



Why has Mars uniquely preserved the record of its early (possibly habitable) times?

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Mars has preserved surface structures witnessing most steps of its evolution all along its History. Specifically, a few sites, such as Marwth Vallis, have kept the record of the sequence of events that occurred prior to the Late Heavy Bombardment, at a time Mars might have harboured habitable conditions. This study proposes a plausible reason of this unique feature of Mars, possibly in the entire solar system: water ice condensation in areas coupled to the dichotomy protected a few sites against the LHB gardening effects, offering to explore the most ancient times in inner solar system History, during which life might have emerged