

Crater Neukum named after Mars Express founder

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Colour view of Neukum Crater in the Noachis Terra region on Mars. The crater is about 102 km wide and 1 km deep, with two shallow depressions and a dune field in its interior. The crater was named after Gerhard Neukum, who developed the High Resolution Stereo Camera on ESA's Mars Express. The images were acquired by the High Resolution Stereo Camera on Mars Express on 31 December 2005, 24 May 2007 and 27 May 2007, corresponding to orbits

2529, 4346 and 4357, respectively. The scene covers the region 26–31°E / 42–47°S. The colour image was created using data from the nadir channel, the field of view of which is aligned perpendicular to the surface of Mars, and the camera's colour channels. North is to the right. Credit: ESA/DLR/FU Berlin, CC BY-SA 3.0 IGO

A fascinating martian crater has been chosen to honour the German physicist and planetary scientist, Gerhard Neukum, one of the founders of ESA's Mars Express mission.

The International Astronomical Union named the 102 km-wide [crater](#) in the Noachis Terra region "Neukum" in September last year after the camera's leader, who died in 2014. Professor Neukum inspired and led the development of the high-resolution stereo camera on Mars Express, which helped to establish the regional geology and topography of Mars.

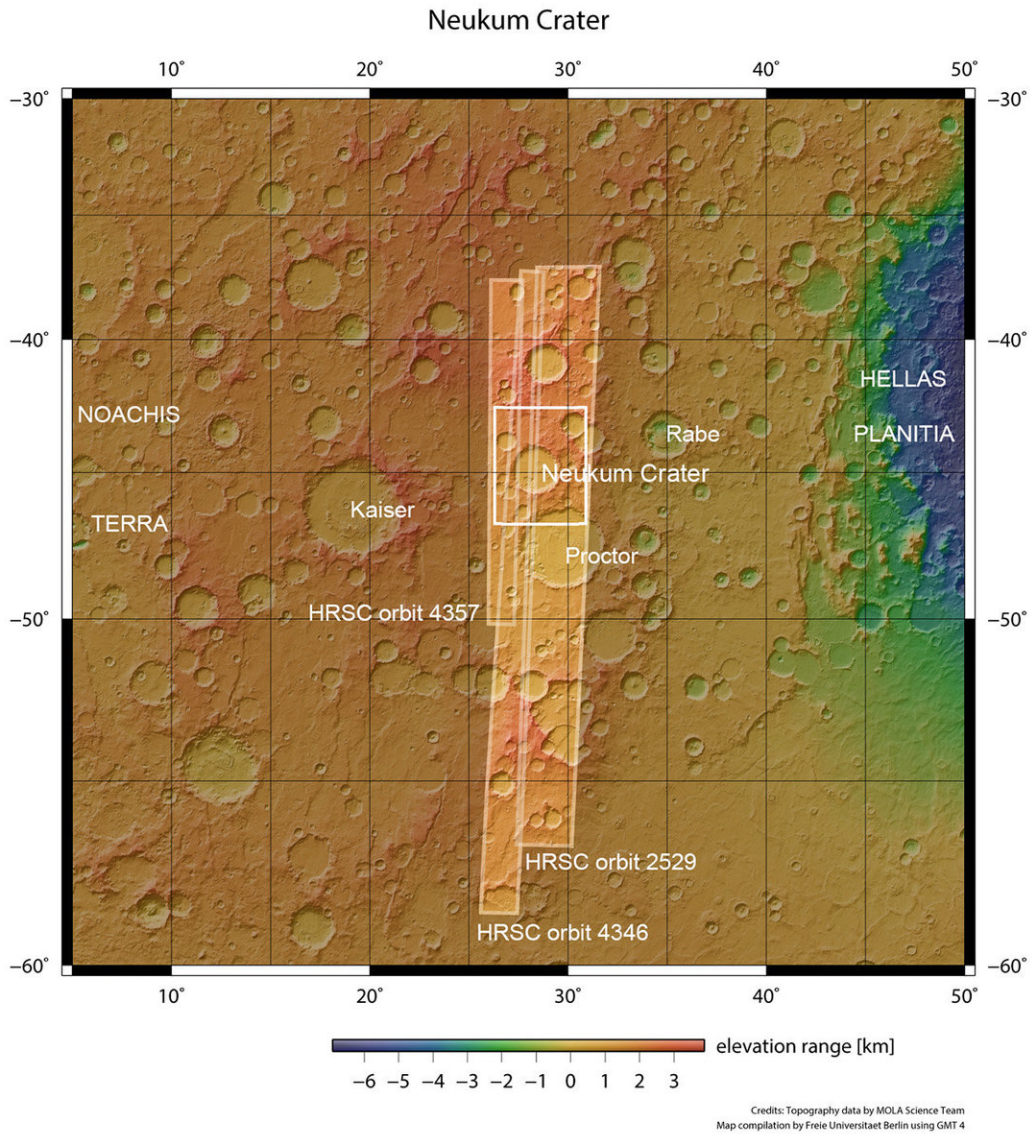
Observations by the camera in December 2005 and May 2007 were used to create the image mosaic of Neukum Crater presented here.

Neukum Crater sits in the Noachis Terra region in the densely cratered southern highlands of Mars, some 800 km to the west of the planet's largest impact basin, Hellas. Noachis Terra is one of the oldest known regions on the Red Planet, dating back at least 3.9 billion years – the earliest martian era, the Noachian epoch, is named after it.

It is representative of the ancient surface of Mars, which is characteristically peppered with craters that have been preserved for billions of years, although many have degraded over time.

Many impact craters in Noachis Terra host dune fields, and in this scene, Neukum Crater displays a particularly interesting pattern with dunes

covering an area of about 12 x 17 km in the southeast corner of the crater.



Neukum Crater in context of its surrounds in Noachis Terra. It is situated about 800 km from the western rim of Mars' largest impact basin Hellas. The region outlined by the large white boxes indicate the area imaged during Mars Express orbits 2529, 4346 and 4357, from which the associated image release, outlined

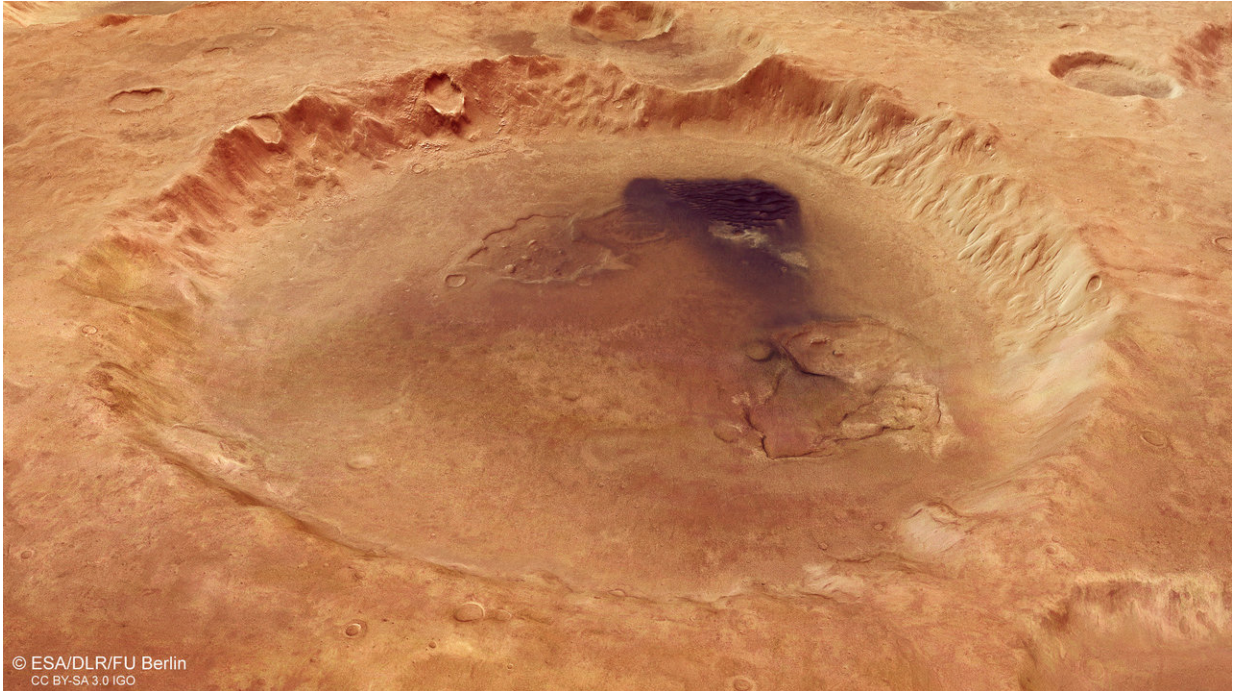
by the smaller box, is compiled. In this context image, north is up. Credit: NASA MGS MOLA Science Team

The individual dunes stretch out in a north–south direction, with the dominant slipface towards the west, pointing to a prevailing wind coming from the east. In addition, dark sands have been blown to the west and north of the dunes, indicative of the strong easterly – and some southerly – winds.

The formation of light-toned deposits west of the [dune](#) field is unclear: they might be boulders or erosional remnants from the rocky crater interior.

The crater's shallow interior has likely been infilled by sediments over its history. It is also marked with two irregular depressions. Perhaps they are a sign of a weaker material that has since eroded away, leaving behind some islands of more resistant material.

Over time the interior of the crater rim has undergone varying degrees of collapse, with landslides visible in the perspective view. Many smaller craters have also overprinted the rim and pockmarked the interior since Neukum Crater was formed, highlighting its long history.



Perspective view of Neukum Crater, in the Noachis Terra region of Mars. The view highlights the relatively flat crater floor with its two shallow depressions, and striking dark dune field in the southeast corner. The oblique perspective view was generated using data from the HRSC stereo channels. The scene is part of the region imaged on 31 December 2005, 24 May 2007 and 27 May 2007. North is to the left. Credit: ESA/DLR/FU Berlin, CC BY-SA 3.0 IGO

Provided by European Space Agency

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