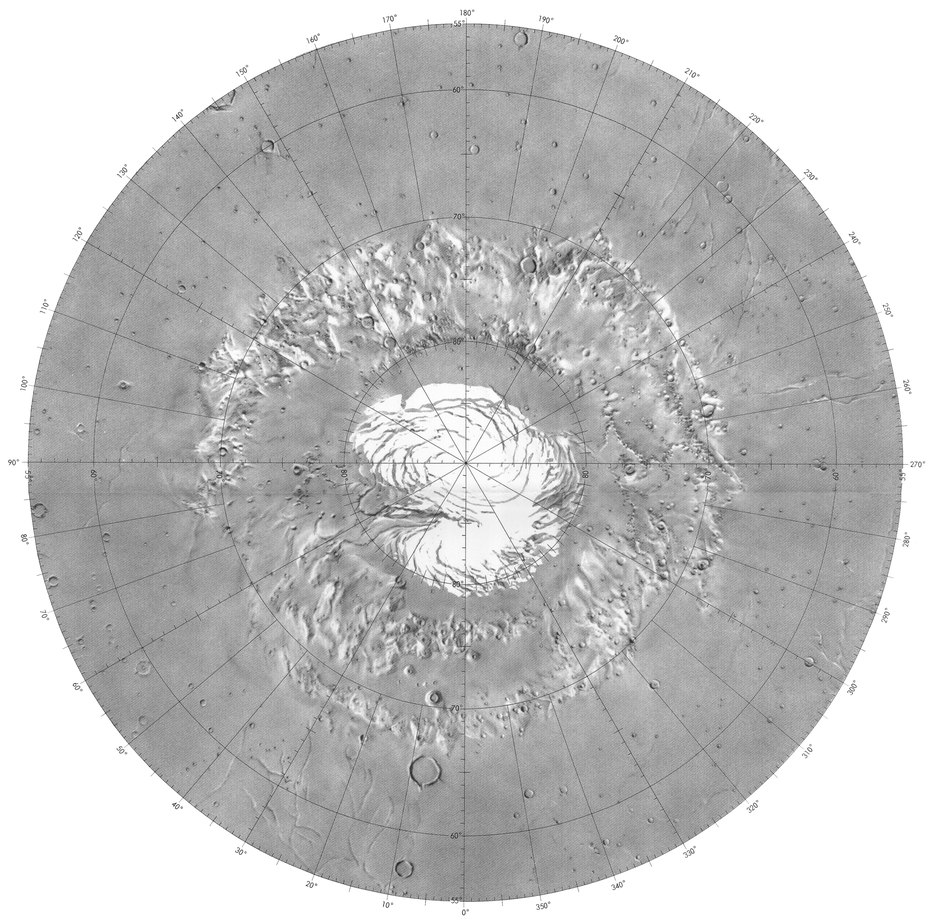
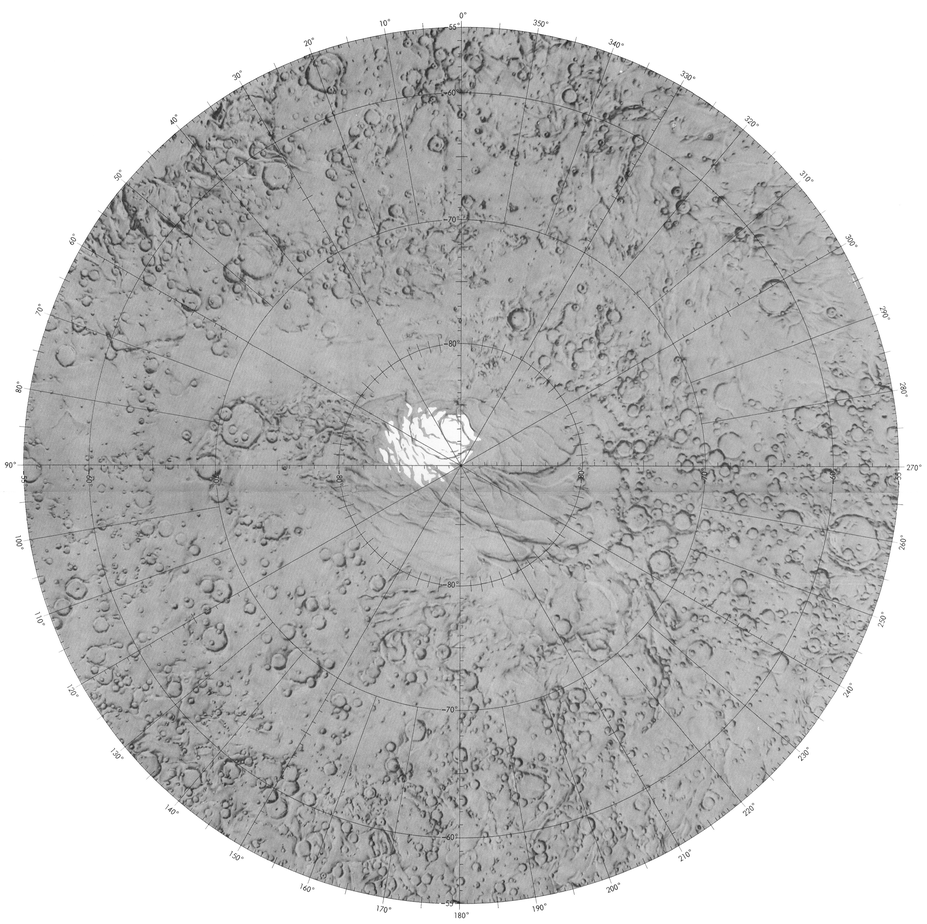
DEPARTMENT OF THE INTERIOR
UNITED STATES GEOLOGICAL SURVEY

PREPARED IN COOPERATION WITH THE
JET PROPULSION LABORATORY, CALIFORNIA INSTITUTE OF TECHNOLOGY
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION

ATLAS OF MARS
MM 25M IR
1:25,000,000 CARTOGRAPHIC SERIES
I-810

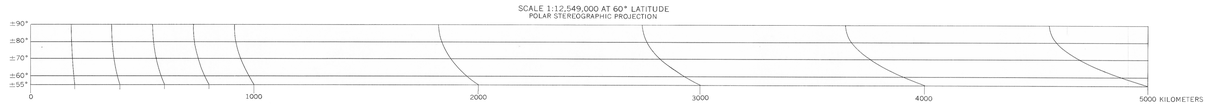


NORTH POLAR REGION
Polar cap as it appeared on October 12, 1972

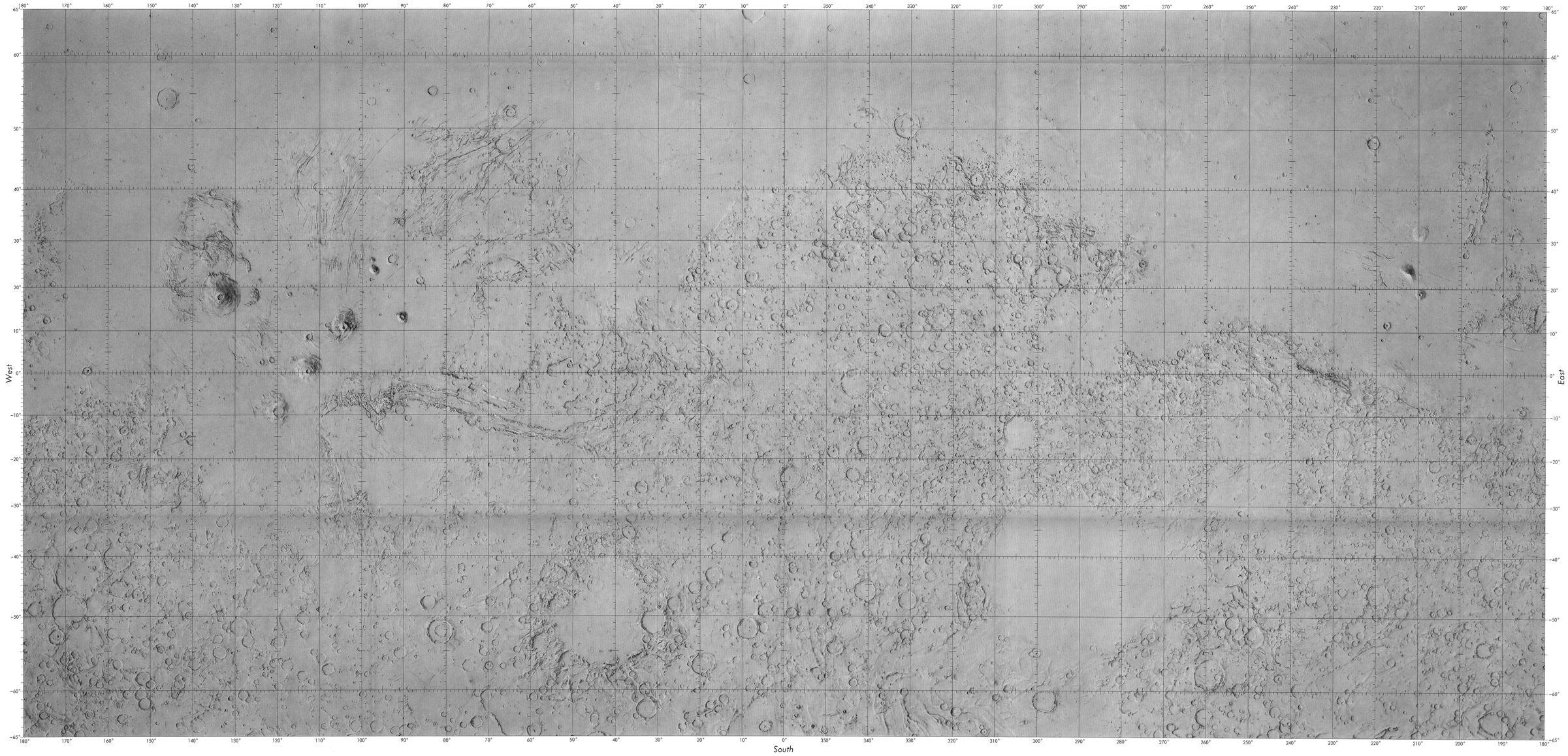


SOUTH POLAR REGION
Polar cap as it appeared on February 28, 1972

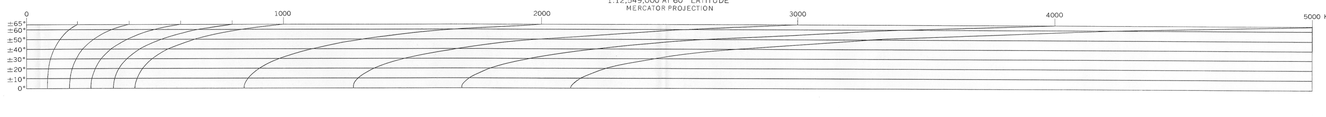
SCALE 1:12,549,000 AT 60° LATITUDE
POLAR STEREOGRAPHIC PROJECTION



North



SCALE 1:25,000,000 AT 0° LATITUDE
1:12,549,000 AT 60° LATITUDE
MERCATOR PROJECTION



This preliminary map was made from Mariner 9 television image data. The positions of topographic features were taken from a series of uncontrolled photo mosaics prepared by the U.S. Geological Survey from unrectified Mariner 9 pictures. The pictures in the mosaics were positioned primarily for consistency with spacecraft tracking data with some adjustment to minimize the mismatch between pictures. Positional inaccuracies as large as 60 km exist throughout the map. The map portrays topography only and no albedo variations except for delineations of the polar caps.

The projections used here were developed from an ellipsoid with a flattening of 1/192 and an equatorial radius of 3393.4 km. The spin axis and system of longitudes is based on astronomical conventions in use prior to and during the mission of Mariner 9. Revisions to these parameters will be made as a result of Mariner 9 data and will be incorporated in future maps of Mars.

All topography on the map is portrayed with uniform westerly illumination so that features in the zones of overlap between the Mercator and polar stereographic segments are similarly illuminated. This convention results in an anomalous illumination condition at each pole, but is used for consistency in the interpretation of the relief between the two projections.

Topographic interpretation by P. M. Bridges and J. L. Inge.

Prepared under JPL contract WO-8122

SHADED RELIEF MAP OF MARS

1972