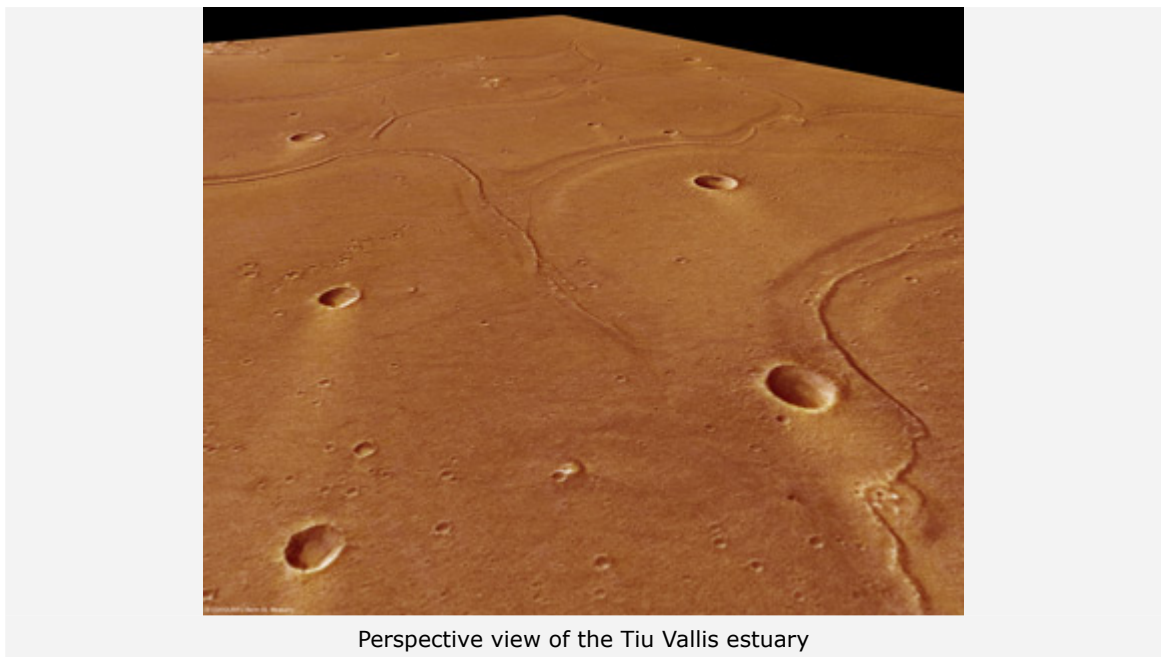

News Archive until 2007

The Tiu Vallis estuary

12 September 2007

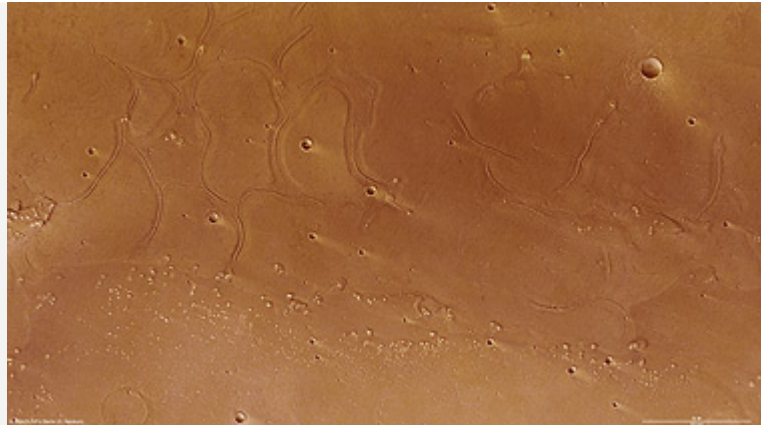


These images, from the DLR-operated High Resolution Stereo Camera (HRSC) onboard the ESA spacecraft Mars Express show the estuary of the channel system Tiu Vallis.

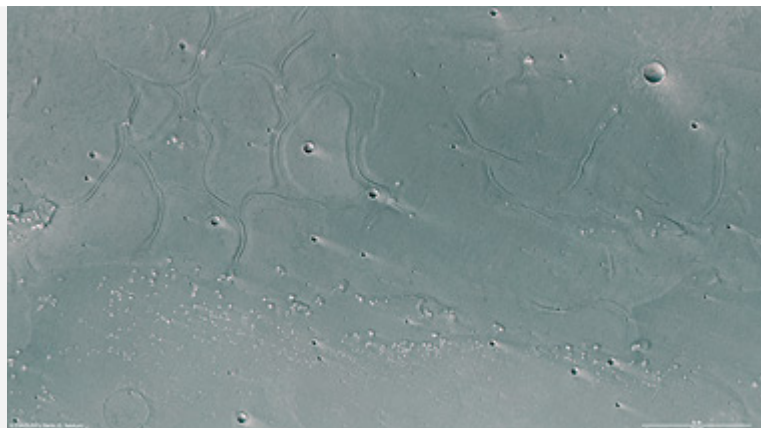
Tiu Vallis originates near the equator at the eastern end of Vallis Marineris. From there, Tiu Vallis extends northwards over a distance of 1500 kilometres before terminating in Chryse Planitia. Tiu Vallis together with Kasei Valles and Ares Vallis form one of the major outflow channels entering the Chryse Planitia plain.



Perspective view of the Tiu Vallis estuary

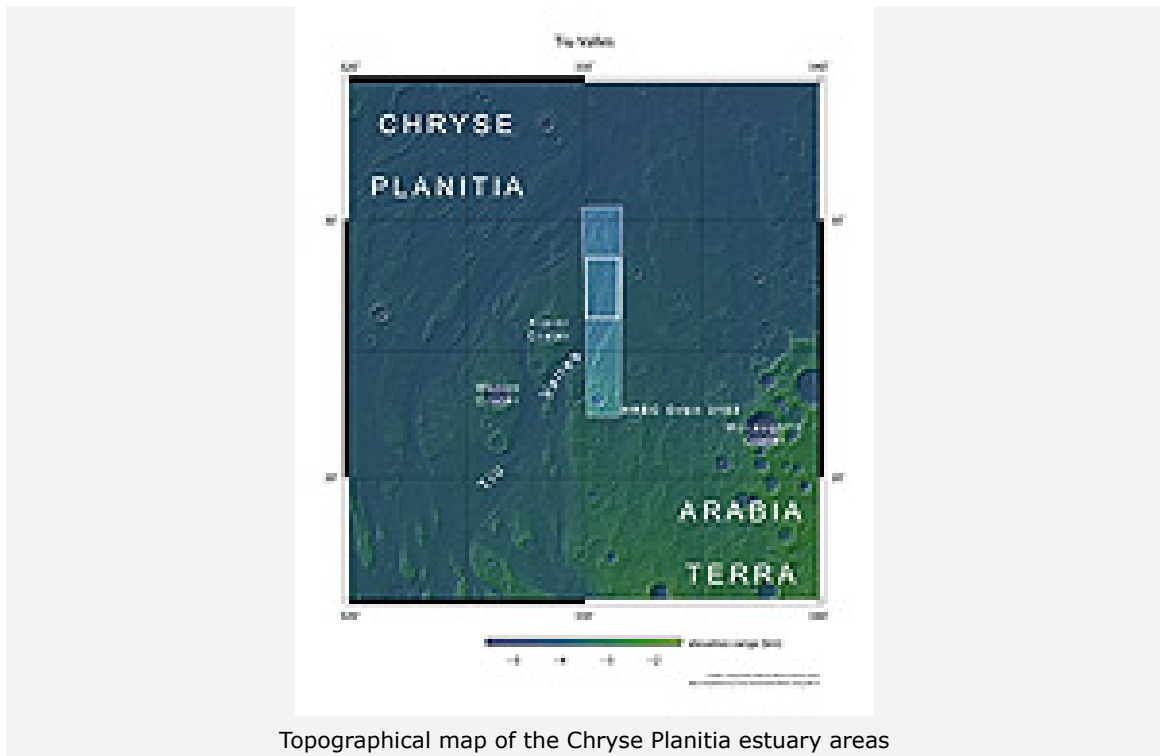


Colour overview of the estuary of Tiu Vallis



3-D image of the Tiu Vallis estuary

The published HRSC image scene covers an approximately 140 kilometre by 80 kilometre-wide area of the mouth of Tiu Vallis in Chryse Planitia. The region became famous in 1997 because of the NASA Pathfinder Mission with its rover Sojourner whose landing site is about 600 kilometres to the southwest of the mapped area.



Visible in the lower part of the image scene are remnants of a once 'streamlined' island. Above, the upper part of the image scene covers Tiu Vallis nearly in its entire width (approx. 55 km). Eye-catching are sinuous, meandering ridges which are bounded by depressions. The processes that formed these peculiar structures is unknown.

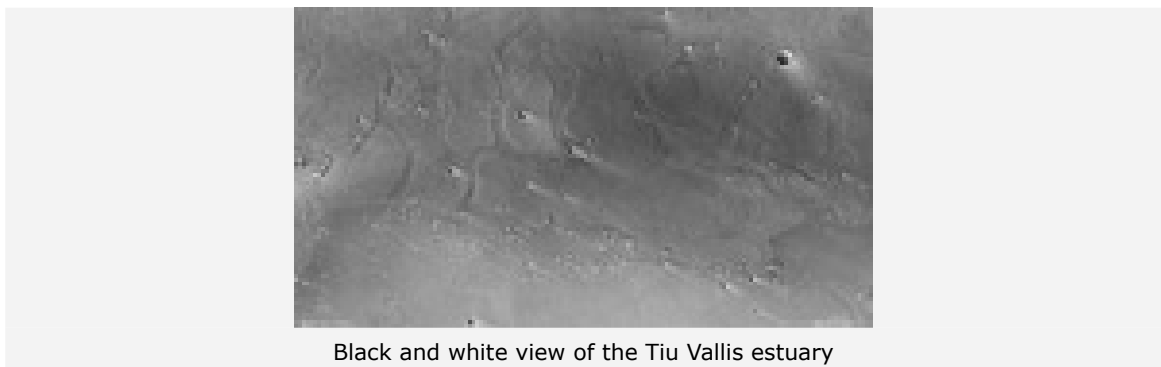
The HRSC obtained image data on 10 June 2006 in orbit 3103 with a ground resolution of approximately 16 metres per pixel. The data were acquired at the estuary of the channel system Tiu Vallis at approximately 27° northern latitude and 330° eastern longitude. The Sun illuminates the scene from the northwest (from the lower left side in the image).

The colour scenes have been derived from the three HRSC-colour channels and the nadir channel. The perspective views have been calculated from the digital terrain model derived from the HRSC stereo channels. The anaglyph image was calculated from the nadir channel and one stereo channel.

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 in cooperation with the German Aerospace Center (DLR), Institute of Planetary Research, Berlin.



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