

MARGULIS AND ROEMER CRATERS: EVIDENCE FOR RESURFACING AND DENUDATION ON MARS.

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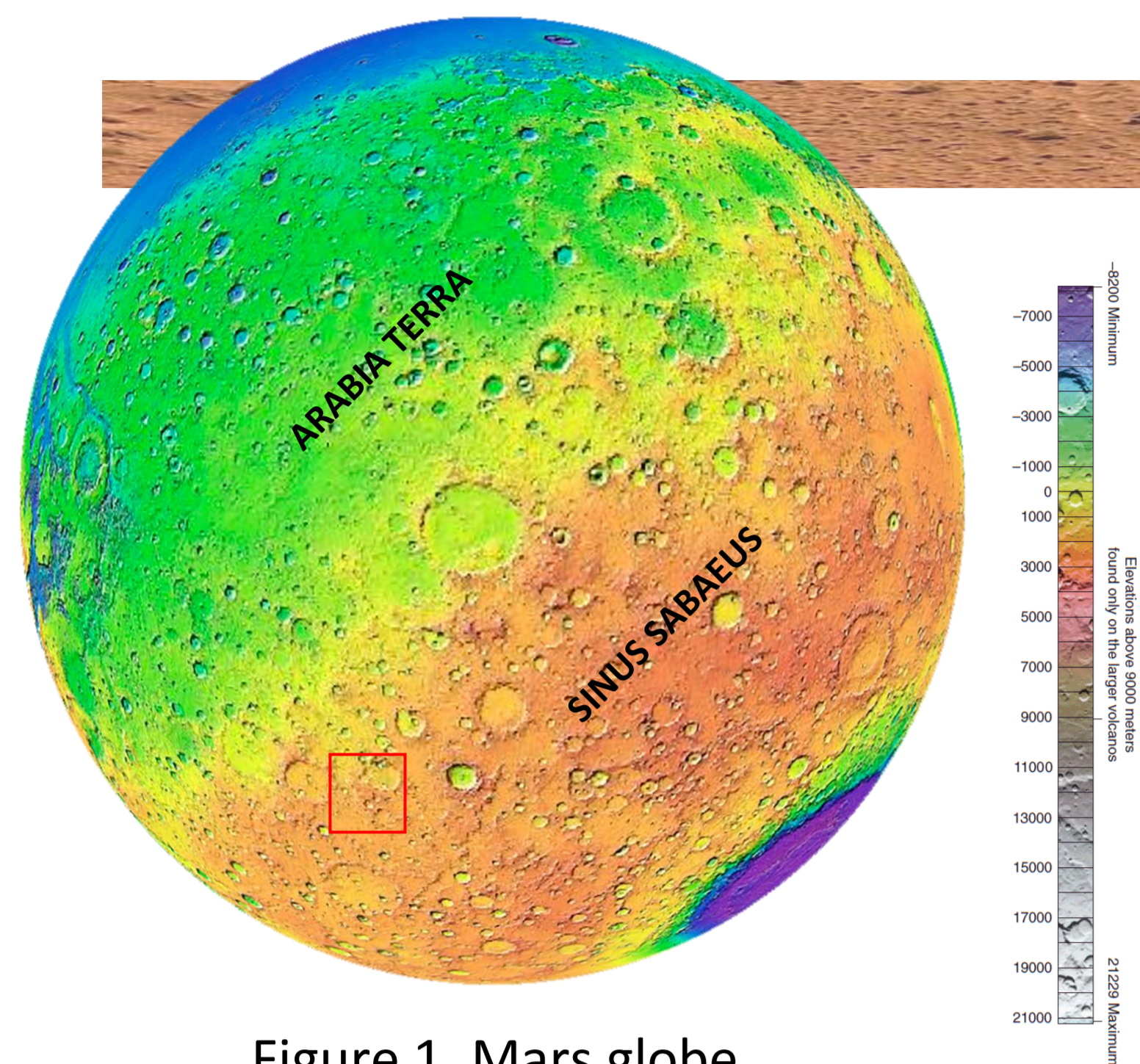


Figure 1. Mars globe

MARGULIS CRATER: We named Margulis (International Astronomical Union approval on April 21, 2021) an impact crater 180 Km diameter located on the Southwest of Sinus Sabaeus quadrangle (centered approximately at -23.16° S and 8.49° E; Figure 3).

ROEMER CRATER: We named Roemer (International Astronomical Union approval on April 21, 2021) an impact crater 120 Km diameter located on the Southwest of Sinus Sabaeus quadrangle (centered approximately at -27.46° S and 8.09° E; Figure 4).

INTRODUCTION

STUDY AREA: The study area is located in the southwest of the Sinus Sabaeus region, at the south of Arabia Terra and at the northwest of Hellas Planitia (Figure 1). This area in Sinus Sabaeus can be considered a representative section of the densely cratered highlands [1,2,3], where two impact craters (red square in figure 1; and figure 2) stand out due to their large size, their old age and the geological units they contain. We named them as a tribute to two women scientists who played a prominent role in the field of space sciences: Lynn Margulis and Elizabeth Roemer.

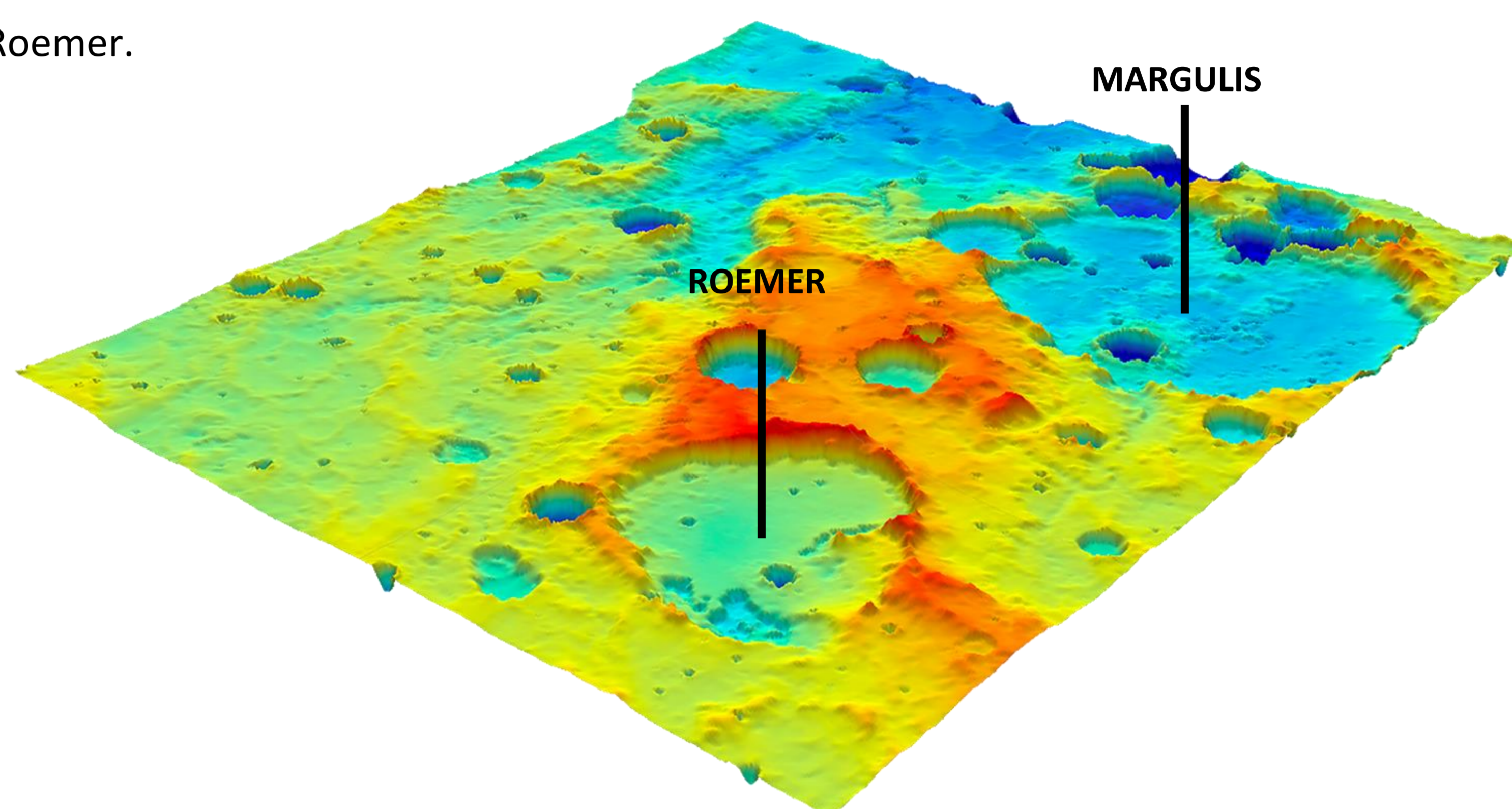


Figure 2. 3D Detail of the red square in figure 1

GEOMORPHOLOGICAL RESULTS

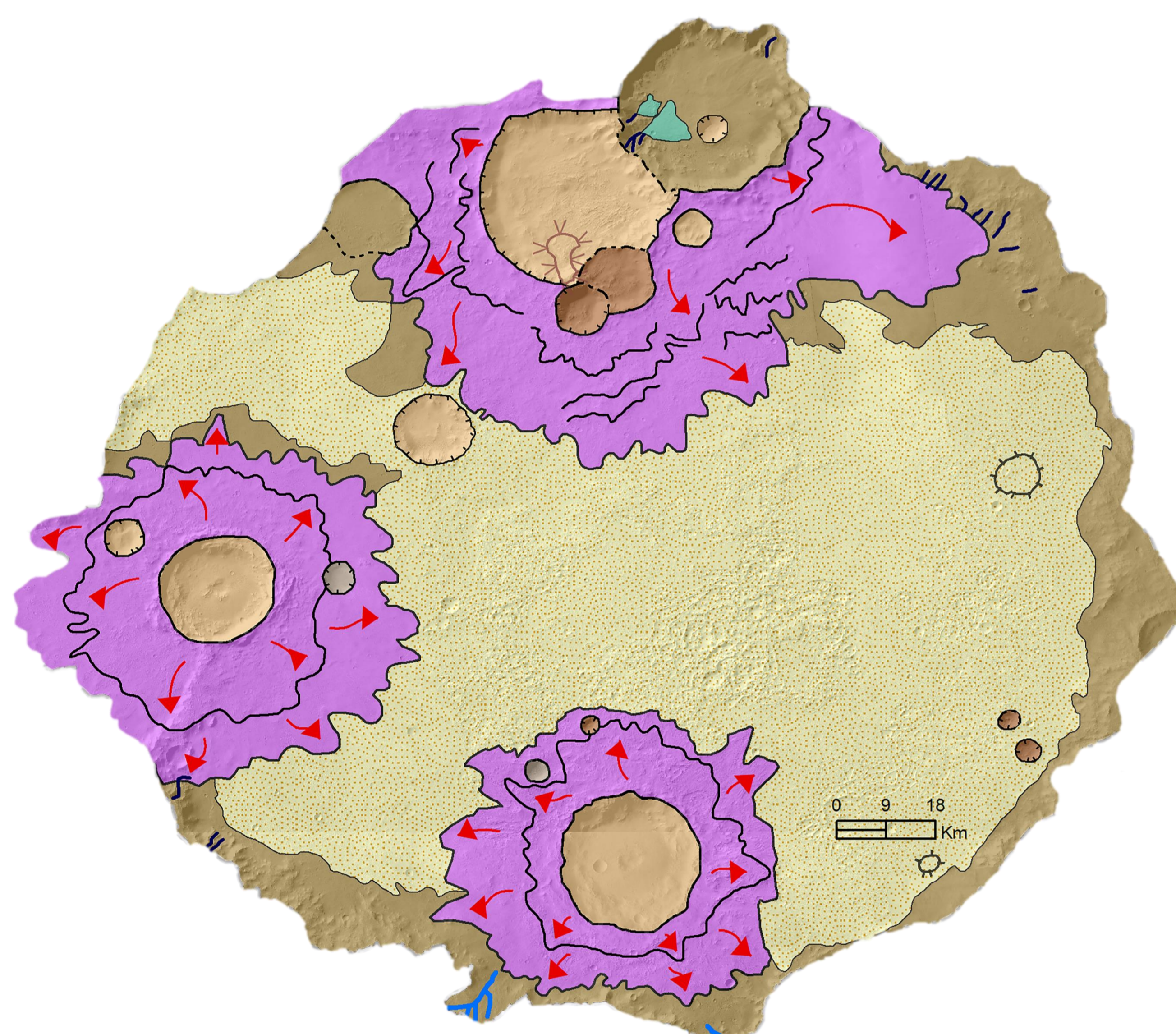


Figure 3. Margulis crater

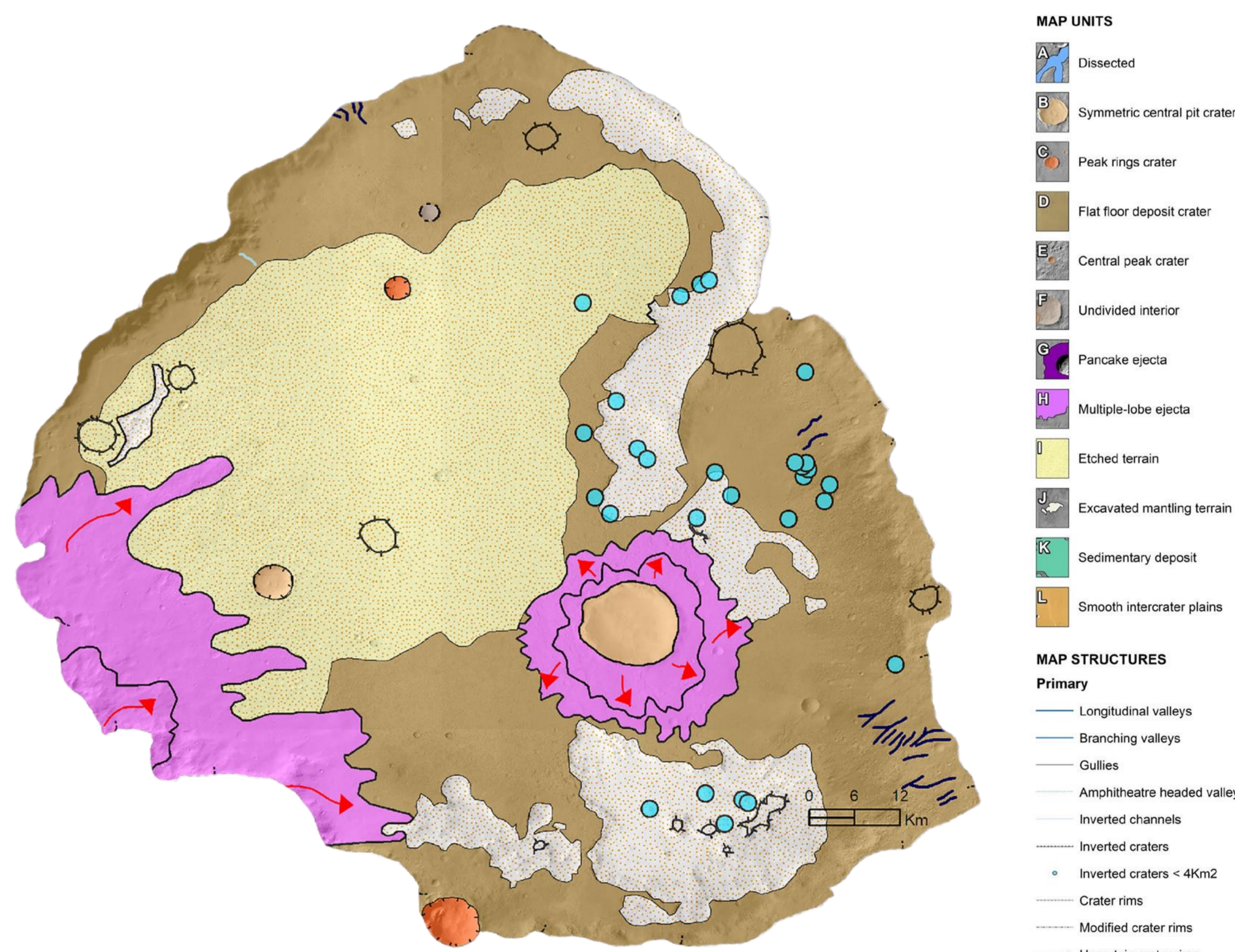


Figure 4. Roemer crater

MAP UNITS	
A	Dissected
B	Symmetric central pit crater
C	Peak rings crater
D	Flat floor deposit crater
E	Central peak crater
F	Undivided interior
G	Pancake ejecta
H	Multiple-lobe ejecta
I	Etched terrain
J	Excavated mantling terrain
K	Sedimentary deposit
L	Smooth intercrater plains
MAP STRUCTURES	
Primary	
—	Longitudinal valleys
—	Branching valleys
—	Gullies
—	Amphitheatre headed valleys
—	Inverted channels
—	Inverted craters
—	Inverted craters < 4Km ²
—	Crater rims
—	Modified crater rims
—	Uncertain crater rims
—	Ejecta lobes
—	Lobate flow
—	Landslides
Secondary	
—	Wrinkle ridges

CONCLUSIONS

Both impact craters are highly modified and Noachian in age [4]. Their interiors exhibit different features and units among which we want to highlight the etched terrain and excavated mantling terrain units. Both show remnants of sedimentary material, suggesting that the craters were subjected to widespread episodes of resurfacing and denudation.

REFERENCES

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