

MAPPING THE MOONS OF SATURN
PART FOUR

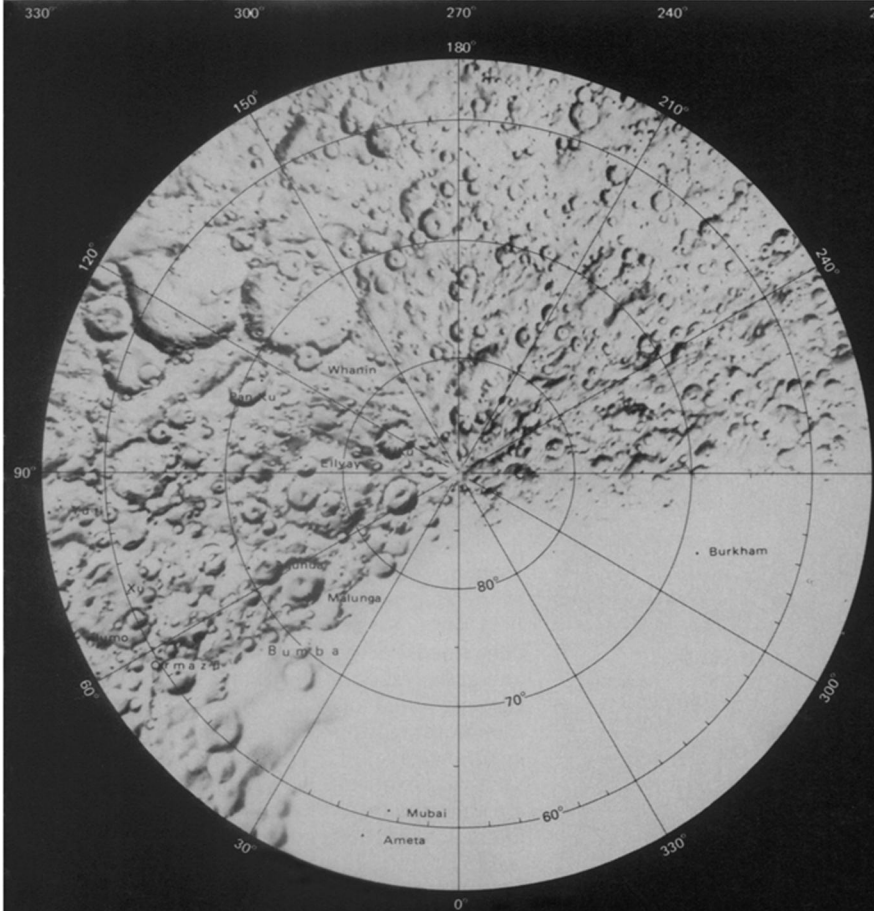
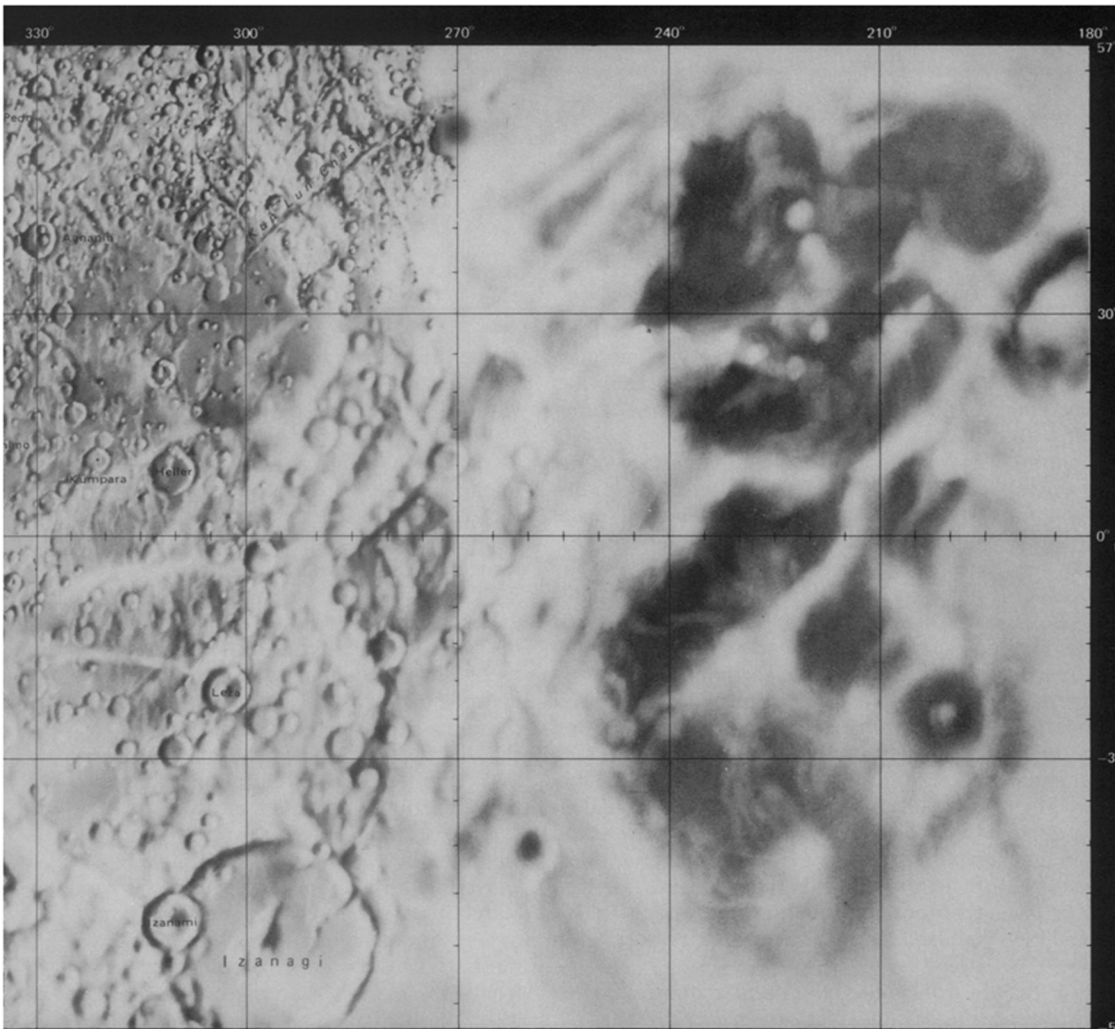
RHEA

Map of Rhea, Saturn's second largest satellite (diameter 1,530 km), was prepared from photos taken by the Voyager 1 and 2 spacecraft. Drawn at 1:10,000,000 scale by Jay L.

Inge of the U. S. Geological Survey's Branch of Astrogeologic Studies, it is reproduced here at 1:7,000,000 (1 cm = 70 km at the equator). The 0° meridian of longitude always faces Saturn, and the left half of the map shows the side of Rhea 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 ± 70 km over 66 percent of the mapped area. The photos used in preparing the map range in resolution from about 2 to 40 km per line pair, with lower-resolution and unphotographed areas left blank.

Rhea's surface may be a clue that major episodes of meteorite impacts took place at different times, rather than primarily in a single, early bombardment period. The western part of the north polar region, for example, shows craters large and small, while large ones are rare on the eastern portion. This could mean that the mixed sizes created during an early episode were then erased from the eastern part—by, for instance, fluid extrusion due to internal activity—which was later re cratered by a meteorite population that was predominantly small. The diffuse markings on Rhea's trailing hemisphere may also indicate internal activity, though the energy source to cause it in such a small object remains unclear. (Place names on the map are provisional, pending International Astronomical Union approval.)

—JONATHAN EBERHART

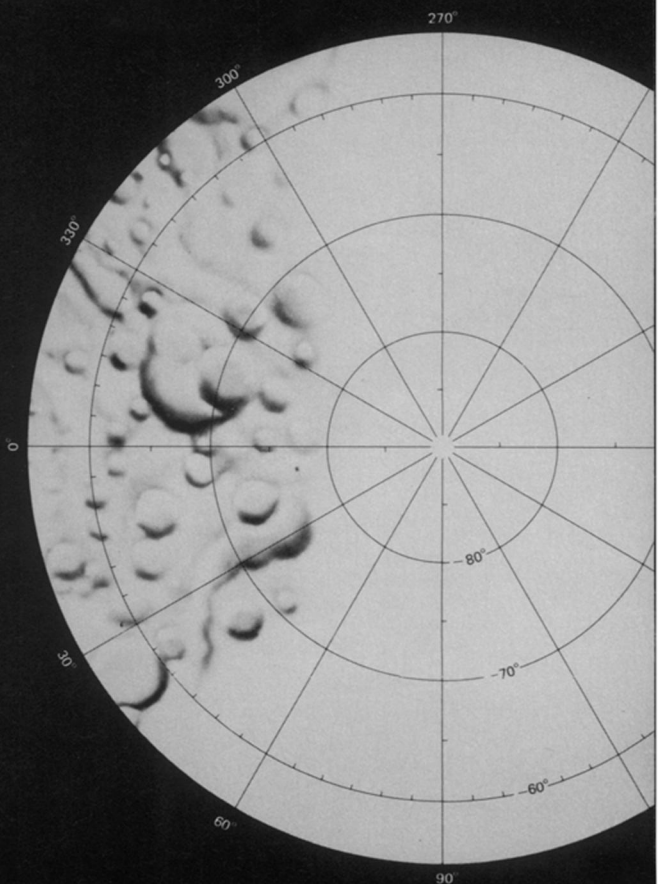


NORTH POLAR REGION

90° 70° 55°

0 100 200 300 KILOMETERS

POLAR STEREOGRAPHIC PROJECTION



SOUTH POLAR REGION

90° 70° 55°

0 100 200 300 KILOMETERS

POLAR STEREOGRAPHIC PROJECTION