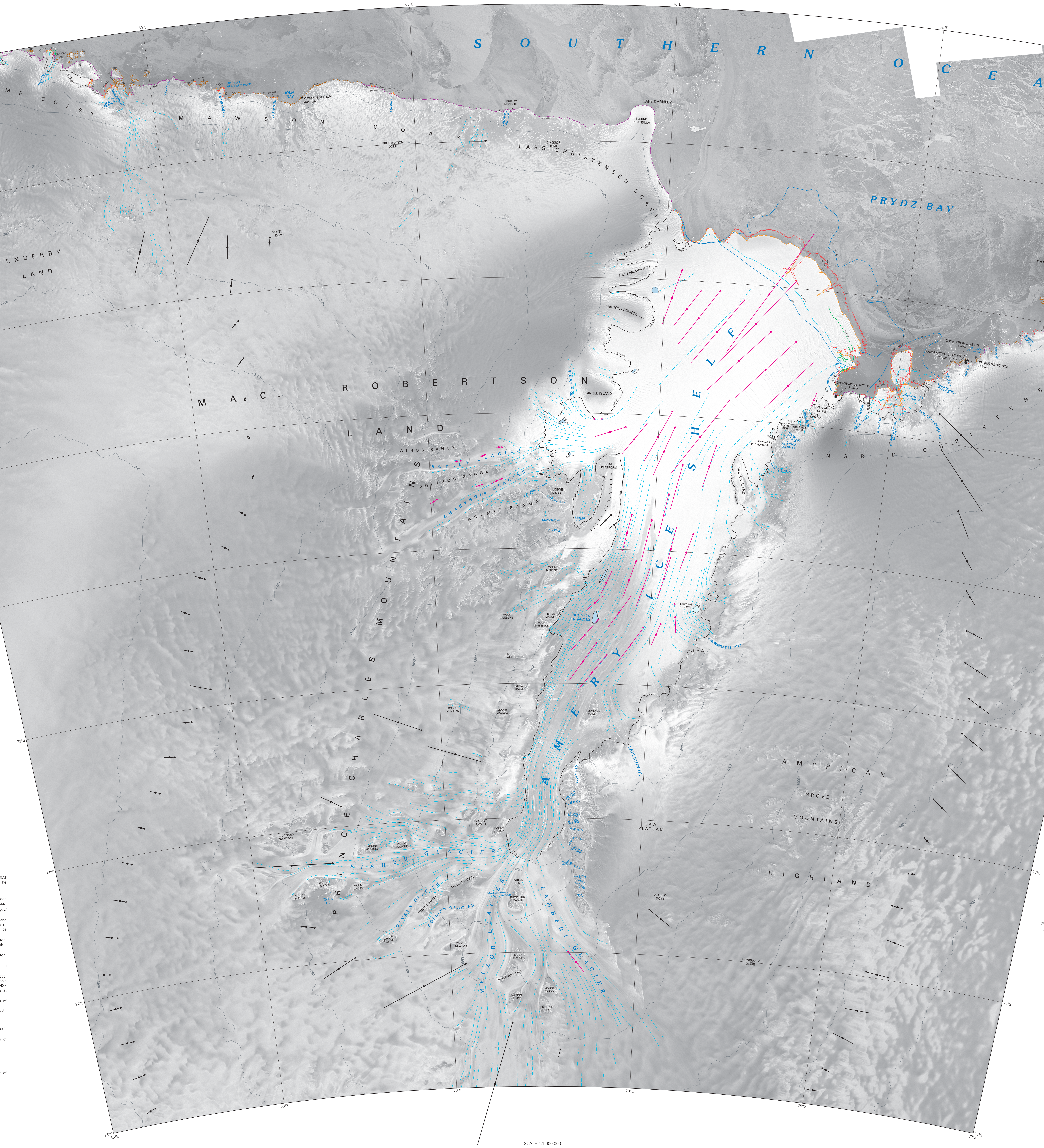
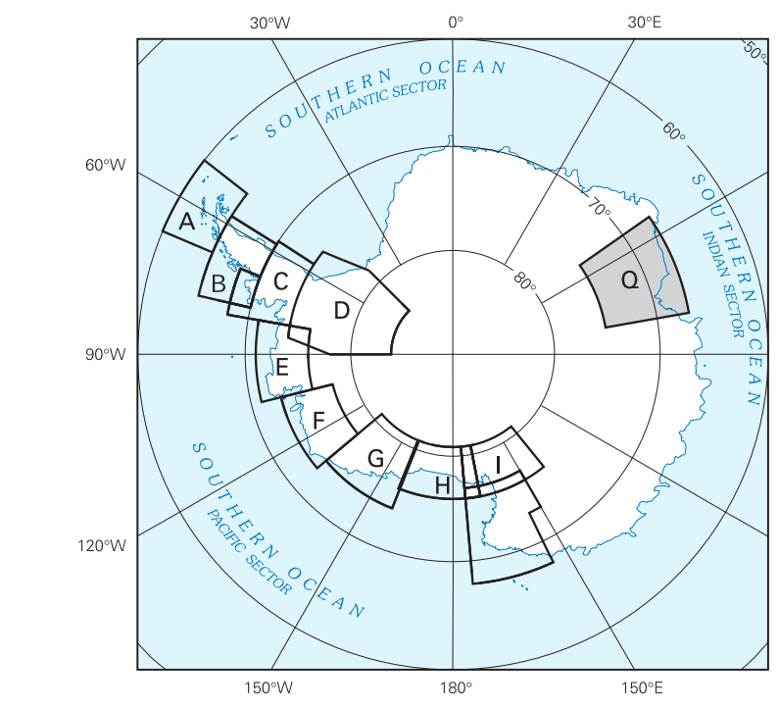
Prepared in cooperation with the
SCOTT POLAR RESEARCH INSTITUTE, UNIVERSITY OF CAMBRIDGE, UNITED KINGDOM





Index map of the planned coastal-change and glaciological maps of Antarctica at 1:1,000,000 scale. Amery Ice Shelf 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 2004—MODIS Mosaic of Antarctica (MOA) imagery

Ice front 1999–2004—Landsat Image Mosaic of Antarctica (LIMA) imagery, acquired between 1999 and 2004

Ice front 1997—RADARSAT imagery, acquired between 9 September and 20 October 1997

Ice front 1990s—Landsat imagery; date of observation shown

Ice front 1980s—Landsat imagery; date of observation shown

Ice front 1970s—Landsat imagery; date of observation shown

Ice front 1960s—U.S. Defense Mapping Agency (DMA) maps; date of observation shown

Ice wall—Date of observation shown

Rock coastline—Date of observation shown

Grounding line—Date of observation shown. Mostly from Landsat image analysis by Charles Swithinbank

Ice rise—Within a grounding line and (or) ice wall

Ice rumple—Within a grounding line and (or) ice wall

Flow line

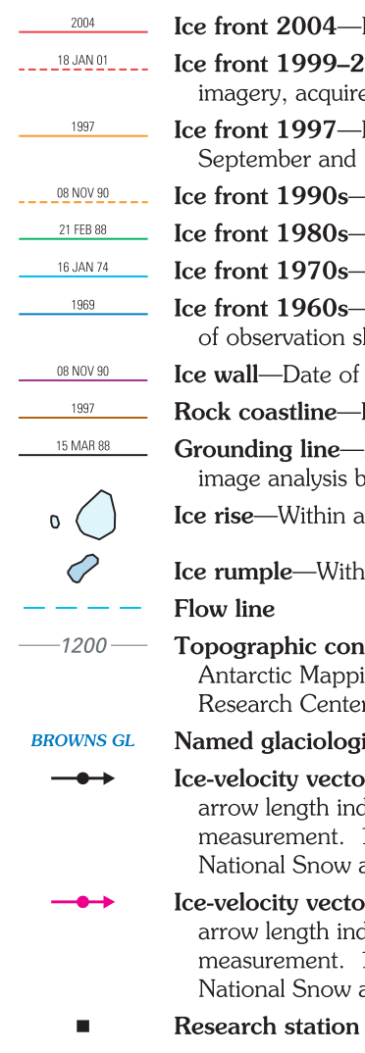
Topographic contour, in meters—Modified from RADARSAT Antarctic Mapping Project digital elevation model (Byrd Polar Research Center)

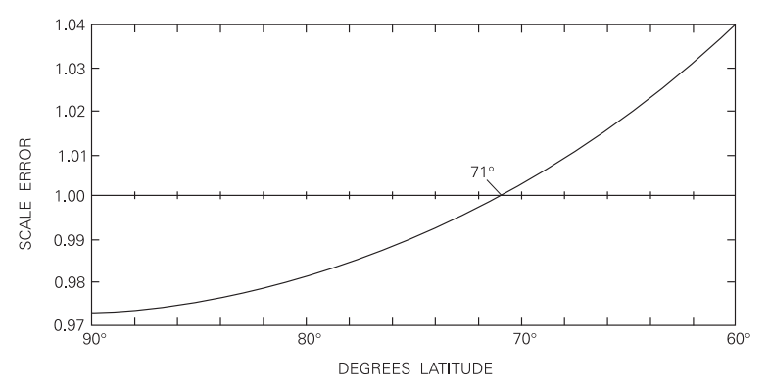
Named glaciological feature

Ice-velocity vector—Arrow orientation indicates direction of flow, arrow length indicates velocity, and center of dot indicates point of measurement. 1 mm = 1 m a^{-1}. Modified from VELMAP data, National Snow and Ice Data Center

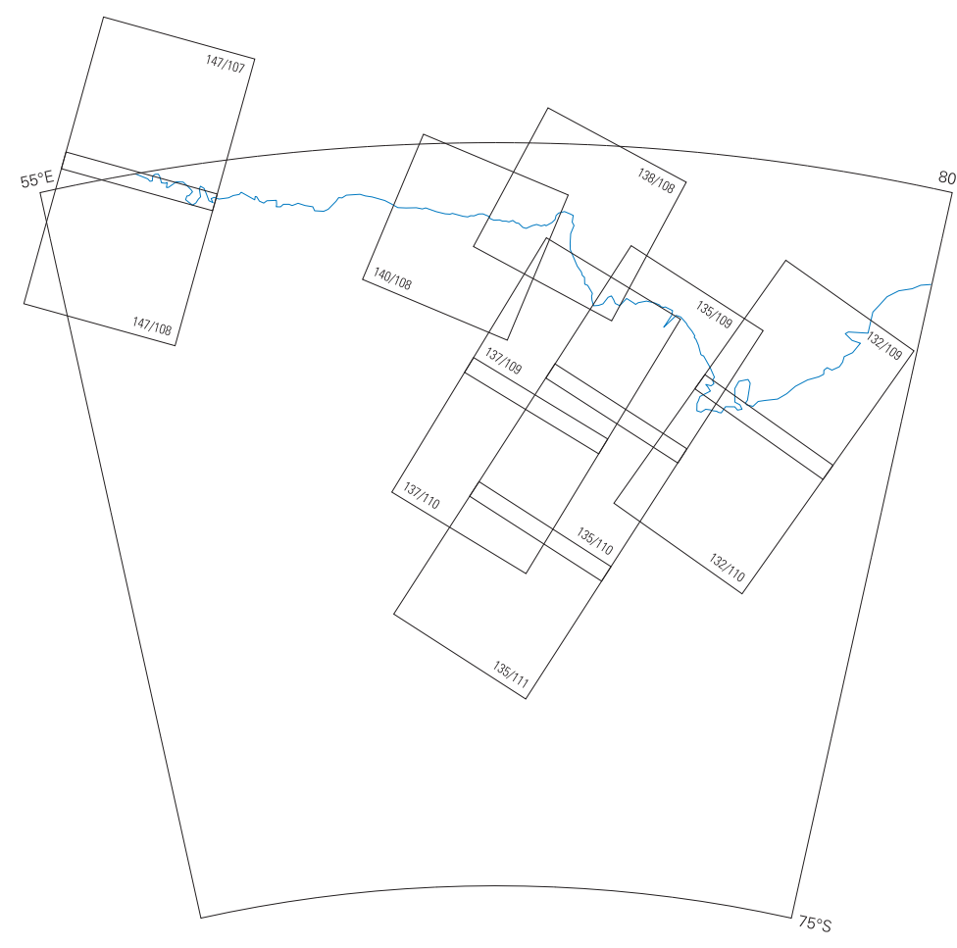
Ice-velocity vector—Arrow orientation indicates direction of flow, arrow length indicates velocity, and center of dot indicates point of measurement. 1 mm = 10 m a^{-1}. Modified from VELMAP data, National Snow and Ice Data Center

Research station





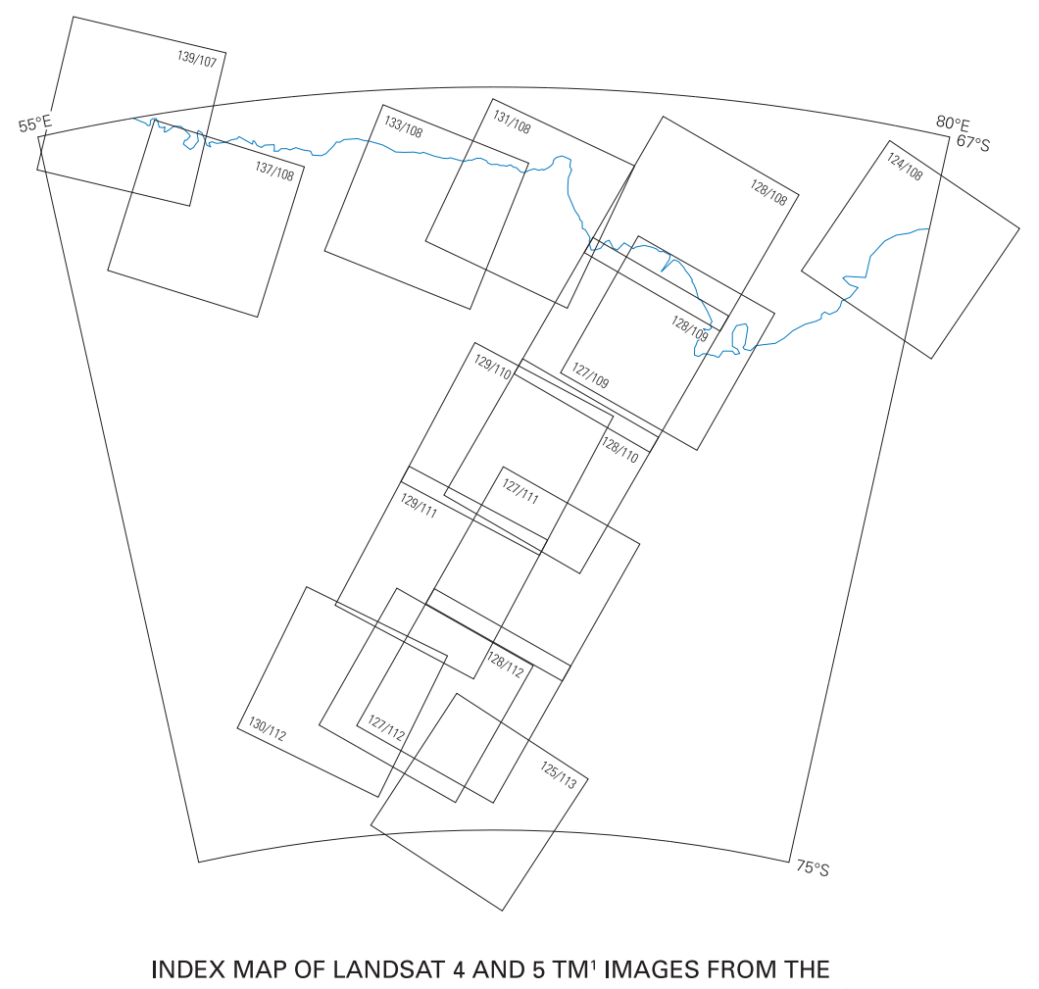
Graph showing scale error of polar stereographic projection with standard parallel at 71° S. Modified from Sievers and Bennat (1989).



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

Path/Row	Landsat Scene ID	Date
132/109	1179-02564	18 Jan 1973
132/110	1179-02571	18 Jan 1973
135/109	1542-03102	16 Jan 1974
135/110	1236-03150	16 Mar 1973
135/111	1236-03153	16 Mar 1973
137/109	1580-03205	23 Feb 1974
137/110	1580-03211	23 Feb 1974
138/108	1239-03313	19 Mar 1973
140/108	1151-03423	21 Dec 1972
147/107	1194-04221	02 Feb 1973
147/108	1194-04224	02 Feb 1973

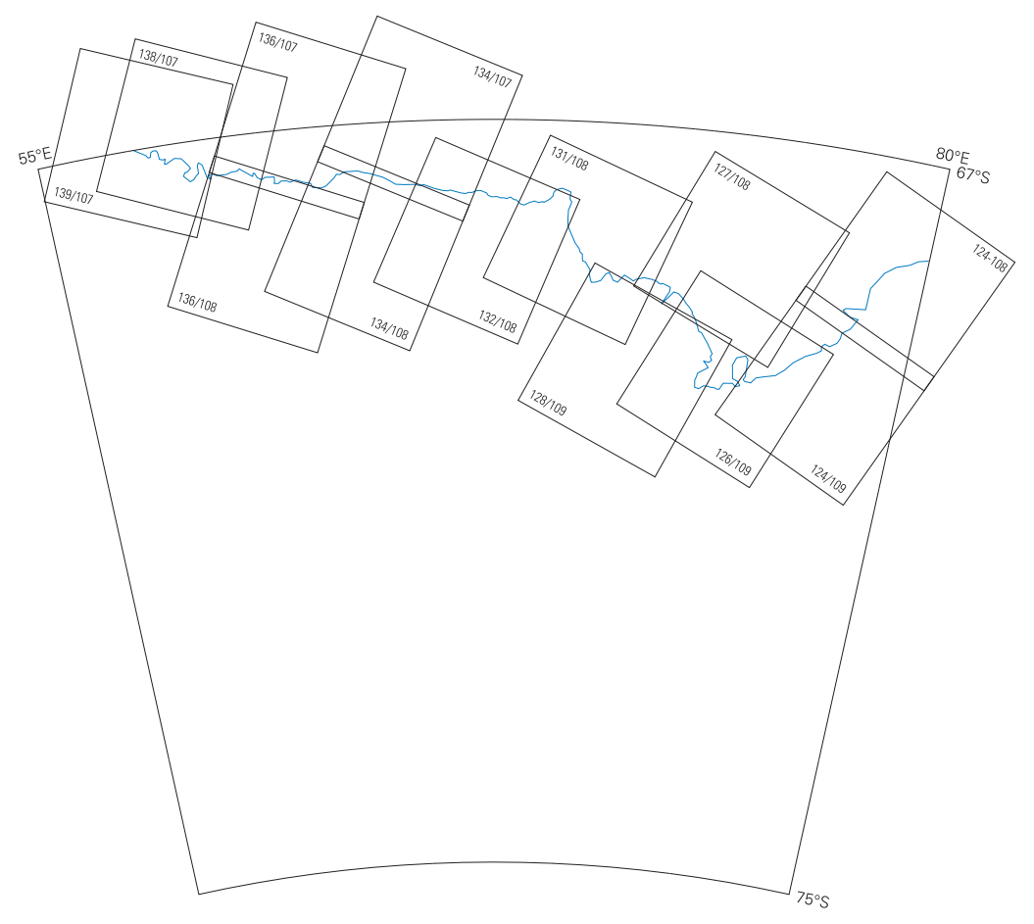
[1] Multispectral Scanner



INDEX MAP OF LANDSAT 4 AND 5 TM[1] IMAGES FROM THE LATE 1980s AND EARLY 1990s, USED FOR FEATURE ANALYSIS

Path/Row	Landsat Scene ID	Date
124/108	E 42745-03023	08 Nov 1990
125/113	E 42768-03102	12 Feb 1990
127/109	E 42046-03135	21 Feb 1988
127/111	E 42078-03153	24 Mar 1988
127/112	E 42078-03144	24 Mar 1988
128/108	E 42693-03274	29 Nov 1989
128/109	E 42069-03204	15 Mar 1988
128/110	E 42069-03210	15 Mar 1988
128/112	E 42437-03290	18 Mar 1989
129/110	E 42284-03323	16 Oct 1988
129/111	E 42060-03272	06 Mar 1988
130/112	E 42051-03334	26 Feb 1988
131/108	E 42074-03390	20 Mar 1988
133/108	E 42776-03574	20 Feb 1990
137/108	E 52554-04112	27 Feb 1991
139/107	E 42018-04261	24 Jan 1988

[1] Thematic Mapper



INDEX MAP OF LANDSAT 7 ETM+[1] IMAGES FROM THE EARLY 2000s, USED FOR FEATURE ANALYSIS

Path/Row	EDC[2] Entity No.	Date
124/108	LE7124108000101850	18 Jan 2001
124/109	LE7124109000101850	18 Jan 2001
126/109	LE7126109000300650	06 Jan 2003
127/108	LE7127108000306150	02 Mar 2003
128/109	LE7128109000232150	17 Nov 2002
131/108	LE7131108000234250	08 Dec 2002
132/108	LE7132108000233350	29 Nov 2002
134/107	LE7134107000005450	23 Feb 2000
134/108	LE7134108000233150	27 Nov 2002
136/107	LE7136107000100650	06 Jan 2001
136/108	LE7136108000100650	06 Jan 2001
138/107	LE7138107000232750	23 Nov 2002
139/107	LE7139107000235050	16 Dec 2002

[1] Enhanced Thematic Mapper Plus
[2] EROS Data Center, U.S. Geological Survey

Information sources:

RADARSAT SAR-1 image map mosaic of Antarctica, 1997 (RADARSAT Antarctic Mapping Project (RAMP), Byrd Polar Research Center, The Ohio State University); digital image.

Landsat scenes as indicated on index maps.

Images of Antarctic ice shelves (MODIS imagery), March 2000: Boulder, Colo., National Snow and Ice Data Center; http://nsidc.org; digital media.

Landsat Image Mosaic of Antarctica (LIMA); http://lima.usgs.gov/index.php

Haran, Terry, Bohlander, Jennifer, Scambos, Ted, Painter, Thomas, and Fahnestock, Mark, comps., 2005 (updated 2006), MODIS Mosaic of Antarctica (MOA) image map: Boulder, Colo., National Snow and Ice Data Center, digital media.

Riiser-Larsen Peninsula to West Ice Shelf, 4th ed., 1984: Washington, D.C., Defense Mapping Agency Hydrographic/Topographic Center, 1:500,000-scale map.

Riiser-Larsen Peninsula to West Ice Shelf, 3d ed., 1961: Washington, D.C., U.S. Navy Topographic Office, 1:500,000-scale map.

National Snow and Ice Data Center (NSIDC), VELMAP Antarctic ice-velocity datasets, available at http://nsidc.org/data/velmap.

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)

Australian Antarctic Division 1:500,000-scale Satellite Image Maps of Australian Antarctic Territory
- Charybdis Glacier (Prince Charles Mountains), Sheet SR 41-42c, 1993
- Jetty Peninsula (Prince Charles Mountains), Sheet SR 41-42d, 1993
- Lars Christensen Coast, Sheet SR 41-42b (Extended), 1993
- Mawson Coast, Sheet SR 41-42a (Extended), 1993
- Southern Prince Charles Mountains, Sheet SS 40-42b (Extended), 1993, First edition

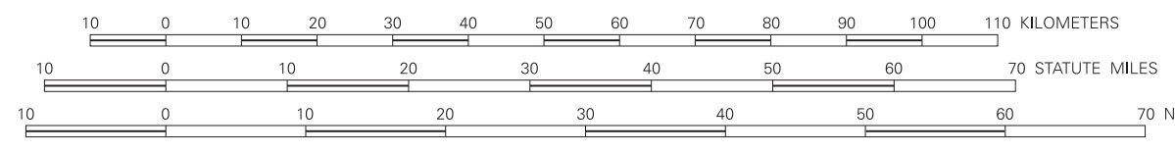
Australian Antarctic Division 1:100,000-scale Satellite Image Maps of Australian Antarctic Territory
- Beaver Lake, 1990
- Mawson Escarpment North, 1995
- Mawson Escarpment South, 1995
- Mount Menzies, 1997
- Scylla Glacier, 1992

Australian Division of National Mapping, ERTS Imagery Series maps of Australian Antarctic Territory
- Sheet SR 41-42d, scale 1:500,000, 1974
- Sheet SS 40-42b, scale 1:500,000, 1975
- Sheet SS 40-42/4, scale 1:250,000, 1975

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).

SCALE 1:1,000,000


10 0 10 20 30 40 50 60 70 80 90 100 110 KILOMETERS
10 0 10 20 30 40 50 60 70 STATUTE MILES
10 0 10 20 30 40 50 60 70 NAUTICAL MILES

POLAR STEREOGRAPHIC PROJECTION; STANDARD PARALLEL 71°S

CONTOUR INTERVAL 400 METERS

Contours modified from RADARSAT Antarctic Mapping Project (RAMP) digital elevation model (DEM).
Contours omitted where DEM data are in logical conflict with image base.

DATUM: MEAN SEA LEVEL

COASTAL-CHANGE AND GLACIOLOGICAL MAP OF THE AMERY ICE SHELF AREA, ANTARCTICA: 1961–2004

By

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

2013

AUTHOR AFFILIATIONS

[1] U.S. Geological Survey, 926A National Center, Reston, VA 20192-0002.
[2] Scott Polar Research Institute, University of Cambridge, Lensfield Road, Cambridge CB2 1ER, United Kingdom.
[3] U.S. Geological Survey, 384 Woods Hole Road, Woods Hole, MA 02543-1598.

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