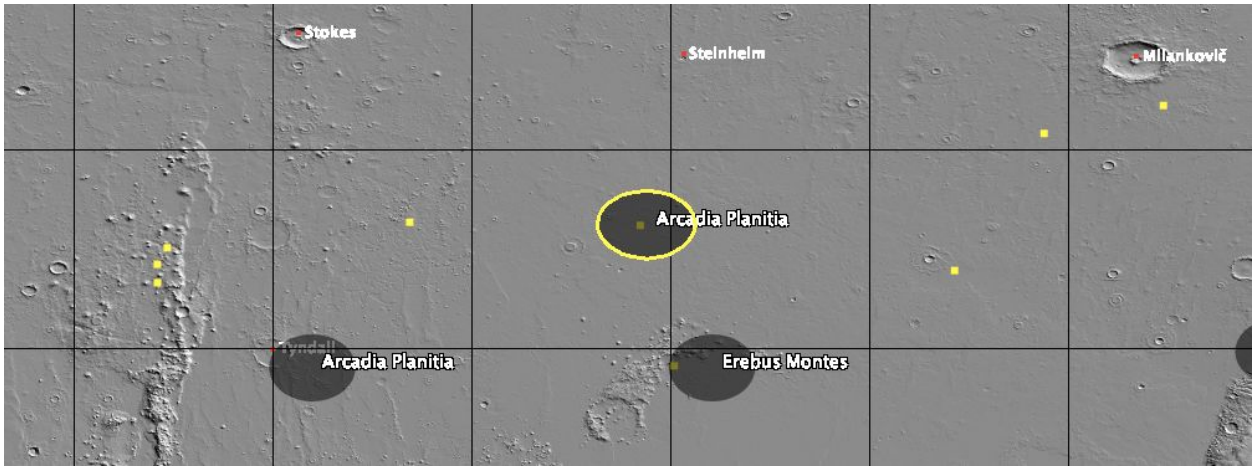
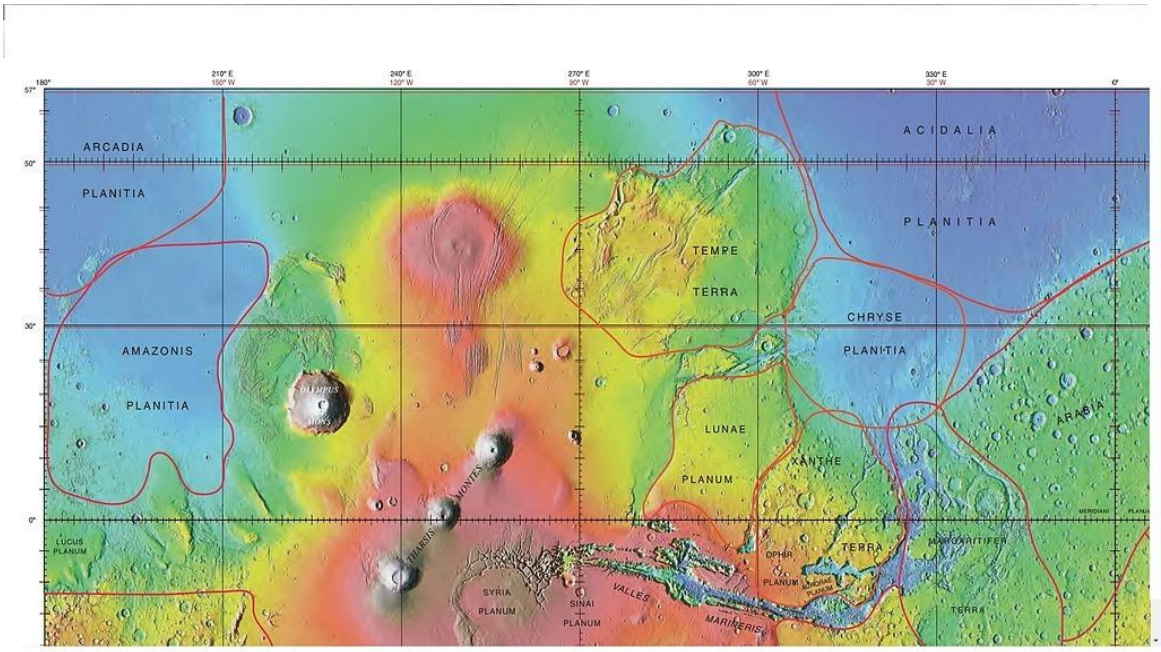
Proposal for Landing Site

188.187 E, 46.625
The Arcadia Planitia region,
NW of the Tyndell Crater (Highlighted in Yellow)

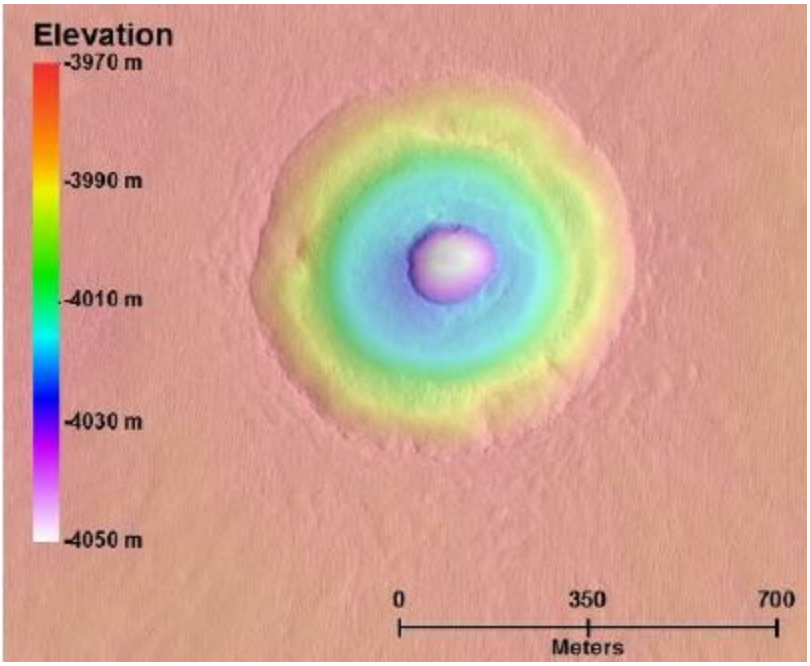


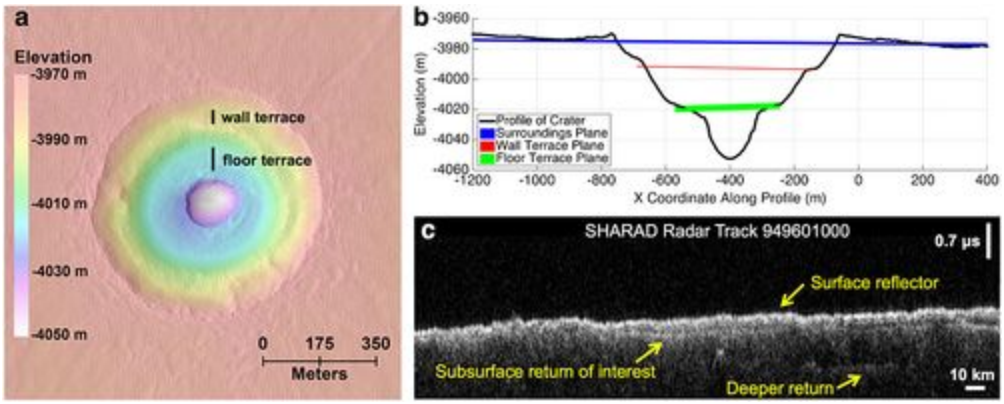
This region of Mars is a smooth plain with fresh lava flows which contains low areas with grooves and sub-parallel ridges that indicate movement of near surface materials similar to features on Earth where slow moving materials are moved by the freezing and thawing of water. This area contains expanded craters which are large impact sites and gullies which are narrow channels carved by what may have been liquid water in this distant Martian past.



In this location of the Arcadia Planitia, the yellow squares in the first image represent icy craters which are promising areas to drill for ice in a region that is mostly flat with 2 other nearby exploration zones. These craters expose excess ice which is mostly free of dust. This region also mostly contains subsurface ice that is within 1 meter below the surface that would allow for drilling.

This zone contains this icy crater pictured below:





This is a cross section of the crater. So it is beneficial to perhaps study the crater to determine the layers of soil directly next to the crater but not land in the crater itself
https://agupubs.onlinelibrary.wiley.com/doi/full/10.1002/2015GL064844

https://www.nasa.gov/sites/default/files/atoms/files/viola_arcadiaplanitia_final_tagged.pdf
https://planetarygeomorphology.wordpress.com/2017/06/30/terraced-craters-reveal-buried-ice-sheet-on-mars/

Environmental factors

- Elevation
- Dust
- Abundant ice sheet under surface (40-50m)
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