


Changes on the martian surface between the optimal oppositions 2003 and 2018

Changes on Mars are visible with amateur telescopes. The changes are reported several times during the last 200 years. With modern Astro-Webcams it's possible to generate detailed groundbased pictures. Detailed comparisons show clear changes between 2018 and the last perfect opposition 2003.

During a 3 week holiday in Namibia we used different telescopes to generate a map of the Mars. The biggest was a 71cm mirror on the 2300m high Gamsberg-mountain. The smallest a 25cm Schmidt-Cassegrain at the astrofarm Kiripotip.

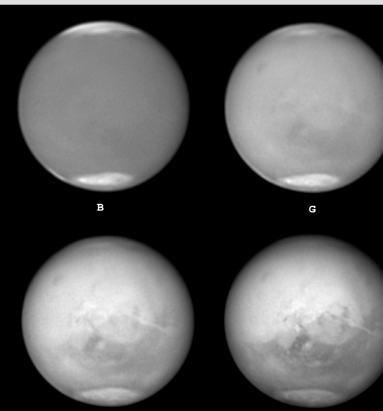
A big sandstorm reduced the transparence in the visual light. The best results were possible in the near Infrared with a 685nm passfilter or a 890nm 'Methanfilter'. This filter has 50nm width at half maximum.



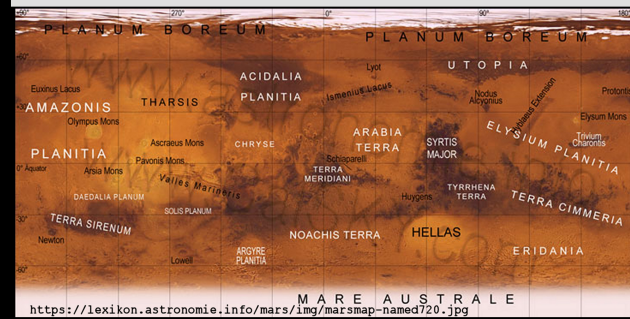
Biggest and smallest telescope 71cm and 25 cm diameter

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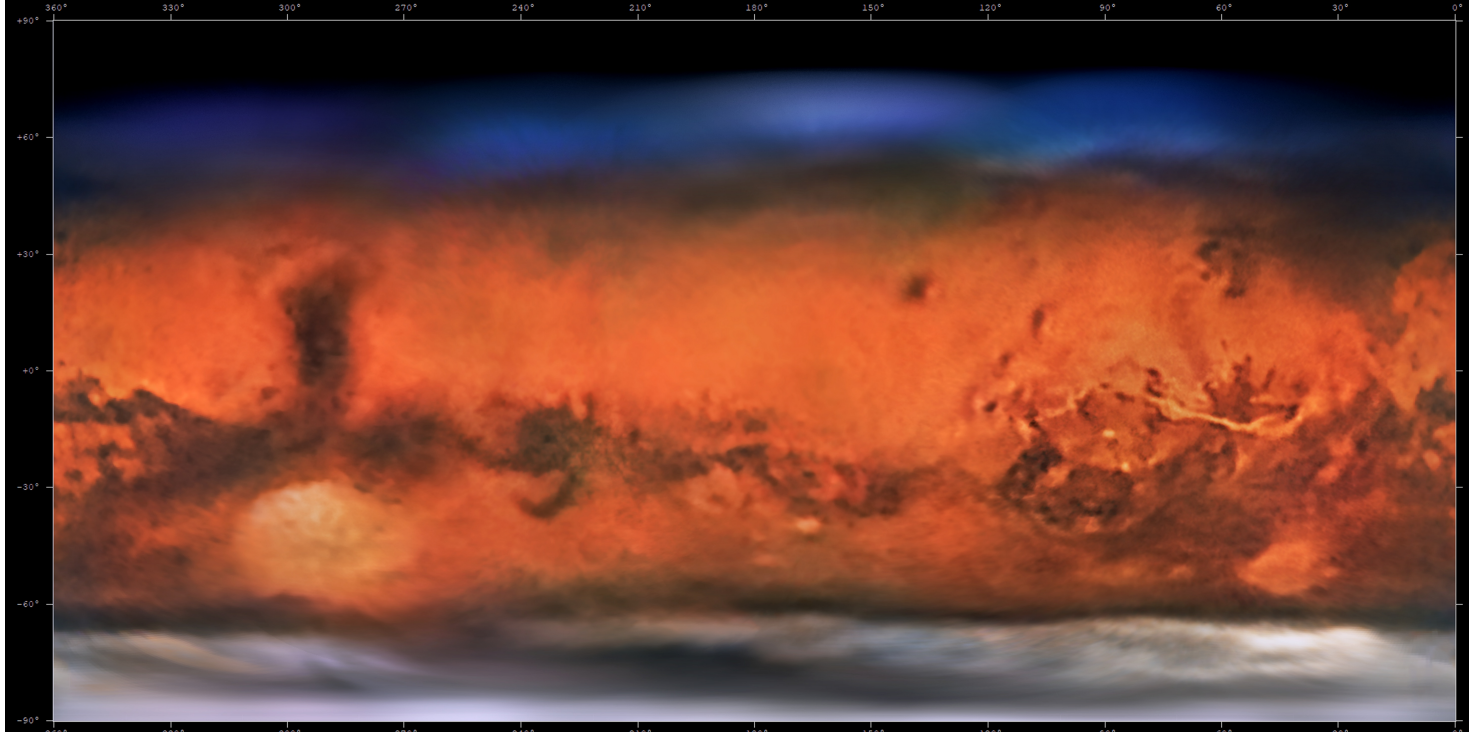


B G
R 890nm
Mars 24.7.2018, 50cm Spiegel
Hakoe/Namibia

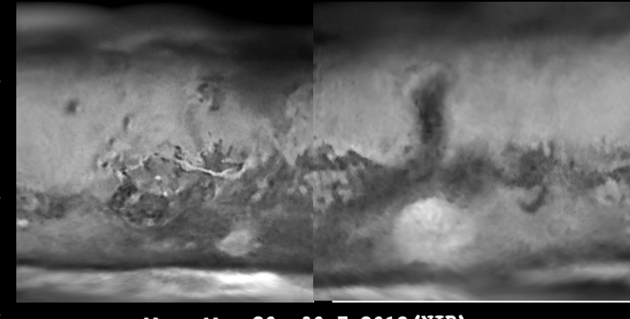


PLANUM BOREUM PLANUM BOREUM
ACIDALIA PLANITIA UTOPIA
AMAZONIS THARSIS PLANITIA
ARABIA TERRA SYRTIS MAJOR
TERRA MERIDIANA ELYSIUM PLANITIA
TERRA SIRENUM NOACHIS TERRA HELLAS
ERIDANIA
MARE AUSTRALE

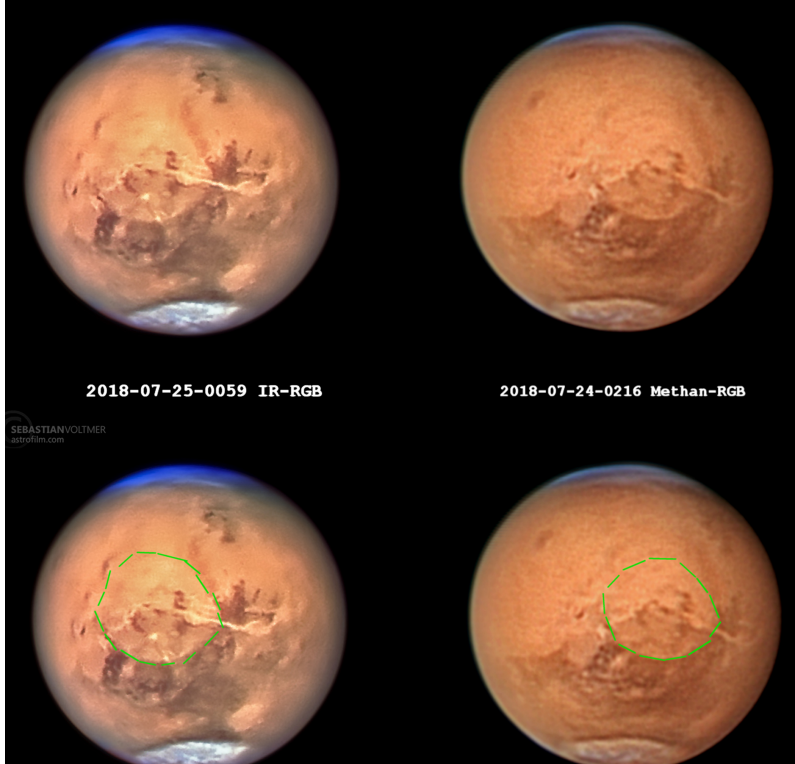
<https://lexikon.astronomie.info/mars/img/marsmap-named720.jpg>



Breitenkela planetozentrisch
Quadratische Plattkarte

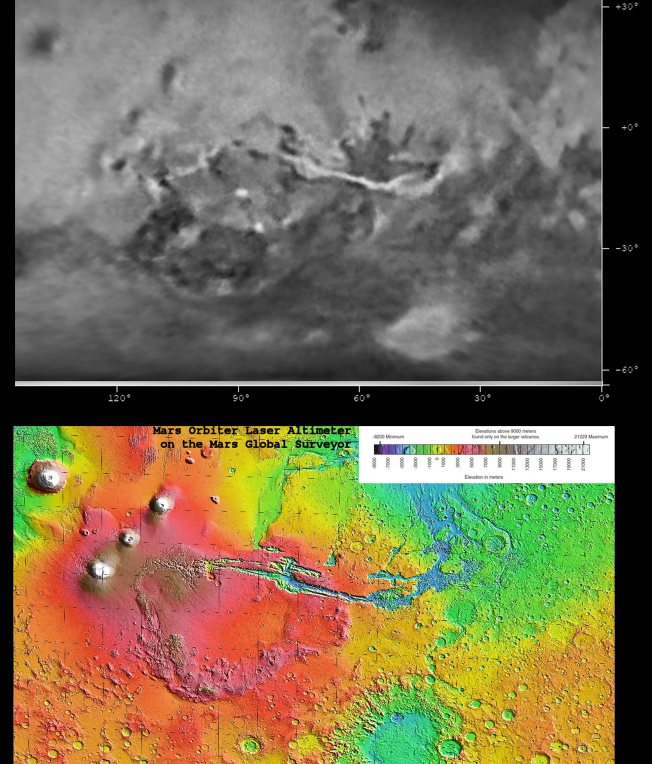


Mars-Map 20.-30.7.2018 (NIR)
Mars-Map Aug/Sept 2003 (RGB)



2018-07-25-0059 IR-RGB
2018-07-24-0216 Methan-RGB

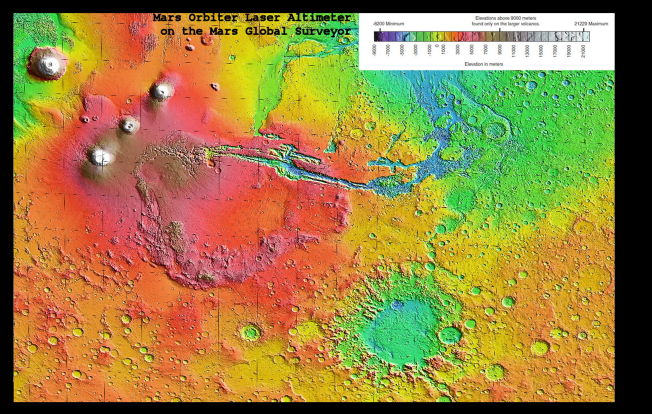
Giant structure



Valles Marineris
Acidalia Planitia
Newton
Agyre Planitia
Hellas

Dusty (yellow) regions on Mars at 25. July 2018

changed structures 2003/2018
similar structures 2003/2018



Mars Orbiter Laser Altimeter
on the Mars Global Surveyor

The best pictures were possible on the nights of 24th and 25th July 2018 as the intensity of the global storm decreased.

Some results:

- low regions like Valles Marineris, Agyre Planitia, Newton and Hellas still show the typical yellow color of martian dust storms
- 2 small storms are visible in Solis Planum
- some darker regions in the low northern Basin like Acidalia Planitia are still visible