

PRINT ONLY: MARS

Capitan R. D.

Three Phases of Landscape Evolution in Gorgonum and Atlantis Basins, Mars [#1318]

Three periods of landscape evolution are identified in Gorgonum and Atlantis basins, Mars. Volcanism, tectonic processes and climate change are the main controlling mechanisms which differentiated the surface evolution.

Coleman N. M. Baker V. R.

Evidence that a Paleolake Overflowed the Rim of Juventae Chasma, Mars [#1046]

We report evidence that a paleolake filled Juventae Chasma until it overtopped the northern canyon rim at an elevation of 1180 m. Fluvial erosion from the overflow triggered the formation of Baetis Chaos and carved the Maja Valles outflow channels.

de Pablo M. A. Komatsu G.

Pingo Fields in the Utopia Basin, Mars: Geological and Climatic Implications [#1278]

We describe dome, cone, and ring features distributed in the Utopia Basin. We interpret them as pingos, and that their formation may have involved heat from a possible magma chamber under the surface in this basin.

Hugenholtz C. H. Wan Bun Tseung J.-M.

Formation of Interdigitate Patterns on Martian Alluvial Fans [#1011]

The occurrence of interdigitate patterns on martian alluvial fans suggests that the latter may have formed under high-density sediment-gravity driven flows involving upslope aggradation and backfilling from shifting feeder channels.

Maxe L. P.

Use of FTIR-Spectra of CO₂ to the Analysis of Martian Dust Spectra [#1961]

Modulated spectra of CO₂ (new peak at ~900 cm⁻¹) have been received and analyzed with the purpose of comparison with spectra of martian dust and soil. It is assumed that molecules of CO₂ surround the dust particles that influence on absorption and emission spectra.

Mizser A. Kereszturi A.

Climatic Planetomorphology: Hypothetical Synthesis from Available Data [#1523]

We review some elements of climatic planetomorphology, a possible tool to connect changes of surface structures to different climatic periods on Mars.

Morgenstern A. Hauber E. Reiss D. van Gasselt S. Grosse G. Schirrmeister L.

Deposition and Degradation of a Volatile-rich Layer in Utopia Planitia, Mars [#1691]

We investigate a region in western Utopia Planitia, where several morphological features like polygons and pits or depressions in a mantling deposit show close similarities to terrestrial permafrost structures.

Morris R. V. Arvidson R. E. Murchie S. Bell J. F. III Humm D. Lichtenberg K. Seelos F. IV
Wolff M. CRISM Science Team

Initial Results from the MRO-CRISM Hyperspectral Imaging Spectrometer for the Columbia Hills in Gusev Crater on Mars [#1469]

MRO-CRISM hyperspectral data for a transect through the Gusev Columbia Hills are dominated by variable proportions of a bright Fe³⁺- and probably H₂O-bearing component and a dark, spectrally-neutral component.

Papike J. J. Karner J. M. Shearer C. K.

Sulfate-rich Scapolite on Mars? [#1152]

Sulfate-rich scapolite may occur in Mars as a primary igneous occurrence or as a metasomatic replacement assemblage caused by hot sulfate-rich brine interactions with previously formed plagioclase assemblages.

Pina P. Barata T. Saraiva J. Bandeira L. P. C.

Automatic Identification of Polygonal Patterns on Mars [#1315]

In this paper we present a methodology for automatic polygonal patterns identification on images of the surface of Mars.

Presley M. A. Craddock R. A. Zolotova N.

The Effect of Salt on the Thermal Conductivity of Particulate Materials Under Martian Atmospheric Pressures [#2379]

A fluvial sample with a salt content of 1.1 g/kg has a thermal conductivity approximately 3× greater than that of the same sample with the cement bonds broken. Due to the cement bonds that were broken during collection and transport, this effect represents a minimal effect of the salt.

Saraiva J. Bandeira L. P. C. Pina P.

Automatic Crater Detection in 'Ridged Plains' Areas of Mars [#1311]

We present the results of a methodology for automated crater detection applied to four areas of the surface of Mars that belong to the cartographic unit "Ridged Plains Material."

Sprenke K. F.

Magnetic Anomalies, Hot Spot Tracks, and Polar Wander on Mars [#1080]

The linear magnetic anomalies on Mars may represent hot spot tracks along the small circles of a martian surface since reoriented by polar wander.