CLIMATIC PLANETOMORPHOLOGY: SYNTHETIC FRAMEWORK FOR MARS SURFACE ANALYSIS. A. Kereszturi (Collegium Budapest Institute for Advanced Study, Hungarian Astronomical Association, e-amil: akos@colbud.hu)

Introduction: Several surface features on Mars seem to be climate and latitude related [1,2,3], and formed probably under different condition than is present today. Like in the climatic geomorhology of Earth, there is possibility to reconstruct and estimate paleoenvironmental condition on Mars based on the connection between climatic changes and surface structures [4,5,6,7,8,9,10].

Discussion: Bases of climatic plaetomorphology was briefly outlined in [11], and a course called *Climatic planetomorphology* was organized at Eotvos Lorand University of Sciences, Department of Applied and Environemntal Geology in 2007/2008 II. semester. The Pro Renovanda Cultura Hungariae Foundation helped the work with funding the development of a digital book for university students on this topic. One graduate students's work [12] started partly under this topic, and geomorphologic research [13] is also going on to improve paleoenvironment reconstruction.

Various surface features are useful for paleoclimate reconstruction, the most important ones are summarized in Fig. 1 with their latitudinal position and thickness (depth) of the affected regolith layer. Three main fields which should be connected under this topic are 1. simulations of climate changes, 2. speed and penetration depth of thermal wave, 3. latitudinal bands of geomorphic features.

Conclusion: Several surface features of Mars could be arranged into a system that ios able to interpret their appearance and evolution under the context of climate and climate changes. This framework may be a useful element to gain a complex geologic view of panet Mars as a whole.

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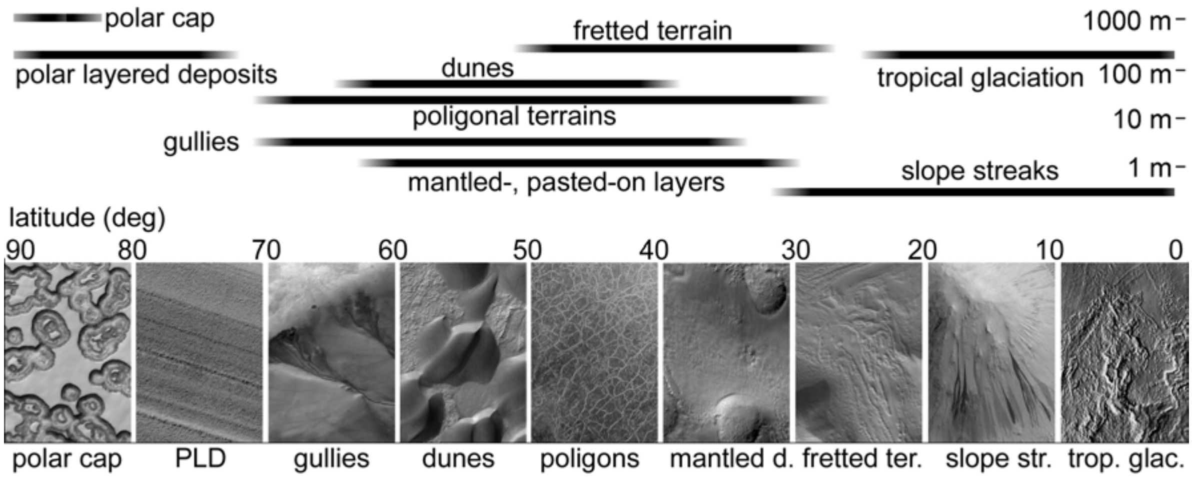

Figure 1.: Latitudinal bands of climate-related surface structures on Mars (up) from the pole (left) toward the equator (right). The affected thickness of material is indicated vertically at the top, and sample images of the different features are visible bellow