

NOTES ON BASE

This sheet is one in a series of special maps covering 94 percent of the surface of Venus at a nominal scale of 1:50,000,000 and was designed specifically to support planning for the Venus Radar Mapper (VRM) mission. Maps in this series are based on radar altimetric data from the Pioneer-Venus spacecraft and on data provided by Earth-based stations at the Arecibo Observatory, Puerto Rico, and the Goldstone Observatory, California. The Pioneer-Venus mission was described by Colin (1979) and Masursky and others (1977). The radar experiment was described by Pettengill (1977) and Pettengill and others (1979).

ADOPTED FIGURE

The figure of Venus used for the computation of the map projection is a sphere with a mean radius of 6051.4 km (Pettengill and others, 1980), Phillips and others (1979) describe a preliminary gravity figure with a radius of 6051 km.

PROJECTION

The Mercator projection is used for this sheet with a scale of 1:50,000,000 at lat 0°. Due to the retrograde rotation of Venus, longitudes increase from west to east in accordance with usage of the International Astronomical Union (IAU, 1971).

CONTROL

Planimetric control is derived from the tracked position of the spacecraft. The first meridian passes through the center of a craterlike feature adjacent to the "Alpha" region of Venus according to current International Astronomical Union convention. No simple statement for accuracy can be given, but discrepancies as great as 100 km (1.5°) are likely to exist (Masursky and others, 1980).

MAPPING TECHNIQUES

Data for the surface relief and contours were derived from computer processing of radar altimetric and reflectance information received from NASA's Ames Research Center. Processed data were geometrically corrected and fitted to a Mercator projection.

Computer methods described by Batson and others (1975) were used to make the shaded relief. Tones were varied as a function of surface slope with respect to an assumed light source. The northeasterly direction of the light source is approximately parallel to the orbital tracks, thus minimizing streaks in the shading caused by slight interorbit variations.

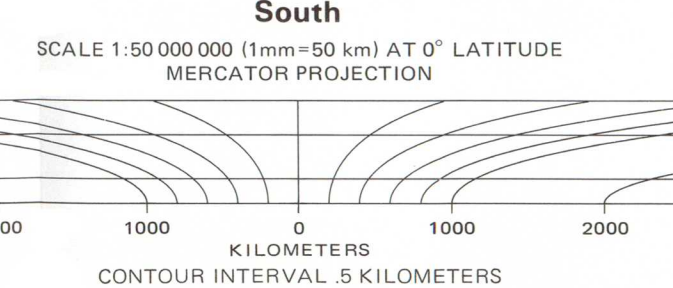
NOMENCLATURE

Names on this sheet are approved by the International Astronomical Union (IAU, 1980, 1983).

V 50M 6/60 RT Abbreviation for Venus: 1:50,000,000 series; center of map, lat 6° N., long 60° E.; shaded relief (R), with contours and nomenclature (T).

REFERENCES

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TOPOGRAPHIC MAP OF VENUS
VRM PLANNING CHART
V 50M 6/60 RT
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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Prepared on behalf of the Planetary Geology Program, Planetary Division, Office of Space Science, National Aeronautics and Space Administration under contract W-13,709.
Contrast in this map was purposely subdued in order to facilitate plotting of VRM data.
For sale by Branch of Distribution, U.S. Geological Survey, 1200 South East Street, Arlington, Va. 22202, and Branch of Distribution, U.S. Geological Survey, Box 25286, Federal Center, Denver, CO 80225