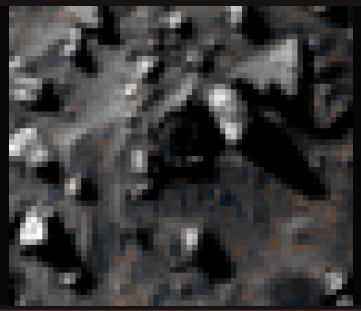
x 2,549 y 10,868 / 31 × 27 native px

Mapped bookmark footprint

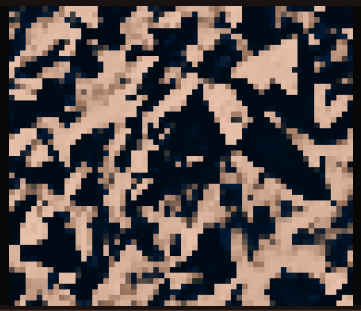
Source



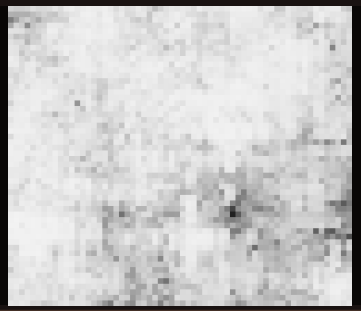
Enhance



Relief



Edges



A dark rounded patch lies between small pale features. One bright patch touches the upper-right side of the dark area.
Wider native framing. Dimensions refer to the saved box.

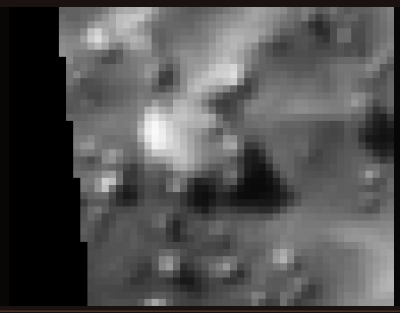
Area 2

13.5 × 10.5 m / 44.3 × 34.4 ft

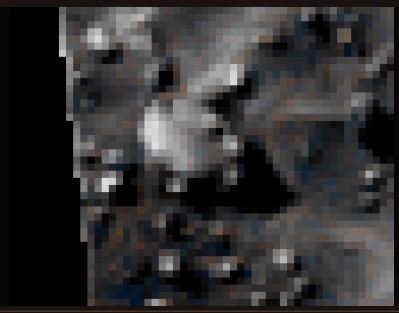
x 1,081 y 10,159 / 27 × 21 native px

Mapped bookmark footprint

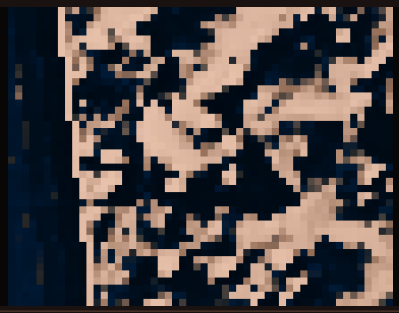
Source



Enhance



Relief



Edges



A bright lobe adjoins a darker, roughly triangular patch. This is the smallest bookmarked window.
Wider native framing. Dimensions refer to the saved box.

Area 3

x 973 y 9,144 / 61 × 40 native px

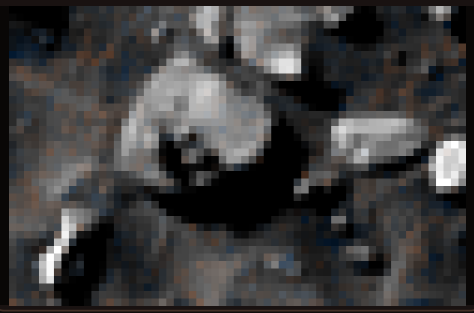
30.5 × 20 m / 100.1 × 65.6 ft

Mapped bookmark footprint

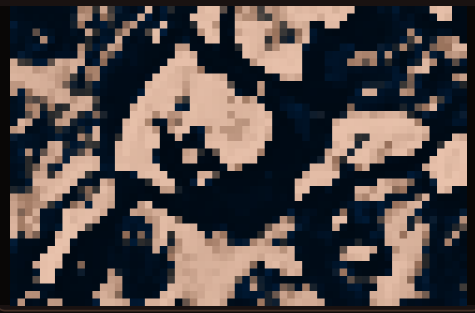
Source



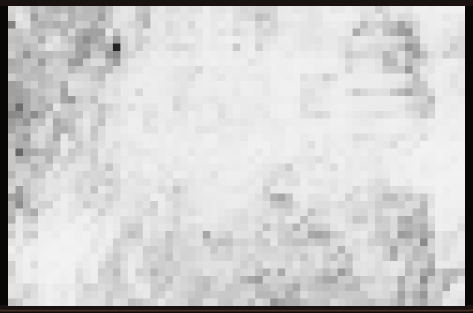
Enhance



Relief



Edges



A bright rounded feature has a darker interior mark and a broad adjoining dark area.

Area 4

x 906 y 7,766 / 61 × 46 native px

30.5 × 23 m / 100.1 × 75.5 ft

Mapped bookmark footprint

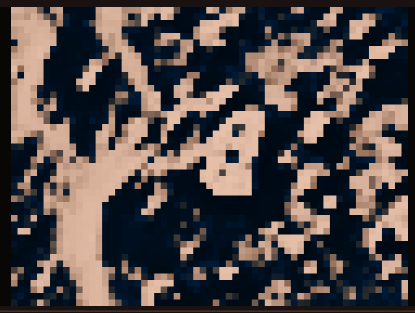
Source



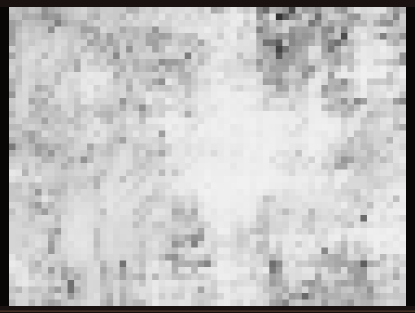
Enhance



Relief



Edges



A compact, elongated light patch sits in a field of finer ripples and smaller bright points.

Area 5

x 721 y 6,002 / 109 × 67 native px

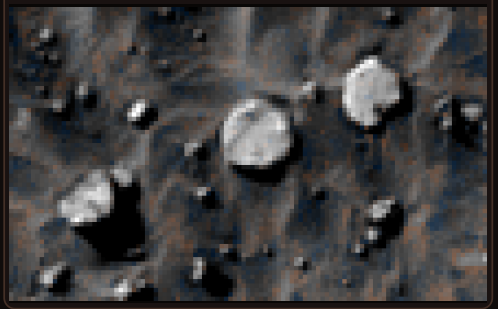
54.5 × 33.5 m / 178.8 × 109.9 ft

Mapped bookmark footprint

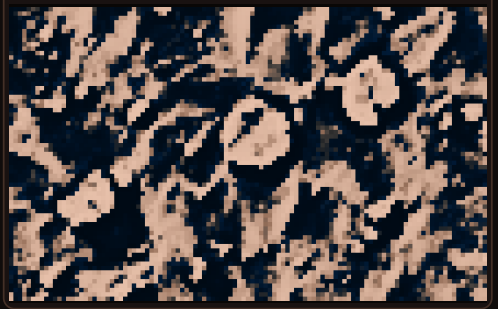
Source



Enhance



Relief



Edges



Several distinct bright patches sit across a rippled surface. This bookmark contains the recorded point for Anomaly 1.

Area 6

x 1,517 y 11,916 / 41 × 27 native px

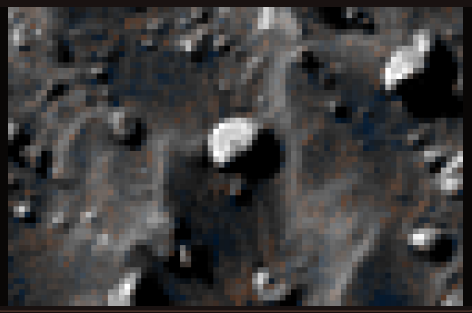
20.5 × 13.5 m / 67.3 × 44.3 ft

Mapped bookmark footprint

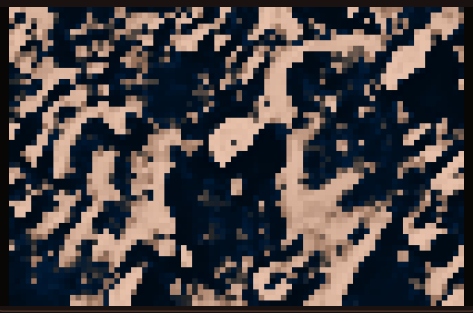
Source



Enhance



Relief



Edges



An isolated pale patch has an abrupt transition to a compact dark patch alongside it.
Wider native framing. Dimensions refer to the saved box.

Area 7

x 2,521 y 10,749 / 109 × 80 native px

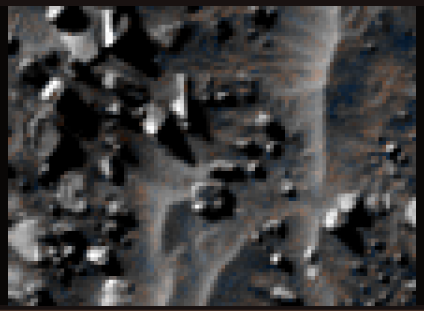
54.5 × 40 m / 178.8 × 131.2 ft

Mapped bookmark footprint

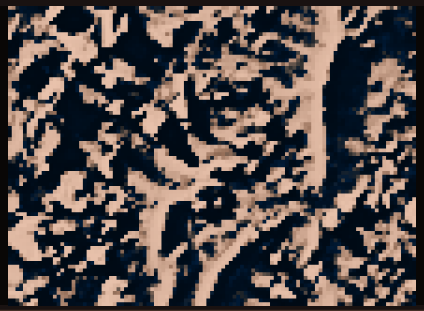
Source



Enhance



Relief



Edges



Many small, irregular bright patches sit beside a smoother band on the right of the box.

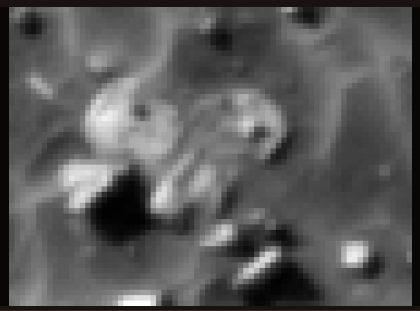
Area 8

x 2,194 y 2,998 / 74 × 55 native px

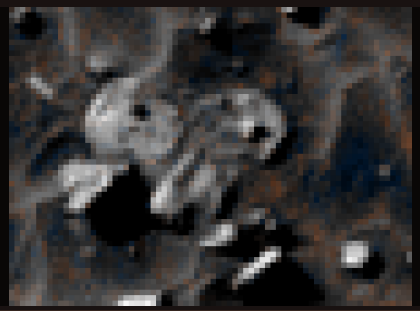
37 × 27.5 m / 121.4 × 90.2 ft

Mapped bookmark footprint

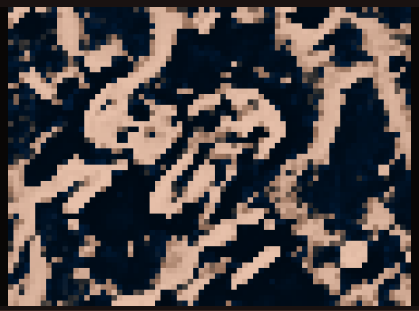
Source



Enhance



Relief



Edges



Several connected pale lobes sit above darker pockets, with smaller bright points nearby.

Area 9

x 1,769 y 5,351 / 87 × 84 native px

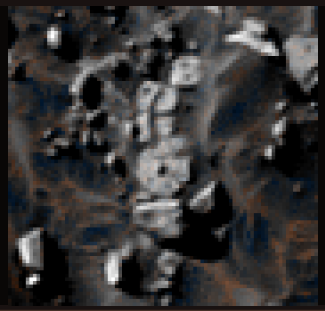
43.5 × 42 m / 142.7 × 137.8 ft

Mapped bookmark footprint

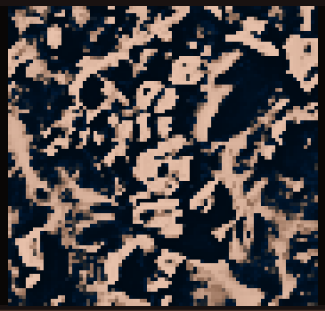
Source



Enhance



Relief



Edges



A near-vertical chain of irregular pale patches sits between darker areas and finer ridges.

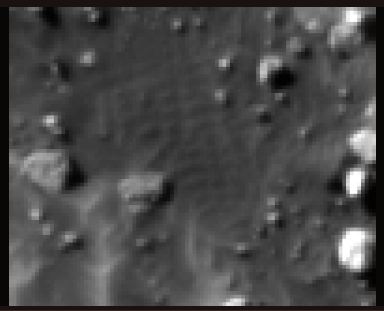
Area 10

x 2,122 y 5,667 / 98 × 80 native px

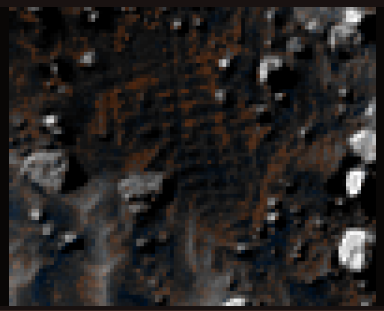
49 × 40 m / 160.8 × 131.2 ft

Mapped bookmark footprint

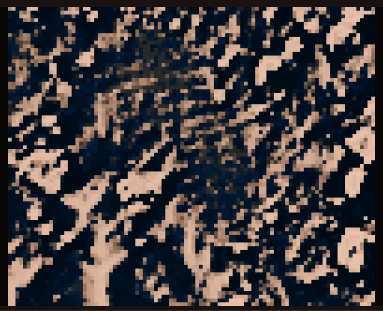
Source



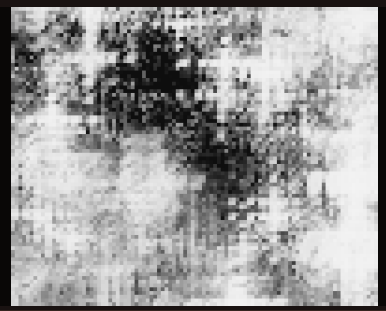
Enhance



Relief



Edges



Subtle, near-parallel ridges cross a relatively subdued field, with several bright points near the right edge.

Area 11

x 1,362 y 6,445 / 96 × 59 native px

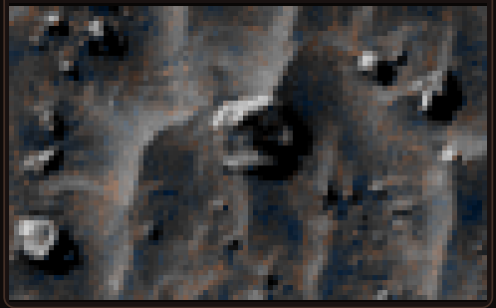
48 × 29.5 m / 157.5 × 96.8 ft

Mapped bookmark footprint

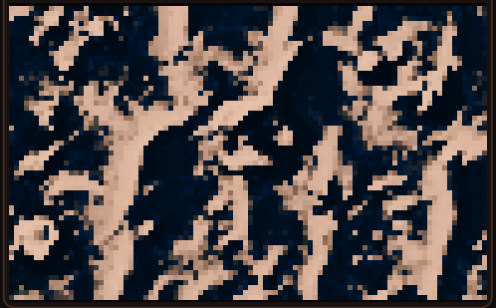
Source



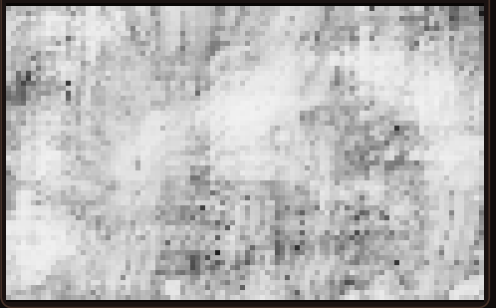
Enhance



Relief



Edges



A small, curved high-contrast rim is visible against broader parallel bands.

Area 12

x 1,622 y 7,361 / 96 × 89 native px

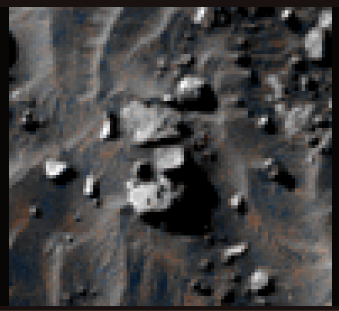
48 × 44.5 m / 157.5 × 146.0 ft

Mapped bookmark footprint

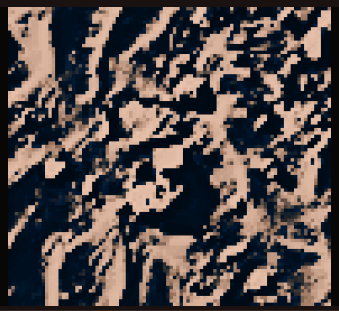
Source



Enhance



Relief



Edges



Two prominent pale shapes are separated by textured terrain. The lower shape has an adjoining dark patch.

Area 13

x 3,873 y 23,969 / 64 × 54 native px

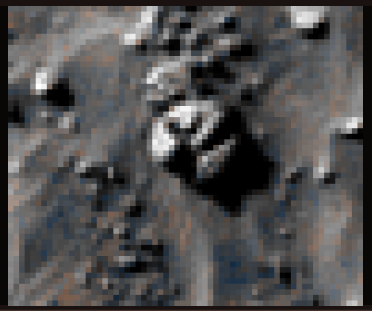
32 × 27 m / 105.0 × 88.6 ft

Mapped bookmark footprint

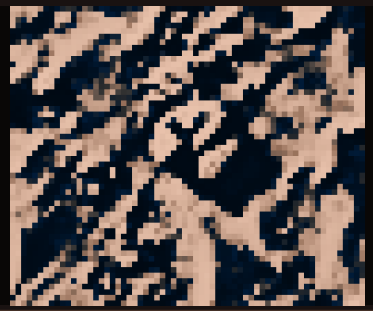
Source



Enhance



Relief



Edges



A compact cluster of bright lobes follows a curved boundary next to a dark patch.

Area 14

x 3,310 y 18,287 / 88 × 76 native px

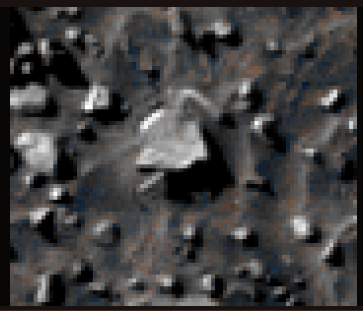
44 × 38 m / 144.4 × 124.7 ft

Mapped bookmark footprint

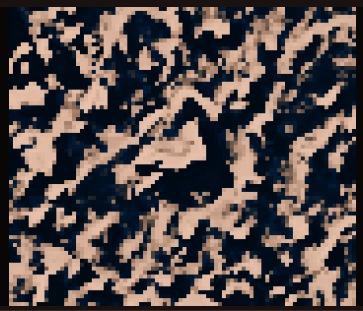
Source



Enhance



Relief



Edges



An irregular central pale patch sits among several smaller bright points in a textured field.

Area 15

x 4,149 y 10,794 / 80 × 75 native px

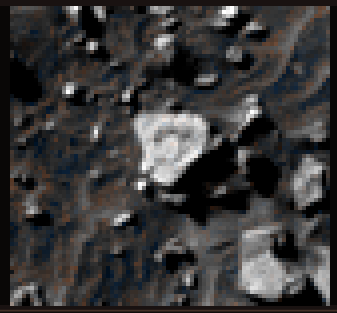
40 × 37.5 m / 131.2 × 123.0 ft

Mapped bookmark footprint

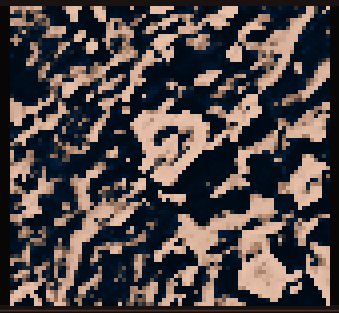
Source



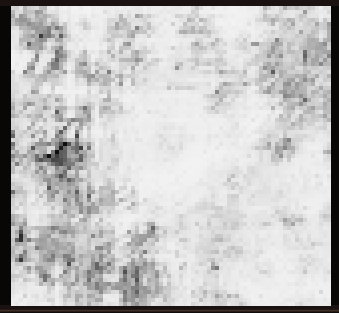
Enhance



Relief



Edges



A pale, roughly triangular patch has a pronounced dark boundary on one side.

Area 16

x 2,607 y 7,610 / 87 × 67 native px

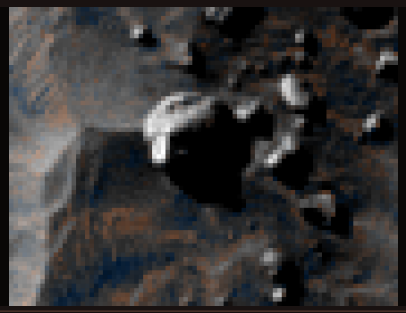
43.5 × 33.5 m / 142.7 × 109.9 ft

Mapped bookmark footprint

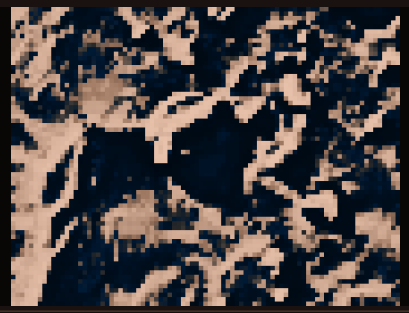
Source



Enhance



Relief



Edges



A bright arc runs along the edge of a dark rounded area. Finer bands remain visible nearby.

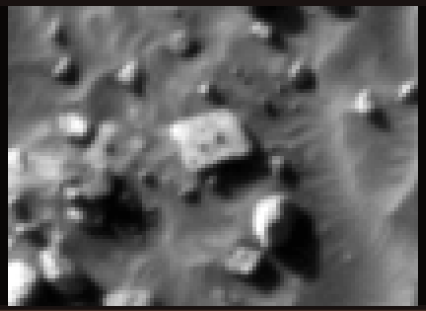
Area 17

x 2,581 y 6,838 / 104 × 76 native px

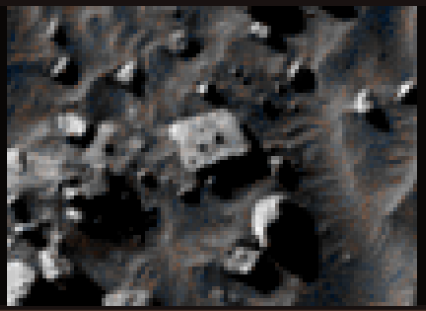
52 × 38 m / 170.6 × 124.7 ft

Mapped bookmark footprint

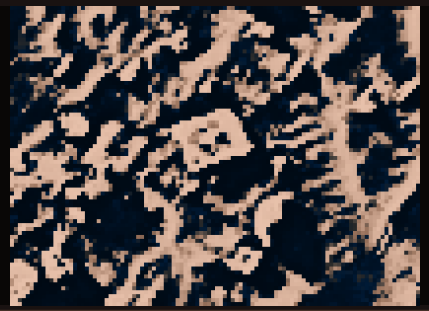
Source



Enhance



Relief



Edges



Several irregular light patches are scattered around a more angular central patch.

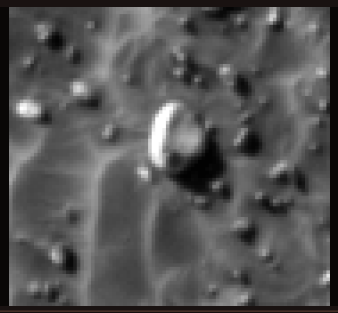
Area 18

x 3,170 y 5,782 / 90 × 84 native px

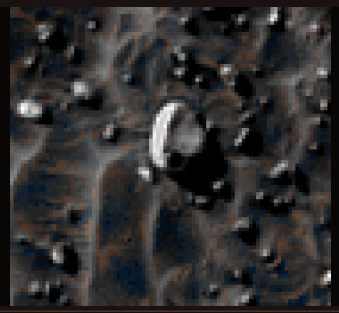
45 × 42 m / 147.6 × 137.8 ft

Mapped bookmark footprint

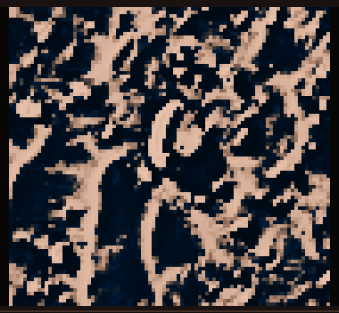
Source



Enhance



Relief



Edges



A narrow curved light rim adjoins a dark, elongated patch amid finer ridges.

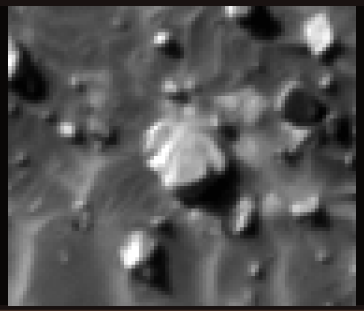
Area 19

x 3,044 y 3,846 / 93 × 80 native px

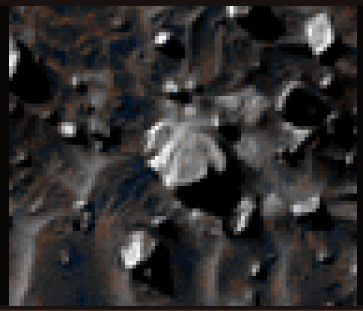
46.5 × 40 m / 152.6 × 131.2 ft

Mapped bookmark footprint

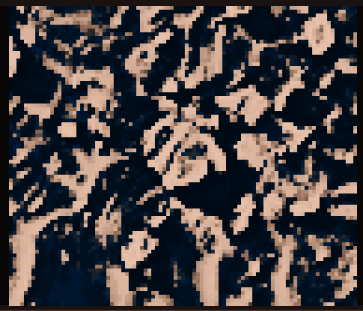
Source



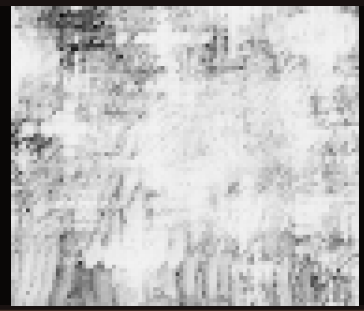
Enhance



Relief



Edges



An irregular bright central patch stands out among smaller pale points and dark pockets.

Area 20

x 2,784 y 13,044 / 62 × 51 native px

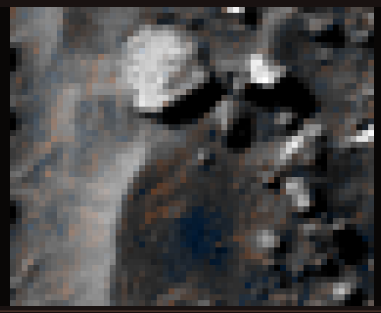
31 × 25.5 m / 101.7 × 83.7 ft

Mapped bookmark footprint

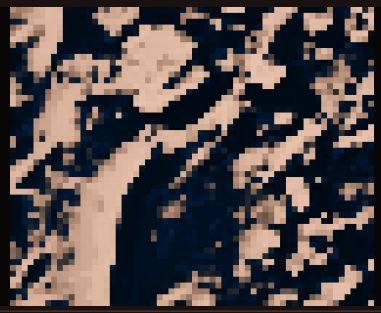
Source



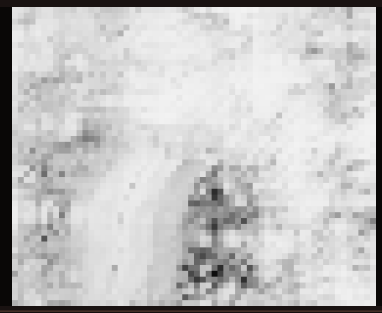
Enhance



Relief



Edges



A rounded pale patch sits near the head of a darker, smoother strip that continues below the bookmark.

Saved red flags

Flag labels are original saved notes. Area numbers come from a separate bookmark list. The table names an Area when the stored flag point falls inside its native rectangle.

SAVED NOTE	X / NATIVE PX	Y / NATIVE PX	GRID (ROW, COL)	BOOKMARK
1	753.91	6,015.53	6, 1	Area 5
2	1,014.20	7,833.06	8, 1	–
3	1,051.57	9,186.27	9, 1	–
4, middle-bottom left corner	1,114.72	10,180.93	10, 2	–
5	2,707.57	11,022.59	11, 3	–
6	1,810.23	11,247.94	11, 2	–
7	2,827.01	10,756.08	10, 3	–
8	1,944.44	5,028.89	5, 2	–
9	1,640.45	6,087.58	6, 2	–
10	1,727.23	7,530.60	7, 2	–
11	3,542.46	24,071.11	23, 4	–
12	4,021.22	18,321.07	17, 4	–
13	4,010.28	10,264.15	10, 4	–
14	3,143.00	7,708.57	8, 3	–
15	2,704.06	6,825.43	7, 3	–
16	3,137.46	5,804.66	6, 3	–
17	3,173.12	3,890.16	4, 3	–
18	2,358.53	3,031.76	3, 3	–
19	2,563.05	13,262.57	13, 3	–

Origin is the top-left source pixel. Grid rows and columns in this table are one-based.