

## THE MOONS OF SATURN: Preliminary Maps – 4

# Mimas

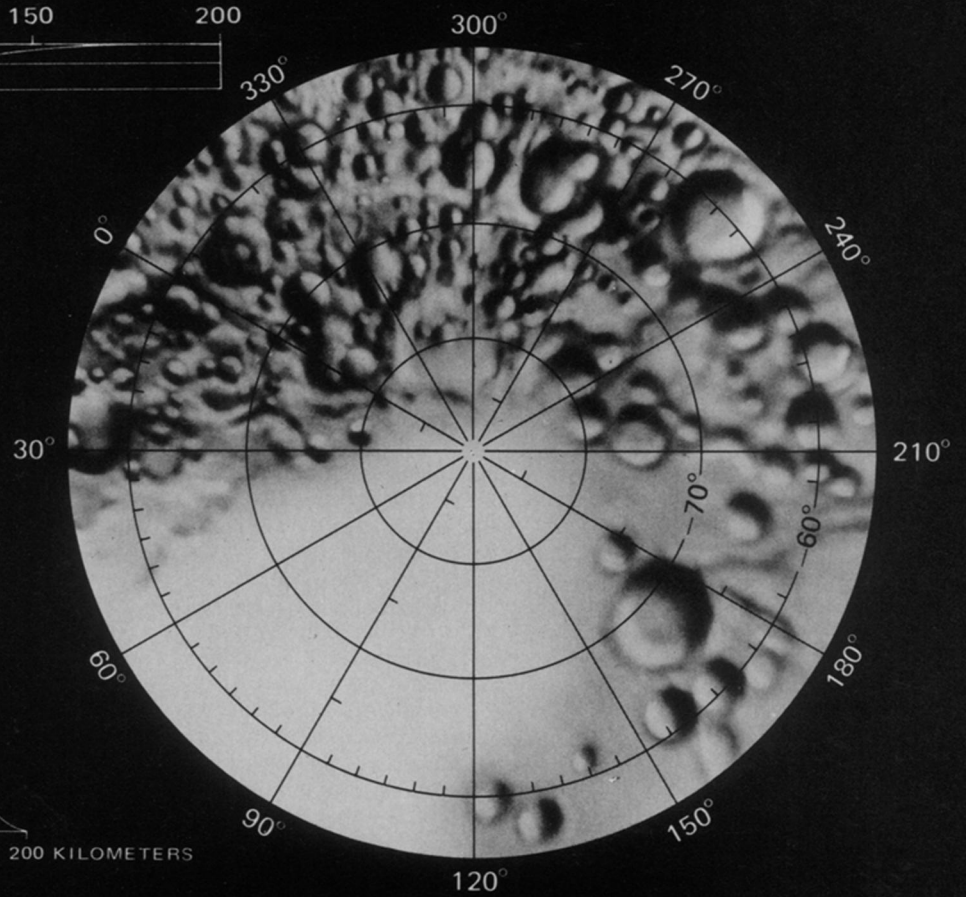
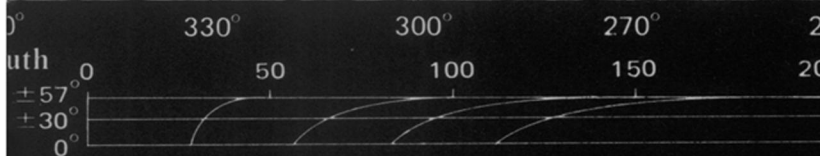
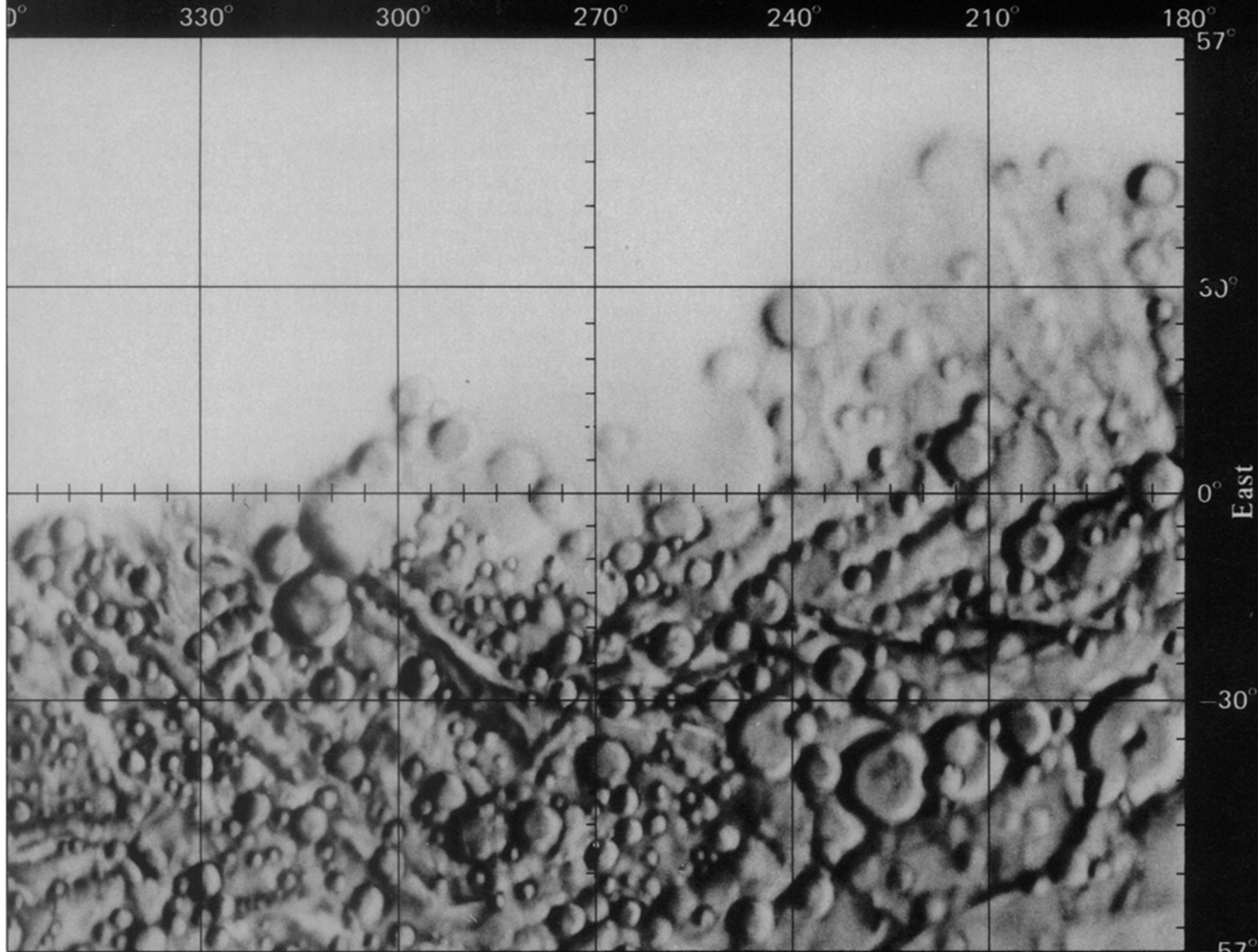
Map of Mimas, nearest to Saturn of the planet's major satellites, was prepared from photos taken by the Voyager 1 spacecraft. Drawn at 1:5,000,000 scale by Jay L. Inge of the U.S. Geological Survey's Branch of Astrogeologic Studies, it is reproduced here at 1:3,750,000 (1 centimeter = 37.5 kilometers at the equator). The 0° meridian of longitude always faces Saturn, and the left half of the map shows the side of Mimas that faces ahead as it moves around the planet.

The placement of surface features shown (still being refined) is estimated to be accurate to within  $\pm 20$  km over 66 percent of the mapped area. The photos used in preparing the map range in resolution from about 40 to 2.4 km per line pair, with lower-resolution and unphotographed areas left blank.

Mimas,  $390 \pm 10$  km in diameter, is Saturn's second smallest known moon (after Hyperion) except for the recently discovered ones close to the planet's rings. The prominent crater centered at about 5°N by 105° is about 130 km across, making it fully a third the size of the satellite and twice the size of the next largest crater seen on Mimas. Shadow measurements suggest that the crater is about 10 km deep from its sunken floor to its 5-km-high raised rim. Among the lesser craters, the largest ones seem to be rare over a longitude range from about 260° westward to about 40°, part of the satellite's Saturn-facing hemisphere. Linear grooves (best seen in that same region) are up to 90 km long and 10 km wide, possibly following crustal fractures.

— Jonathan Eberhart

Earth



SCALE 1:2 796 000 AT 56°  
POLAR STEREOGRAPHIC PROJECTION



SOUTH POLAR REGION