

Mars

Poll everywhere



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results



Mars Properties- Orbital parameters

- 4th planet from the Sun
- Aphelion- 1.667 AU
- Perihelion- 1.381 AU
- Eccentricity- 0.0934
- Orbital period- 1.881 Earth years

Mars Properties- Orbital parameters



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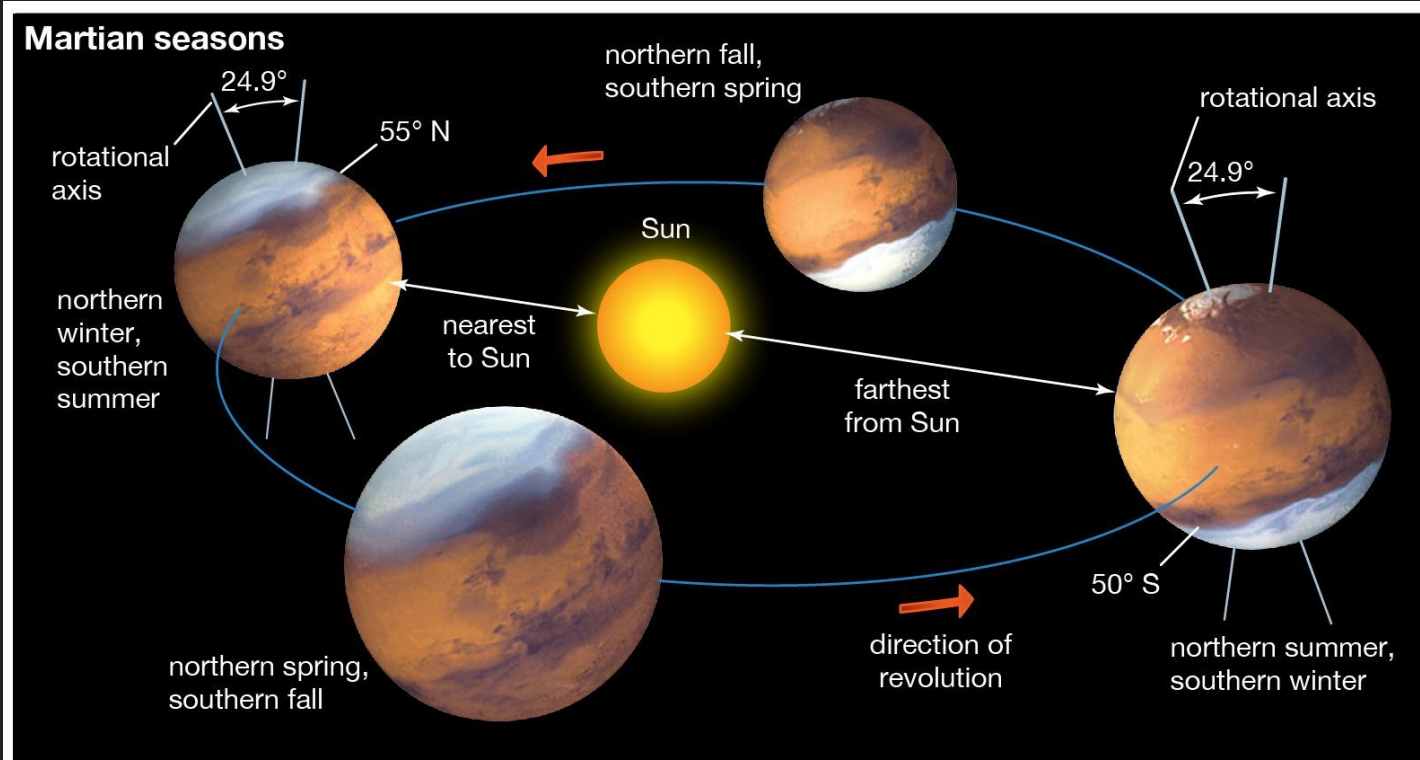
- Phobos and Deimos
- On the order of a few km.

Mars Properties- Orbital parameters



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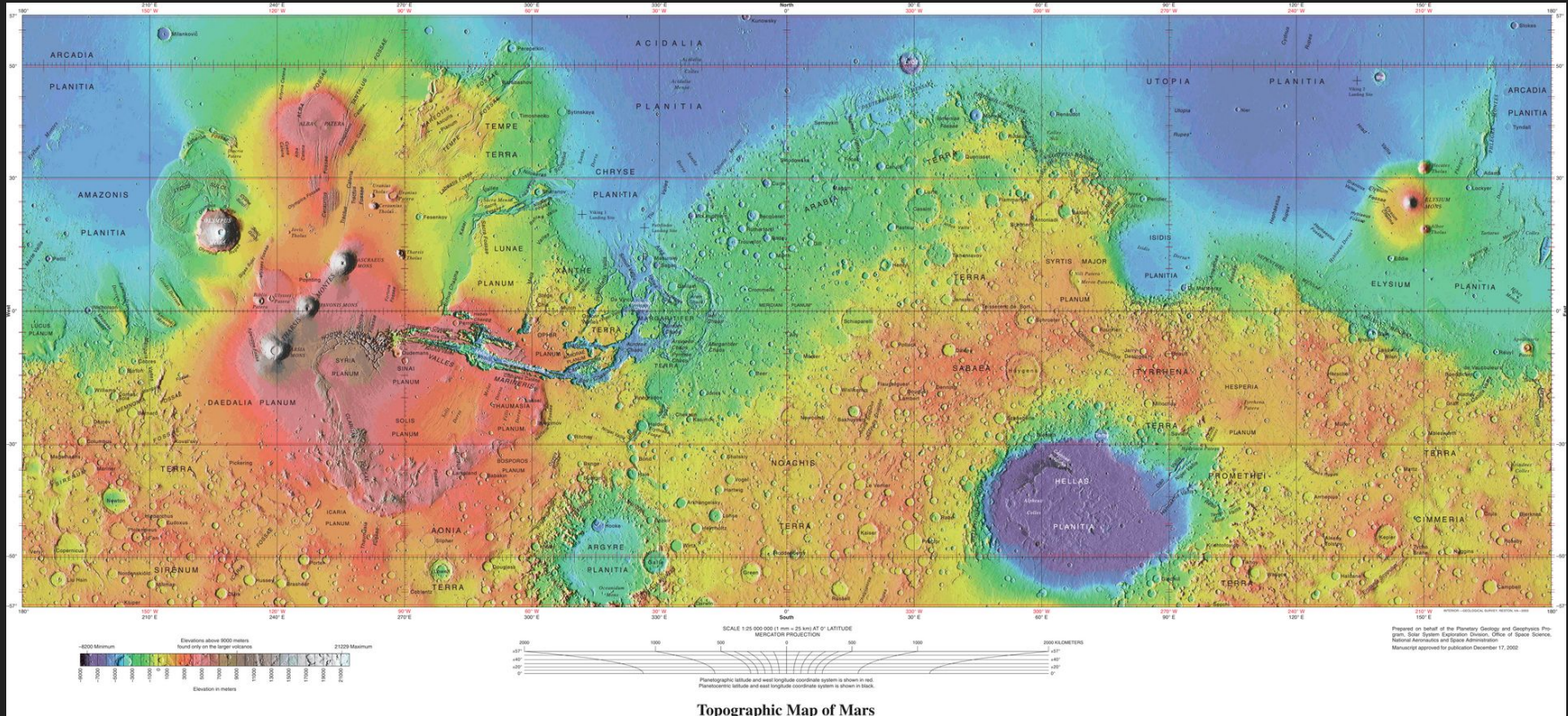


Mars Properties- Surface conditions



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Mars Properties- Surface conditions

- Many mountains, gullies, craters, volcanoes, plains, etc.
- Temperature ranges from -110 – 35 °C. Mean of -63°C.
- Surface gravity- 3.72 m/s^2 (38 % Earth).
- Length of day- 24.5 hours

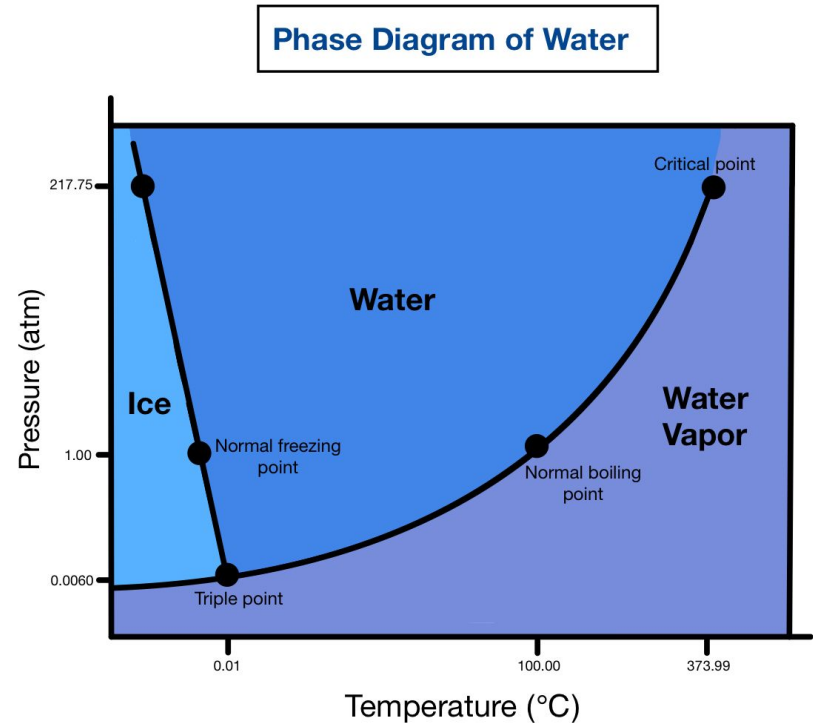
Mars Properties- Atmosphere



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- Atmospheric pressure of 0.00628 atm (0.628 % Earth)
- 96 % CO₂
- Liquid water cannot exist on Mars.
- Mars likely had more atmosphere in the past, stripped away by Solar wind and escaped because of low gravity.

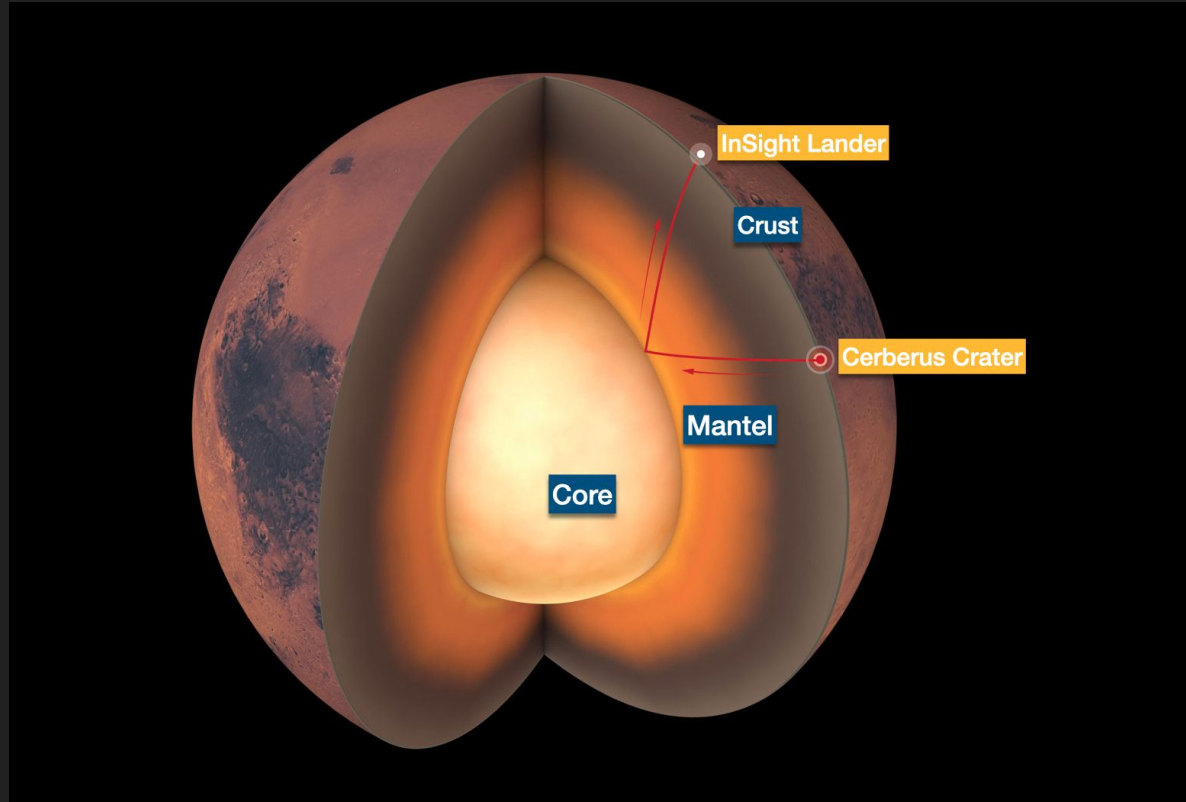


Mars Properties- Magnetic field



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Mars Properties- Magnetic field



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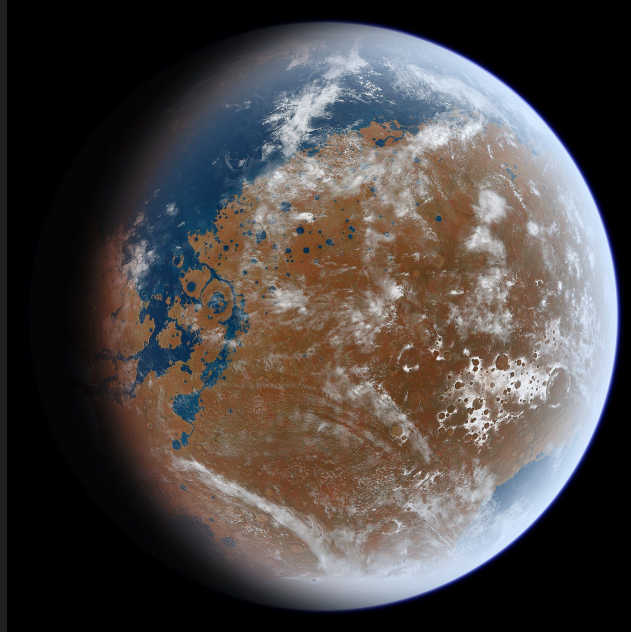
- No liquid metal in core, no magnetic field.
- MAVEN video

Mars Properties- Ancient Mars



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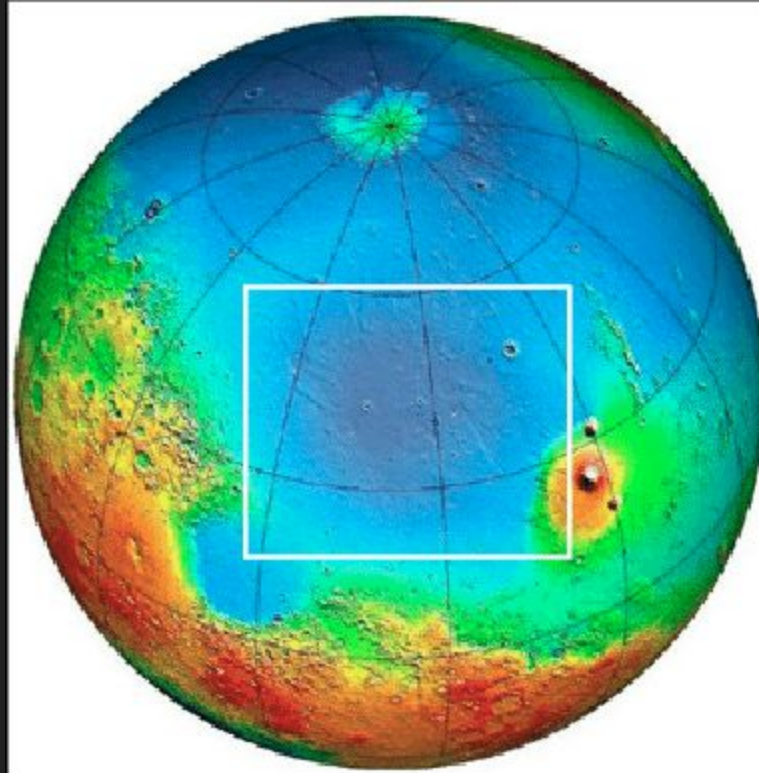
- Lack of craters is evidence for ocean

Mars Properties- Ancient Mars



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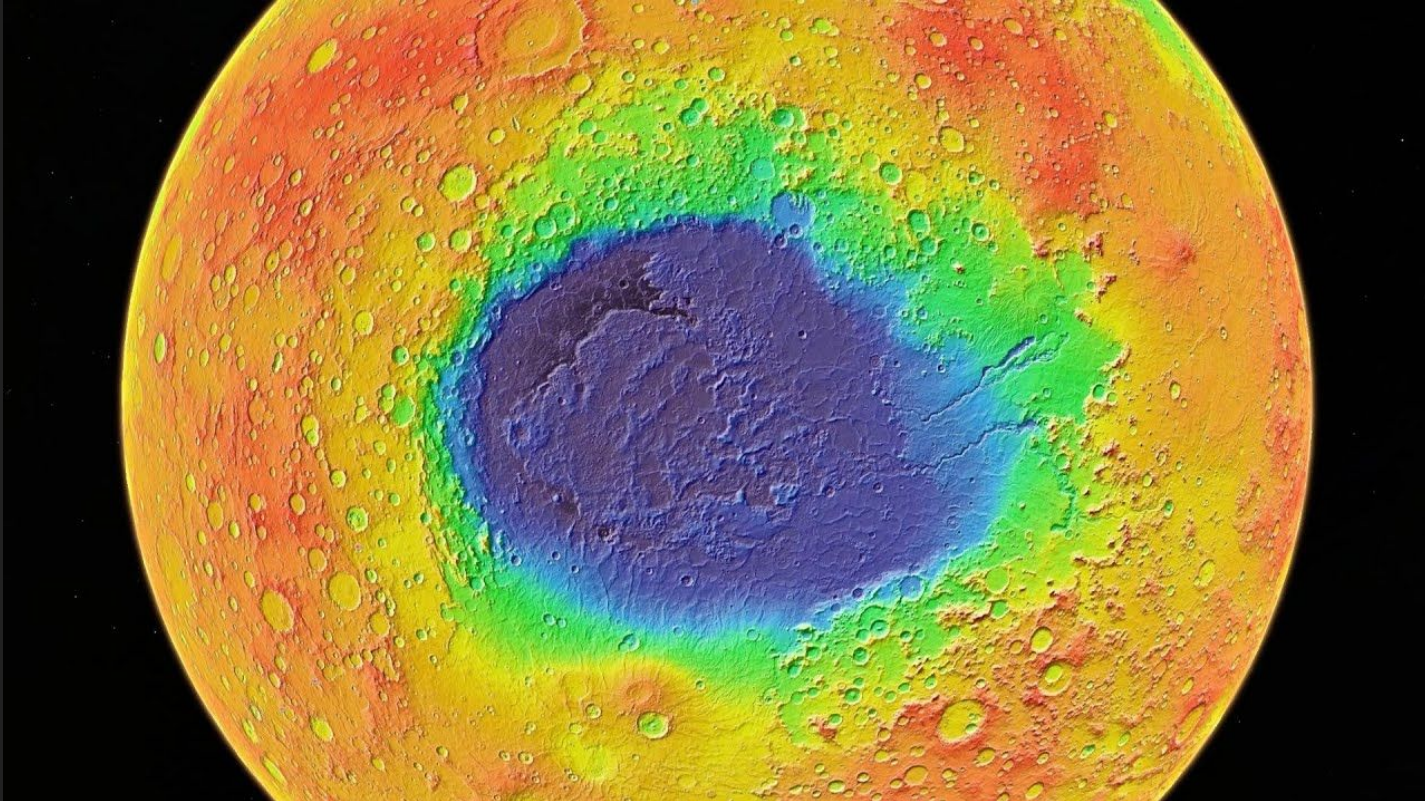


Mars Properties- Ancient Mars



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Geology of Mars- Volcanoes



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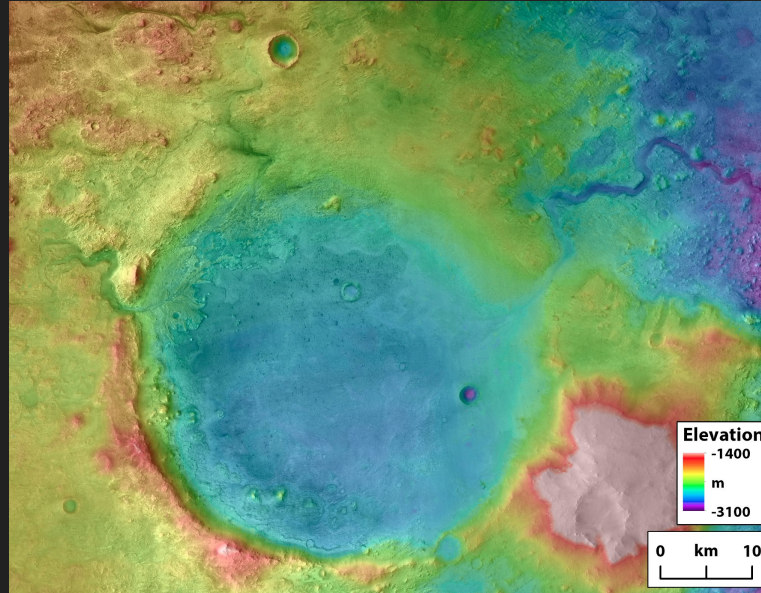
- Volcanism could be from impact.

Geology of Mars- Craters



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- Jezero crater (Perseverance rover landed here)

Geology of Mars- Craters



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- Victoria crater (dunes)

Geology of Mars- Craters



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- Dark biospheres video

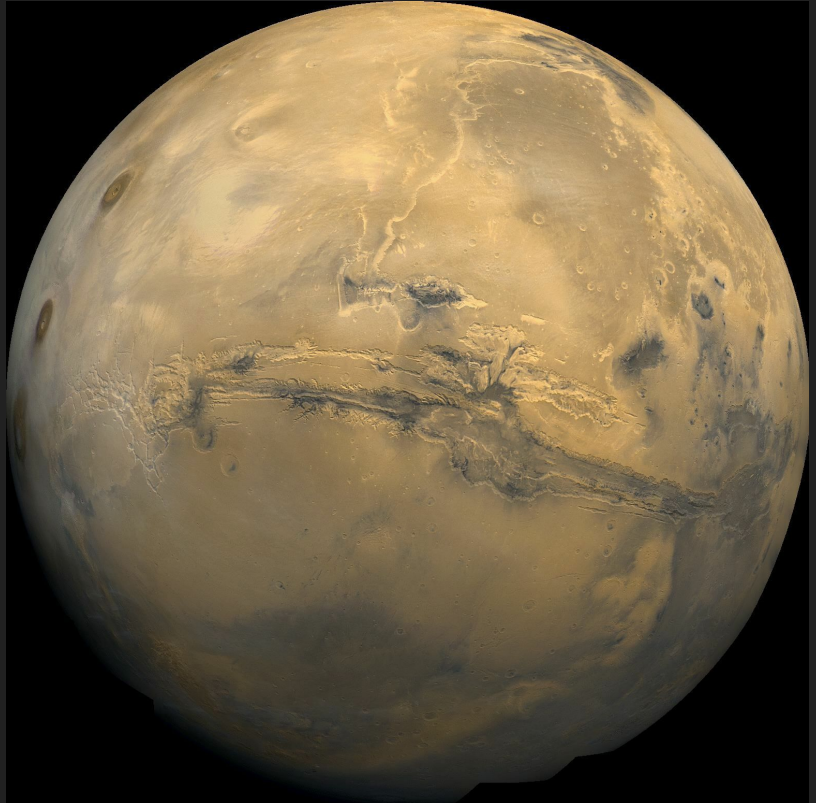
Geology of Mars- Canyons



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- Valles Marineris

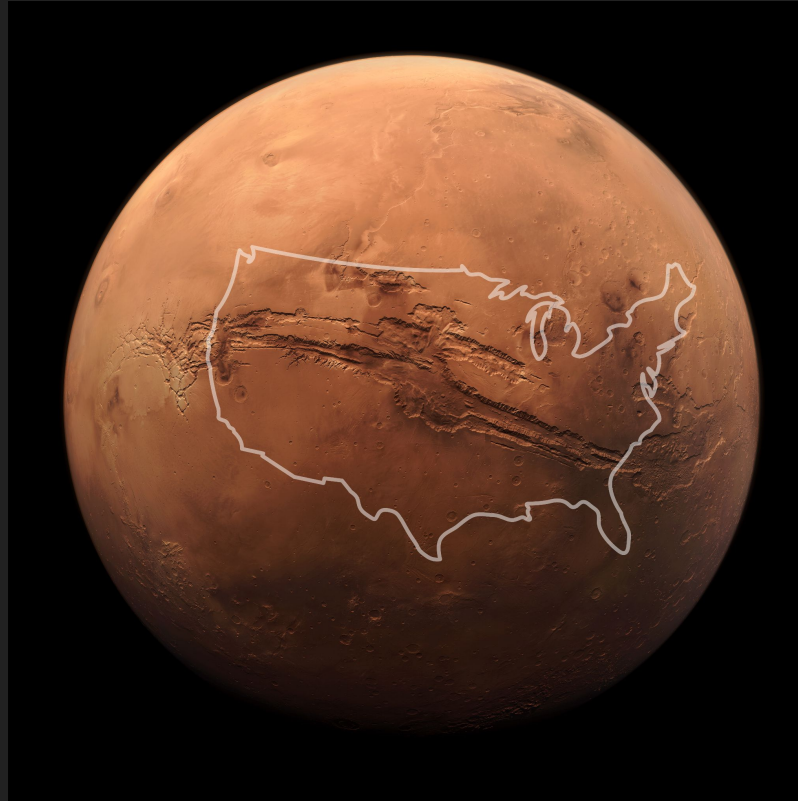


Geology of Mars- Canyons



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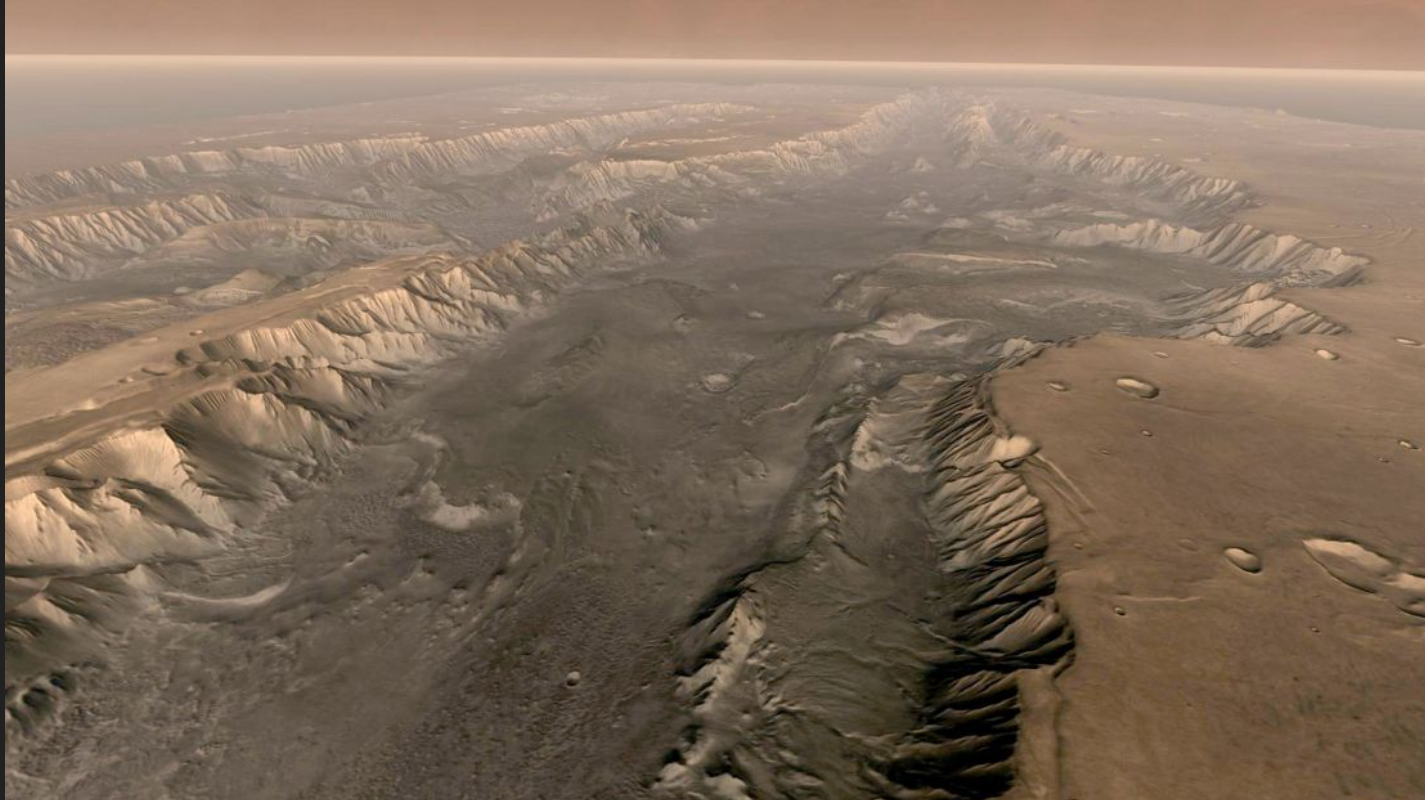


Geology of Mars- Canyons



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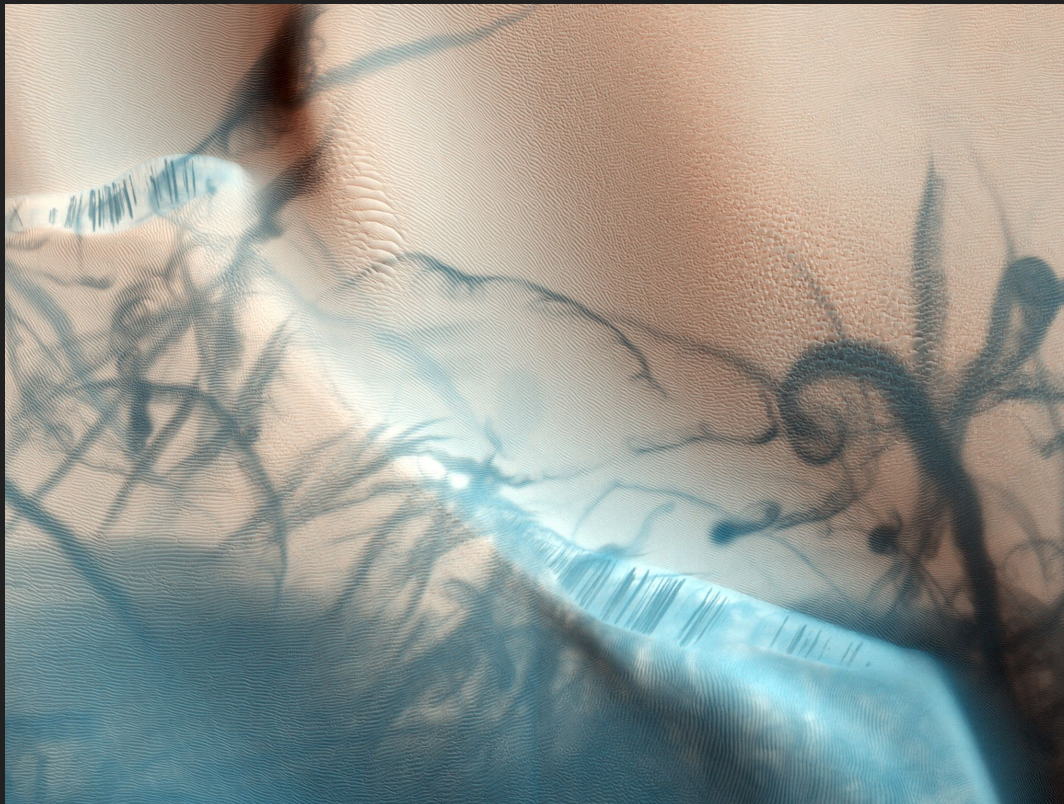


Geology of Mars- Dust devils



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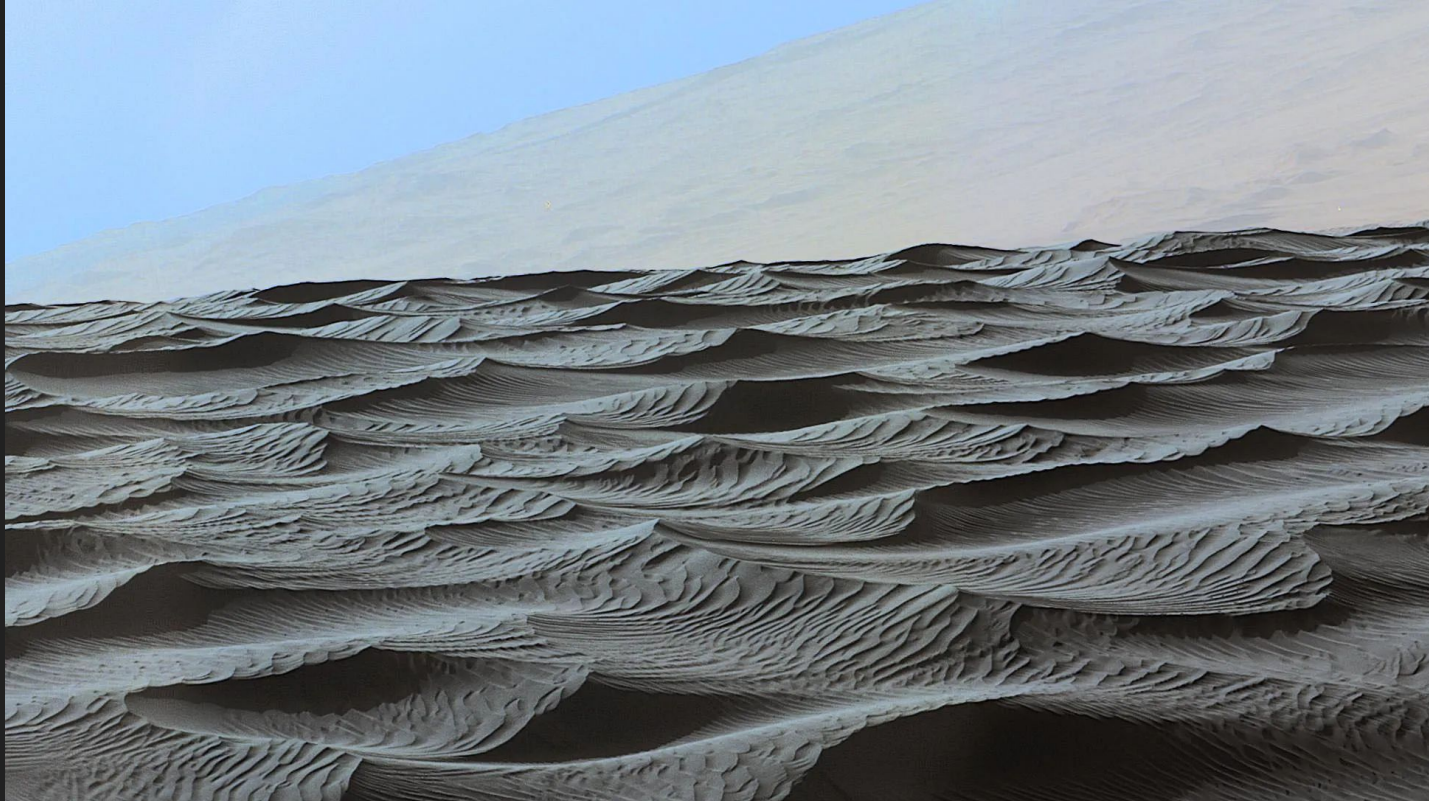


Geology of Mars- Dunes



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Geology of Mars- Glaciers



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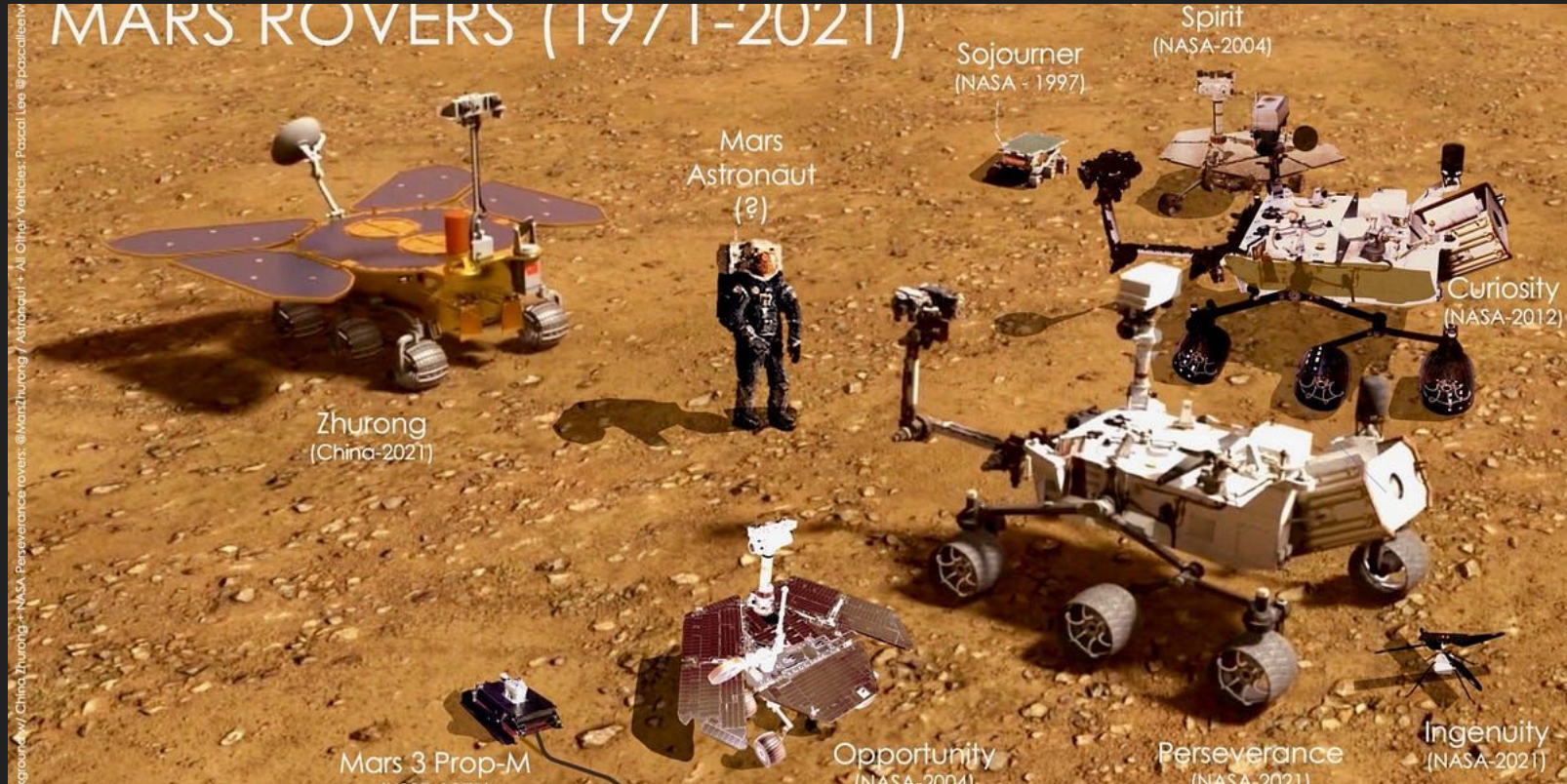


Mars Rovers



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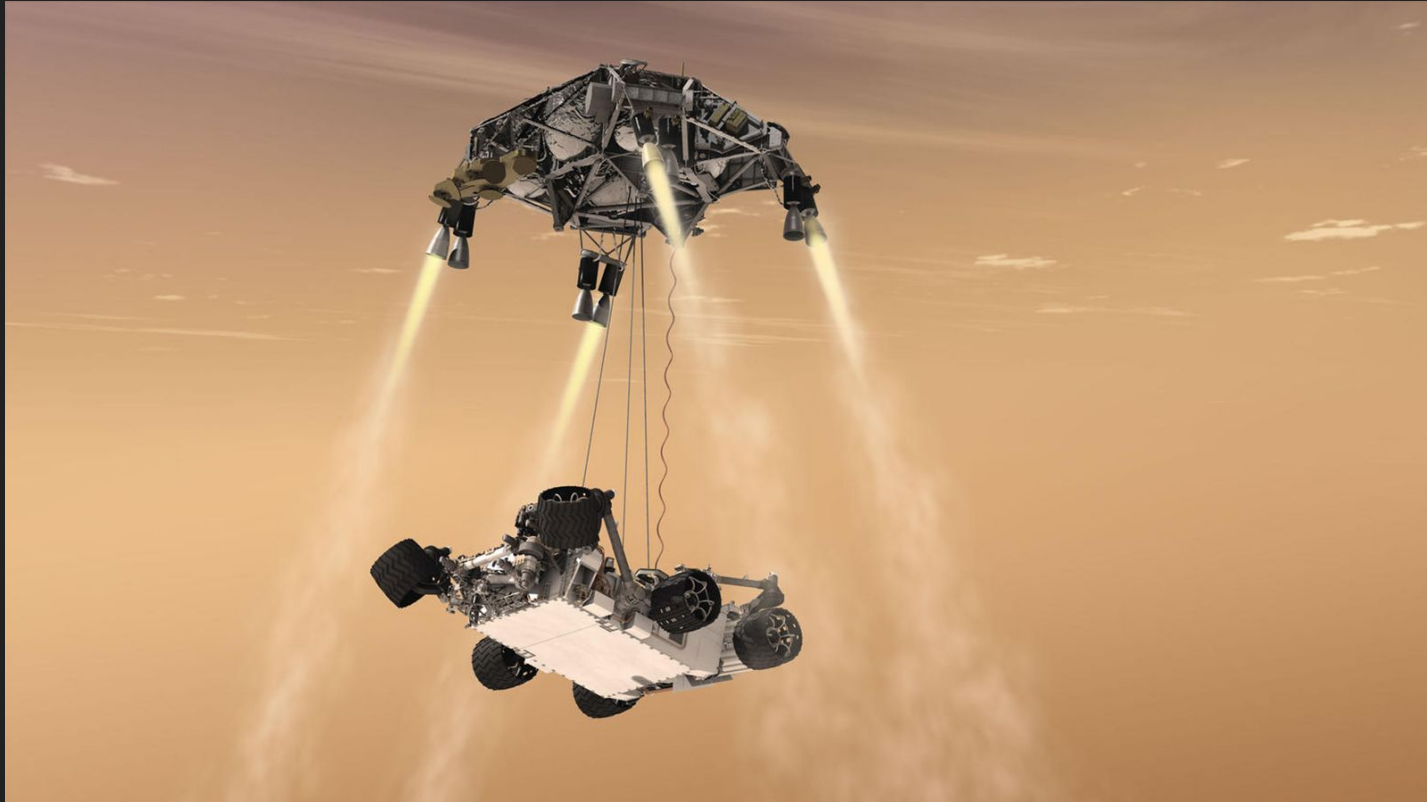


Mars Rovers



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Ancient life on Mars?



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- Lab today
- Homework 3 due Wednesday, 11:59 PM

Next time

- The Inner planets