

NOTES ON BASE

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 (Blason 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 1/1929 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 43°0' and 1:4,306,000 at lat 46°5'. Standard parallels for the Lambert Conformal Conic projection are at lat 43°55' and 45°2'. Longitude increases to the west in accordance with astronomical convention for Mars. Latitude is planigraphic.

CONTROL

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 51°19' S, long 0°), within the crater Airy.

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

MAPPING TECHNIQUE

Shaded relief was portrayed by photointerpretive methods described by 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.

Initial shaded relief analysis and representation were made by Patricia M. Bridges; revisions were made by Amy C. Berger.

COLOR

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, 1980, 1986, 1992).
MC-25: Abbreviation for Mars Chart 25.
M 5M -48/90 RN: Abbreviation for Mars; 1:5,000,000 series; center of sheet, lat 48° S., long 90°; shaded relief map (R) with nomenclature (N).

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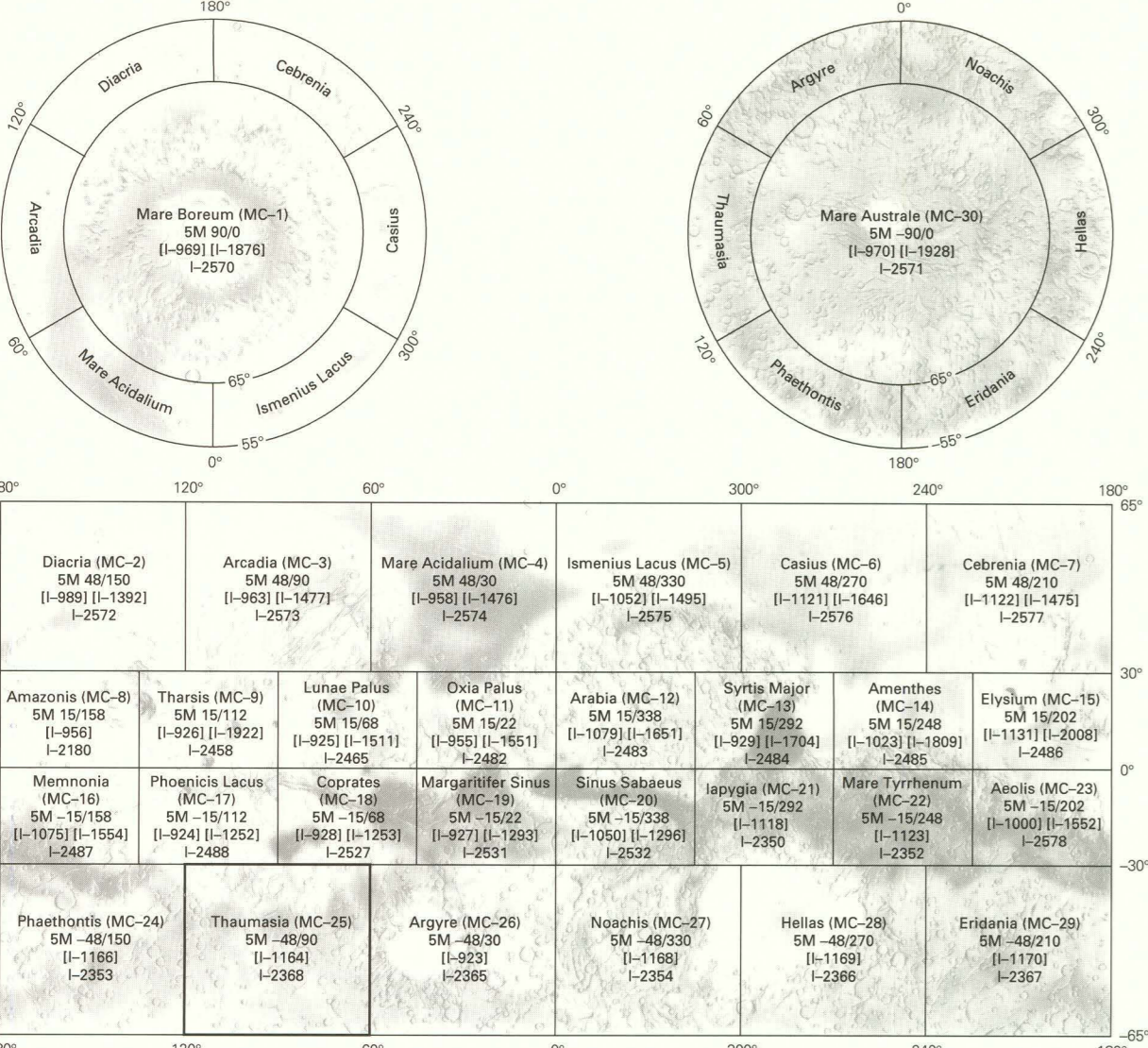
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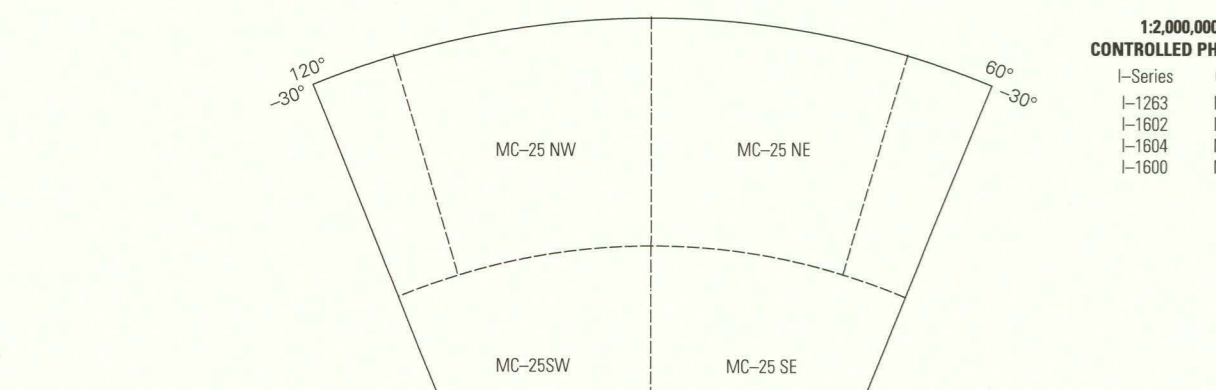
Lorell, Jack, Born, G.H., Jordan, J.F., Laing, P.A., Martin, W.L., Sjogren, W.J., Shapiro, I.I., Rosenburg, R.D., and Slater, G.L., 1972, Mariner 9 celestial mechanics experiment—Gravity field and pole direction of Mars. Science, v. 175, no. 4019, p. 317-320.

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Quadrangle	Center	Scale	Series
Dicoria (MC-2)	SM 48100 [I-808] [I-1392] I-2572		
Arcadia (MC-3)	SM 48300 [I-803] [I-1477] I-2573		
Mars Atlatum (MC-4)	SM 48320 [I-866] [I-1474] I-2574		
Iemenus Lacus (MC-6)	SM 48230 [I-1021] [I-1461] I-2575		
Ontus (MC-6)	SM 48270 [I-1121] [I-1461] I-2576		
Cobernia (MC-7)	SM 48210 [I-1121] [I-1461] I-2577		
Amazons (MC-8)	SM 16100 [I-950] [I-1922] I-2498		
Tharus (MC-8)	SM 16110 [I-926] [I-1922] I-2499		
Lunus Palus (MC-10)	SM 16080 [I-921] [I-1911] I-2495		
Dix Palus (MC-11)	SM 16220 [I-951] [I-1911] I-2496		
Arabia (MC-12)	SM 16280 [I-1073] [I-1811] I-2497		
Swia Major (MC-14)	SM 16248 [I-908] [I-1794] I-2493		
Amenthes (MC-14)	SM 16248 [I-908] [I-1794] I-2493		
Elysium (MC-15)	SM 16202 [I-1121] [I-2068] I-2498		
Meronia (MC-16)	SM 16158 [I-1075] [I-1844] I-2498		
Phoenicia Lacus (MC-17)	SM 16170 [I-924] [I-1782] I-2498		
Cerberus (MC-18)	SM 16120 [I-829] [I-1783] I-2498		
Siwa Sabana (MC-19)	SM 16220 [I-1121] [I-1783] I-2498		
Hypania (MC-21)	SM 16220 [I-1021] [I-1962] I-2498		
Mars Tyrrhenus (MC-22)	SM 16220 [I-1121] [I-1962] I-2498		
Jocosa (MC-23)	SM 16102 [I-1021] [I-1962] I-2498		
Phaethon (MC-24)	SM 48150 [I-1180] I-2383		
Thaumasia (MC-25)	SM 48300 [I-1144] I-2386		
Argyre (MC-26)	SM 48330 [I-1180] I-2385		
Nocchia (MC-27)	SM 48330 [I-1180] I-2384		
Helas (MC-28)	SM 48270 [I-1180] I-2386		
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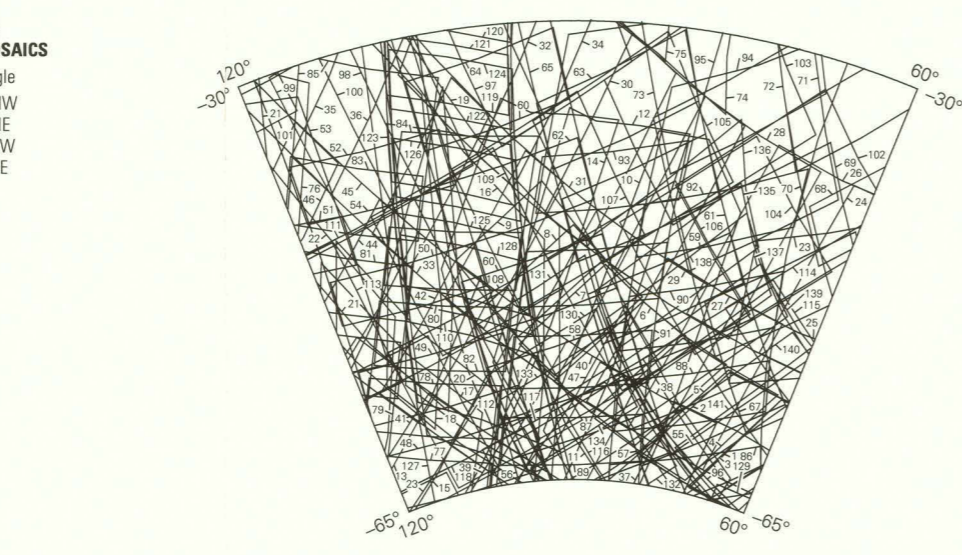
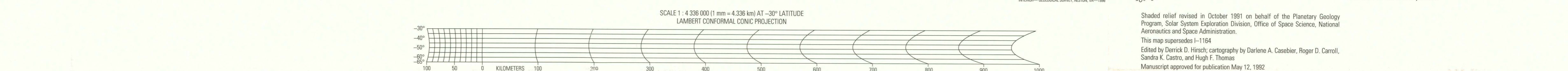
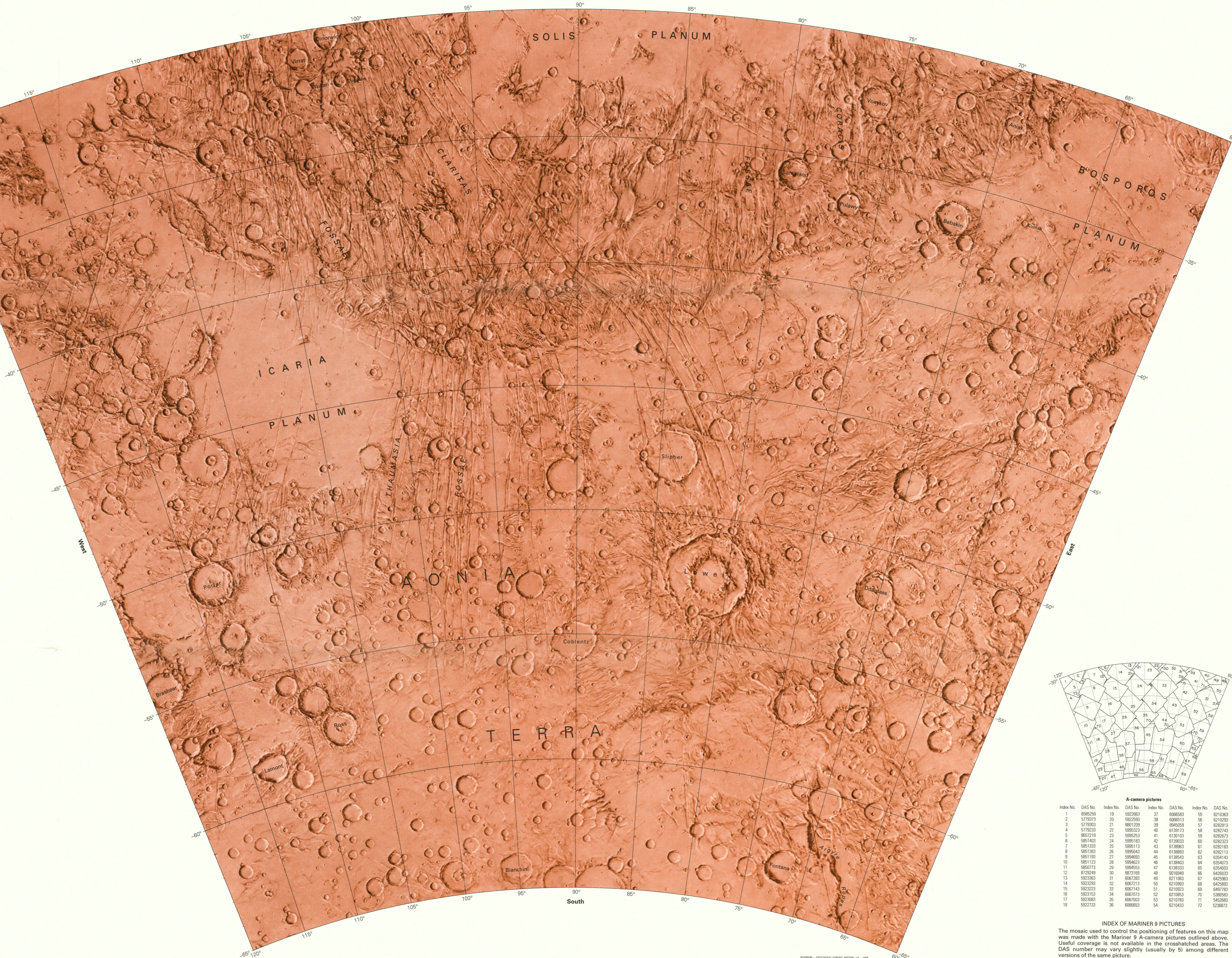
QUADRANGLE LOCATION
Number preceded by / refers to published shaded relief map. (Number in brackets refers to earlier map superseded by revised version.)



1:2,000,000 SCALE
CONTROLLED PHOTOMOSAICS

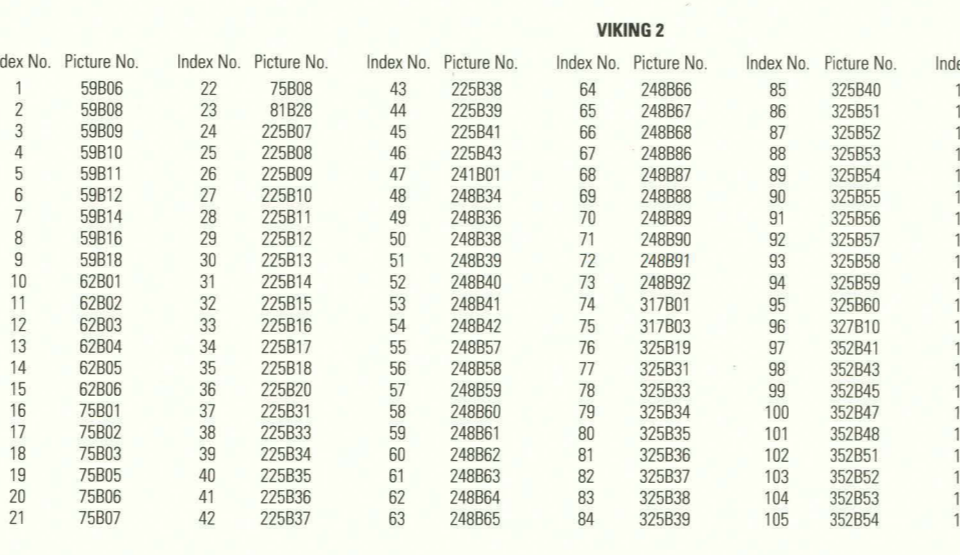
Quadrangle	Center	Scale	Series
MC-25 NW			
MC-25 NE			
MC-25 SW			
MC-25 SE			

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 460, 2295 North Gemini Drive, Flagstaff, Arizona 86001. A replacement copy will be returned.



INDEX OF VIKING SOURCES

Index No.	Picture No.	Index No.	Picture No.	Index No.	Picture No.	Index No.	Picture No.	Index No.	Picture No.
1	58986	22	78088	43	228289	64	248886	85	323840
2	58989	23	81928	44	228293	65	248897	86	323893
3	58993	24	225807	45	225841	66	248908	87	323902
4	58996	25	225808	46	225842	67	248909	88	323903
5	58997	26	225809	47	241801	68	248907	89	323904
6	58998	27	225810	48	248894	69	248899	90	323905
7	58999	28	225811	49	248895	70	248896	91	323906
8	58999	29	225812	50	248899	71	248890	92	323907
9	58999	30	225813	51	248899	72	248891	93	323908
10	62801	31	225814	52	248840	73	248882	94	323889
11	62802	32	225815	53	248841	74	317801	95	323890
12	62803	33	225816	54	248842	75	317803	96	323891
13	62804	34	225817	55	248893	76	323819	97	323841
14	62805	35	225818	56	248894	77	323821	98	323843
15	62806	36	225820	57	248893	78	323823	99	323845
16	78081	37	225831	58	248890	79	323824	100	323847
17	78082	38	225833	59	248881	80	323835	101	323848
18	78083	39	225834	60	248882	81	323836	102	323849
19	78084	40	225835	61	248883	82	323837	103	323850
20	78086	41	225836	62	248884	83	323838	104	323851
21	78087	42	225837	63	248885	84	323839	105	323854



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2	34417	23	34440	44	40458	65	458403	86	558424
3	34414	24	34441	45	40459	66	458404	87	558425
4	34417	25	34442	46	40462	67	458405	88	558432
5	34418	26	34443	47	40467	68	458406	89	558433
6	34419	27	34444	48	40468	69	458407	90	558434
7	34420	28	34445	49	40469	70	458408	91	558435
8	34421	29	34446	50	40470	71	458409	92	558436
9	34422	30	40467	51	40471	72	458410	93	558437
10	34423	31	40468	52	40472	73	458411	94	558438
11	34424	32	40469	53	40473	74	458412	95	558439
12	34425	33	40470	54	40471	75	458413	96	558440
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19	34432	40	40477	61	40478	82	458420	103	558447
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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 Data Center, Code 601, Goddard Space Flight Center, Greenbelt, MD 20771.