

Tuesday, March 18, 2003
POSTER SESSION I
7:00 p.m. Fitness Center

Red Hot Lava: Mars Volcanism

- Rawling E. J. Mitchell K. L. Wilson L. Pinkerton H.
Recent Silicic Lava Flows on Olympus Mons? [#1337]
 We have identified many recent leveed volcanic flows on the flanks of Olympus Mons, consistent with silicic magmas supplied as high mass flux through laterally emplaced dykes.
- Bleacher J. E. Greeley R.
Shield Volcano Slope Distributions: An Approach for Characterizing Martian Volcanic Provinces [#1794]
 Hawaiian shield volcano slope distributions are presented. Trends compare favorably with some martian volcanoes suggesting similar formational processes. The results can be used as an approach for characterizing martian volcanic provinces.
- Lucchitta B. K.
Volcanic Features in Valles Marineris Reexamined with MGS Data [#1752]
 Using MOC narrow-angle images and MOLA data, many dark deposits are confirmed as of volcanic origin, as are light layers on top of adjacent plateaus. Late interior deposits surrounding older mesas, however, may have been emplaced by mass wasting from the mesas.
- Chapman M. G. Lucchitta B. K. Skilling I. P. Smellie J. L. Thordarson T.
Comparative Study of 3-Dimensional Renderings of the Valles Marineris Interior Layered Deposits on Mars and Terrestrial Sub-ice Volcanoes in Iceland [#1917]
 A progress report of the current investigation into the interpretation that the Valles Marineris interior layered deposits (ILDs) are analogous to terrestrial sub-ice volcanic forms, such as tuyas and hyaloclastic ridges, by mapping the ILDs and studying analogs in Iceland.
- Peitersen M. N. Zimbelman J. R. Christensen P. R. Rice J. W. Bare C.
Effect of Levee and Channel Structures on Long Lava Flow Emplacement: Martian Examples from THEMIS and MOLA Data [#1492]
 The potential effects of channels and levee building on long lava flow emplacement are examined. Flow rheological models are constrained using geomorphometric data derived from THEMIS images of and MOLA profiles across Martian long lava flows.
- Glaze L. S. Baloga S. M. Stofan E. R. Mouginis-Mark P. J. Shockey K. M. McColley S.
Rheology Comparisons for Several Martian and Terrestrial Lava Flows [#1315]
 We compare lava flows in different volcanic settings on Mars, looking for correlations between modeling parameters, or systematic differences among volcanic provinces. This enables us to isolate and refine models of lava flow emplacement.
- Anderson S. W. Glaze L. Stofan E. Baloga S.
The Spatial Distribution of Lava Flow Surface Features on Earth and Mars [#1080]
 We examined the spatial distribution of tumuli, three different flows on Earth and Mars. Tumuli are randomly distributed resulting from formation above transient thermally-preferred pathways that change position over the growth period of the lobe.
- Milazzo M. P. Keszthelyi L. P. McEwen A. S. Jaeger W.
The Formation of Columnar Joints on Earth and Mars [#2120]
 We present a synthesis of several models used to model the formation of columnar jointed lava on the Earth. This model can be extended to Mars in order to estimate the amount of water involved in the creation of joints.

Fagents S. A. Baloga S. M.

Simulations of Lahar Emplacement on Earth and Mars [#1788]

We apply a mathematical treatment of lahar propagation to simulate flows over the topographies of Mt. Ruapehu, New Zealand, and Pavonis Mons, Mars.

Zolotov M. Yu.

Martian Volcanic Gases: Are They Terrestrial-like? [#1795]

Assimilation of crustal material on Mars could be a major factor that affected temperature, composition, and the oxidation state of volcanic gases. Effects of pressure, temperature, and oxidation state on speciation of volcanic gases were evaluated.

Zent A. P.

H₂O-Silicate Microphysics in Ascending Volcanic Plumes on Mars [#1831]

Adsorptive interactions between H₂O and silicates in rising martian volcanic plumes can affect plume energetics, agglomeration and precipitation.

Morgan J. K. McGovern P. J.

Discrete Element Simulations of Volcanic Spreading: Implications for the Structure of Olympus Mons [#2088]

We test the hypothesis of concurrent landsliding and volcanic sliding on Olympus Mons, using the discrete element method. The resulting models compare favorably to morphologic features noted on Olympus Mons, suggesting the importance of volcanic spreading in this setting.