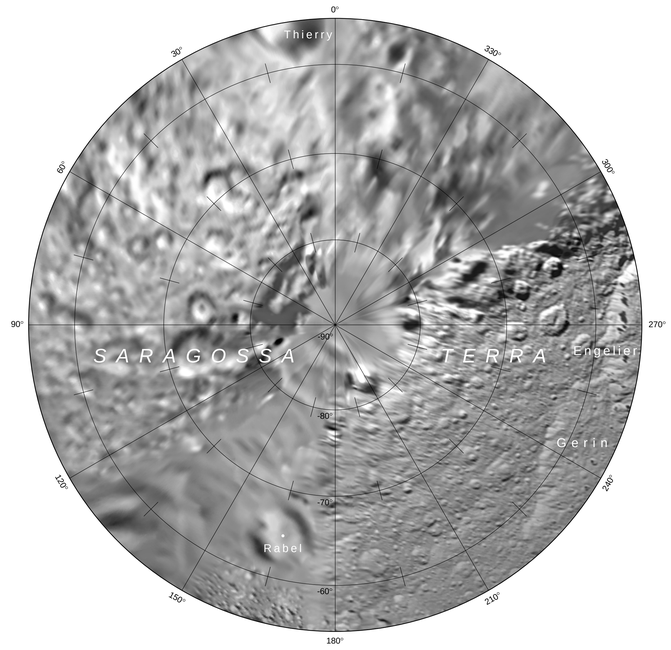
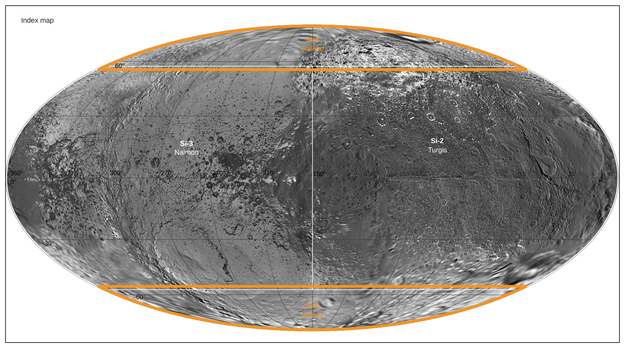


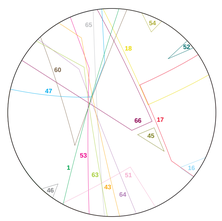
Scale 1:3 000 000

0 50 100 150 200 km

Index map



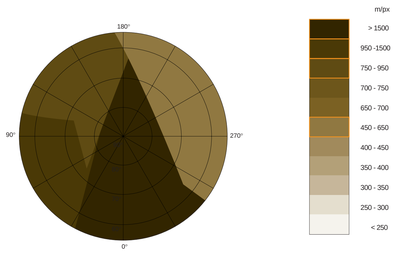
Index of Cassini images



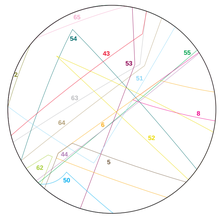
1	N1483152827
16	N1568159484
17	N1568159313
18	N1568159140
43	N1510255179
45	N1568093591
46	N1483280710
47	N1483224049
51	N1516797516
52	N1477172052
53	N1482859953
54	N1476736717
60	N1483234267
63	N1489599730
64	N1510080240
65	N1510425871
66	N1568091469
69	C4389420 (Voyager)
70	C4391335 (Voyager)

Images 69 and 70 cover the whole sheet.

Resolution of the images

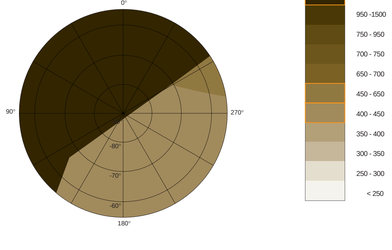


Index of Cassini images



2	N1483151512
5	N1568158499
6	N1568158329
8	N1568160072
43	N1510255179
44	N1523307179
50	W1568129083
51	N1516797516
52	N1477172052
53	N1482859953
54	N1476736717
55	N1523343899
62	N1568091950
63	N1489599730
64	N1510080240
65	N1510425871

Resolution of the images



GENERAL NOTES

This map sheet is the 1st of a 3-quadrangle series covering the entire surface of Iapetus at a nominal scale of 1: 3 000 000. The source of map data was the Cassini imaging experiment (Porco et al., 2004)[1, 2].

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

Si	Iapetus (Saturnian satellite)
3M	Scale 1 : 3 000 000
+/-90/0	Center point in degrees consisting of latitude/west longitude
SMN	Semi-controlled Mosaic with Nomenclature
2008	Year of publication

IMAGE PROCESSING [3]

- Radiometric correction
- Geometric correction
- Photogrammetric adjustment using limb-fitting techniques
- Map projection
- Photometric correction using the Hapke bidirectional reflectance function
- Processing of the mosaic

CONTROL

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 missions and recovering the full value of science instrument data returned from missions (http://naif.jpl.nasa.gov/). While the orbit information was sufficiently 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 intersection points. A spherical reference surface is used for map projections.

The longitude system by Davies and Katayama (1984)[4] 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)[5] is defined by crater Almeric; this crater defines the 276° meridian. To be consistent with this definition, the final semi-controlled atlas was shifted by 5.0° to the west.

MAP PROJECTION

Polar Stereographic projection
Scale is true at +/-90°
Adopted figure: sphere
Mean radius: 736.0 km [6]
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 Iapetus, 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.

We greatly appreciate helpful discussions with Blue, J. and Kirk, R. (USGS).

EDITOR

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DLR German Aerospace Center