DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Prepared for the
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
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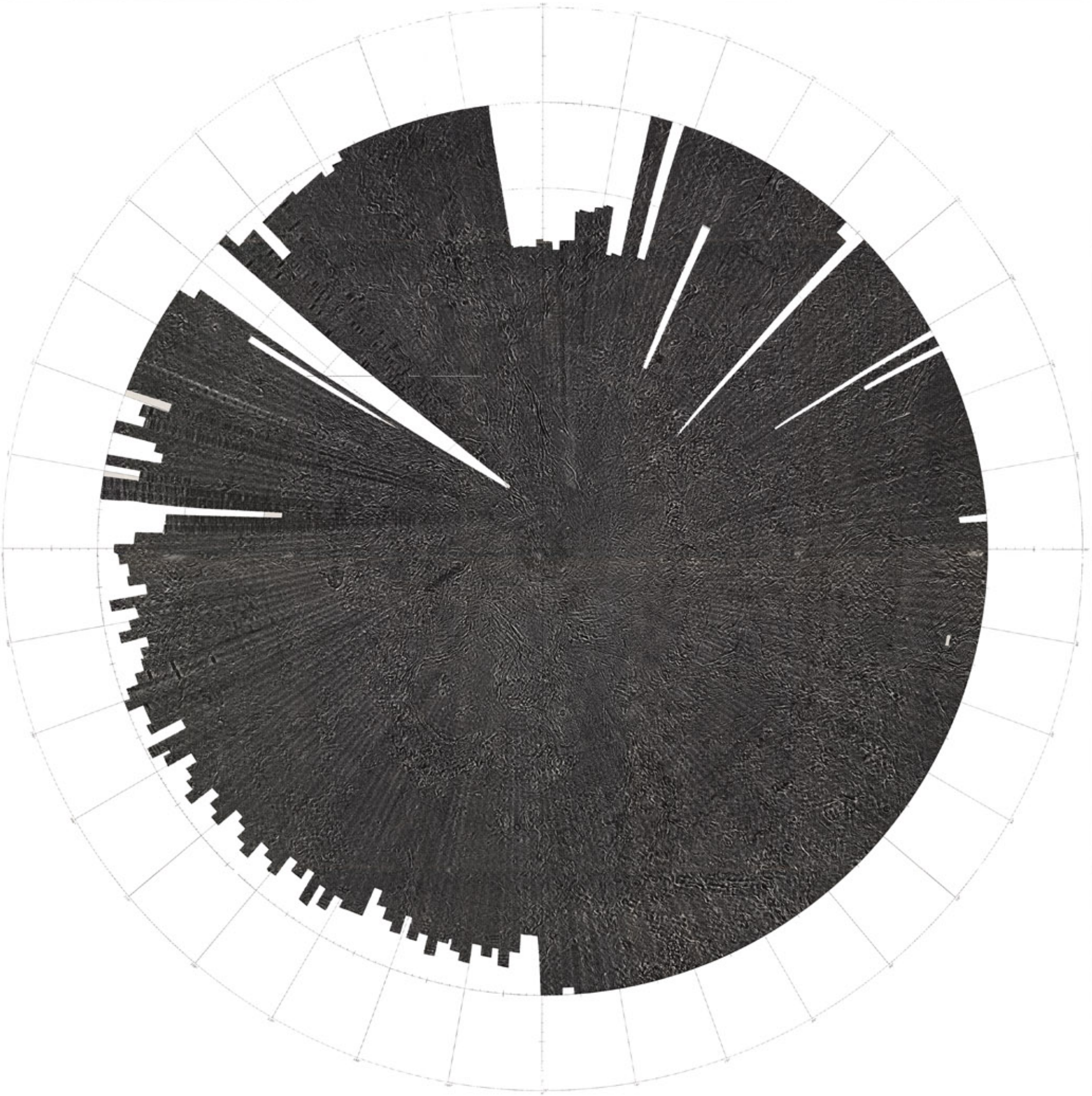
U.S., U.S.S.R. JOINT WORKING GROUP ON SOLAR SYSTEM EXPLORATION

ATLAS OF VENUS
1:25,000,000 TOPOGRAPHIC SERIES
NORTHERN HEMISPHERE
V 15M 90/0 CM, 1989
I-2041, SHEET 3 OF 3



NOTES ON BASE

This map is a radar image mosaic of part of the northern hemisphere of Venus prepared to support planning and operations of the Magellan Mission to Venus. Topographic image information was taken almost exclusively from Venera 15 and 16 synthetic aperture radar (SAR) images and from semicontrolled and controlled radar image mosaics provided by the Institute of Radioengineering and Electronics, the Central Institute of Geodesy, Aerial Survey, and Cartography, Moscow (Alexandrov and others, 1985, 1988; Bulkin, 1987; U.S.S.R. Academy of Sciences, 1987, 1988; Barkin, 1989; and radar planetary illustrations and others, 1984, 1986).

All landforms are shown as they appear on the Venera radar images, illuminated from the east.

ADOPTED FIGURE

The figure of Venus used for computation of this map projection is a sphere with a radius of 6051.0 km (Kotelnikov and others, 1985).

PROJECTION

The Polar Stereographic projection is used for this map, with a scale of 1:15,000,000 at lat 69°.15 and 1:30,041,561 at lat 90°.0. Due to the oblongated rotation of Venus, longitude increases from west to east in accordance with usage of the International Astronomical Union (1988).

CONTROL

Planetary control is taken from the radar image mosaics provided by the U.S.S.R. that is based on the tracked position of the spacecraft (Alexandrov and others, 1986; Tyuflin and others, 1988). According to current (IAU) convention, the 0° meridian passes through the center of a crater/dike feature 5 km (0°.1), located within Alpha Regio, a feature of the southern hemisphere that is outside the area shown on this map (Masursky and others, 1980). No simple statement for accuracy can be given, but distances persist as good as 19 km (0.1°) are likely for most (Alexandrov and others, 1986; Tyuflin and others, 1988).

NOMENCLATURE

V 15M 90/0 CM — Abbreviation for Venus, 1:15,000,000 series, center of chart, lat 90° N., long 0°, controlled mosaic (CM).

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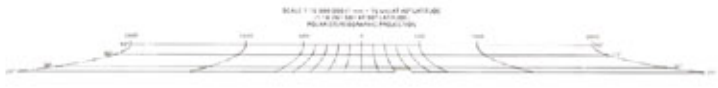
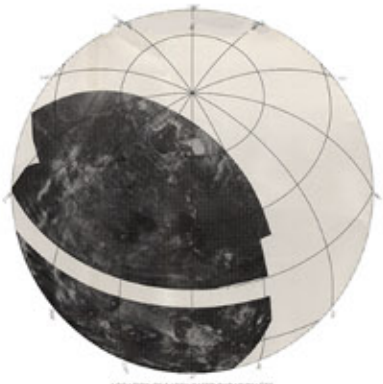
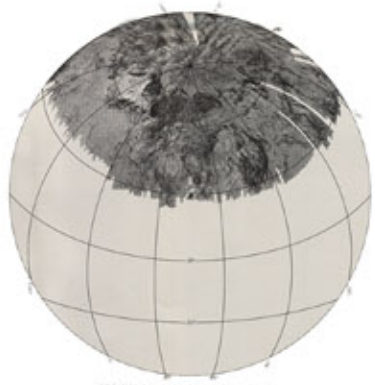




LOCATION OF EARTH-BASED RADAR IMAGES
LAMBERT AZIMUTHAL EQUAL AREA PROJECTION

DIGITAL SHADED RELIEF MAP BASED ON PIONEER VENUS ALTIMETRIC MEASUREMENTS
LAMBERT AZIMUTHAL EQUAL AREA PROJECTION



LOCATION OF VENERA 15 AND 16 RADAR IMAGES
LAMBERT AZIMUTHAL EQUAL AREA PROJECTION

RADAR IMAGE MAP OF PART OF THE NORTHERN HEMISPHERE OF VENUS

V 15M 90/0 CM

1989