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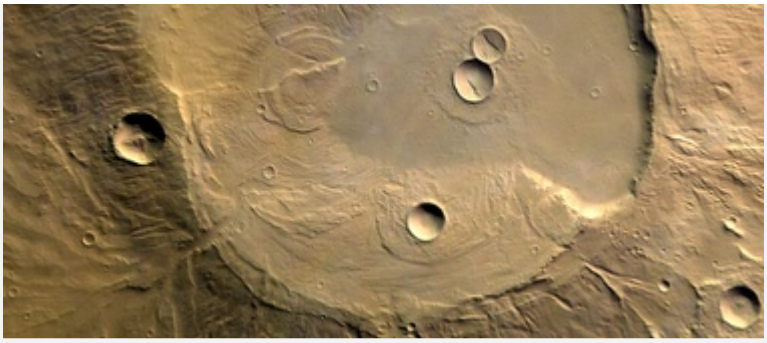
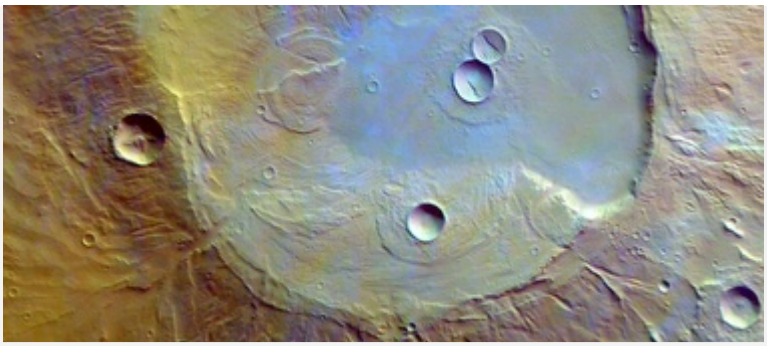
Ancient caldera in Apollinaris Patera

9 June 2006



Apollinaris Patera caldera



Apollinaris Patera caldera in false colour

These images, taken by the DLR-operated High Resolution Stereo Camera (HRSC) onboard ESA's Mars Express, show the caldera of Apollinaris Patera, an ancient, 5-kilometre-high volcano northwest of Gusev Crater.

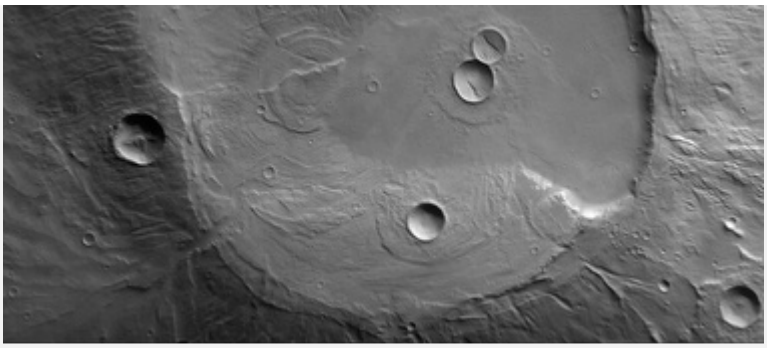
Apollinaris Patera context map

The HRSC obtained these images during orbit 987 with a ground resolution of approximately 11.1 metres per pixel. The images show part of Apollinaris Patera, a volcano lying at approximately 7.22° South and 174.6° East.

Apollinaris Patera is an ancient shield volcano located at the northern edge of the Southern Highlands, lying to the south-east of Elysium Planitia and to the north of Gusev Crater, which is now being explored by NASA's Mars Rover, Spirit. The volcano measures approximately 180 by 280 kilometres at its base and rises to a maximum of 5 kilometres above the surrounding terrain.

Shield volcanos are large volcanic structures with gently sloping flanks. The caldera of Apollinaris Patera takes the form of a large crater approximately 80 kilometres in diameter and up to 1 kilometre deep. Volcanic calderas are formed when a volcano explodes or when the cone collapses. In the true-colour image, the terrain is partly covered by thin, diffuse, whitish-appearing clouds. In the false-colour image, the clouds appear as bluish-tinted areas.

The colour scenes have been derived from the three HRSC colour channels and the nadir channel. The anaglyph image was calculated from the nadir and one stereo channel. Image resolution has been decreased for use on the internet.



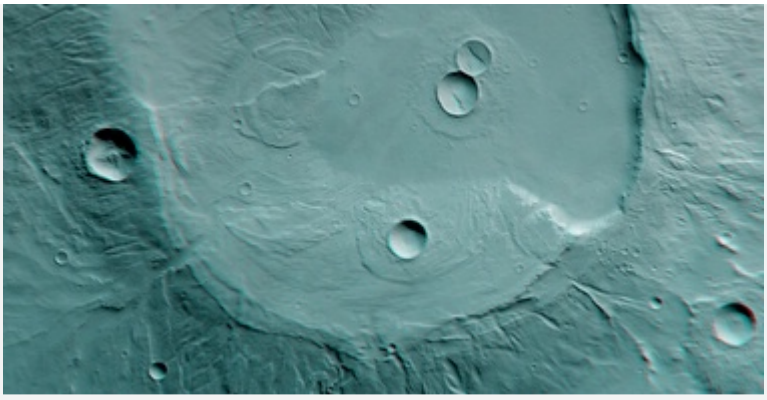
Apollinaris Patera caldera, black and white

The High Resolution Stereo Camera (HRSC) experiment on ESA's Mars Express mission is led by the Principal Investigator (PI) Prof. Dr Gerhard Neukum, who also designed the camera technically. The science team of the experiment consists of 45 co-investigators from 32 institutions and 10 nations.

The camera was developed at the German Aerospace Center (DLR) under the leadership of the PI, G. Neukum, and built in cooperation with industrial partners (EADS Astrium, Lewicki Microelectronic GmbH and Jena-Optronik GmbH).

The experiment on Mars Express is operated by the DLR Institute of Planetary Research, through ESA/ ESOC. The systematic processing of the HRSC image data is carried out at DLR.

The scenes shown here were processed by the PI Group at the Institute for Geosciences of the Freie Universitaet Berlin (Free University Berlin) in cooperation with DLR's Institute of Planetary Research, Berlin.



Apollinaris Patera, 3D

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