

Thursday, March 26, 2009
POSTER SESSION II: MARS: AQUEOUS GEOMORPHOLOGY
6:30 p.m. Town Center Exhibit Area

de Villiers G. Kleinhans M. Postma G. Hauber E. de Jong S. de Boer P. L.
[*Types of Martian Fan-shaped Sedimentary Deposits*](#) [#1901]

Our objectives are to qualify and quantify the morphological elements of martian fan-shaped sedimentary deposits with the use of Mars Express-HRSC data. Based on size, shape, and gradient, we describe different types of fan-shaped deposits.

Pondrelli M. Rossi A. P. Marinangeli L. Baliva A.

[*The Holden and Eberswalde Deltaic Systems: Lithofacies and Depositional Environments*](#) [#1619]

The Holden and Eberswalde fan deltas have been analyzed in order to map the lithofacies assemblage, to recognize sedimentary processes and to infer depositional environments.

Kleinhans M. G. van de Kastele H. E. Hauber E. de Villiers G. Postma G. de Jong S. de Boer P. L.
[*Palaeoflow and Sediment Delivery Reconstructions from Martian Delta Morphology by Combined Modelling and HRSC DTM Analysis*](#) [#1495]

Morphology of crater lake deltas indicates formative time scale, sediment flux and water flux. Our new morphological model predicts quantitative morphology which we compare to DTM data. Five studied deltas formed in less than ten years.

Di Achille G. Hynek B. M.

[*Possible Primordial Oceans on Mars: Evidence from the Global Distribution of Ancient Deltas?*](#) [#1977]

Terrestrial marine deltas share the characteristic of being formed at the mean global sea level. By using the global distribution of martian deltas, we report preliminary results of a test for the possible ancient ocean on Mars.

Berman D. C. Feldman W. C. Rodriguez J. A. P.

[*Volatile-driven Morphologies Relating to Zones of High WEH in Xanthe Terra*](#) [#1333]

The MO Neutron Spectrometer has detected moderate concentrations of WEH in western Xanthe Terra. We utilize new high-resolution images to analyze the morphologies of craters and small channels to look for evidence of water-rich degradation.

Howard A. D. Moore J. M.

[*Subaqueous Mega-Slides on the Floor of Hellas*](#) [#1376]

Extensive subaqueous mass movements have been involved in the emplacement and deformation of the Hellas Basin floor deposits, followed by intensive eolian erosion.

Craft K. Lowell R. Kraal E.

[*Models of Martian Hydrothermal Systems and Implications for Geomorphology*](#) [#1535]

Systems driven by magmatic intrusions are first investigated by applying boundary layer theory to obtain results for heat and fluid fluxes and then by using numerical modeling to explore other parameters including ice-melting and brine formation.

Harrison K. P.

[*An Alternative View of Martian Chaotic Terrain Formation*](#) [#1743]

Martian chaotic terrains have traditionally been regarded as groundwater source regions for outflow channels. However, the near ubiquitous presence of upstream fluvial inlets suggests that their status as source regions should be revisited.

Oehler D. Z. Allen C. C.

[*Mud Volcanoes in the Martian Lowlands: Potential Windows to Fluid-Rich Samples from Depth*](#) [#1034]

Mud volcanoes in the martian lowlands may provide access to relatively unaltered samples of fluid-rich strata from depths that would otherwise be unreachable. The Chryse-Acidalia region is particularly prospective for such structures.

Neather A. C. Wilson L. Lane S.

[*Muddy CO₂-driven Brine Fountains at Mangala Valles, Mars*](#) [#1154]

We compare the mass flux provided by a theorised CO₂-driven water fountain with the flux required to emplace the apparently muddy deposits seen around the eastern arm of Mangala Valles, Mars, concluding that the fountain is a reasonable explanation.

Kereszturi A. Horváth A. Sik A. Kuti A. Bérczi Sz. Gánti T. Pócs T. Szathmáry E.

[*Possible Liquid-like Water Produced Seepage Features on Mars*](#) [#1111]

Seepage-like features emanate from Dark Dune Spots, and their seasonal changes were observed on northern dunes of Mars. Based on observations and theoretical computations, they may form by the movement of interfacial water-lubricated dune grains.