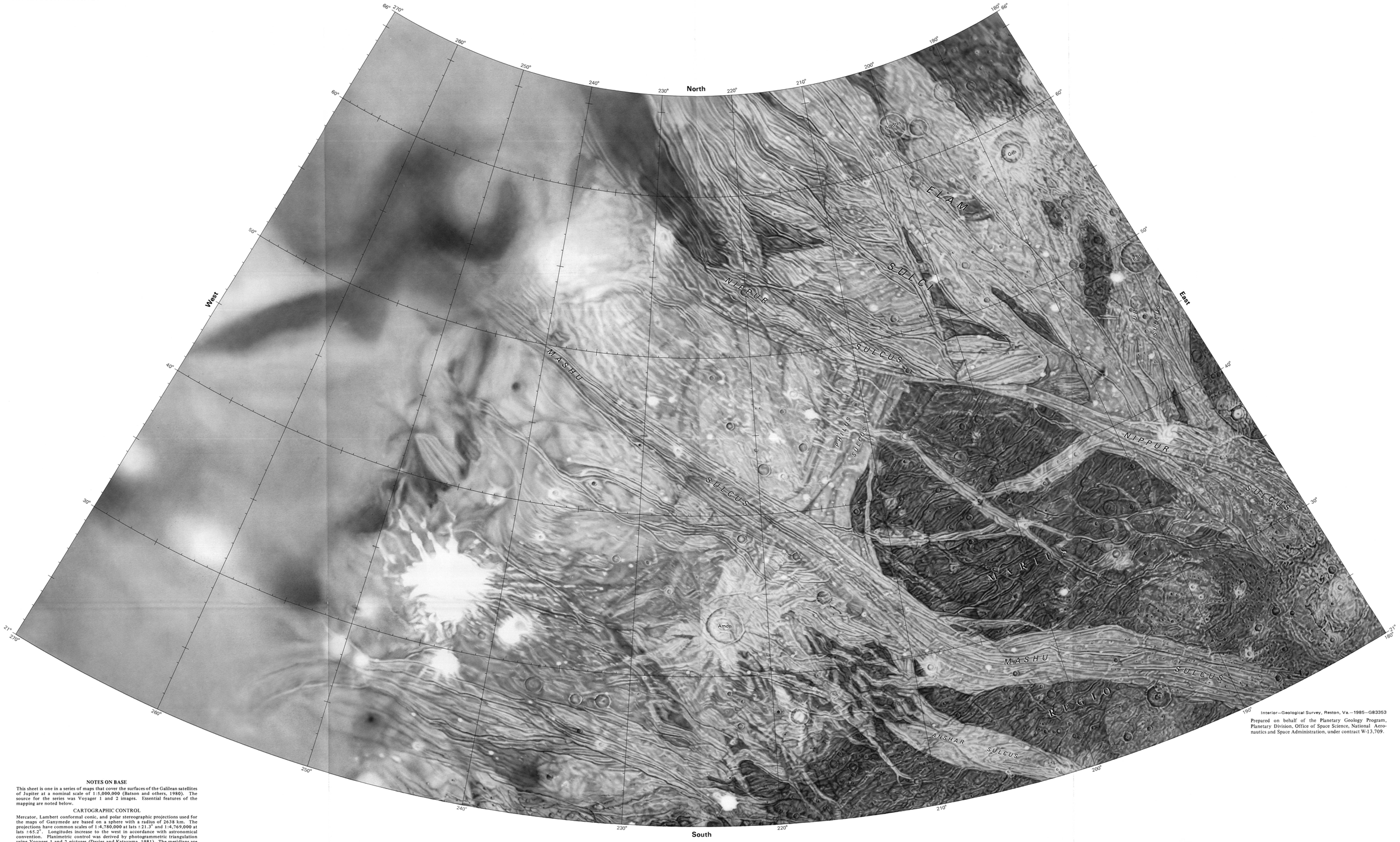
DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Prepared for the
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ATLAS OF JOVIAN SATELLITES
1:5,000,000 TOPOGRAPHIC SERIES
PHILUS SULCUS QUADRANGLE–GANYMEDE
Jg 5M 44/225 AN, 1985
I-1565 (Jg-4) SHEET 1 OF 2



Interior—Geological Survey, Reston, Va.—1985—G83353
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, Lambert conformal conic, and polar stereographic projections used for the maps of Ganymede are based on a sphere with a radius of 2638 km. The projections have common scales of 1:4,780,000 at lats ±21.3° and 1:4,769,000 at lats ±65.2°. 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 so that the reference crater, Anat, is centered on lat 2.8° S., long 128°.

MAPPING TECHNIQUE

A series of mosaics of Voyager 1 and 2 pictures was assembled at 1:5,000,000 scale 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 represent the color of Ganymede.

Image analysis and airbrush representation were made by Patricia G. Hagerty.

NOMENCLATURE

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

Provisional names: Agrotes, Amon, Elam Sulci, Geb, Kadi, Nippur Sulcus and Ur Sulcus.

Jg 5M 44/225 AN: Abbreviation for Jupiter, Ganymede (satellite): 1:5,000,000 series; center of sheet, lat 44° N., long 225°; shaded relief with albedo markings (A), nomenclature (N).

Jg-4: Abbreviation for Jupiter, Ganymede; sheet 4.

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 and 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.

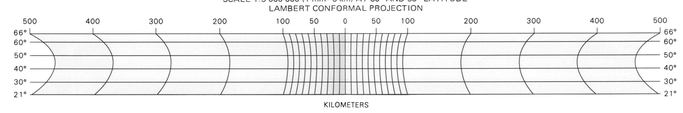
Inge, J. L., 1972, Principles of lunar illustration: Aeronautical Chart and Information Center Reference Publication RP-72-1, 60 p.

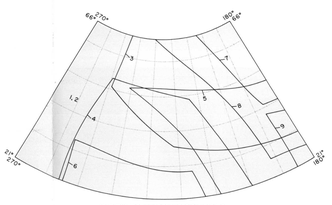
Inge, J. L., and Bridges, P. M., 1976, Applied photointerpretation for airbrush cartography: Photogrammetric Engineering and Remote Sensing, v. 42, no. 6, p. 749-760.

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.

_____1980, Working Group for Planetary System Nomenclature, *in* 17th General Assembly, Montreal, 1979, Proceedings: International Astronomical Union Transactions, v. 17B, p. 297-304.

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

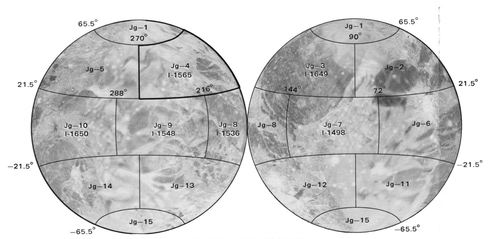




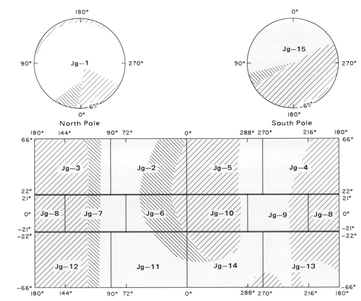
INDEX TO MAPPING SOURCES
The rendition of features on this map was controlled by reference to the primary source pictures outlined above. Supplemental source images used during the compilation are listed separately. Copies of various enhancements of these pictures are available from National Space Science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

VOYAGER 1		VOYAGER 2	
Primary Source			
Index No.	Picture No.	Index No.	Picture No.
1	1207J1-004	3	0358J2-001
2	0786J1-002	4	0366J2-001
		5	0370J2-001
		6	0374J2-001
		7	0434J2-001
		8	0446J2-001
		9	0458J2-001

VOYAGER 1	VOYAGER 2
Supplemental Source	
Picture No.	Picture No.
0268J1-004	0809J2-002
1211J1-004	0829J2-002
1213J1-004	0092J2-001
0015J1-003	0094J2-001
0539J1-003	0096J2-001
0318J1-002	0098J2-001
0784J1-002	0100J2-001
0788J1-002	0102J2-001
0790J1-002	0104J2-001
	0360J2-001
	0362J2-001
	0364J2-001
	0366J2-001
	0370J2-001
	0380J2-001
	0384J2-001



QUADRANGLE LOCATION
Number preceded by I refers to published topographic map.



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

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

SHADED RELIEF AND SURFACE MARKINGS OF THE PHILUS SULCUS QUADRANGLE OF GANYMEDE

Jg-4

Jg 5M 44/225 AN

1985

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 Branch of Distribution, U.S. Geological Survey, 1200 South Eads Street, Arlington, VA 22202, and Branch of Distribution, U.S. Geological Survey, Box 25286, Federal Center, Denver, CO 80225