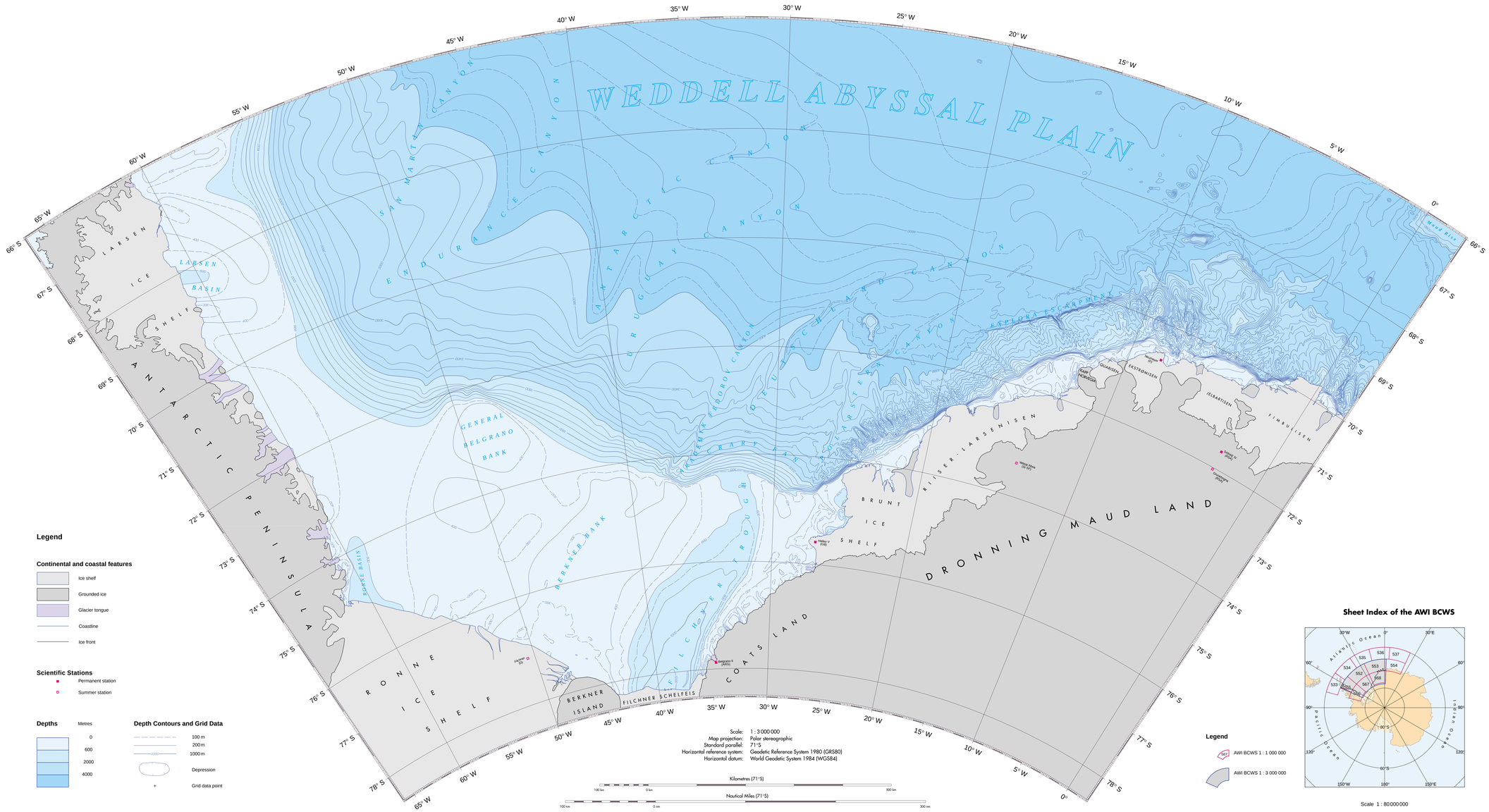
Alfred Wegener Institute for Polar and Marine Research

AWI Bathymetric Chart of the Weddell Sea, Antarctica, 1 : 3 000 000 at 71°S

AWI BCWS 1 : 3 000 000 Southern Weddell Sea



Legend

Continental and coastal features

- Ice shelf
- Grounded ice
- Glacier tongue
- Coastline
- Ice front

Scientific Stations

- Permanent station
- Summer station

Depths

Metres

0
600
2000
4000

Depth Contours and Grid Data

- 100 m
- 200 m
- 1000 m
- Depression
- Grid data point

Scale: 1 : 3 000 000
Map projection: Polar stereographic
Standard parallel: 71°S
Horizontal reference system: Geodetic Reference System 1980 (GRS80)
Horizontal datum: World Geodetic System 1984 (WGS84)

Kilometres (71°S)
100 km 0 km 500 km

Nautical Miles (71°S)
100 nm 0 nm 300 nm

Sheet Index of the AWI BCWS

Scale 1 : 80 000 000

Legend

- AWI BCWS 1 : 1 000 000
- AWI BCWS 1 : 3 000 000

General Information

THIS CHART IS NOT TO BE USED FOR NAVIGATION.
Due to incomplete survey coverage uncharted dangers may exist, particularly at depths less than 200 metres.

For information on navigation, magnetic variation, ocean currents, and ice in the Weddell Sea, consult the Sailing Directions and Routing Charts and contact the national hydrographic offices or the International Hydrographic Bureau (IHB).
For information on research stations and glaciology contact the Scientific Committee on Antarctic Research (SCAR).

Digital bathymetry is part of the General Bathymetric Chart of the Oceans (GEBCO) Digital Atlas (GDA), published by the British Oceanographic Data Centre (BODC), Birkenhead, UK, on behalf of the Intergovernmental Oceanographic Commission of UNESCO (IOC) and the International Hydrographic Organization (IHO) as part of the GEBCO (IOC, IHO, and BODC 1997: "GEBCO '97. The 1997 Edition of the GEBCO Digital Atlas").

The map projection parameters are in accordance with the SCAR Working Group on Geodesy and Cartography recommendations: Standard symbols for use on topographic maps of Antarctica. Division of National Mapping, Canberra, Australia, 1961.

Mean Sea Level (MSL) is used as vertical datum. Depth values are referenced to instantaneous sea level at the time of observation. Depths are shown in metres assuming a sound velocity in water of 1 500 m/s. Tidal heights throughout the area are in the order of 2 m.

Multibeam survey by RV "Polarstern" carried out by Jens Focke, Rick Hagen, Klemens Heidland, Heinrich Hinze, Jürgen Monk, Fred Niederjasper, Hans Werner Schenke, Tilo Schöne, and Stefan Steinmetz.

Geographical names and their spelling do not necessarily reflect recognition of the political status of an area by the editor. References for names:

- IHO/IOC Gazetteer of Geographic Names of Undersea Features. IHB Publication B-8, 1994.
- Gazetteer of the Antarctic. Defence Mapping Agency (USA), 4th edition April 1990.
- The Antarctic Pilot. Hydrographer of the Navy (USA), 4th edition, 1974, corrected to 2nd Sept. 1981.
- Index of German-Language Antarctic Place Names. Institut für Angewandte Geodäsie, Frankfurt am Main, 1993.

This chart forms part of the publication:
Schenke, H.W., H. Hinze, S. Dijkstra, B. Hoppmann, F. Niederjasper, T. Schöne, 1997: The New Bathymetric Charts of the Weddell Sea. AWI BCWS. In: Jacobs, S., R. Weiss (ed.). Antarctic Research Series Vol. 75, AGU, Washington D.C.

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Source Data

1 General Bathymetric Chart of the Oceans (Data from GEBCO Digital Atlas)
IOC, IHO, and BODC, 1994: "Supporting Volume to the GEBCO Digital Atlas", published on behalf of the Intergovernmental Oceanographic Commission of UNESCO (IOC) and the International Hydrographic Organization (IHO) as part of the General Bathymetric Chart of the Oceans (GEBCO); British Oceanographic Data Centre (BODC), Birkenhead, UK.
GEBCO Sheets 5.16 and 5.18: bathymetric contours, track lines, and bedrock contours.

2 Hydrographic Institutions

2.1 International Hydrographic Organization (IHO).
IHO Data Centre for Digital Bathymetry (IHO DCDB), Boulder, Colorado; US NGDC: Nov. 1992 - April 1993.

2.2 National Hydrographic Offices: Nautical Charts (various scales)
Argentina
Brasil
Chile
Soviet Union/Russia
United Kingdom

2.3 National Hydrographic Offices: Plotting Sheets (various scales)
GEBCO Ocean Plotting Sheets (OPS) 1:1 000 000 by:
Argentina
Republic of South Africa
United Kingdom
Plotting Sheets 1:500,000 by:
Argentina
Soviet Union/Russia

2.4 National Hydrographic Offices: Digital Data
Norway
United Kingdom
United States of America

3 Scientific Institutions

3.1 Scientific Research Institutes
Alfred Wegener Institute for Polar and Marine Research, Bremerhaven, Germany:
RV "Polarstern" Antarctic expedition data since 1983. Multibeam data from Seabeam and Hydrosweep systems; single beam data from navigation-, narrow beam-, and Parasound echosounders.
Japan Oceanographic Data Centre (JODC), Tokyo, Japan: JARE expedition data.
Norsk Polar Institutt (NPI), Oslo, Norway: NARE expedition data 1977, 1979, 1985, 1993.
A. Solheim, pers. comm.
Semorgeologia, St. Petersburg, Russian Federation: expedition data: V. Krukov and V.S. Pozdeev, pers. comm.

3.2 Scientific References
Drewry, D.J. (ed.) 1983: Glaciological Folio. Scott Polar Res. Institute, Cambridge.
Ghidella, M.E., J.L. LaBrecque 1991: Consideraciones sobre la morfologia del Mar de Weddell-arete basados en datos aeromagnéticos. In: Actas, Primera Conferencia Latinoamericana sobre Geofisica, Geodesia e Investigacion Espacial Antartica 1990, Proc. p. 34-44, Buenos Aires.
Hoppe H., F. Thyssen 1988: Ice thickness and bedrock elevation in western Neuschwabenland and Berkner Island, Antarctica. Annals of Glaciology 11, p. 42-45.
Hudyncrin, P. 1992: The Antarctic ice sheet and environmental change: a three-dimensional modelling study. Ber. Polarf. 99.
Japan. Ant. Res. Exped. (JARE): JARE Data Reports 76-149, 1980-1987.
Kennet, P. 1966: Reconnaissance gravity survey of the Larsen Ice Shelf. BAS Bull. 8, p. 49-62.
Kobarg, W. 1988: The tide-dependent dynamics of the Ekstroem Ice Shelf, Antarctica. Ber. Polarf. 50.
Pozdeyev, V.S. (Pozdeev), R.G. Kurinin, 1987: New data on the morphology of the ice cover and relief of the subglacial bed and sea bed bottom in the southern part of the Weddell Sea basin (West Antarctica). Antarktika, Doklady Komissii 26, p. 66-71.
Robin, G. de Q. 1958: Seismic Shooting and Related Investigations. Norwegian-British-Swedish Antarctic Expedition, 1949-52. Scientific Results V/III, NPI, Oslo.
Shipp H., F. Thyssen 1988: Ice thickness and bedrock elevation in western Neuschwabenland and Berkner Island, Antarctica. Annals of Glaciology 11, p. 42-45.
Thyssen, F. 1992: The Antarctic ice sheet and environmental change: a three-dimensional modelling study. Ber. Polarf. 99.

3.3 Other Sources
Drake, C.S.M., BAS, UK: Filchner-Ronne Ice Shelf oversnow traverse gravity data, calculation by B. Harrods 1989, pers. comm.
Hinze, H., AWI, Germany: Southern Ocean and Antarctica collected depth and bedrock data. Internal report.
Huber, B., LDEO, USA: Weddell Ice Drift Station depth data. Joint US-SU expedition 1992, pers. comm.
Sloan, B.J., Inst. of Geophysics, Univ. of Texas at Austin: RV "Palmer" NBP93-1 cruise data 1993, pers. comm.

4 Satellite Altimetry Geophysical Data
Sandwell, D.T., W.H.F. Smith, 1992: Global Marine Gravity from ERS-1, Geosat and Seasat reveals New Tectonic Fabric. EOS trans. AGU 73, p.133, Fall 1992 AGU Meeting Supplement.
Schöne, T. 1997: Ein Beitrag zum Schwerefeld im Bereich des Weddellmeeres, Antarktika: Zur Nutzung von Altimetermessungen des GEOSAT und ERS-1. Ber. Polarf. 220.
Rayer, J.Y., L.M. Gahagan, L.A. Lawver, C.L. Meyer, D. Nürnberg, D.T. Sandwell, C.R. Scotese, 1990: A tectonic chart for the Southern Ocean derived from Geosat altimetry data. In: St.John, B. (ed.): Antarctica as an exploration frontier. AAPG Studies in Geology 31, Sympos. on Ant. 1987, Proc. p. 89-99.

5 Topographic Data
IFAG and AWI 1994: Digital topographic Antarctic database; Version 1.94 (G.) Institut für Angewandte Geodäsie (IFAG), Frankfurt am Main, and Alfred-Wegener-Institut (AWI), Bremerhaven, Germany.

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