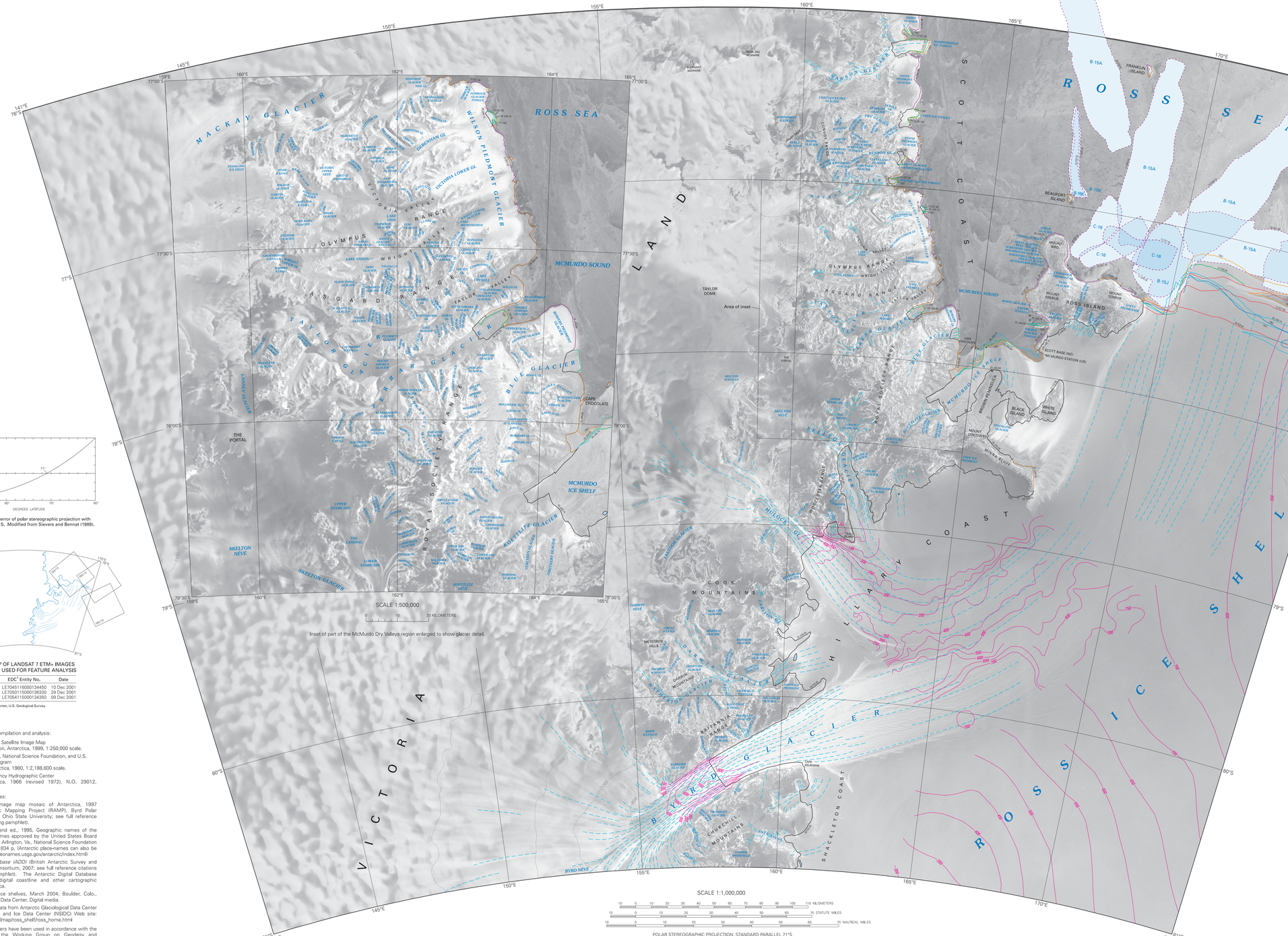
U.S. DEPARTMENT OF THE INTERIOR
U.S. GEOLOGICAL SURVEY

Prepared in cooperation with the
SCOTT POLAR RESEARCH INSTITUTE, UNIVERSITY OF CAMBRIDGE, UNITED KINGDOM

GEOLOGIC INVESTIGATIONS SERIES
MAP I–2600–I
Explanatory pamphlet accompanies map



Graph showing scale error of polar stereographic projection with standard parallel at 71° S. Modified from Sievers and Bennat (1989).

INDEX MAP OF LANDSAT 7 ETM+ IMAGES
FROM 2001, USED FOR FEATURE ANALYSIS

Path/Row	EDC[1] Entity No.	Date
045/116	LE70451160001344450	10 Dec 2001
050/115	LE70501150001363330	29 Dec 2001
054/115	LE70541150001343350	09 Dec 2001

[1]EROS Data Center, U.S. Geological Survey.

Primary maps used in compilation and analysis:

U.S. Geological Survey Satellite Image Map
South Ross Sea Region, Antarctica, 1999, 1:250,000 scale.

U.S. Geological Survey, National Science Foundation, and U.S. Antarctic Research Program
Ross Ice Shelf, Antarctica, 1980, 1:2,188,800 scale.

Defense Mapping Agency Hydrographic Center
Ross Sea, Antarctica, 1966 (revised 1972), N.O. 29012, 1:1,500,000 scale.

Other information sources:

RADARSAT SAR-1 image map mosaic of Antarctica, 1997 (RADARSAT Antarctic Mapping Project (RAMP), Byrd Polar Research Center, The Ohio State University; see full reference citation in accompanying pamphlet).

Alberts, F.G., comp, and ed., 1995, Geographic names of the Antarctic, 2d ed.,—Names approved by the United States Board on Geographic Names: Arlington, Va., National Science Foundation [Report] NSF 95–157, 834 p. (Antarctic place-names can also be found online at http://geonames.usgs.gov/antarctic/index.html)

Antarctic Digital Database (ADD) (British Antarctic Survey and others, 1993; ADD Consortium, 2007; see full reference citations in accompanying pamphlet). The Antarctic Digital Database project provides a digital coastline and other cartographic information of Antarctica.

Images of Antarctic ice shelves, March 2004; Boulder, Colo., National Snow and Ice Data Center, Digital media.

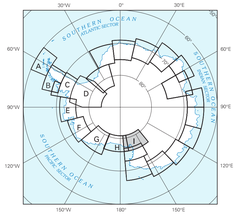
Antarctic ice velocity data from Antarctic Glaciological Data Center of the National Snow and Ice Data Center (NSIDC) Web site: http://nsidc.org/data/velmap/ross_shelf/ross_home.html

Map projection parameters have been used in accordance with the recommendations of the Working Group on Geodesy and Geographic Information of the Scientific Committee on Antarctic Research (SCAR). The accuracy of topographic features in relation to the graticule and to the satellite observation stations is approximately 1 mm (equals 1 km on the ground).

Image base from 1997 RADARSAT Image Mosaic of Antarctica (125-meter pixel).

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[3]U.S. Geological Survey, 384 Woods Hole Road, Woods Hole, MA 02543-1598.



Index map of the planned coastal-change and glaciological maps of Antarctica at 1:1,000,000 scale. Ross Island area map is shaded. Maps published to date are indicated by letter and are described in table 1 of the accompanying pamphlet.

EXPLANATION

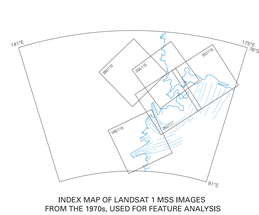
- **Ice front 2000s**—Landsat 7 ETM+, AVHRR, and MODIS imagery
- **Ice front 1990s**—RADARSAT imagery, acquired between 9 September and 20 October 1997
- **Ice front 1980s**—Landsat 4 TM imagery; date of observation shown
- **Ice front 1970s**—Landsat 1 MSS imagery; date of observation shown. Also from U.S. Geological Survey map, 1980, Ross Ice Shelf, 1:2,188,800 scale
- **Ice front 1962**—Defense Mapping Agency Hydrographic Center map, 1966 (revised 1972), Ross Sea, N.O. 29012, 1:1,500,000 scale
- **Ice wall**—Date of observation shown
- **Rock coastline**—Date of observation shown
- **Grounding line**—Date of observation shown
- **Iceberg**—Date of observation shown
- **Ice rumple**—Within a grounding line and (or) ice wall
- **Flow line**
- **Topographic contour, in meters**—Modified from RAMP digital elevation model (Byrd Polar Research Center)
- **Named glacial feature**
- **Ice-velocity contour, in meters per year (m a⁻¹)**—Modified from Antarctic Ice Velocity Data: VELMAP, National Snow and Ice Data Center



INDEX MAP OF LANDSAT 4 TM IMAGES
FROM THE LATE 1980s TO EARLY 1990, USED
FOR MAP BASE AND FEATURE ANALYSIS

Path/Row	EDC[1] Entity No.	Date
045/119	4045119008903910	08 Feb 1989
050/116	4050116008905810	27 Feb 1989
050/117	4050117008907410	15 Mar 1989
050/118	4050118008902910	29 Jan 1990
050/119	4050119009002910	29 Jan 1990
055/115	4055116008902910	28 Dec 1988
055/116	4055116008902910	29 Jan 1989
055/117	4055117008902910	29 Jan 1989
060/114	4060114008835010	15 Dec 1988
060/115	4060115008835010	15 Dec 1988

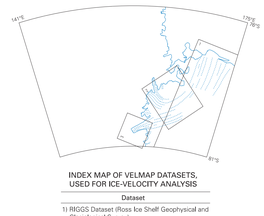
[1]EROS Data Center, U.S. Geological Survey.



INDEX MAP OF LANDSAT 1 MSS IMAGES
FROM THE 1970s, USED FOR FEATURE ANALYSIS

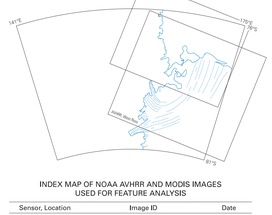
Path/Row	EDC[1] Entity No.	Date
046/119	1046119007401690	16 Jan 1974
052/116	1052116007400490	04 Jan 1974
052/117	1052117007400490	04 Jan 1974
056/116	1056116007400890	08 Jan 1974
060/116	1060116007335990	25 Dec 1973

[1]EROS Data Center, U.S. Geological Survey.



INDEX MAP OF VELMAP DATASETS,
USED FOR ICE-VELOCITY ANALYSIS

Dataset
1) RIGGS Dataset (Ross Ice Shelf Geophysical and Glaciological Survey)
2) Northwest Ross Ice Shelf Dataset
3) Byrd Glacier Dataset



INDEX MAP OF NOAA AVHRR AND MODIS IMAGES
USED FOR FEATURE ANALYSIS

Sensor, Location	Image ID	Date
AVHRR, WEST ROSS	ross_w_a12_lcs_001012_1529	12 Oct 2000
AVHRR, WEST ROSS	ross_w_a12_lcs_001230_1517	30 Dec 2000
AVHRR, WEST ROSS	ross_w_a14_lcs_010323_1424	23 Mar 2001
MODIS, WEST ROSS	rosswv_2002014_1835_modis_ch02	14 Jan 2002
MODIS, WEST ROSS	rosswv_2004106_1900_modis_ch02	17 Apr 2004
MODIS, WEST ROSS	rosswv_2005057_1900_modis_ch02	26 Feb 2005

COASTAL-CHANGE AND GLACIOLOGICAL MAP OF THE ROSS ISLAND AREA, ANTARCTICA: 1962–2005

By
Jane G. Ferrigno,[1] Kevin M. Foley,[1] Charles Swithinbank,[2] and Richard S. Williams, Jr.[3]

2010

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