

INTERIOR—GEOLOGICAL SURVEY, REGION VI—1990
Prepared on behalf of the Planetary Geology Program, Solar System Exploration Division, Office of Space Science, National Aeronautics and Space Administration, under contract W-15,814.
Manuscript approved for publication, May 18, 1989

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). Sources for the series were Voyager 1 and 2 images. Essential features of the mapping are noted below.

CARTOGRAPHIC CONTROL

Mercator, Lambert Conformal Conic, and Polar Stereographic projections used for the maps of Callisto are based on a sphere with a radius of 2400 km. The projections have common scales of 1:4,780,000 at lat ±21.3° and 1:4,769,000 at lat ±65.2°. Longitude increases 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 so that the reference crater, Saga, is centered on lat 0.6° N, long 326°.

MAPPING TECHNIQUE

Digital mosaics were assembled at a digital scale of 1/32nd (1.3 km) per pixel according to methods described by Batson (1987) and Edwards (1987) and transformed to the projections described above. Details from an unpublished, 1:5,000,000-scale, airbrush drawing were combined with the mosaic in regions where image data were very poorly resolved. The mosaic was retouched to obtain uniform tonal balance. Extreme variations in picture resolution precluded comparable display of the images used for the map compilation. Further limitations were imposed by dark albedo markings, which tend to obscure distinctive surface details.

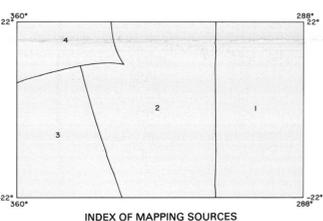
Digital processing and mosaicking were done by Kevin F. Mullins.

NOMENCLATURE

Names on this sheet were approved by the International Astronomical Union (1980).
Jc 5M 0/324 CMN: Abbreviation for Jupiter, Callisto (satellite); 1:5,000,000 series; center of sheet, lat 0°, long 324°; controlled photomosaic (CM), nomenclature (N).
Jc-10: Abbreviation for Jupiter, Callisto, sheet 10.

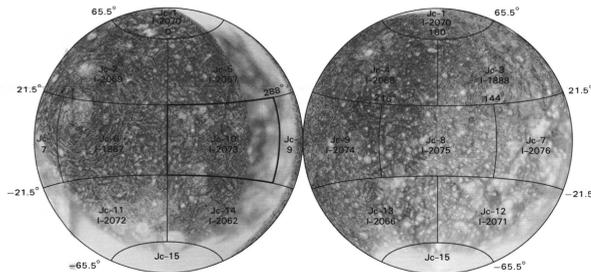
REFERENCES

- Batson, R.M., 1987, Digital cartography of the planets: New methods, its status, and its future: *Photogrammetric Engineering and Remote Sensing*, v. 53, no. 9, p. 1211-1218.
- Batson, R.M., Bridges, P.M., Inge, J.L., Isbell, Christopher, Masursky, Harold, Strobbe, 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. 1305-1312.
- 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.
- Edwards, Kathleen, 1987, Geometric processing of digital images of the planets: *Photogrammetric Engineering and Remote Sensing*, v. 53, no. 9, p. 1219-1222.
- International Astronomical Union, 1980, Working Group for Planetary System Nomenclature, in 17th General Assembly, Montreal, 1979, *Transactions: International Astronomical Union Proceedings*, v. 17B, p. 297-304.

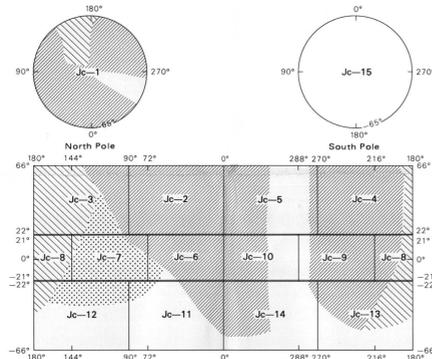


VOYAGER 1 Primary Source	
Index No.	Picture No.
1	1423 J1-3
2	124 J1+1
3	127 J1+1
4	140 J1+1

VOYAGER 1 Supplemental Source	
Picture No.	Picture No.
1723 J1+0	136 J1+1
1730 J1+0	315 J1+1
1743 J1+0	317 J1+1
1747 J1+0	319 J1+1
1763 J1+0	333 J1+1
175 J1+1	335 J1+1
130 J1+1	351 J1+1



Number preceded by 1 refers to published 1:5,000,000-scale map.



Resolution (km/pxl)	Resolution (km/pxl)
0.5-2 km/pxl	5-20 km/pxl
2-5 km/pxl	>20 km/pxl

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.

CONTROLLED PHOTOMOSAIC OF THE VALI QUADRANGLE OF CALLISTO

Jc 5M 0/324 CMN

(Jc-10)

1990

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.

For sale by U.S. Geological Survey, Map Distribution, Box 35208, Federal Center, Denver, CO 80225