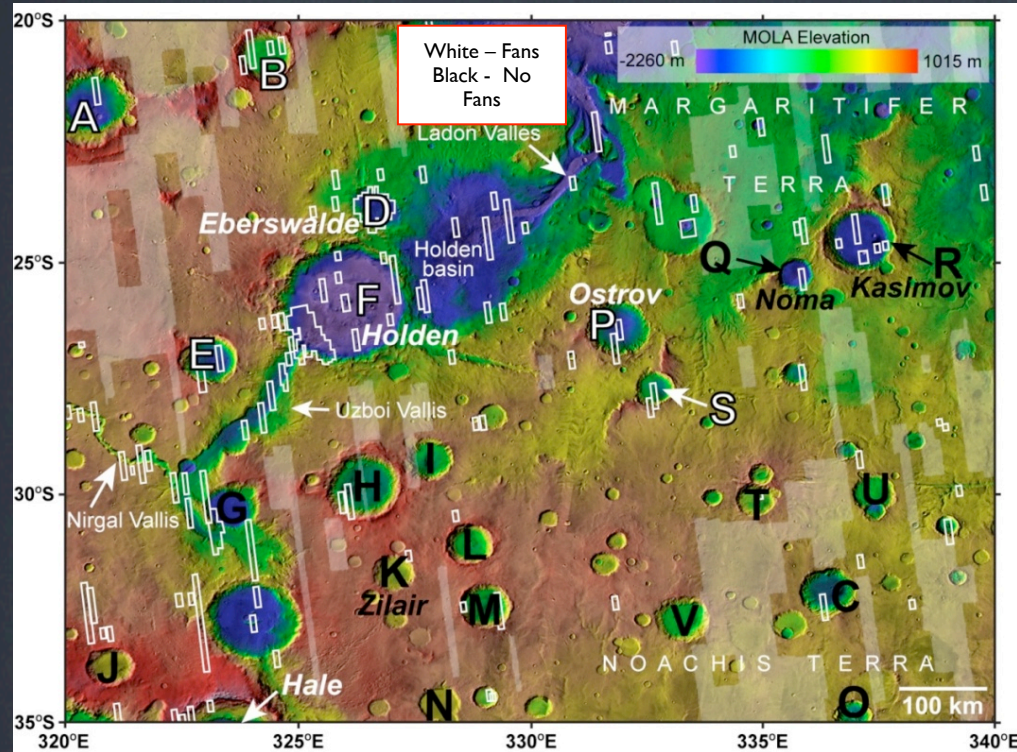
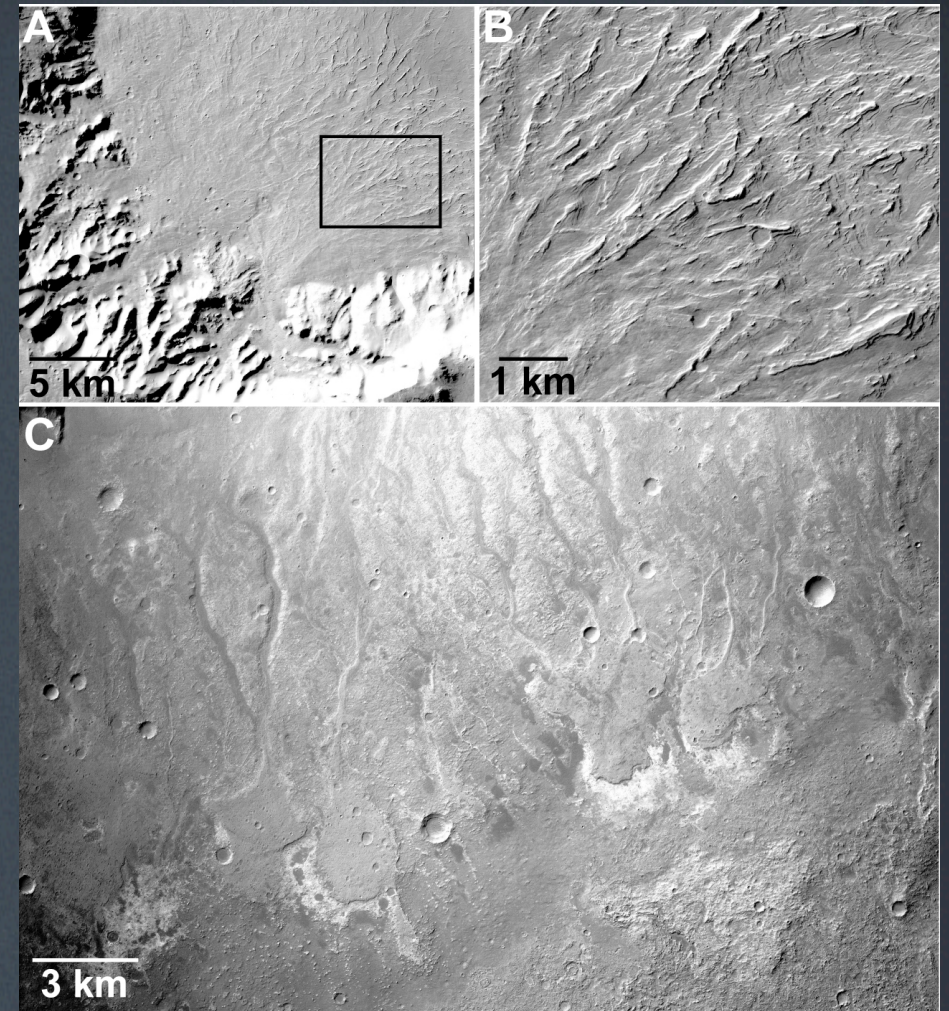


# Widespread Snowfall as the Water Source for River Deposits on Mars

Published in Planetary and Space Science in 2012 by John Grant and Sharon Wilson



Numerous alluvial fans within craters in Margaritifer Terra are comprised of fine-grained sediments formed by relatively uniform, quiescent runoff, as shown by images from the Mars Reconnaissance Orbiter.



The distribution and appearance of the fans is most consistent with widely occurring precipitation, probably as snow.

Snow was possibly concentrated into preexisting crater rim depressions (white arrows in figure to the right) by the wind and facilitated weathering to form fines (gravel, sand, and silt) that was washed onto the fans when the snow melted.

Fans may record and preserve evidence of habitable conditions on Mars that occurred relatively recently, when the cold, dry climate on Mars was punctuated by wetter conditions.

