ROADS AND TRACKS

- Metalled road
- Vehicle track
- Foot track
- Poled route; foot, vehicle

MISCELLANEOUS

- Large building
- Isolated building, hut
- Airstrip
- Helipad
- Beacon, tanks
- Mast, wind turbine
- Monument, plaque or signpost
- Ski tow
- Antarctic Specially Protected and Managed Area boundaries (ASPA156)

RELIEF FEATURES[1]

- Index contour
- Intermediate contours
- Perennial snow and ice contours
- Supplementary or indefinite contour
- Depression contours
- Shallow depression
- Elevation
- Crevasse
- Cliff, ice cliff
- Rock outcrops
- Saddle, cave
- Sand
- Alpine features
  - Moraine
  - Moraine wall
  - Scree

WATER FEATURES

- Fast or bay ice
- Coastline
- Ice shelf
- Disturbed ice
- Ice stream
- Melt stream

Acknowledgments

Base Imagery:
LIMA (NASA, BAS, NSF, USGS)
www.lima.usgs.gov

Antarctic Speciality Protected & Managed Areas data:
Environmental Research & Assessment (2011)

New Zealand Geographic Names:
New Zealand Geographic Board
Ngā Pou Taunaha o Aotearoa (NZGB)

Non New Zealand Geographic Names, example *[Dot Cliff]*: SCAR Composite Gazetteer of Antarctica
www.data.aad.gov.au/aadc/gaz/scar/

Dry Valleys photogrammetry:
NZ Government (DOSLI & LINZ)
US Geological Survey

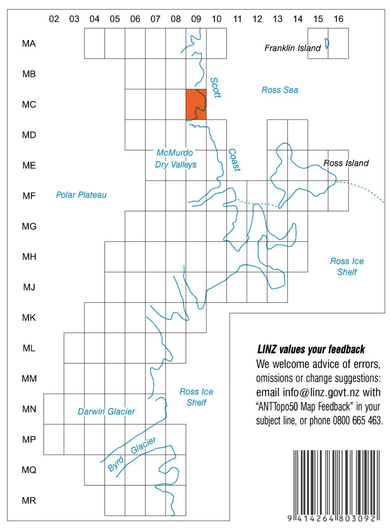
Ross Island track data:
Polar Geospatial Center
www.pgc.umn.edu

IMPORTANT INFORMATION:

1. Contours and spot elevations in snow areas may be less accurate.
2. The vertical interval between contours is 50 metres.
3. The location of tracks on sea ice is subject to annual change.
4. Representation on this map of a road or track does not necessarily indicate permitted access.
5. Ice shelf and sea ice extents as per 1993 data.
6. Absence of a crevasse symbol does not necessarily indicate a crevasse-free area.

ANTTopo50-MC09
Edition 1.00 Published 2012. Imagery 1993 with limited updates 2012

A Map Reading Guide and more information about map updates are available at **www.linz.govt.nz**



LINZ values your feedback
We welcome advice of errors, omissions or change suggestions: email info@linz.govt.nz with "ANTTopo50 Map Feedback" in your subject line, or phone 0800 665 463.

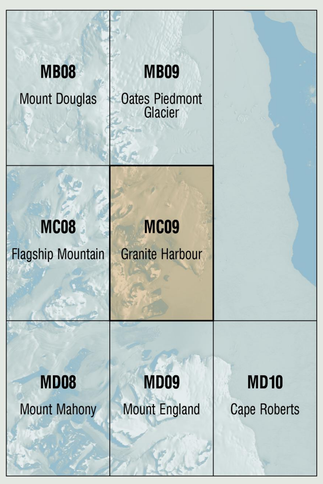
ANTTopo50-MC09 Granite Harbour

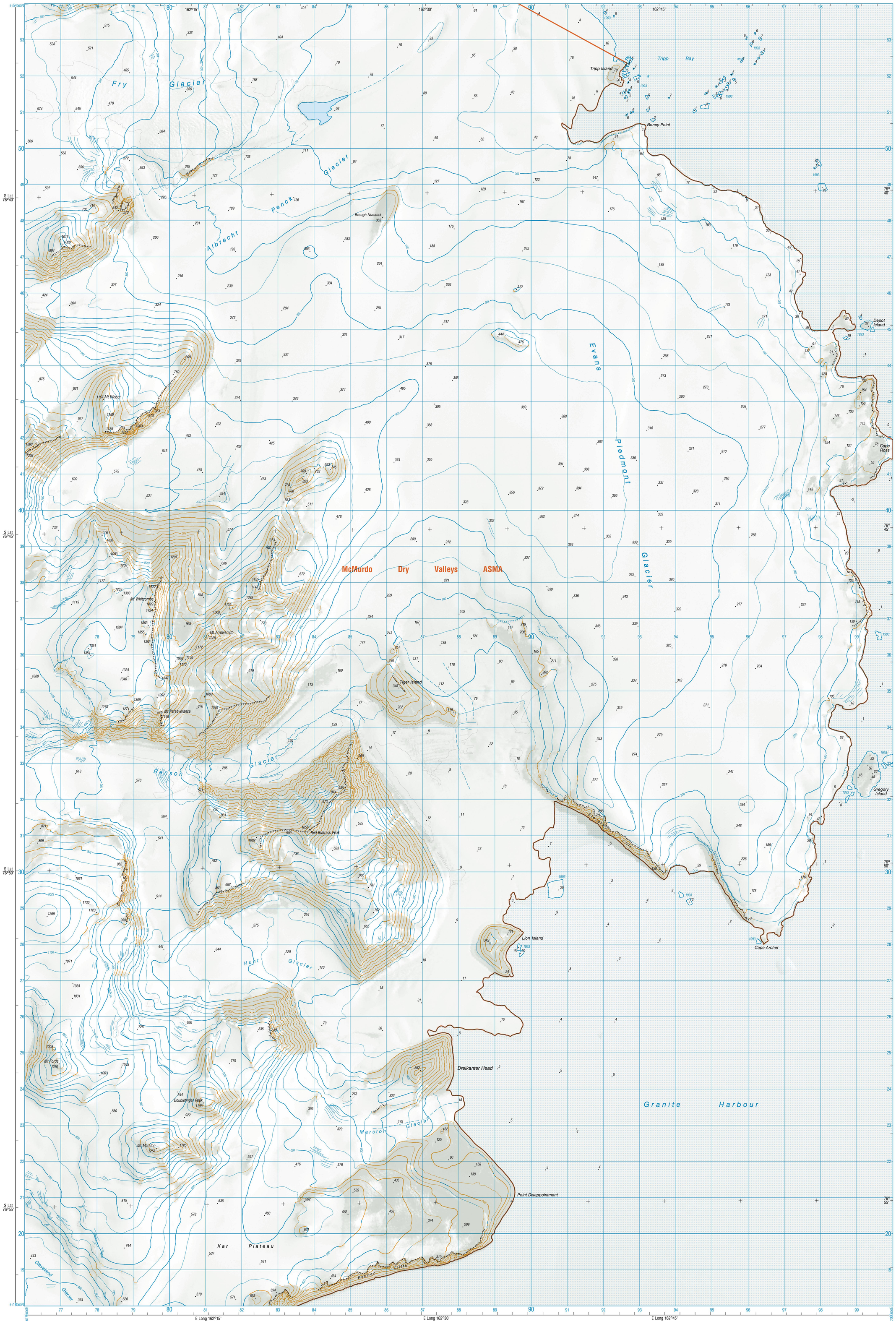
Topo50 Map

Ross Sea Region McMurdo Sound

Granite Harbour

ANTTopo50-MC09 **1:50 000**

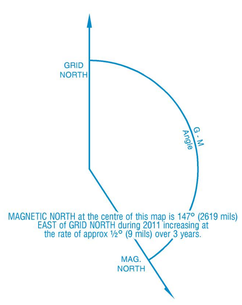




SCALE 1:50 000

THE VERTICAL INTERVAL BETWEEN THE CONTOURS IS 20 OR 50 METRES
(See IMPORTANT INFORMATION panel for the vertical interval on this sheet)

1 0 1 2 3 4 5 6 7 8 9 10 kilometres



HORIZONTAL DATUM: Ross Sea Region Geodetic Datum 2000 (RSRGD2000)
For practical purposes, RSRGD2000 equates to WGS84

VERTICAL DATUM: Mean Sea Level

PROJECTION: McMurdo Sound Lambert Conformal 2000 (MSLC2000)

PARAMETERS

Spheroid: GRS80
Origin Latitude: 78° South; Origin Longitude: 163° East
False Northing: 5 000 000mN; False Easting: 7 000 000mE
Standard Parallels: 76°40' South and 79°20' South

TO GIVE A GRID REFERENCE ON THIS MAP
(To nearest 100 metres)

Sample Point: • *Mt Whitcombe (697950E 5137523N)*

East		North	
1. Locate the first VERTICAL grid line to the LEFT of the point.		4. Locate the first HORIZONTAL grid line BELOW the point.	
2. Read the grid values labelling the line in either the top or bottom margin or across the middle of the map.	79	5. Read the grid values labelling the line in either the left or right margin of the map.	37
3. Estimate tenths of a grid square eastwards from the grid line to the point.	6	6. Estimate tenths of a grid square northwards from the grid line to the point.	5
	796		375

Grid Reference (Quote sheet number first): **MC09 796375**

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