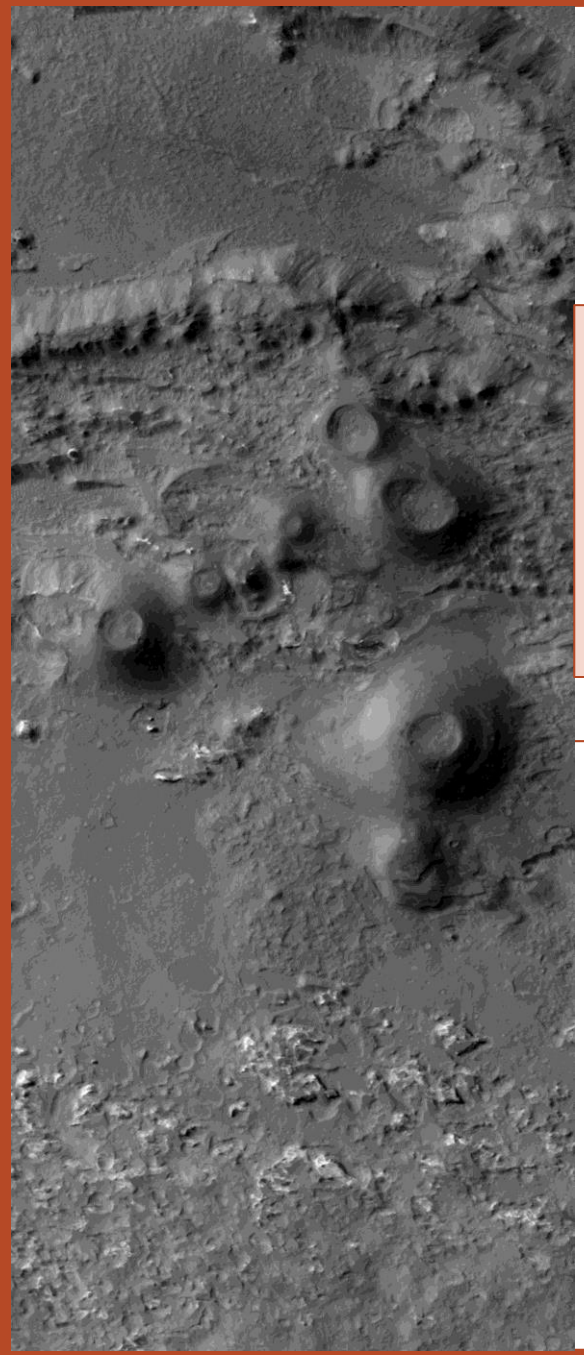

This presentation participates in OSPP
EGU
Outstanding Student Poster & PICO Contest

GEOMORPHOMETRIC STUDY OF MARTIAN SCORIA CONES

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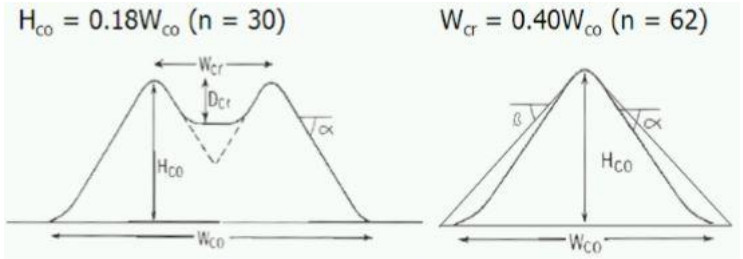
UNIVERSITAS BUDAPESTINENSIS DE ROLANDO EÖTVÖS NOMINATA

Scoria cones

Terrestrial scoria cones

e.g. Wood (1979, 1980)



Porter (1972)

Formulas of Hasenaka & Carmichael (1985)

Cones with crater:

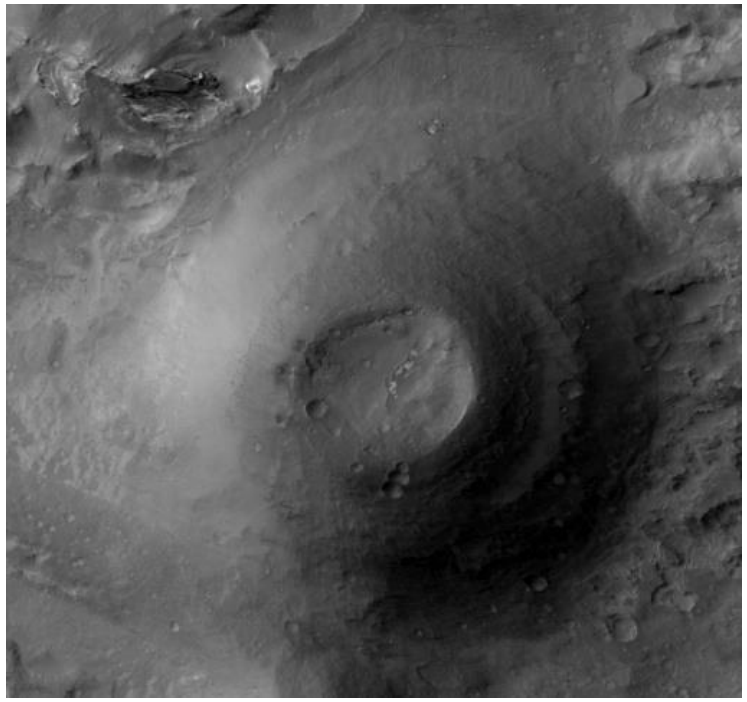
$S_{ave} = \tan^{-1}[2H_{co}/(W_{co} - W_{cr})]$

Cones without crater:

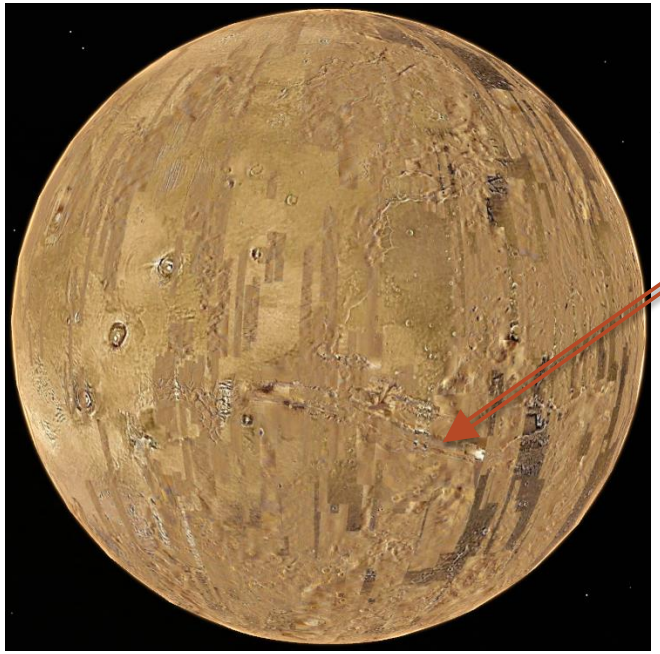
$S_{ave} = \tan^{-1}[2H_{co}/W_{co}]$

Martian scoria cones

e.g. Brož et al. (2015)



Study area



Valles Marineris

CC20

CC18

CC16

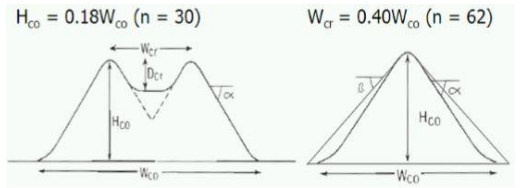
CC15

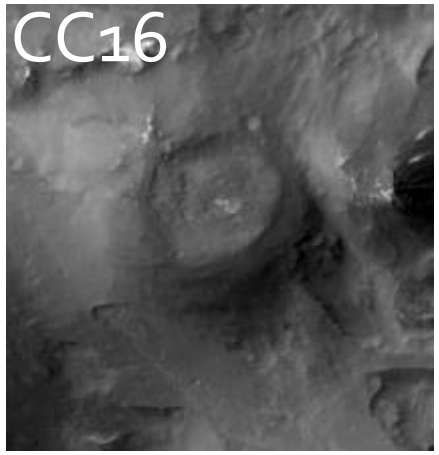
CC22

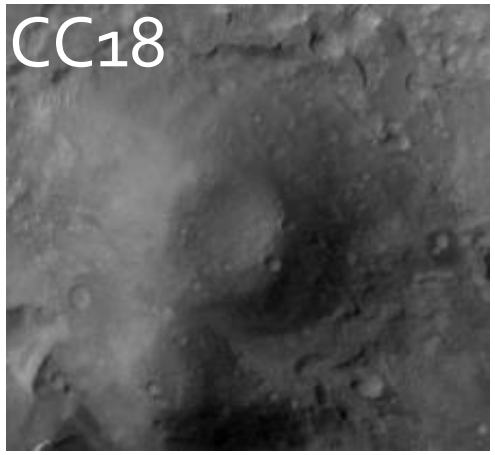
NASA Ames
Stereo Pipeline

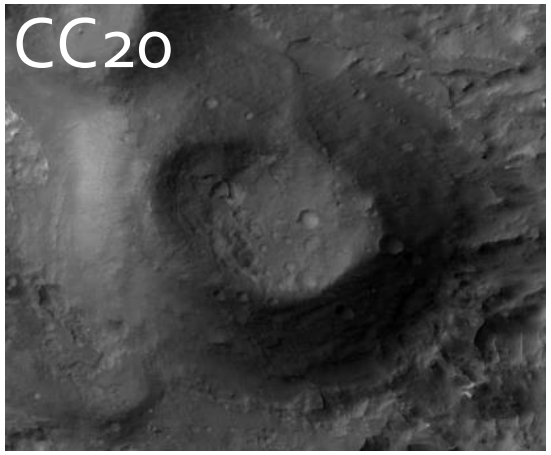
HiRISE stereo pairs:
ESP_034131_1670 and
ESP_033986_1670

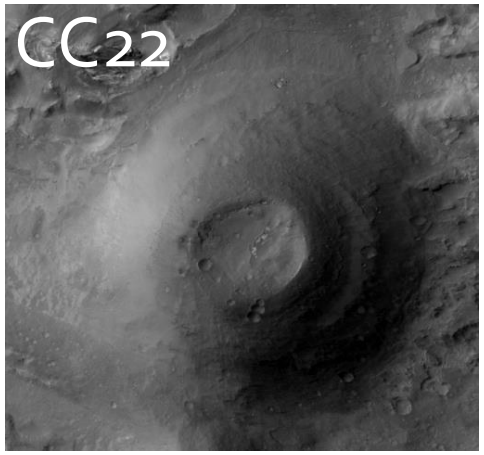
Morphometric parameters of scoria cones





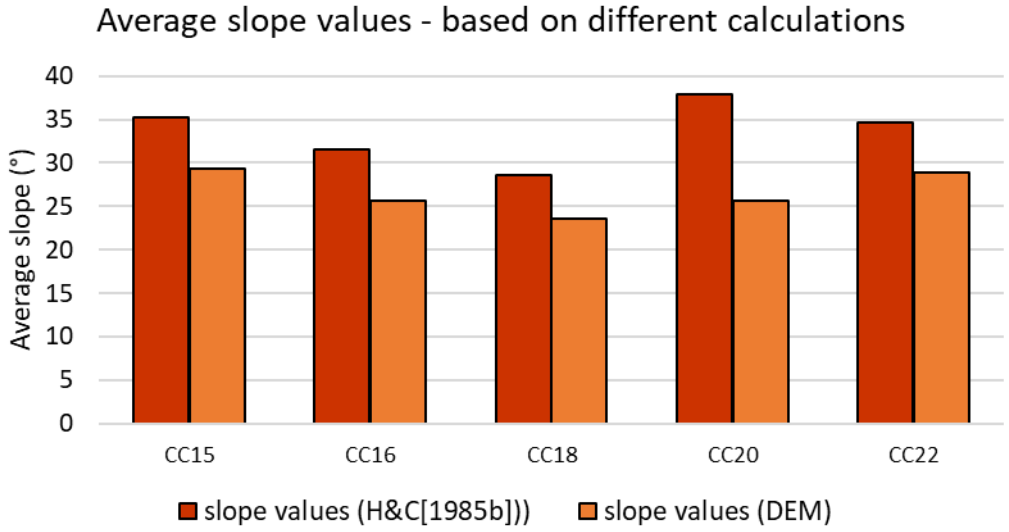


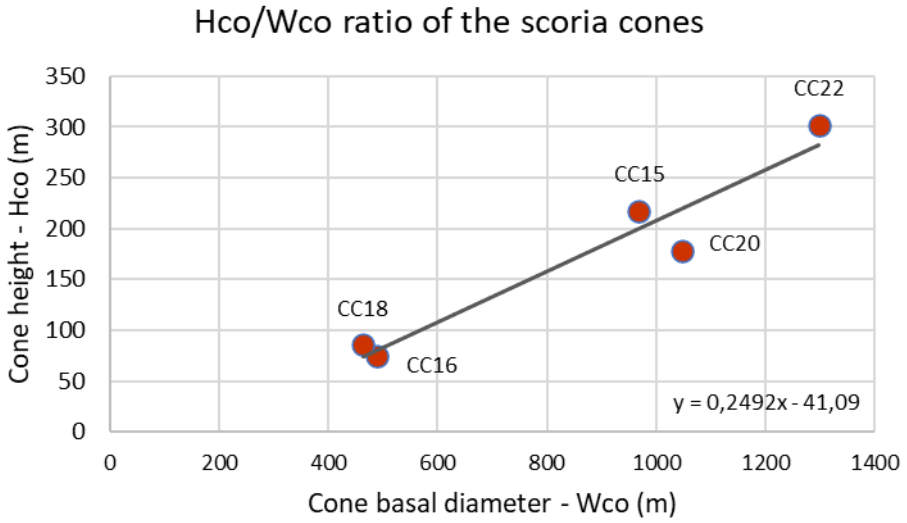




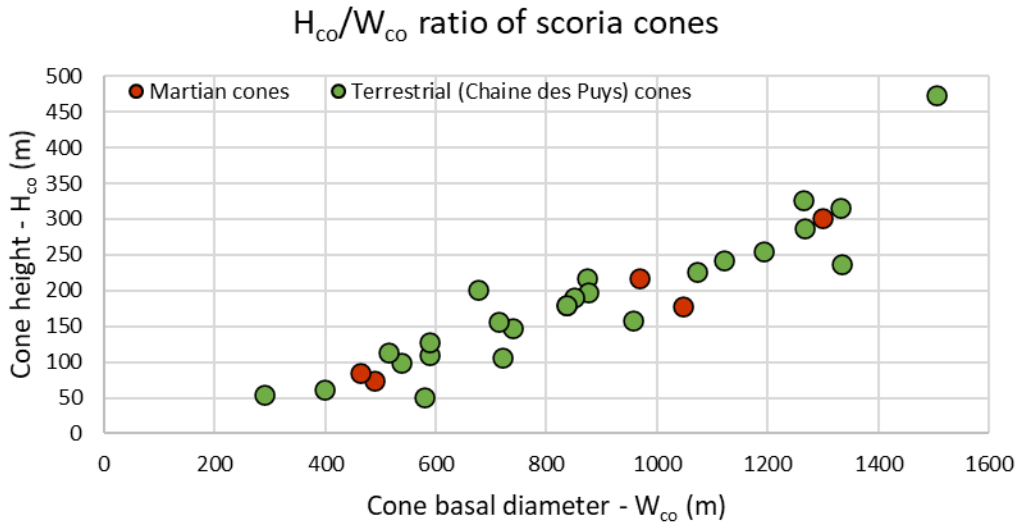
Parameter	CC15	CC16	CC18	CC20	CC22
H_{co}	217.5 m	75 m	85.7 m	177.8 m	301.7 m
W_{co}	968.41 m	488.19 m	463.59 m	1047.67 m	1298.21 m
slope (H&C [1985b])	35,3°	31,5°	28,6°	38°	34,6°
slope (DEM)	29.3°	25.6°	23.6°	25.6°	28.9°

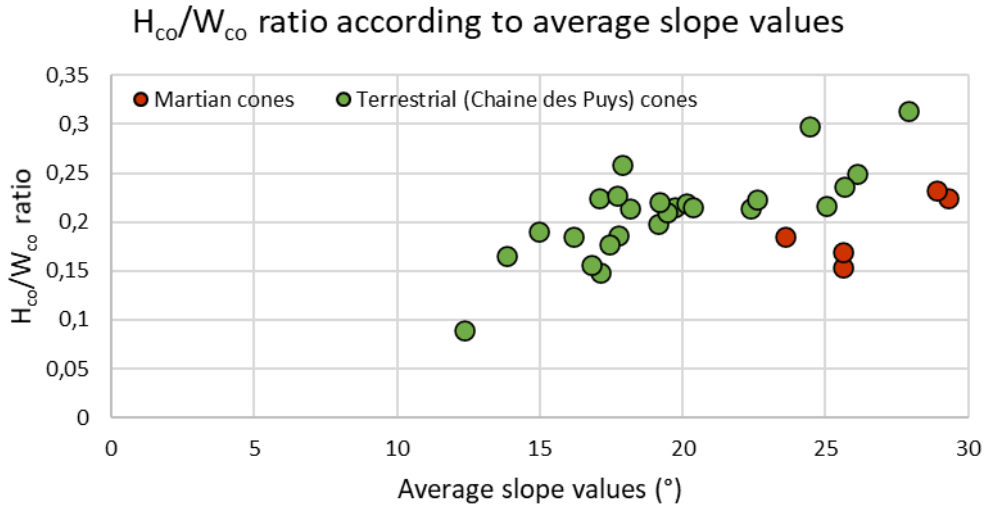
Morphometric parameters of scoria cones



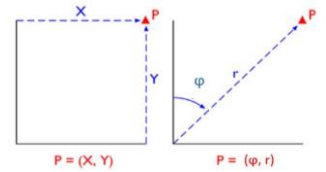


Morphometric parameter comparison of scoria cones - terrestrial and Martian cones

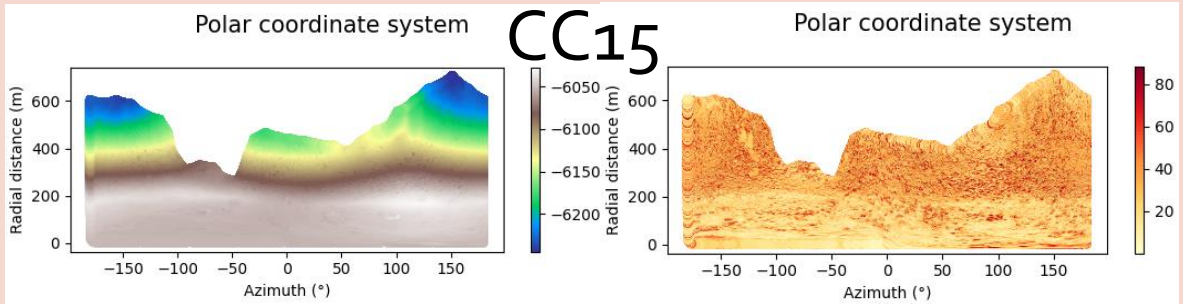




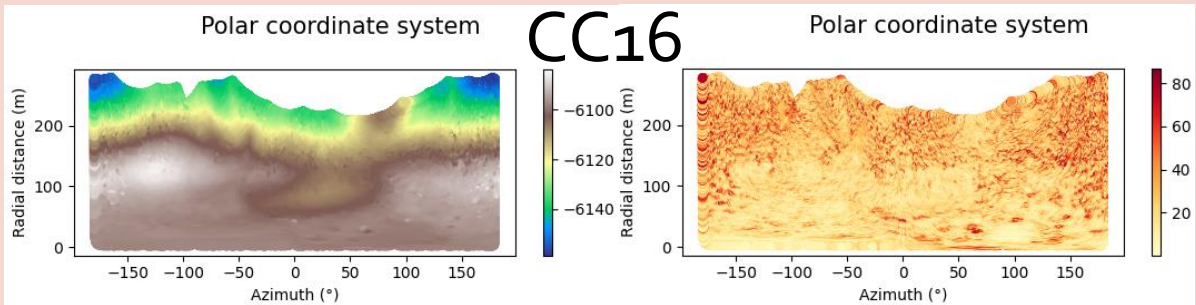
(A)symmetry of cones



CC15



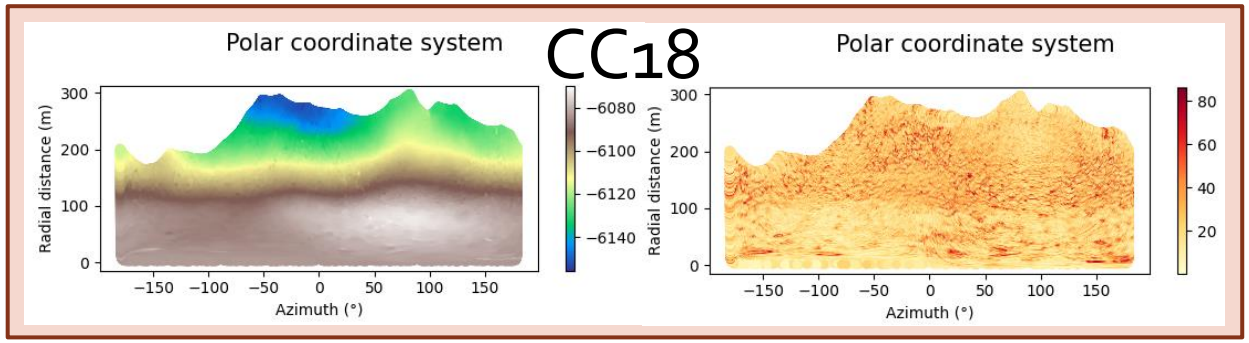
CC16



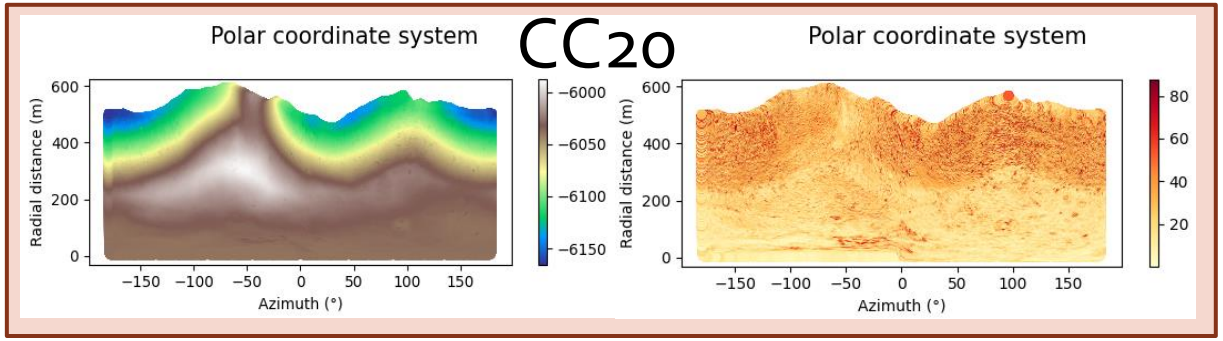
Elevation (m)

Slope (°)

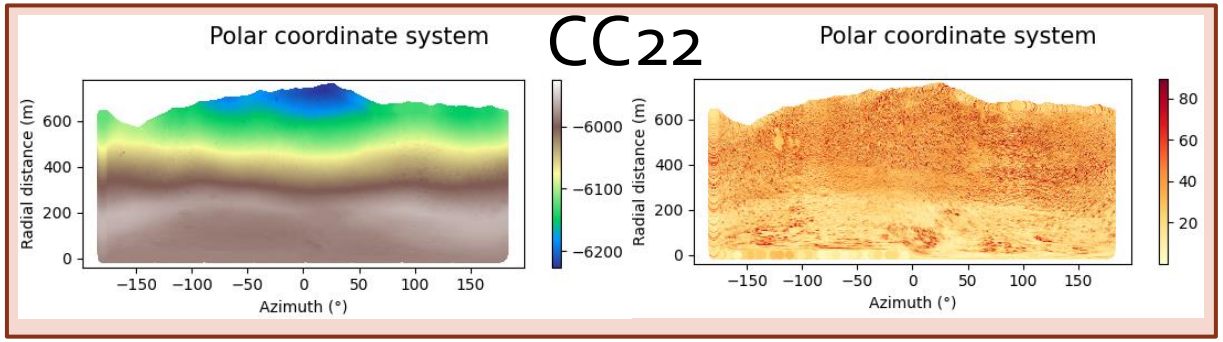
CC18



CC20



CC22



Thank you for your attention!

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