U.S. DEPARTMENT OF THE INTERIOR
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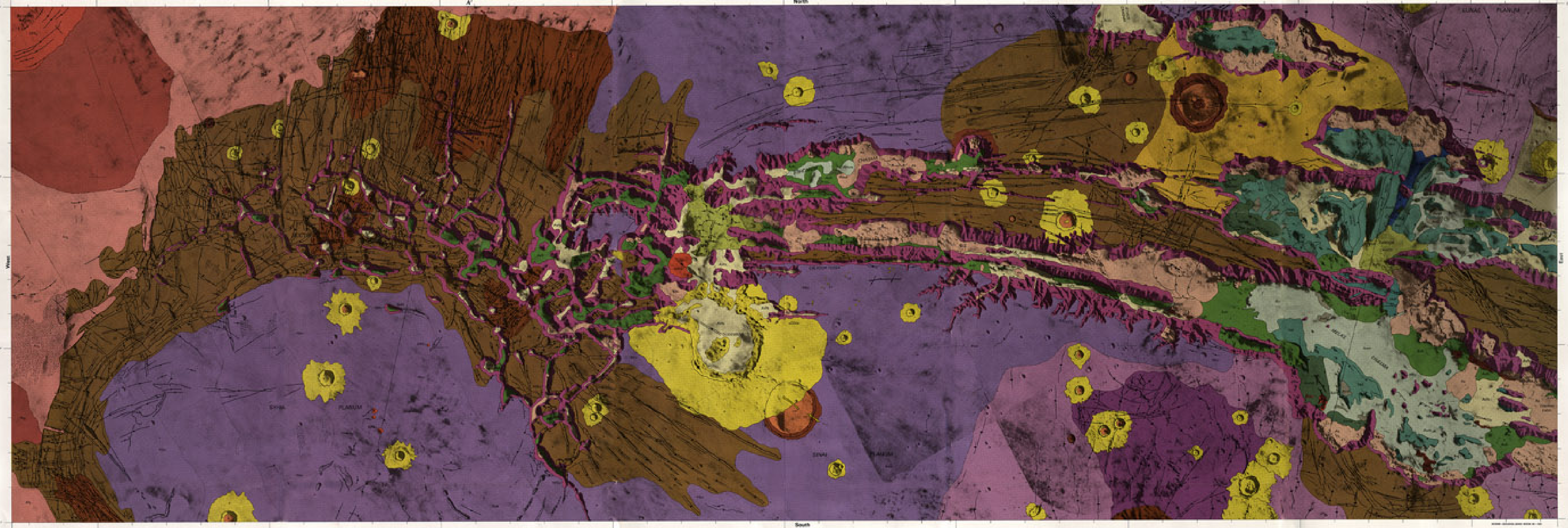
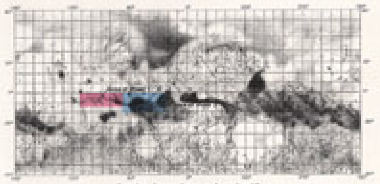
Prepared for the
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ATLAS OF MARS
1:2,000,000 GEOLOGIC SERIES
VALLES MARINERIS REGION
MEM -7/90 G, 1991
MAP I-2010 (SHEET 1 OF 2)





Location of areas shown on sheets 1 and 2

Description of map units, chart showing map units and crater densities, and cross sections are shown on sheet 2

Figure 1. Physiographic provinces (dashed lines are boundaries) and major geographic features of Valles Marineris region.

INTRODUCTION

[illegible]

PHYSIOGRAPHIC SETTING

[illegible]

NOCTIS LABYRINTHUS PROVINCE

[illegible]

VALLES MARINERIS PROVINCE

[illegible]

EASTERN CANYON PROVINCE

[illegible]

STRATIGRAPHY

[illegible]

NOACHIAN SYSTEM

[illegible]

HESPERIAN SYSTEM

[illegible]

AMAZONIAN SYSTEM

[illegible]

STRUCTURE

[illegible]

NOCTIS LABYRINTHUS SYSTEM

[illegible]

VALLES MARINERIS SYSTEM

[illegible]

GEOLOGIC SUMMARY

[illegible]

REFERENCES CITED

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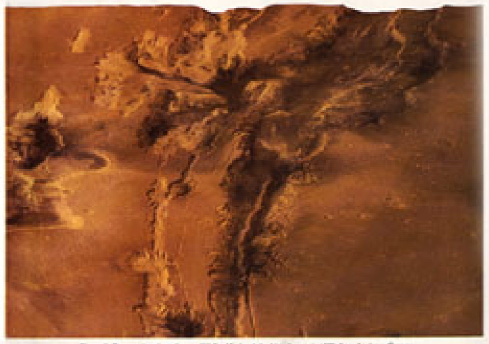

Figure 2. Perspective view of central Valles Marineris looking due east at 30° above horizon. Canyon system cuts the crest of a high, broad ridge. Ius Chasma in center, widening eastward into Melas Chasma at top. Vertical exaggeration 3X. Produced from digital elevation data from stereogrammetry by S.S.C. Wu and natural-color Viking image processing by A.S. McEwen.

Table 1. Crater densities of selected map units

[illegible]

Unit symbol	Location	Area (km²)	Density 1 km	2 km	5 km	16 km
	MC-17NE					
[illegible]	Tharsis Montes	[illegible]	—	[illegible]	[illegible]	—
[illegible]	Syria Planum	[illegible]	—	[illegible]	[illegible]	[illegible]
[illegible]	Noctis Labyrinthus	[illegible]	—	[illegible]	[illegible]	—
[illegible]	Noctis Fossae	[illegible]	—	[illegible]	[illegible]	—
	MC-18NW					
[illegible]	W. Sinai Planum	[illegible]	—	[illegible]	[illegible]	—
[illegible]	N. of Tithonium Chasma	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	E. Sinai Planum	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	E. Sinai Planum	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
[illegible]	E. Sinai Planum	[illegible]	[illegible]	[illegible]	[illegible]	[illegible]
	MC-18NE, northern third of 18SE					
[illegible]	Ophir Planum	[illegible]	—	[illegible]	[illegible]	[illegible]
[illegible]	E. Coprates Chasma	[illegible]	—	[illegible]	[illegible]	[illegible]
[illegible]	Aurorae Planum	[illegible]	—	[illegible]	[illegible]	[illegible]
[illegible]	S. Coprates Chasma	[illegible]	—	[illegible]	[illegible]	[illegible]
[illegible]	N. Gangis Chasma	[illegible]	—	[illegible]	[illegible]	[illegible]
[illegible]	N. Gangis Chasma	[illegible]	—	[illegible]	[illegible]	[illegible]
	MC-19NW, northern third of 19SW					
[illegible]	N. Capri Chasma	[illegible]	—	[illegible]	[illegible]	[illegible]
[illegible]	N. Capri Chasma	[illegible]	—	[illegible]	[illegible]	[illegible]
[illegible]	S. Pyrrhae Chaos	[illegible]	—	[illegible]	[illegible]	[illegible]
[illegible]	S. Pyrrhae Chaos	[illegible]	—	[illegible]	[illegible]	[illegible]

GEOLOGIC MAP OF THE VALLES MARINERIS REGION, MARS

(WEST HALF)