The Volcanic Evolution of Syrtis Major Planum, Mars

Thesis

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Map Sheet 1: Geological Map of Syrtis Major Planum, Mars (1:2,000,000)

Explanation of Map Symbols

- E: East
- Ncf: North Capricorn
- Nup: North Utopia
- eHvp: Equilateral Franklin Planum
- Nhfr: Northeast Hyder Planitia
- Nbp: Northeast Boeotia Planum
- HP: Propontis Planum
- ? : Indicates uncertainty about the timing of events.

Boundaries:

- Caldera Complex
- Syrtis Major Central
- Wind streaks

Contours every 250 m

Approximate Model Age

- 3.02 Eo
- 3.95 Eo
- 1.49 Eo
- 1.99 Eo
- 1.90 Eo
- 1.80 Eo
- 1.70 Eo
- 1.60 Eo
- 1.50 Eo
- 1.40 Eo
- 1.30 Eo
- 1.20 Eo
- 1.10 Eo
- 1.00 Eo
- 0.90 Eo
- 0.80 Eo
- 0.70 Eo
- 0.60 Eo
- 0.50 Eo
- 0.40 Eo
- 0.30 Eo
- 0.20 Eo
- 0.10 Eo
- 0.00 Eo

Positive relief features

- Long ridge (discontinuous on a mound)
- Large linear pits

Interpretation

- Phase 0
- SMCCC Formation
- Amazonian/Hesperian volcanic plateau unit
- Noachian lower plains unit
- Noachian/Hesperian flat topped ridges
- Amazonian dark ridge unit
- Amazonian/Hesperian dark plains unit

- Crater floors both superpose or have gradational contacts with early Hesperian volcanic plains unit
- Blocks at lower elevation are 'rayed' margin that is margins of Hvp.
- Edge of the Vastitas Borealis lobe evident; or, the outer lobe areas smoothed by fluvial processes created uneven composition.
- Disaggregated slabs of Syrtis Major Planum, Mars (1:2,000,000) edges adjacent to SMCCC Formation
- Discrete events whilst the total length of bars reflects the overall period of time in which a group has been actively forming. The length of the bars is firstly determined by stratigraphic relationships and secondly...