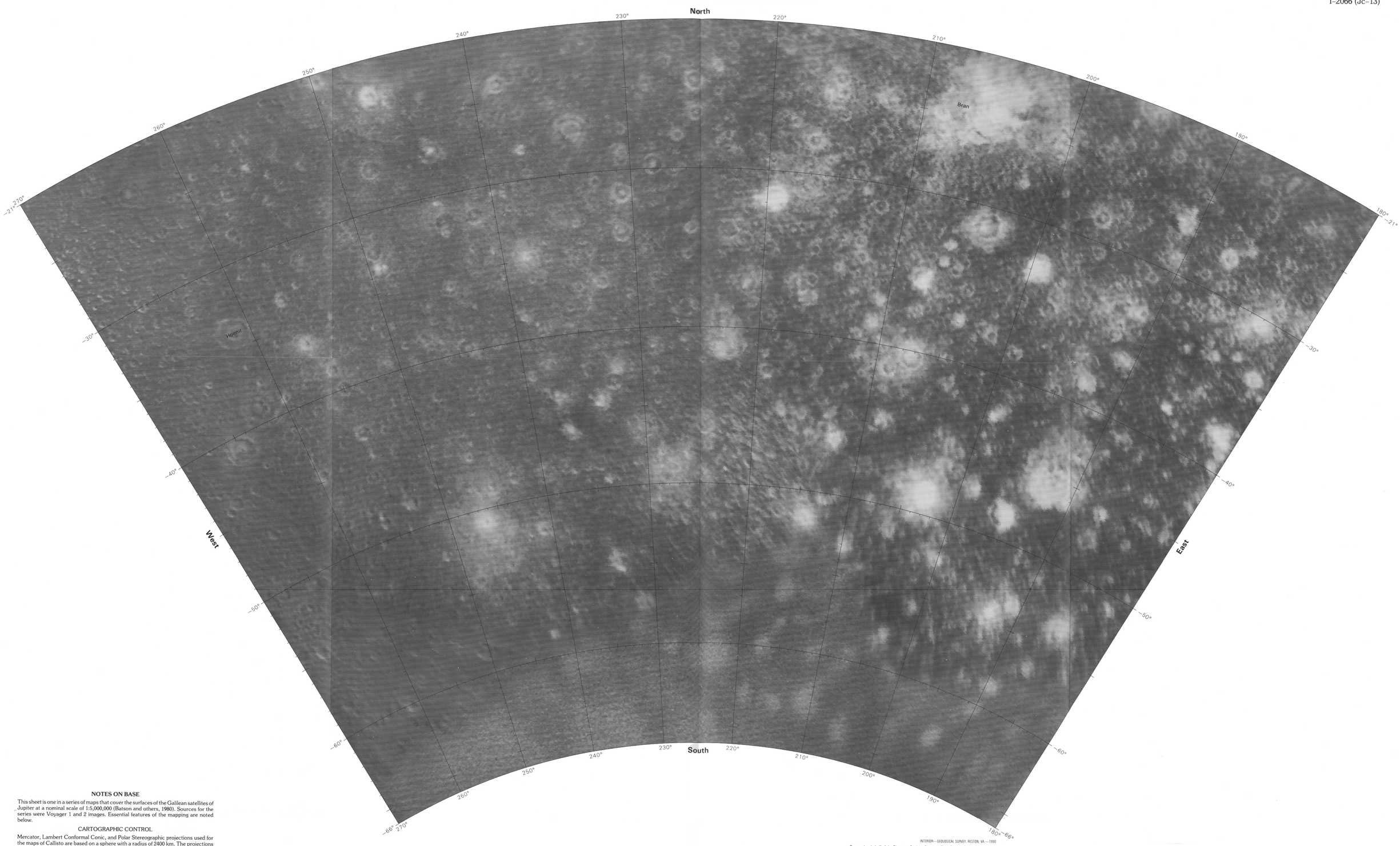
DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Prepared for the
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ATLAS OF JOVIAN SATELLITES
1:5,000,000 TOPOGRAPHIC SERIES
HOENIR QUADRANGLE—CALLISTO
Jc 5M –44/225 CMN, 1990
I–2066 (Jc–13)

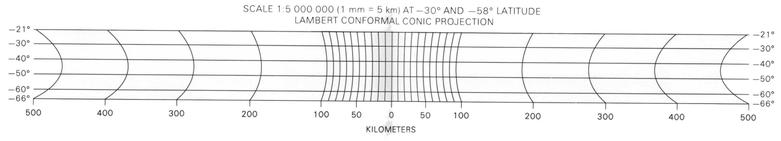


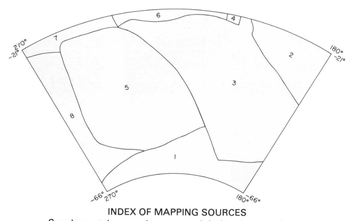
INTERIOR—GEOLOGICAL SURVEY, RESTON, VA.—1990

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

SCALE 1:5 000 000 (1 mm = 5 km) AT –30° AND –58° LATITUDE
LAMBERT CONFORMAL CONIC PROJECTION

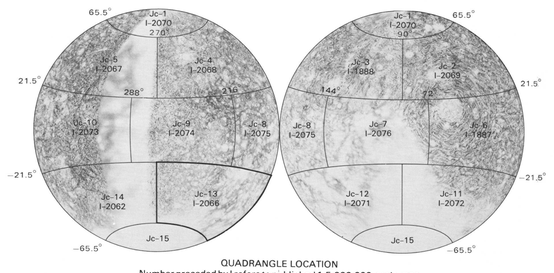




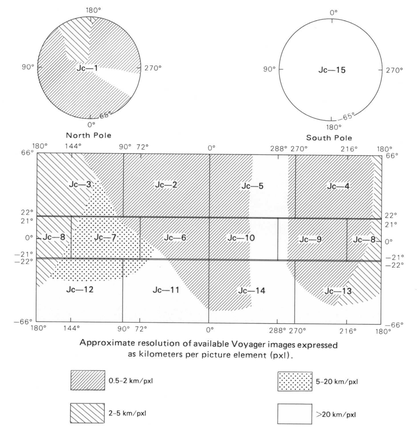
INDEX OF MAPPING SOURCES

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.

Index No.	VOYAGER 2 Primary Source Picture No.	VOYAGER 2 Supplemental Source Picture No.	
1	834 J2–3	426 J2–2	864 J2–2
2	426 J2–2	434 J2–2	871 J2–2
3	430 J2–2	438 J2–2	875 J2–2
4	903 J2–2	442 J2–2	895 J2–2
5	907 J2–2	446 J2–2	911 J2–2
6	1074 J2–2		
7	1078 J2–2		
8	1094 J2–2		



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



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

0.5–2 km/pxl
2–5 km/pxl
5–20 km/pxl
>20 km/pxl

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. Planimeteric 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 mosiacs were assembled at a digital scale of 1/32° (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, 1:15,000,000-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 are approved by the International Astronomical Union (1980).

Jc 5M –44/225 CMN: Abbreviation for Jupiter, Callisto (satellite); 1:5,000,000 series; center of sheet, lat 44° S., long 225°; controlled photomosaic (CM), nomenclature (N).

Jc–13: Abbreviation for Jupiter, Callisto, sheet 13.

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, 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.

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.

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.

CONTROLLED PHOTOMOSAIC OF THE HOENIR QUADRANGLE OF CALLISTO

Jc 5M –44/225 CMN

(Jc–13)

1990

For sale by U.S. Geological Survey, Map Distribution, Box 25286, Federal Center, Denver, CO 80225