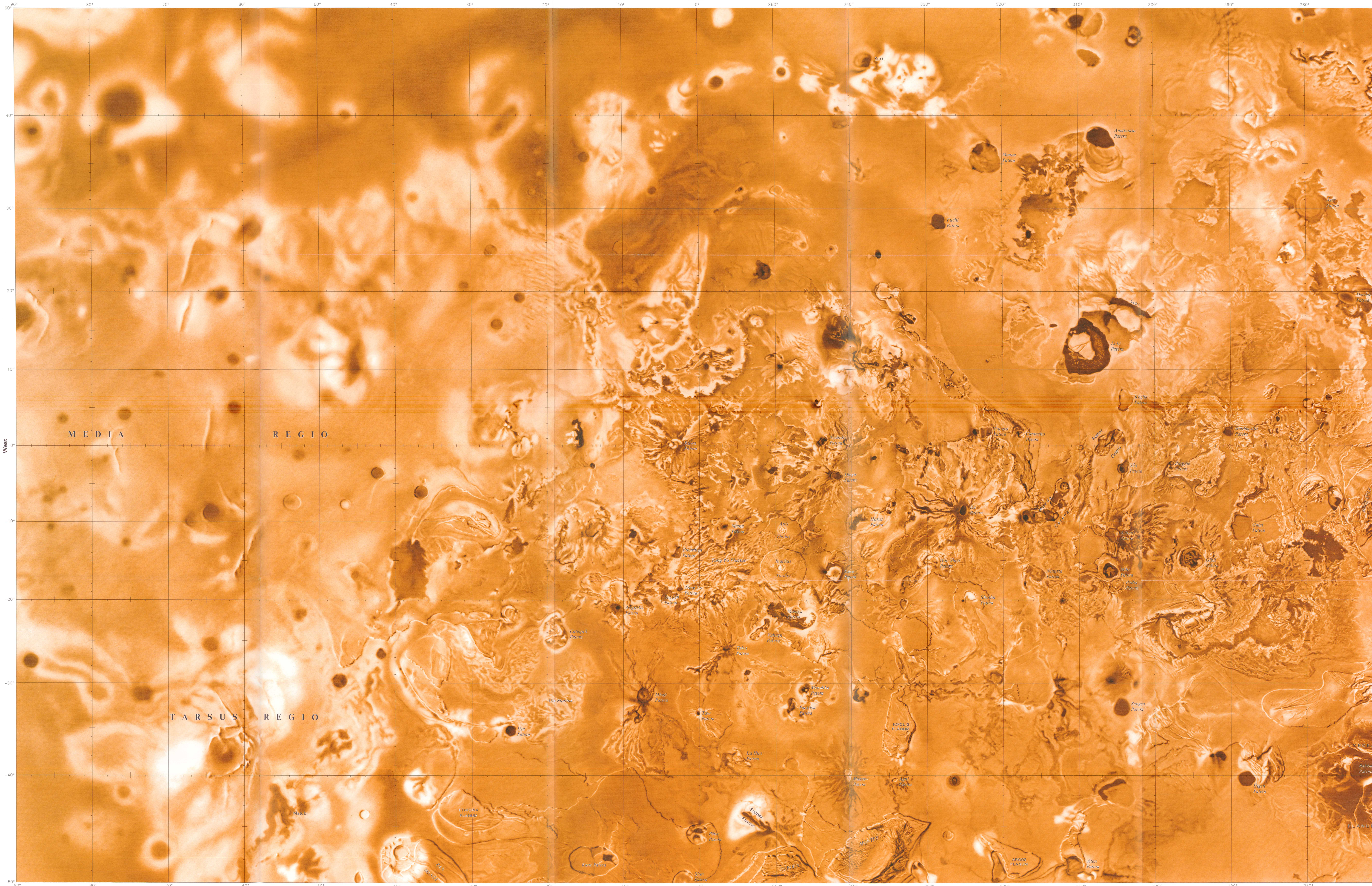
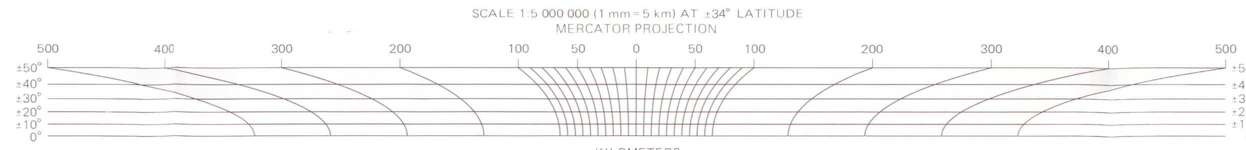
DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Prepared for the
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ATLAS OF JOVIAN SATELLITES
1:5,000,000 TOPOGRAPHIC SERIES
RUWA PATERA REGION – IO
Ji 5M 0/0 AN, 1984
I-1491 (Ji-2) SHEET 1 OF 2



Interior—Geological Survey, Reston, Va.—1984—G82388
Prepared on behalf of the Planetary Geology Program, Planetary Division, Office of Space Science, National Aeronautics and Space Administration under contract W-13,709



NOTES ON BASE

This sheet is one in a series of maps that cover the surfaces of the Galilean satellites of Jupiter at a nominal scale of 1:5,000,000 (Batson and others, 1980). The source for the series was Voyager 1 and 2 images. Essential features of the mapping are noted below.

CARTOGRAPHIC CONTROL

Mercator and polar stereographic projections used for the maps of Io are based on a sphere with a radius of 1816 km and a common scale of 1:4,268,000 at lats ±45°. Longitudes increase to the west in accordance with astronomical convention. Planimetric control was derived by photogrammetric triangulation using Voyager 1 and 2 pictures (Davies and Katayama, 1981). The meridians are numbered according to the ephemeris position of the prime meridian of Io (Davies and Katayama, 1981; IAU, 1980a).

MAPPING TECHNIQUE

A series of mosaics of Voyager 1 and 2 pictures was assembled at 1:5,000,000 using projections described above. Sizes, shapes, and positions of features were taken from the base mosaic using portrayal and interpretation techniques described by Inge (1972) and Inge and Bridges (1976). Surface relief is shown as if illuminated from the west. Albedo markings are shown as they appear on the Voyager pictures. Extreme variations in picture resolution precluded consistent interpretation and portrayal of the pictures used for map compilation. Further limitations were imposed by dark albedo markings, which tend to obscure distinctive surface details.

The colors chosen for this map are intended to provide optimum discrimination of detail and do not necessarily represent the color of Io.

Image analysis and airbrush representation were made by Patricia M. Bridges.

NOMENCLATURE

Names on this sheet are approved by the International Astronomical Union (IAU, 1977 and 1980b) except for the provisional names listed below.

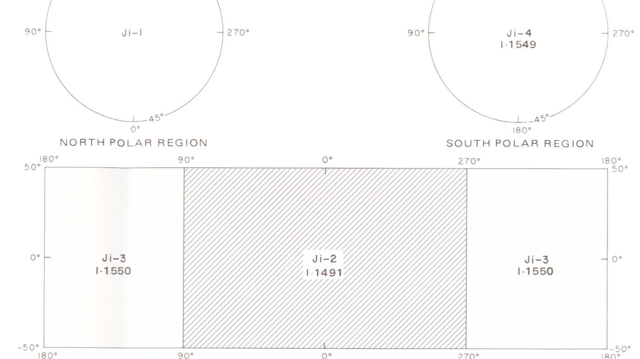
Provisional names: Agni Patera, Angpetu Patera, Argos Planum, Carancho Patera, Cataquil Patera, Dingir Patera, Ethiopia Planum, Euboea Fluctus, Euboea Montes, Ilmarinen Patera, Iopolis Planum, Kava Patera, Khalla Patera, Lu Huo Patera, Lyrcea Planum, Mama Patera, Menahka Patera, Ninurta Patera, Päive Patera, Pan Mensa, Pautina Patera, Podja Patera, Purgine Patera, Reshet Catena, Sêd Patera, Siun Patera, Sui Jen Patera, Tol-ava Patera, Tung Yo Fluctus, Tung Yo Patera, and Uta Fluctus.

Ji 5M 0/0 AN: Abbreviation for Jupiter, Io (satellite): 1:5,000,000 series; center of sheet, lat 0°, long 0°: shaded relief with albedo markings (A), nomenclature (N).

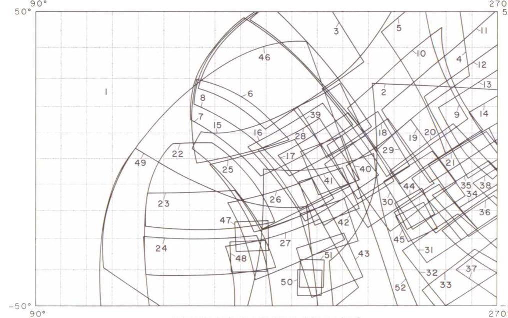
Ji-2: Abbreviation for Jupiter, Io: sheet 2.

REFERENCES

Batson, R. M., Bridges, P. M., Inge, J. L., Isbell, Christopher, Masursky, Harold, Strobell, M. E., and Tyner, R. L., 1980, Mapping the Galilean satellites of Jupiter with Voyager data: Photogrammetric Engineering and Remote Sensing, v. 46, no. 10, p. 1303-1312.
Davies, M. E., and Katayama, F. Y., 1981, Coordinates of features on the Galilean satellites: Journal of Geophysical Research, v. 86, no. A10, p. 8635-8657.
Inge, J. L., 1972, Principles of lunar illustration: Aeronautical Chart and Information Center Reference Publication RP-72-1, 60 p.
Inge, J. L., and Bridges, P. M., 1976, Applied photointerpretation for airbrush cartography: Photogrammetric Engineering and Remote Sensing, v. 42, no. 6, p. 749-760.
International Astronomical Union, 1977, Working Group for Planetary System Nomenclature, *in* 16th General Assembly, Grenoble, 1976, Proceedings: International Astronomical Union Transactions, v. 16B, p. 322-323.
_____1980a, Commission 4: Ephemerides, *in* 17th General Assembly, Montreal, 1979, Proceedings: International Astronomical Union Transactions, v. 17B, p. 63-83.
_____1980b, Working Group for Planetary System Nomenclature, *in* 17th General Assembly, Montreal, 1979, Proceedings: International Astronomical Union Transactions, v. 17B, p. 297-304.



QUADRANGLE LOCATION
Number preceded by I refers to published shaded relief map



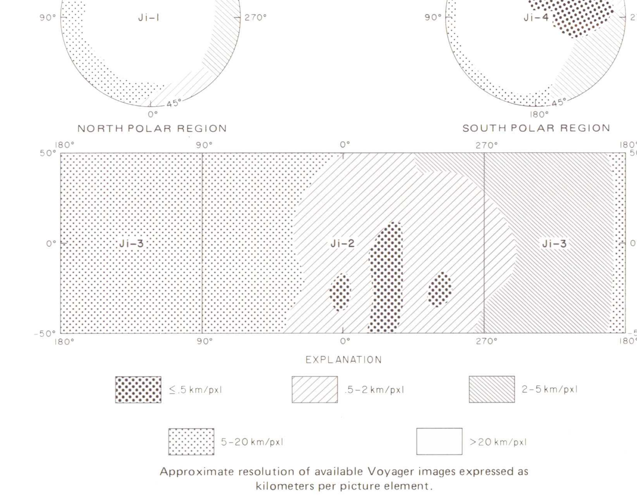
INDEX TO MAPPING SOURCES
The rendition of features on this map was controlled by reference to the primary source pictures outlined above. Supplemental source images used during the compilation are listed separately. Copies of various enhancements of these pictures are available from National Space Science Data Center, Code 601, Goddard Space Flight Center, Greenbelt, MD 20771.

VOYAGER 1

Primary Source				Supplemental Source	
Index No.	Picture No.	Index No.	Picture No.	Picture No.	Picture No.
1	92J1-1	27	75J1+0	168J1-2	77J1+0
2	1366J1-1	28	81J1+0	80J1-1	79J1+0
3	1773J1-1	29	93J1+0	82J1-1	82J1+0
4	1775J1-1	30	105J1+0	84J1-1	84J1+0
5	1783J1-1	31	107J1+0	88J1-1	86J1+0
6	1793J1-1	32	109J1+0	973J1-1	101J1+0
7	1J1+0	33	111J1+0	1109J1-1	113J1+0
8	3J1+0	34	115J1+0	1111J1-1	127J1+0
9	15J1+0	35	117J1+0	1113J1-1	134J1+0
10	19J1+0	36	119J1+0	1368J1-1	142J1+0
11	23J1+0	37	121J1+0	1374J1-1	144J1+0
12	27J1+0	38	125J1+0	1376J1-1	150J1+0
13	31J1+0	39	131J1+0	1382J1-1	171J1+0
14	35J1+0	40	133J1+0	1384J1-1	173J1+0
15	39J1+0	41	135J1+0	1392J1-1	175J1+0
16	41J1+0	42	137J1+0	1779J1-1	179J1+0
17	43J1+0	43	139J1+0	1781J1-1	194J1+0
18	47J1+0	44	176J1+0	1787J1-1	196J1+0
19	49J1+0	45	178J1+0	1789J1-1	198J1+0
20	53J1+0	46	181J1+0	45J1+0	214J1+0
21	55J1+0	47	182J1+0	51J1+0	230J1+0
22	61J1+0	48	184J1+0	67J1+0	232J1+0
23	63J1+0	49	192J1+0		
24	65J1+0	50	197J1+0		
25	71J1+0	51	199J1+0		
26	73J1+0	52	216J1+0		

VOYAGER 2

Supplemental Source
Picture No.
954J2-2
745J2-1
17J2+0
393J2+0



Approximate resolution of available Voyager images expressed as kilometers per picture element.

SHADED RELIEF AND SURFACE MARKINGS OF THE RUWA PATERA REGION OF IO

Ji-2

Ji 5M 0/0 AN

1984

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 454, 2255 North Gemini Drive, Flagstaff, Arizona 86001. A replacement copy will be returned.

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