This map is one in a series covering the entire surface of Mars at a nominal scale of 1:5,000,000. The series was originally compiled from Mariner 9 data (Batson and others, 1979). The original shaded relief base was revised and augmented with image data from Viking Orbiter, but feature positions were not shifted to fit controls derived from Viking.

ADOPTED FIGURE

The figure of Mars used for the computation of the map projection is an oblate spheroid (flattening of 1/192) with an equatorial radius of 3,393.4 km and a polar radius of 3,375.7 km.

PROJECTION The Mercator, Lambert Conformal Conic, and Polar Stereographic projections are used for this map series. The scale of the series is 1:5,000,000 at the equator. The projections have common scales of 1:4,336,000 at lat $\pm 30^{\circ}$ and 1:4,306,000 at lat $\pm 65^{\circ}$. Standard parallels for the Lambert Conformal Conic projection are at lat ±35.8° and ±59.2°. Longitude increases to the west in accordance with astronomical convention for Mars. Latitude is planetographic.

Planimetric control of the shaded relief is provided by photogrammetric triangulation using Mariner 9 images (Davies, 1973; Davies and Arthur, 1973) and the radio-tracked position of the Mariner 9 spacecraft. The first meridian passes through the center of a small crater, Airy-O (lat 5.19° S., long 0°), within the crater Airy.

Primary controls used in the network include the Viking Orbiter Secondary Experiment Data Record, radio-occultation measurements from both Mariner 9 and Viking Missions (Lorell and others, 1972; Kliore and others, 1973; Lindal and others, 1979), Earth-based radar observations (Pettengill and others, 1971; Downs and others, 1975), and the Mars primary control network of the Rand Corporation (Davies and others, 1978).

MAPPING TECHNIQUE

Inge and Bridges (1976). Uniform sun illumination from the west was used throughout. The original rendition of feature positions, sizes, and shapes was taken from a controlled base mosaic of Mariner 9 images. Various computer enhancements of many Mariner 9 and Viking Orbiter images besides those in the base mosaic were examined in an attempt to portray the surface as accurately as possible.

Shaded relief was portrayed by photointerpretive methods described by

Initial shaded relief analysis and representation were made by Susan L. Davis; revisions were made by Patricia M. Bridges.

No attempt was made on the map to duplicate precisely the color of the martian surface, although the color used may approximate it.

NOMENCLATURE

Names on this sheet are approved by the International Astronomical Union (IAU, 1974, 1977, 1986, 1996). MC-8: Abbreviation for Mars Chart 8.

M 5M 15/158 RN: Abbreviation for Mars, 1:5,000,000 series; center of sheet, lat 15° S., long 158°; shaded relief map (R), with nomenclature (N).

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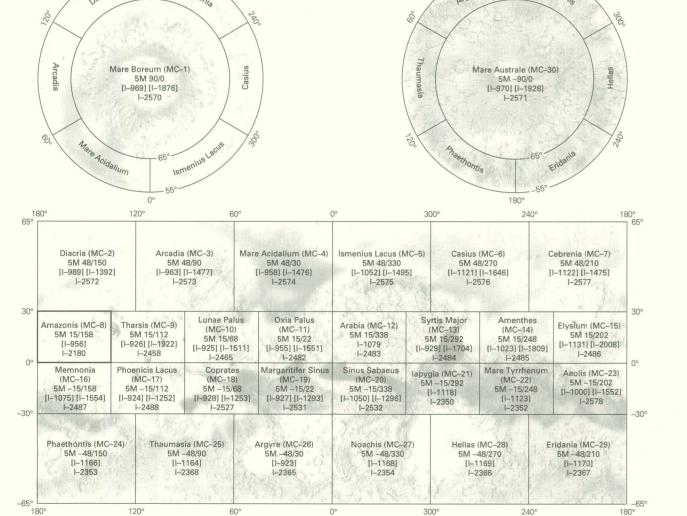
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Prepared for the NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ATLAS OF MARS 1:5,000,000 TOPOGRAPHIC SERIES AMAZONIS QUADRANGLE M 5M 15/158 RN, 1996 I-2180 (MC-8) SHEET 1 OF 2

140° INTERIOR—GEOLOGICAL SURVEY, RESTON, VA—1996 Prepared on behalf of the Planetary Geology Program, Solar System SCALE 1:5 000 000 (1 mm = 5 km) AT 0° LATITUDE Exploration Division, Office of Space Science, National Aeronautics and This map supersedes map I—956. Edited by Doris Weir; cartography by Roger D. Carroll, Sandra K. Castro, and Hugh Thomas. Manuscript approved for publication April 12, 1990



VIKING 1 1:2.000.000-SCALE CONTROLLED PHOTOMOSAICS Index No. Picture No. I–1334 I–1331 I–1332 I–1333 MC-8 NW MC-8 NE MC-8 SW 741A10 MC-8 NW MC-8 NE 750A85 436A28 674A11 674A12 436A29 750A88 436A30 436A31 674A13 436A32 674A14 436A33 674A15 MC-8 SW MC-8 SE 674A18 506A31 506A32 735A62 735A63 735A64 738A5 738A7 738A9 741A6 672A67 672A68 672A69 672A70 672A89 672A90 INDEX OF VIKING SOURCES This shaded relief map has been revised by utilizing 1:2,000,000-scale controlled photomosaics and supplementary Viking pictures outlined above. Copies of various enhancements of these pictures are available from National Space Science

8082938 7938528 7938878 7939018 6607828 6679368 6751818 6823288 6895248 6679298 6679718 7938948 6607618 6679508 6679788 6751468 6751678 6823218 6751748 6895178 6607338 6823428 6823708 6679228 6751188 6823148 6607548

INDEX OF MARINER 9 PICTURES The mosaic used to control the positioning of features on this map was made with the Mariner 9 A-camera pictures outlined above. Useful coverage is not available in the crosshatched areas. The DAS number may vary slightly (usually by 5) among different versions of the same picture.

QUADRANGLE LOCATION Number preceded by I refers to published shaded relief map. (Number in brackets refers to earlier map superseded by revised version.) Data Center, Code 601, Goddard Space Flight Center, Greenbelt, MD 20771.