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Elevation and impact craters in the vicinity of Opportunity rover traverse

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[POSTER]

Opportunity rover (Mars Exploration Rover-B) operated on the surface of Mars between 2004 and 2018, exploring a region called Meridiani Planum. The rover cameras recorded images of various landforms, including many impact craters. Orbital and in situ methods of Martian planetary mapping were utilized in order to determine the buffers of craters' visibility by the rover depending on their diameter. Within these buffers, craters with their degree of degradation were mapped along the entire rover traverse using the HiRISE orthophotomap. Except for the Endeavour crater rim, the frequency of the occurrence of degraded as well as non-degraded craters depends on the elevation. In the lower lying areas, there are usually more craters. Moreover, the distribution of craters seems to depend on the type of surface, which might have various influence on the degradation of the landforms. Sand-gravel sheets probably cover older, eroded craters and at the same time facilitate better preservation of fresh, younger craters.