

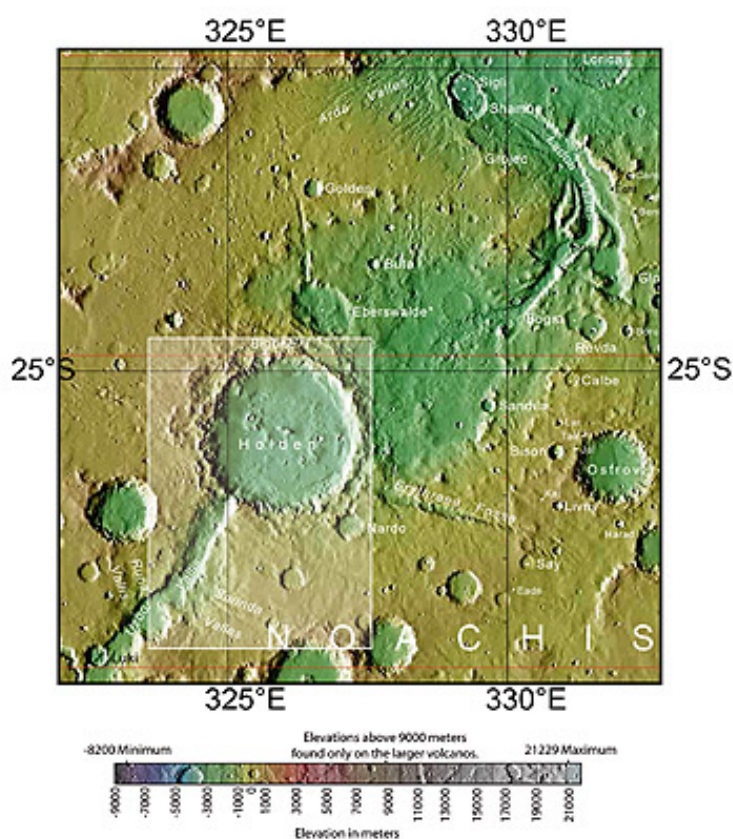
CRATER HOLDEN and UZBOI VALLIS

Colour Image



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Localisation



These images show the outlet channel of the Uzboi Vallis system into Crater Holden on Mars.

The images were obtained by Mars Express during orbit 511 with a ground resolution of approximately 45 metres per pixel. The scenes show the region of Noachis Terra, over an area centred at about 26° South and 325° East.

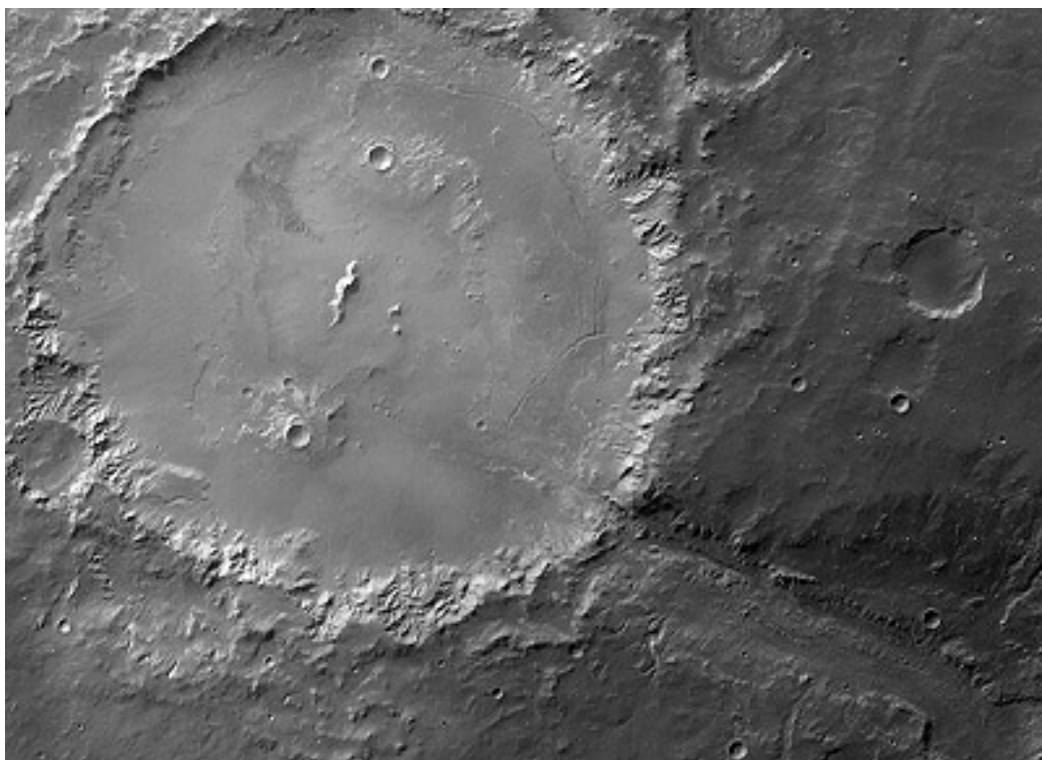
The valley of Uzboi Vallis begins in the region of Argyre Planitia and crosses the southern highlands in the direction of the northern lowlands. It connects several large impact craters, such as the 140 kilometre-wide Crater Holden seen in the main image.

Black & White Image

Due to a layer of haze close to the base of Holden, the area within the crater appears lighter coloured and slightly less detailed than the surrounding area.

A small, dark dune-field can be seen in the eastern half of the crater floor. It indicates the role of wind in the morphological evolution of Crater Holden.

The terrain within Crater Holden is the result of a long and varied evolution. The numerous smaller craters inside Holden indicate that the crater is old.

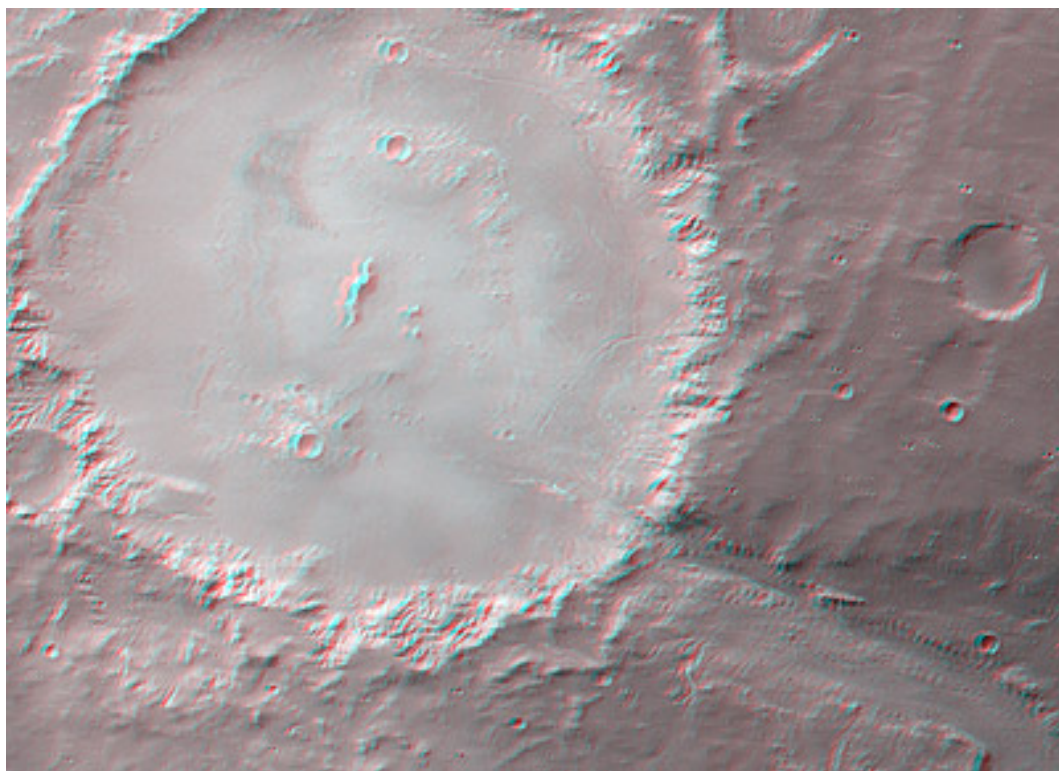


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Many smaller craters on the floor of Holden are covered with sediments, which were deposited after the formation of these craters and indicate that they are older than the unfilled small craters.

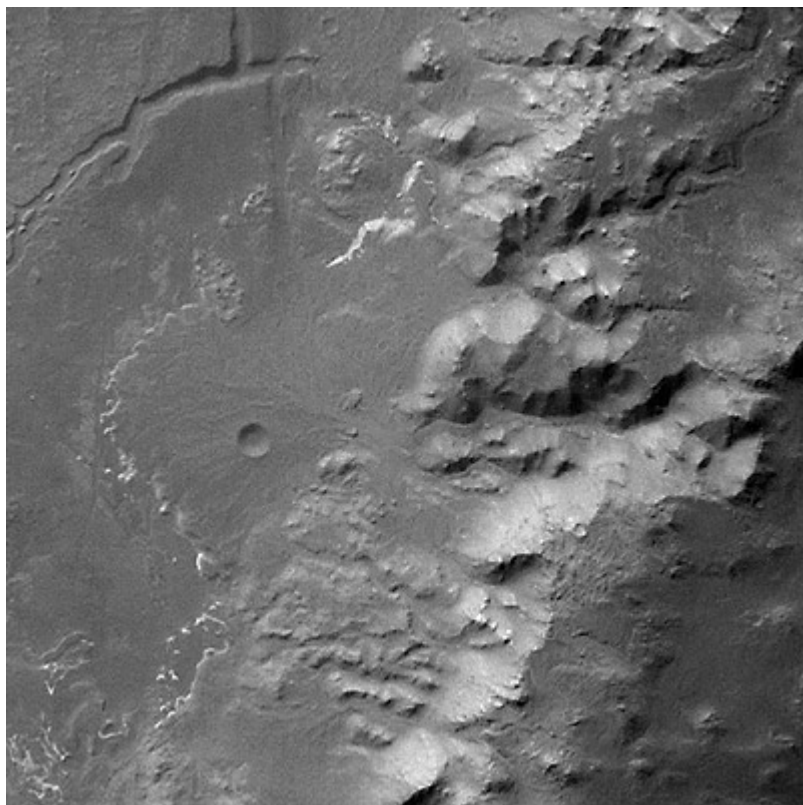
3D View

The central mound of Holden is partly hidden, because it has also been covered by sediments. The rim of the crater has been cut by gullies, which sometimes form small valley networks.



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Close-up of an alluvial fan



In the southern part of Crater Holden, well-preserved ‘alluvial fans’ (fan-shaped deposits of water-transported material) are visible at the end of some gullies (see close-up left).

In other parts of the crater rim, the alluvial fans are less distinct and partly covered by younger ‘talus’ cones (cone-shaped piles of debris from rock falls at the base of slopes).

Uzboi Vallis enters Crater Holden from the south-west. Two distinct phases of its development can be seen.

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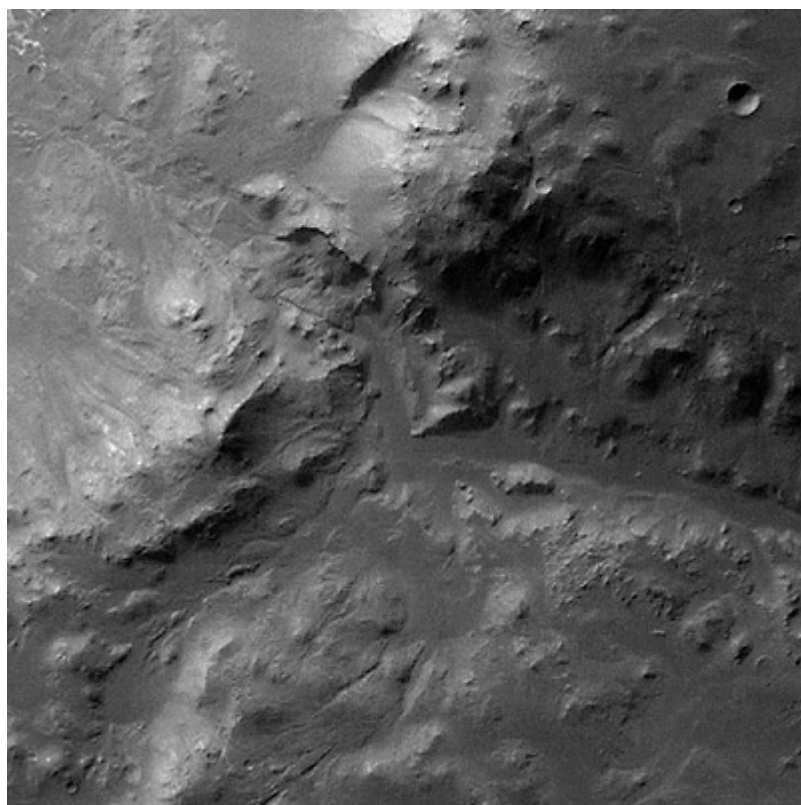
Close-up of a landslide blocks channel

In the first phase, a valley was formed up to 20 kilometres wide.

Later, a smaller channel was cut into the valley floor.

The end of the small channel has been blocked by a landslide from the crater rim (see close-up on the right).

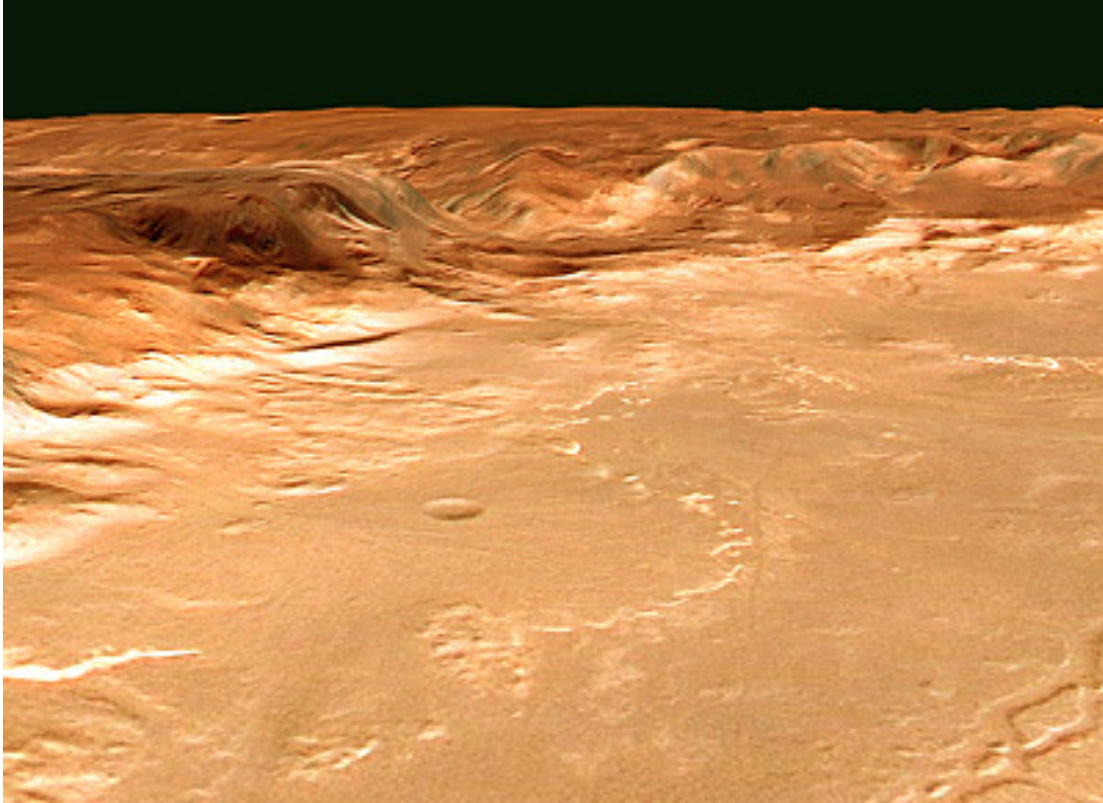
The deepest parts of the valley floor are more than 1600 metres below the surrounding area. The numerous valleys at the flanks of Uzboi Vallis indicate that water probably played a major role in the formation and evolution of this region. Most of the valleys have been covered by younger sediments, indicating they have been inactive in recent geological time.



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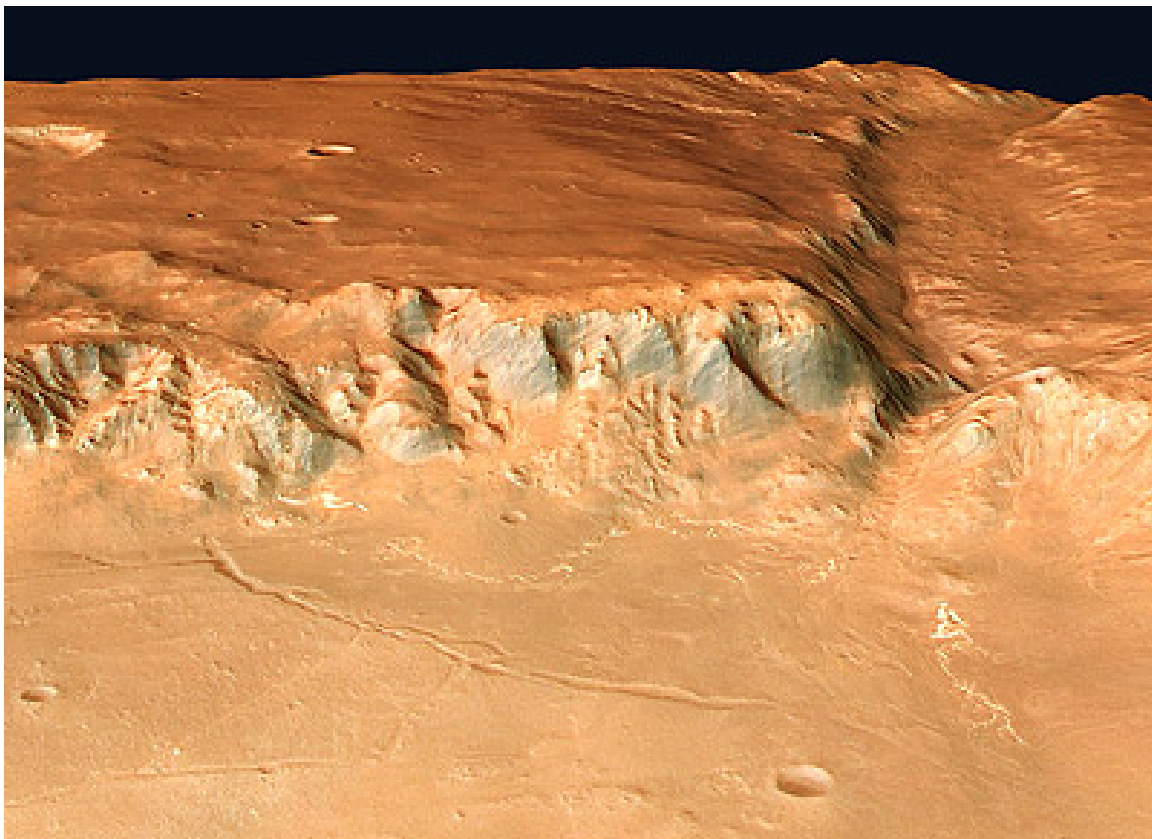
European Space Agency – Mars Express images

Perspective view, looking West



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Perspective view, looking South



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