Tuesday, March 15, 2005
MARS POTPOURRI: WET AND DRY, SANDY AND DUSTY
1:30 p.m. Marina Plaza Ballroom

Chairs: L. K. Fenton
K. K. Williams

1:30 p.m. Williams K. K. * Grant J. A. Fortezzo C. M.
New Insights into the Geologic History of Margaritifer Sinus and Discovery of a Phreatomagmatic Event During Late-Stage Fluvial Activity [1439]
MGS and MO data have been used to study the geologic history of the Margaritifer basin area beyond what was possible with Viking images. A new discovery is a likely phreatomagmatic edifice that formed at the confluence of two major valley systems.

1:45 p.m. Irwin R. P. III* Maxwell T. A. Howard A. D. Craddock R. A. Moore J. M.
A Noachian/Hesperian Hiatus and Erosive Reactivation of Martian Valley Networks [2221]
Fan and delta morphology, channel hydrology, late exit breaches of closed basins, and base level changes suggest a hiatus in valley network activity while fretted terrain developed, followed by an erosive Early Hesperian reactivation of valleys.

2:00 p.m. McMenamin D. S. * McGill G. E.
Processes Involved in the Formation of Martian Fan-shaped Deposits [1732]
We use martian delta morphology to re-evaluate the processes involved in delta formation, identify various types of deltas and fan-shaped deposits observed in high-resolution imagery, and predict the existence of certain kinds of deltas.

2:15 p.m. Soukhovitskaya V. * Manga M.
Martian Landslides in Valles Marineris: Wet or Dry? [1093]
We analyze the geometric properties of landslides on Earth and compare these with landslides in Valles Marineris to learn about the dynamics of Martian landslides and to determine whether liquid water played a significant role in forming them.

2:30 p.m. Kraal E. R. * Moore J. M. Howard A. D. Asphaug E.
Alluvial Fans on Mars [1558]
We present a comprehensive survey of Martian alluvial fans in craters from 0°–30°S, examine the apparent clustering of fans, and to address the issue of gravity scaling in a quantitative manner.

2:45 p.m. Bourke M. C. *
Alluvial Fans on Dunes in Kaiser Crater Suggest Niveo-Aeolian and Denivation Processes on Mars [2373]
Alluvial fans on large barchan dunes in Kaiser Crater suggest denivation triggers for fluvial flow.

3:00 p.m. Grant J. A. * Golombek M. P. Haldemann A. F. C. Crumpler L. S. Li R. Athena Science Team
Crater Gradation in Gusev Crater, Meridiani Planum, and on the Earth [1472]
Crater gradation in Meridiani and Gusev does not involve water, thereby enabling processes subordinate on Earth to dominate. Craters at Meridiani are more modified, but gradation at both locations is dominated by eolian and mass-wasting processes.

3:15 p.m. Balme M. R. * Bourke M. C.
Preliminary Results from a New Study of Transverse Aeolian Ridges (TARs) on Mars [1892]
We present preliminary results from a study of Transverse Aeolian Ridges (TARs) on Mars. We have found similarities in morphology between TARs and large dark dunes and that TARs and large dark dunes have distinctive thermal signatures.
3:30 p.m. Fenton L. K. *

Seasonal Movement of Material on Dunes in Proctor Crater, Mars: Possible Present-Day Sand Saltation [#2169]

Investigation of MOC NA images of an intercrater dune field has led to the discovery of possible evidence for limited dune activity and sand saltation during the MGS mission.

3:45 p.m. Szwast M. A. * Richardson M. I. Vasavada A. R.

Surface Dust Redistribution on Mars as Observed by the Mars Global Surveyor [#2191]

A study of MGS TES albedo data set as a proxy for dust cover was performed focusing around the 2001 global dust storm. We found widespread surface dust redistribution caused by the storm, and recovery since implying a multi-year cyclical nature.

4:00 p.m. Bulmer M. H. * Glaze L. S. Anderson S.

Distinguishing Between Primary and Secondary Emplacement Events of Blocky Volcanic Deposits Using Rock Size Distributions [#1676]

The objective of this field study was to quantitatively characterize the surface block size distributions collected at multiple locations and to develop a technique that could easily be applied to remote sensing images of blocky planetary flows.

4:15 p.m. Viles H. A. * Brearley A. J. Bourke M. C. Holmlund J.

What Processes Have Shaped Basalt Boulders on Earth and Mars? Studies of Feature Persistence Using Facet Mapping and Fractal Analysis [#2237]

Facet mapping at Ephrata Fan suggest a potentially high persistence of fluvially-created features on basalt boulders on Earth. The absence of any such features at Gusev Crater imply that fluvial processes have not affected the boulders there.

4:30 p.m. Shockey K. M. * Zimbelman J. R.

The Medusae Fossae Formation: Mapping the Origins [#1799]

To better understand the origins of the Medusae Fossae Formation, we are mapping the Gordii Dorsum escarpment and surrounding areas.