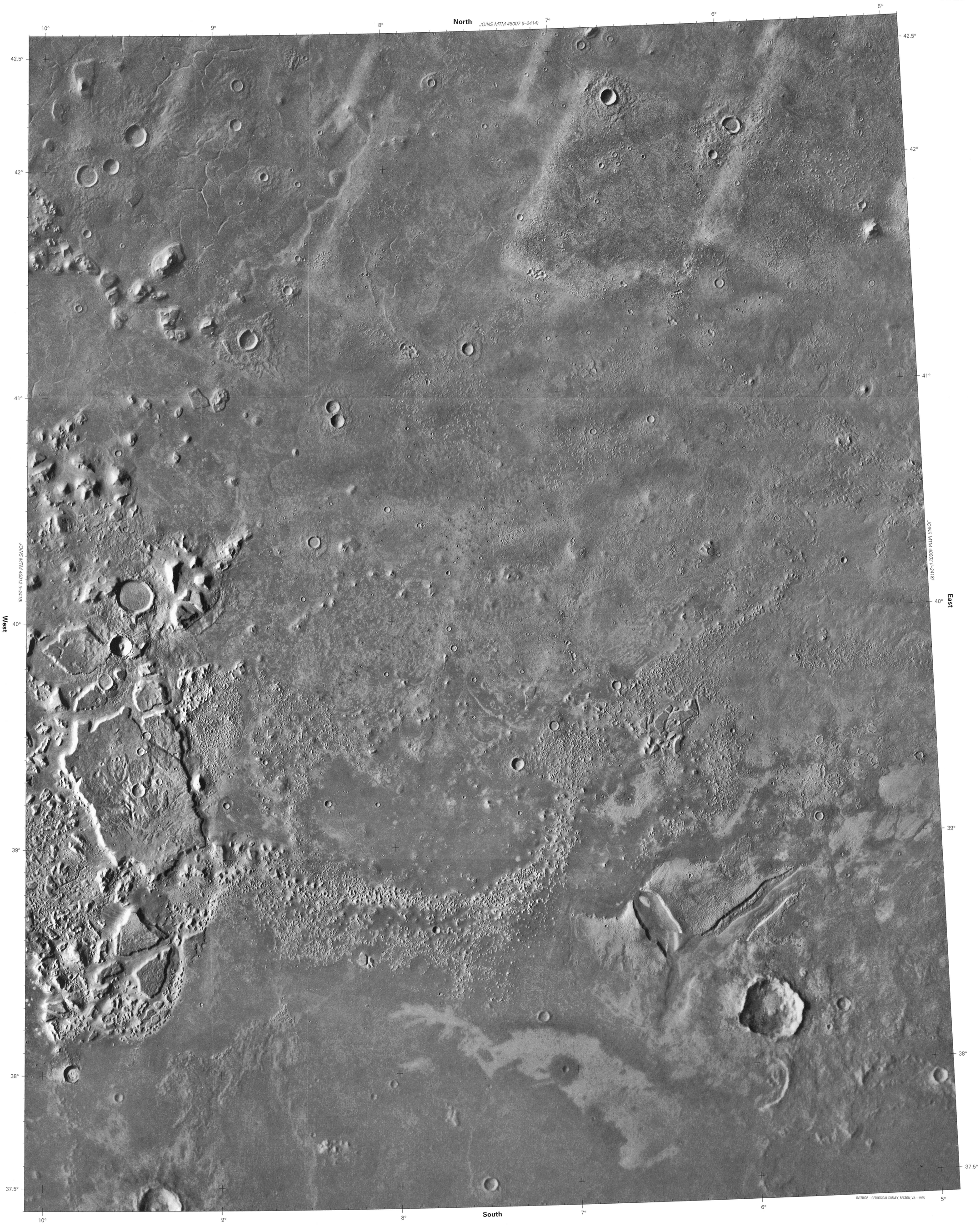
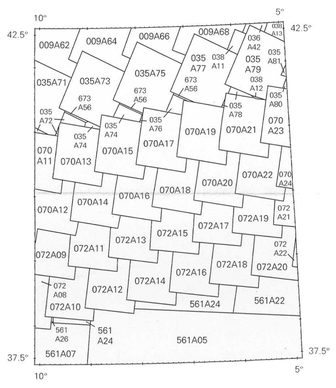
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Prepared for the
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

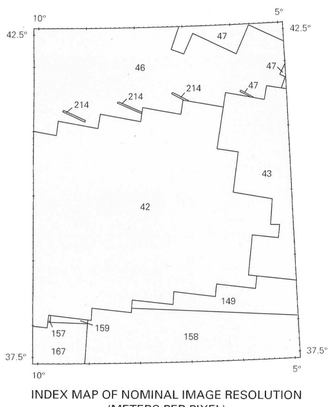
ATLAS OF MARS
1:500,000 TOPOGRAPHIC SERIES
MTM 40007: ACIDALIA PLANITIA REGION
M 500k 40/007 CM, 1995
I–2421





INDEX OF VIKING PICTURES

The mosaic was made with the Viking pictures outlined above. Copies of various enhancements of these pictures are available from National Space Science Data Center, Code 601, Goddard Space Flight Center, Greenbelt, MD 20771.



INDEX MAP OF NOMINAL IMAGE RESOLUTION
(METERS PER PIXEL)

SCALE 1:502 000 (1 mm = 502 m) AT 10° LONGITUDE
TRANSVERSE MERCATOR PROJECTION

10 0 10 20 30 40 50 60 70 80 90 100
KILOMETERS

NOTES ON BASE

This photomosaic covers part of an area of special scientific interest on Mars. It is published in a series designed to support topical studies, which is not expected to result in systematic coverage of the planet. The mosaic was compiled by digital methods described by Batson (1987) and Edwards (1987). Placement of image data was taken from the Mars digital image map compiled by the U.S. Geological Survey (1991).

The distribution of Viking Orbiter images suitable for mapping at a scale of 1:500,000 is uneven, as are the quality and distribution of map controls. The mosaics are usually compiled in blocks of two or more adjacent quadrangles that are selected on the basis of scientific importance, not necessarily in areas of optimum coverage by high-resolution images or precise map controls. Image placement is based on a planetwide topographic control net that has a published standard error of 5 km (Wu and Schafer, 1984). A block of mosaics compiled in an area where controls have optimum distribution and precision is not likely to match adjacent blocks previously compiled in areas where controls are sparse or imprecise. Where discrepancies exist between adjacent mosaics, the more recent compilation is likely to be more accurate.

The projection is part of a Mars Transverse Mercator (MTM) system with 20° zones. The scale factor at the central meridian of the zone containing this quadrangle is 0.9960. The projection scale is based on an oblate spheroid (flattening of 1/192) with an equatorial radius of 3393.4 km and a polar radius of 3375.7 km.

Digital processing and mosaicking were done by Patricia K. Thomas.

NOMENCLATURE

All names shown on the reduced base mosaic are approved by the International Astronomical Union (IAU, 1974 and 1977).

M 500k 40/007 CM: Abbreviation for Mars; 1:500,000 series; center of sheet lat 40° N., long 7°; controlled photomosaic (CM).

REFERENCES

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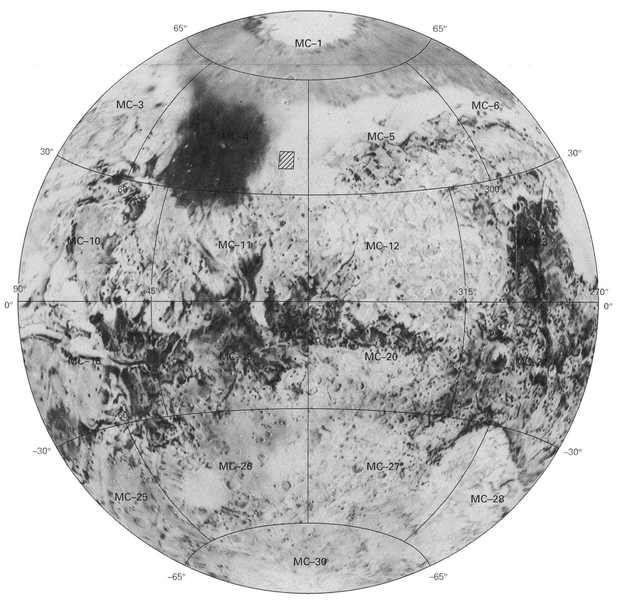
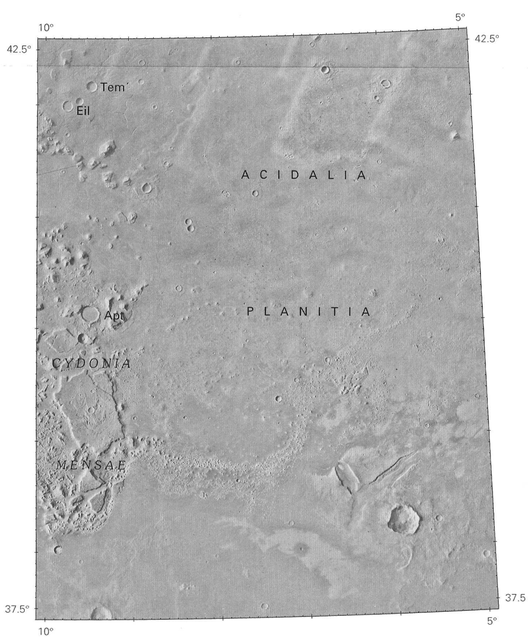
U.S. Geological Survey, compiler [1991], Xanthe Terra, v. 2 *of* Mission to Mars: Digital image map: National Aeronautics and Space Administration [CD-ROM3].

Wu, S.S.C., and Schafer, F.J., 1984, Mars control network: American Society of Photogrammetry, *in* Technical papers of the 50th annual meeting of the American Society of Photogrammetry, v. 2, Washington, D.C., March 11–16, 1984, p. 456–463.



QUADRANGLE LOCATION

Photomosaic location is shown in the western hemisphere of Mars. An outline of 1:5,000,000-scale quadrangles is provided for reference.



LOCATION OF SELECTED FEATURES

Contrast in the reduced base mosaic was purposely suppressed to emphasize the names

NOTE TO USERS

Users noting errors or omissions are urged to indicate them on the map and to forward it to U.S. Geological Survey, Building 4, Room 449, 2255 North Gemini Drive, Flagstaff, AZ 86001. A replacement copy will be returned.

CONTROLLED PHOTOMOSAIC OF THE MTM 40007 QUADRANGLE, ACIDALIA PLANITIA REGION OF MARS

1995

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Edited by Doris Weir and Derrick D. Hirsch; cartography by Angel Macias Jr.

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