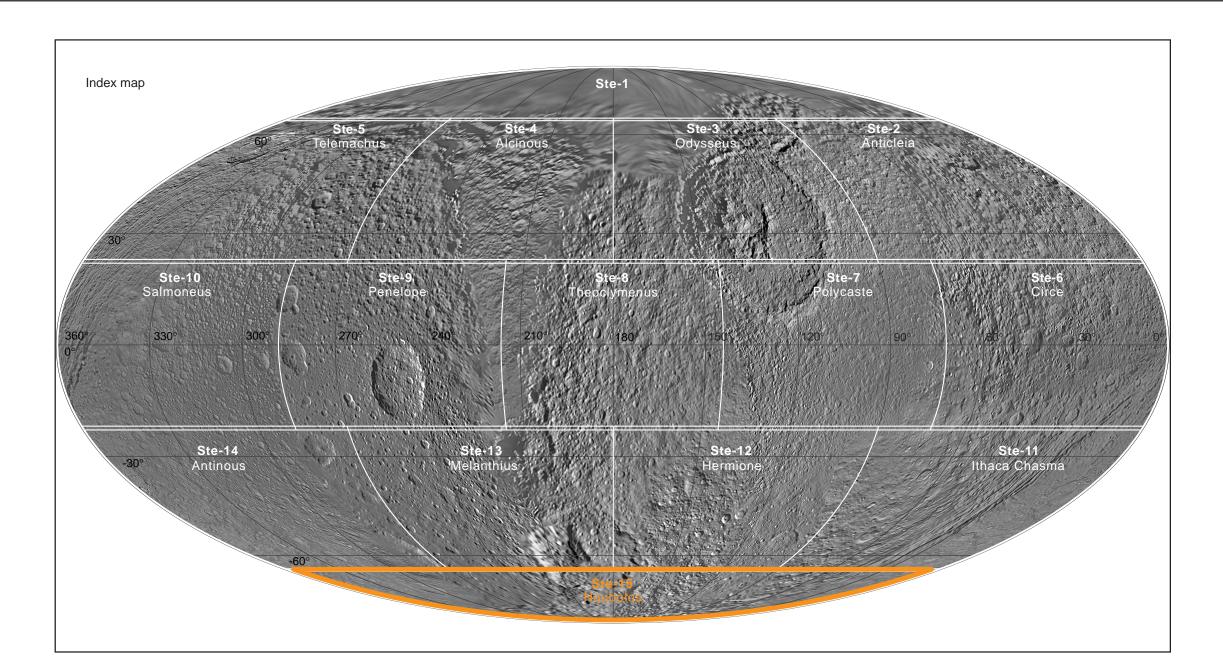
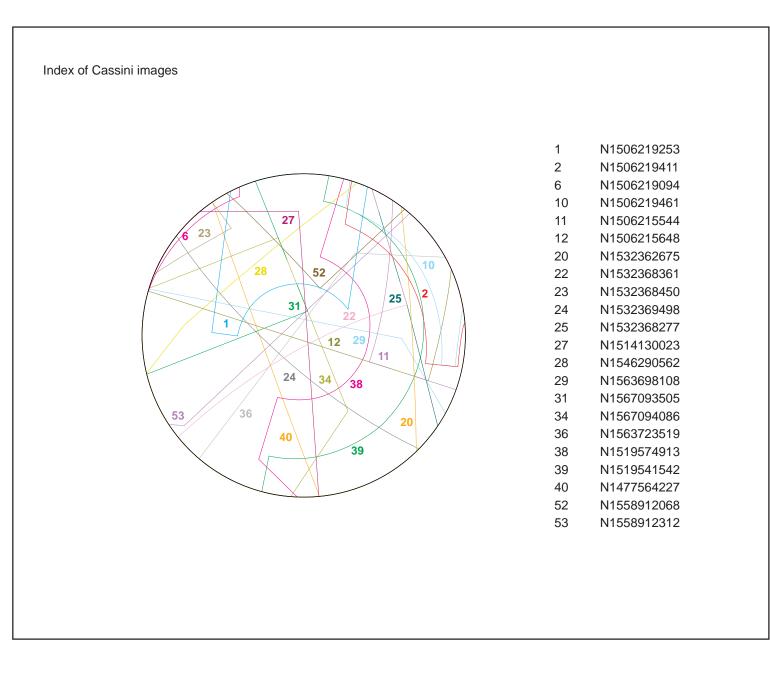
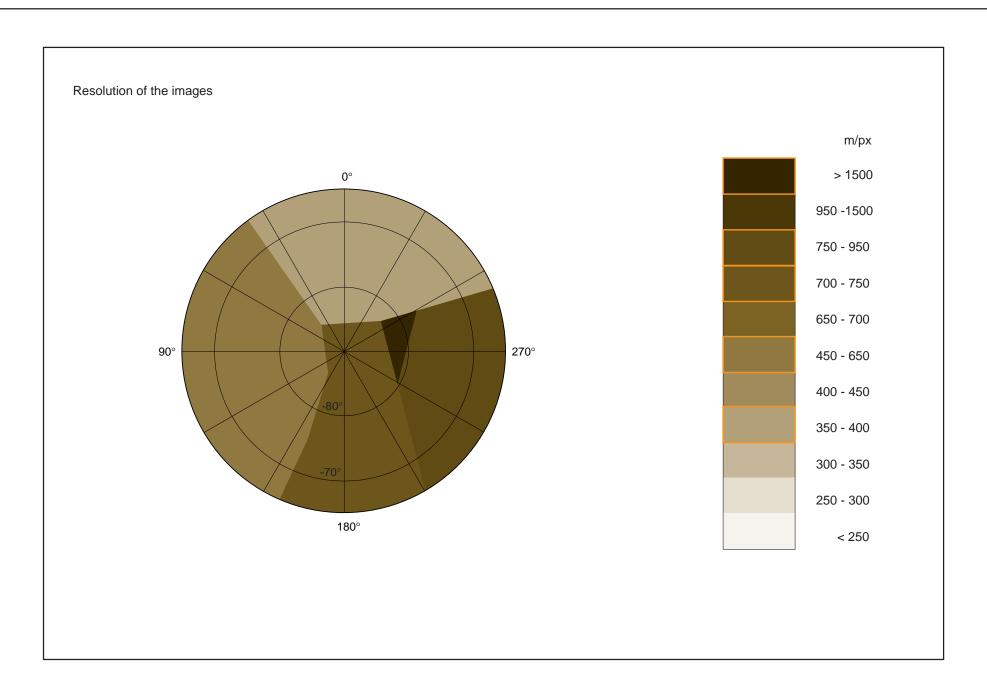


Scale 1:1 000 000







#### **GENERAL NOTES**

This map sheet is the 15th of a 15-quadrangle series covering the entire surface of Tethys at a nominal scale of 1: 1 000 000. The source of map data was the Cassini imaging experiment (Porco et al., 2004)<sup>1</sup>.

Cassini-Huygens is a joint NASA/ESA/ASI mission to explore the Saturnian system. The Cassini spacecraft is the first spacecraft studying the Saturnian system of rings and moons from orbit; it entered Saturnian orbit on July 1st, 2004.

The Cassini orbiter has 12 instruments. One of them is the Cassini Imaging Science Subsystem (ISS), consisting of two framing cameras. The narrow angle camera is a reflecting telescope with a focal length of 2000 mm and a field of view of 0.35 degrees. The wide angle camera is a refractor with a focal length of 200 mm and a field of view of 3.5 degrees. Each camera is equipped with a large number of spectral filters which, taken together, span the electromagnetic spectrum from 0.2 to 1.1 micrometers. At the heart of each camera is a charged coupled device (CCD) detector consisting of a 1024 square array of pixels, each 12 microns on a side.

#### MAP SHEET DESIGNATION

Tethys (Saturnian satellite)

Center point in degrees consisting of latitude/west longitude

SMN Semi-controlled Mosaic with Nomenclature 2008 Year of publication

### IMAGE PROCESSING <sup>2</sup>

- Radiometric correction - Geometric correction

- Photogrammetric adjustment using limb-fit techniques
- Photometric correction using the Hapke bidirectional reflectance function

#### - Processing of the mosaic

For the Cassini mission, spacecraft position and camera pointing data are available in the form of SPICE kernels. SPICE is a data system providing ancillary data such as spacecraft and target positions, target body size/shape/orientation, spacecraft-orientation, instrument pointing used for planning space science mission and recovering the full value of science instrument data returned from missions (http://naif.jpl.nasa.gov/). While the orbit information was sufficiently

intersection points. A spherical reference surface is used for map projections. The longitude system by Davies and Katayama (1983)<sup>3</sup> and adopted by the IAU/IAG (International Astronomical Union/International Association of Geodesy) Working Group on Cartographic Coordinates and Rotational Elements as standard (Seidelmann et al., 2007)<sup>4</sup> is defined by crater Arete; this crater defines the 299° meridian. To be consistent with this definition, the final semi-controlled atlas was shifted by 1.5° to the east.

accurate to be used directly for mapping purposes, the pointing information was improved using limb-fit techniques. Newly derived tri-axial ellipsoid models were used to calculate the surface

#### **MAP PROJECTION**

Polar stereographic projection Scale is true at 90°S Adopted figure: sphere Mean radius: 536.3 km <sup>5</sup>

Grid system: planetographic latitude, west longitude

### NOMENCLATURE

Names are suggested by the ISS-Camera-Team and approved by the International Astronomical Union (IAU). For a complete list of IAU-approved names on Tethys, see the Gazetteer of Planetary Nomenclature at http://planetarynames.wr.usgs.gov/.

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Image processing: Hoffmeister, A., Roatsch, Th., Scholten, F., Matz, K.-D. Cartographic production and design: Kersten, E., Wählisch, M.

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