

Figure 11. The transition from recognizable aeolian bedforms to degraded terrain. (a) A patch of fresh aeolian material (black arrow), interpreted to be eroding from the knob at center right, is superposed on older, indurated bedforms with subdued crests (white arrow) (Portion of HiRISE image PSP_009398_1685). (b) A sketch map outlining the units discussed in (a).

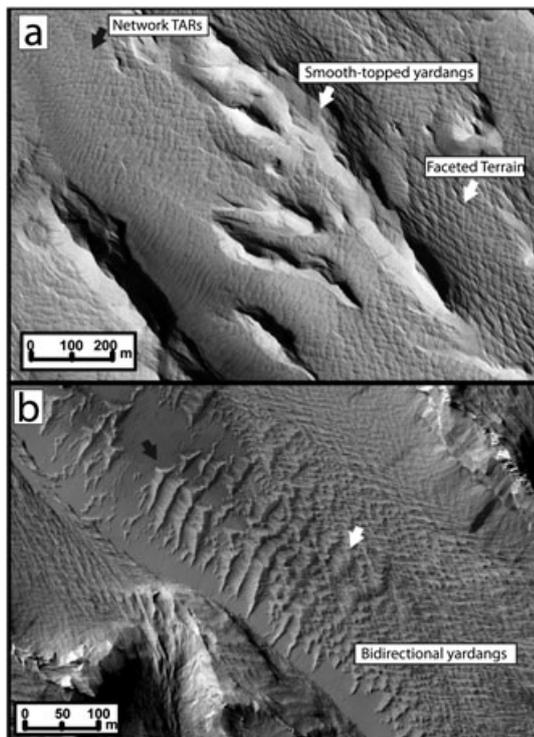


Figure 12. (a) Network and linear TARs (black arrow) are often seen in association with 'facets' with an identical pattern and wavelength (lower white arrow). In this case smooth-topped yardangs are surrounded by faceted terrain and TARs. The smooth surfaces of the yardangs are interpreted to be characteristic of the bedrock, while the faceted terrain is likely to be a secondary morphology created by the induration and subsequent scouring of depositional TAR networks. Portion of HiRISE image PSP_004216_1730. (b) Distinct complex TARs (black arrow) grade into complex terrain/bidirectional yardangs (white arrow) (Portion of HiRISE image ESP_017098_1745).

induration process which was able to strengthen them so that they no longer migrate under moderate wind velocities. On the basis of our observations, the induration process taking place in the MFF has allowed MFF TARs to survive long enough to become degraded and cratered, a somewhat rare occurrence on other parts of Mars. This suggests that either the mode of induration taking place in the MFF yields more resistant surfaces than elsewhere on Mars, or that the TARs formed and became indurated at an earlier time than aeolian bedforms (TARs and sand dunes) elsewhere on Mars.

The mode of induration of these deposits is as yet unknown, though there are several induration processes known or

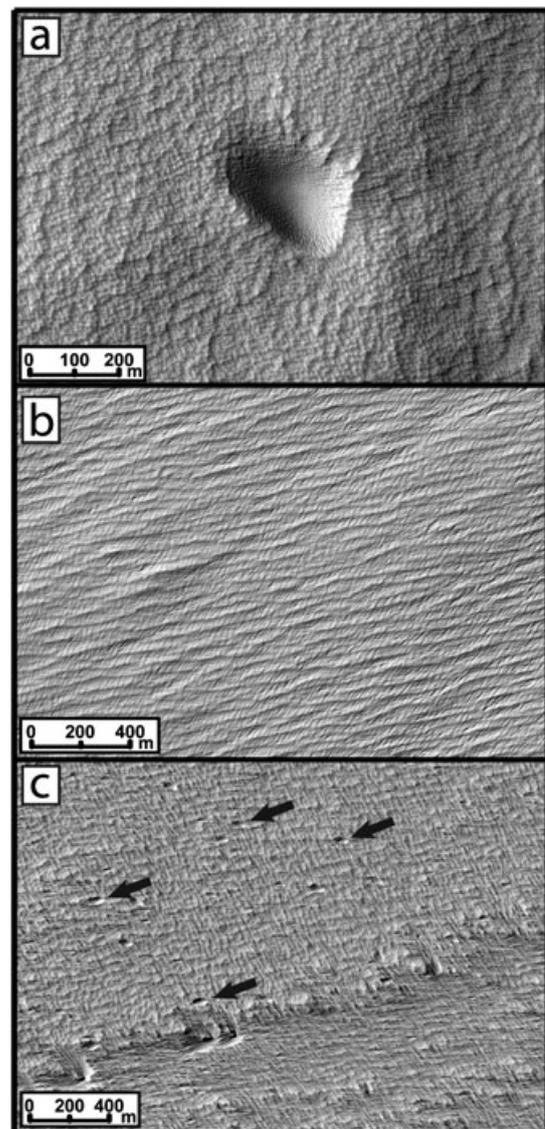


Figure 13. Possible end-member bedforms. (a) 'Network' faceted terrain with a similar pattern and wavelength to network dune fields elsewhere in the Medusae Fossae Formation (portion of HiRISE PSP_001446_1790). (b) 'Linear' faceted terrain with a similar pattern and wavelength to linear or transverse dune fields elsewhere (portion of HiRISE image PSP_008962_1785). (c) Due to the rough terrain, aeolian scours and notches (arrows) can form because of the complex flow of wind over the surface, eventually rendering the original TAR-covered surface difficult to recognize as an originally depositional landscape. Small craters could also initiate erosion (portion of HiRISE image PSP_010083_1775).