

International Bathymetric Chart of the Southern Ocean IBCSO

- Status Report 2011 -



Hans Werner Schenke

Alfred Wegener Institute for Polar and Marine Research

Technical Support



Intergovernmental Oceanographic Commission (IOC)



Scientific Committee on Antarctic Research (SCAR)



Hydrographic Committee on Antarctica (HCA) of IHO



General Bathymetric Chart of the Oceans (GEBCO)



Alfred Wegener Institute for Polar and Marine Research

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Martin Jakobsson, (University Stockholm,
Sweden)

Data Originator and Provider

- Alfred Wegener Institute for Polar and Marine Research (**AWI**), Germany
- Australian Government Antarctic Division (**AAD**), Australia
- British Antarctic Survey (**BAS**), United Kingdom
- Geoscience Australia (**GA**), Australia
- IHO Data Center for Digital Bathymetry (**IHO DCDB**) at NGDC
- Institute of Geological Sciences (**IGS**), Ukraine
- Instituto Anadaluz de Ciencias de la Tierra (**IACT**), Spain
- Lamont-Doherty Earth Observatory (**LDEO**), Columbia University, New York, USA
- National Institute of Geology and Nuclear Sciences (**GNS**), New Zealand
- National Institute of Polar Research (**NIPR**), Japan
- NOAA's National Geophysical Data Center (**NGDC**), United States
- Polar Marine Geosurvey Expedition (**PMGE**), Russia
- Scripps Institution of Oceanography (**SIO**), University of California San Diego, USA
- United Kingdom Hydrographic Office (**UKHO**), United Kingdom
- Universidad de Granada **UG**), Spain
- Vernadsky Institute of Geochemistry (**GEOKHI**), Russia
- **VNIIO**keangeologia, Russia
- Woods Hole Oceanographic Institution (**WHOI**), USA

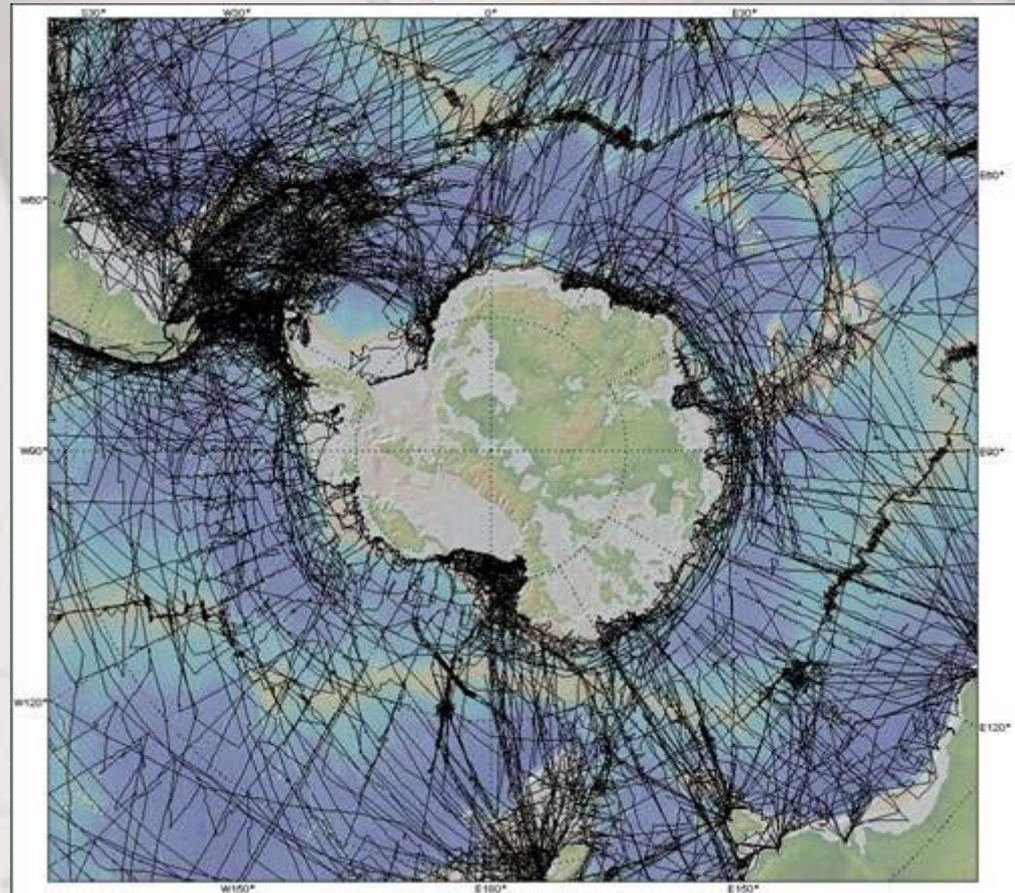
Specifications for the IBCSO grid generation

Parameter	Specification
Version	Bathymetry with ice surface (GLAS/ICESat) Antarctic coast line
Coverage Area	South of 60°S latitude, including Antarctica
Coordinate System	Geographic decimal degrees,
Map Projection	Polar Stereographic (true scale at 65°S)
Horizontal Datum	World Geodetic System 1984 (WGS 84)
Vertical Datum	Mean Sea Level (MSL)
Vertical Units	Meters
Grid Spacing	1 arc-minute, 2 km
Grid Format	ASCII Grid
Coastline	ADD (2006), RAMP (1997), LIMA (2008)

Single-beam Data

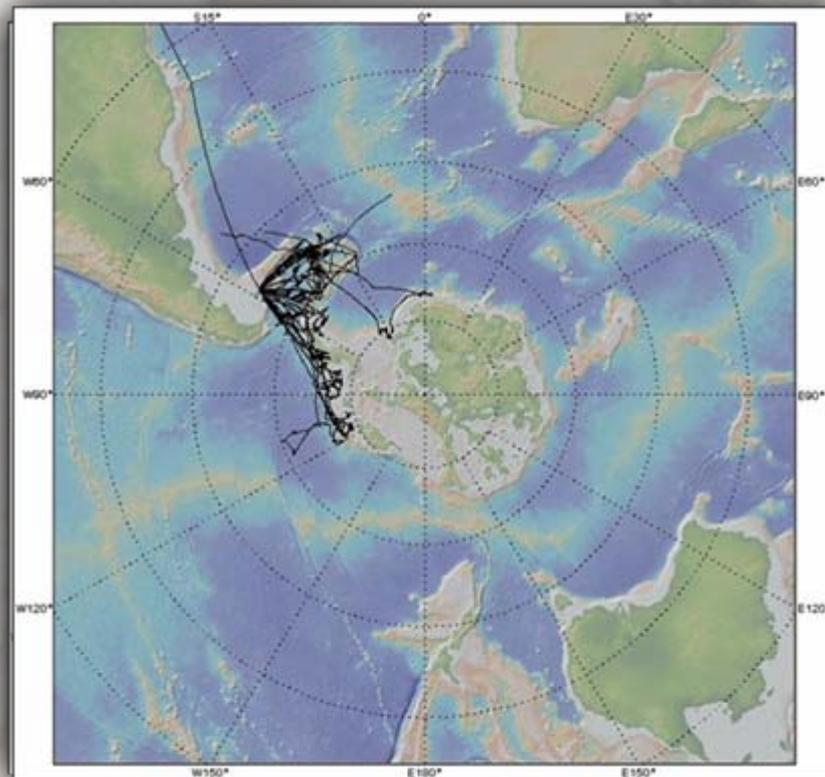
Data Source	Cruises
AAD, CSIRO, GA, Fishery	500
AWI	48
BAS, UKHO	123
GNS	170
IHO DCDB, NGDC	500
PMGE, VNIIO, Vernadsky	20
TOTAL	1361

[1] 300 data sets from fisheries



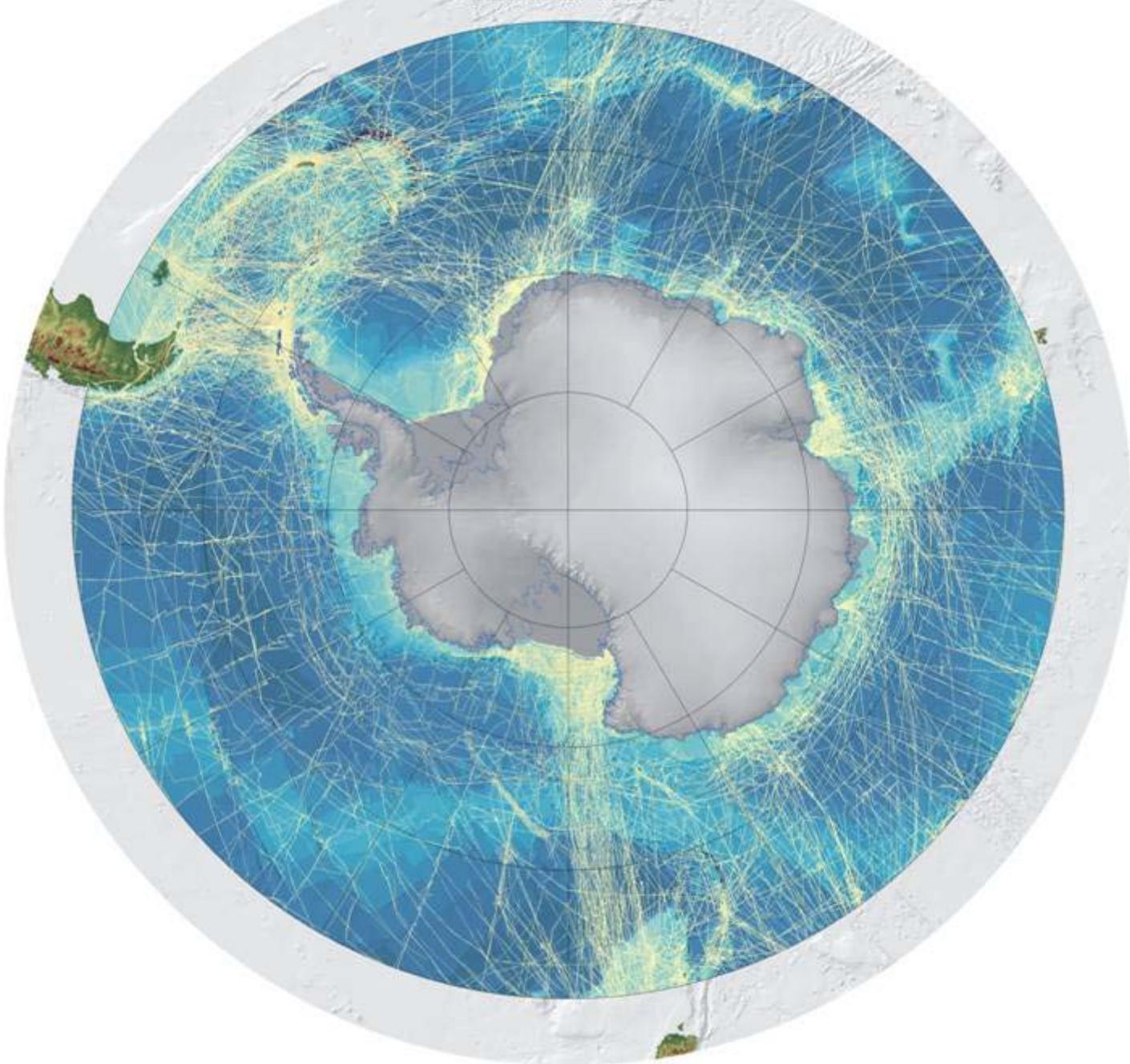
Multibeam Data

No.	Data Source	Cruises	Original data points	Nautical Miles
1.	<i>Polarstern</i>	48	950000000	XXX
2.	<i>Nathaniel B. Palmer</i>	40	XXX	XXX
3.	<i>James Clark Ross</i>	26	XXX	XXX
4.	<i>Others</i>	25	XXX	XXX
TOTAL		139	950000000	



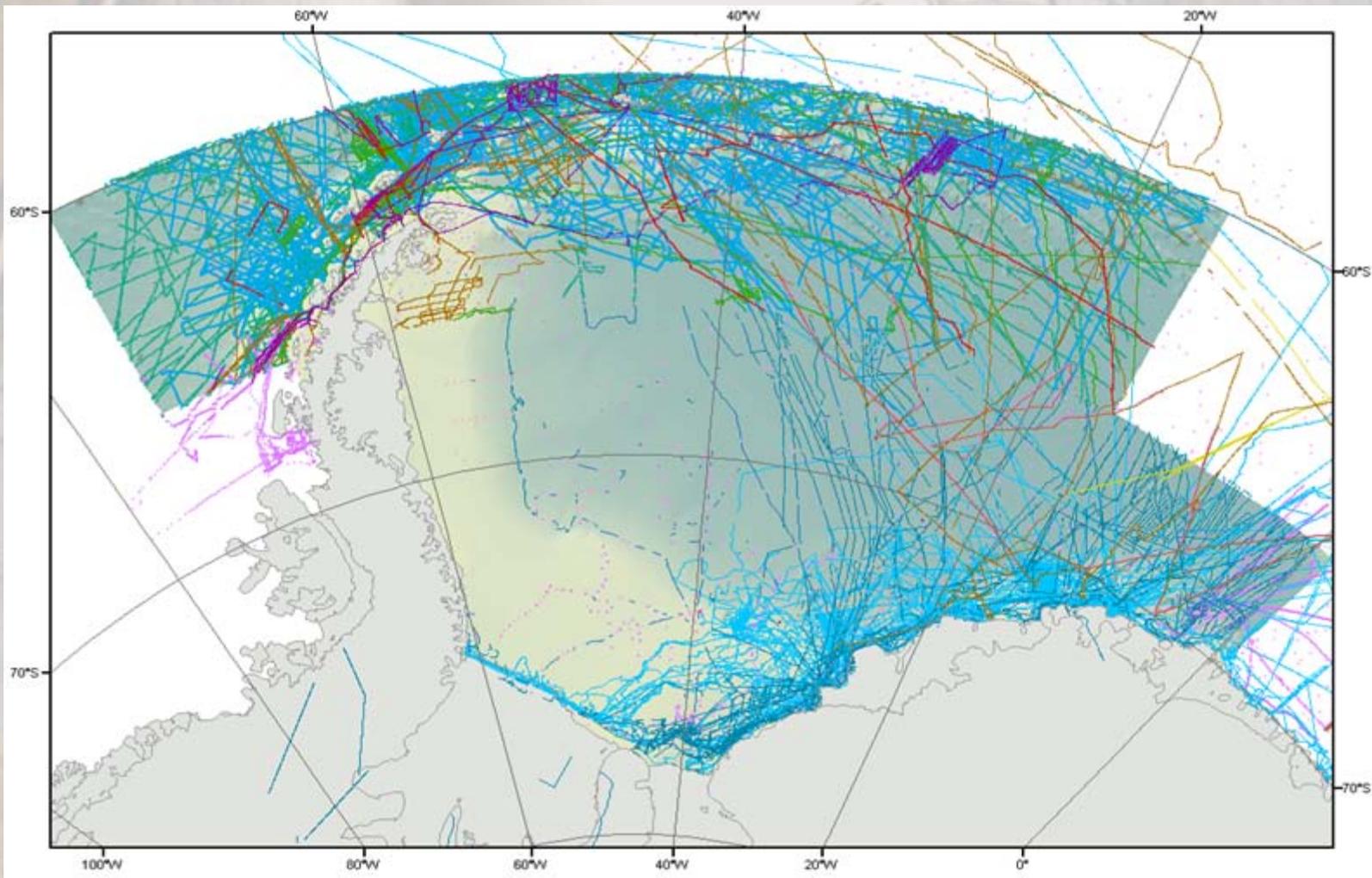
Bathymetric grid compilations used for the IBCS

	Grid Source	Year	Grid Size	Data Points	Sat. Altimetry
1.	Amundsen Sea	2008	250 m	n/a	n/a
2.	GEBCO Digital Atlas	2003	1 minute	n/a	n/a
3.	Heard Island	2005	500 m	~5,000,000	~17,000
4.	Kerguelen Plateau	2008	500 m	~34,000,000	~850,000
5.	Macquarie Island	2004	250 m	~57,400,000	~160,000
6.	Marguerite Bay	2004	75 m	n/a	0
7.	Ross Sea	2004	Xxx m	~50,000,000	n/a
8.	Scotia Sea	2005	200 m	35,000,000	0
9.	South Georgia Island	2008	150 m	n/a	n/a
10.	Weddell Sea	2001	1000 m	474,000,000	0
	TOTAL			665,000,000	1,100,000



9/27/20

Weddell Sea

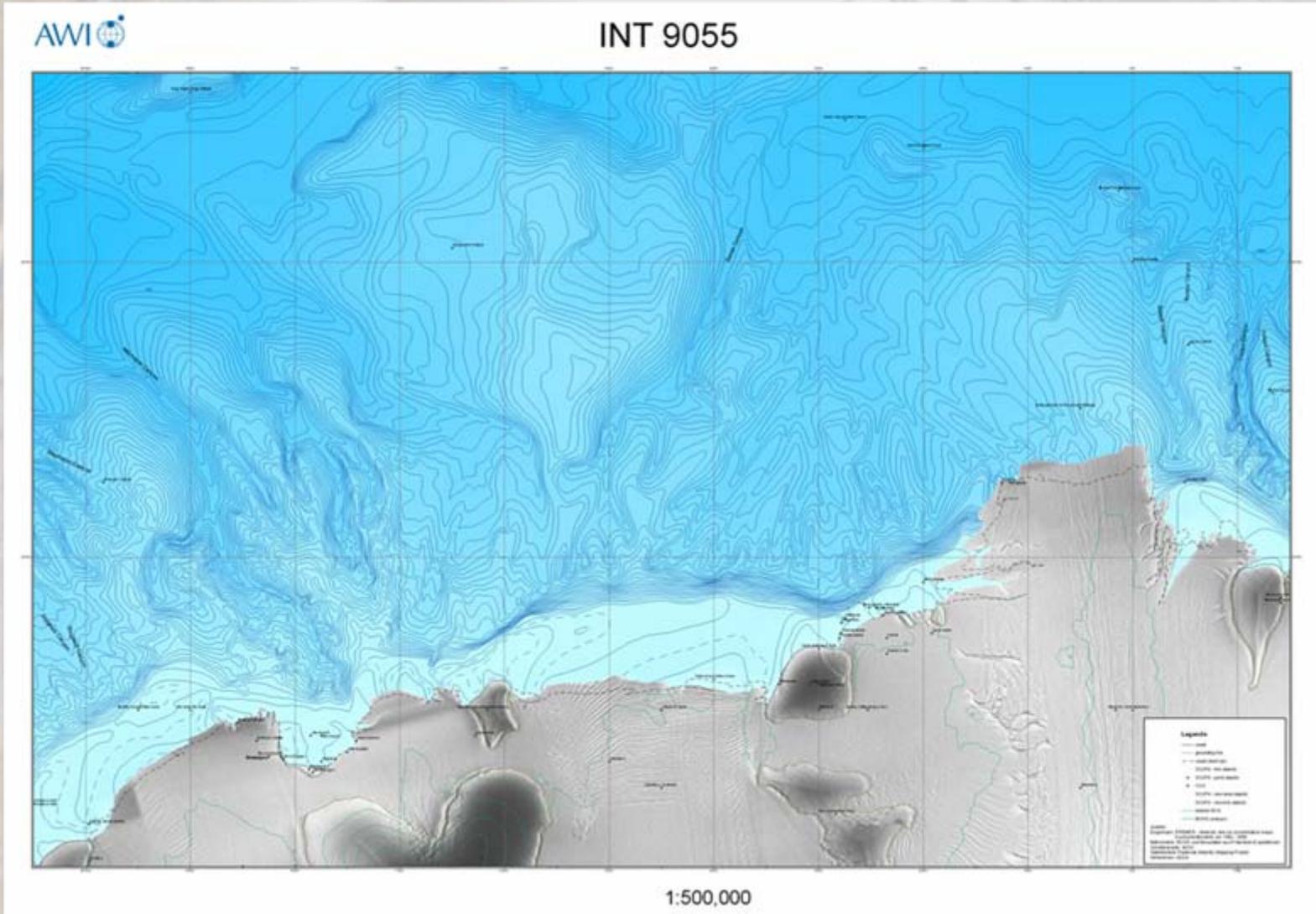


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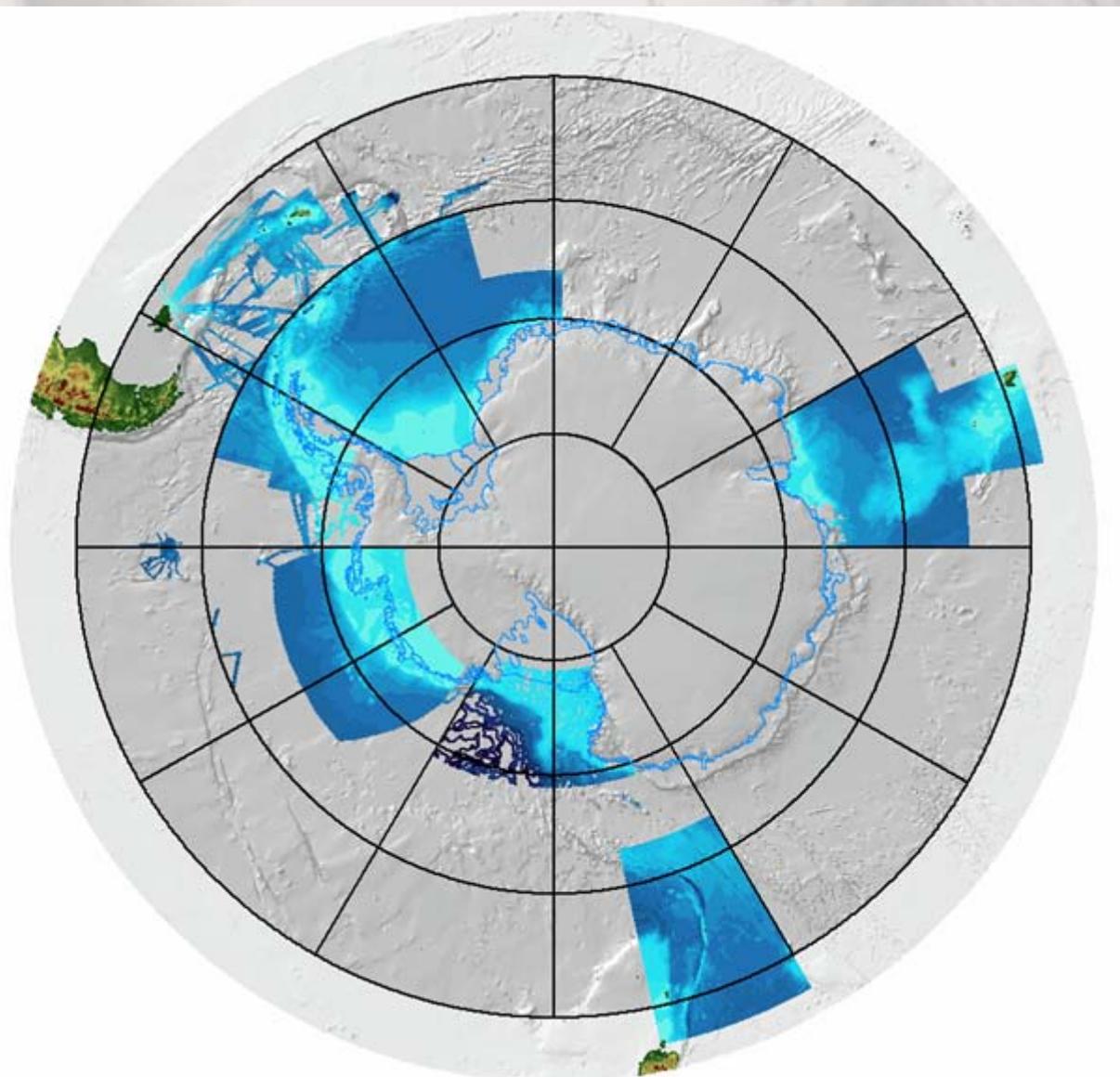
GEBCO-Meeting 2011
La Jolla



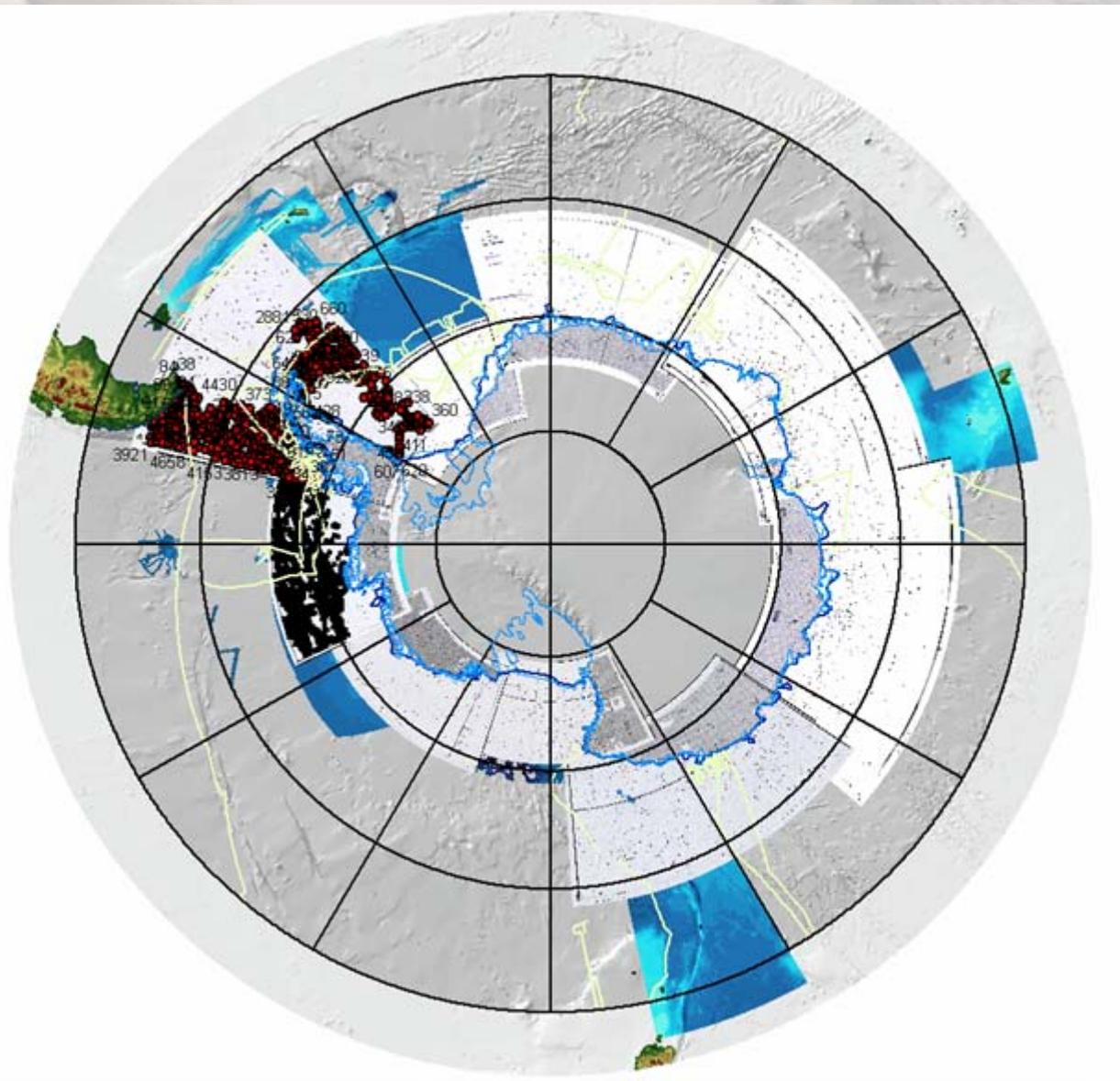
Example from the Weddell Sea



- US29005
- US29002r.img
- US29005r.img
- US29008r.img
- US29012r.img
- US29015r.img
- US29018r.img
- US29022r.img
- US29025r.img
- US29030r.img
- ADD5
- MOA
- Sediment_SO
- Mosaks
- NSIDC_Ant500m_wgs
- BEDMAP
- IBCSO
 - AWI_MB
 - NGDC_NBS
- Bathy_Grids
 - g0407g
 - elt_gr_cut
 - amubathy_1k
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 - bas_bathy
 - scotia_jdw
 - sgbd2008**
 - surface_17_1_all_tr
 - RossSea
 - kerguelen
 - macquarie
 - BCWS
 - bcws_dd
 - sndgs_gebco pc
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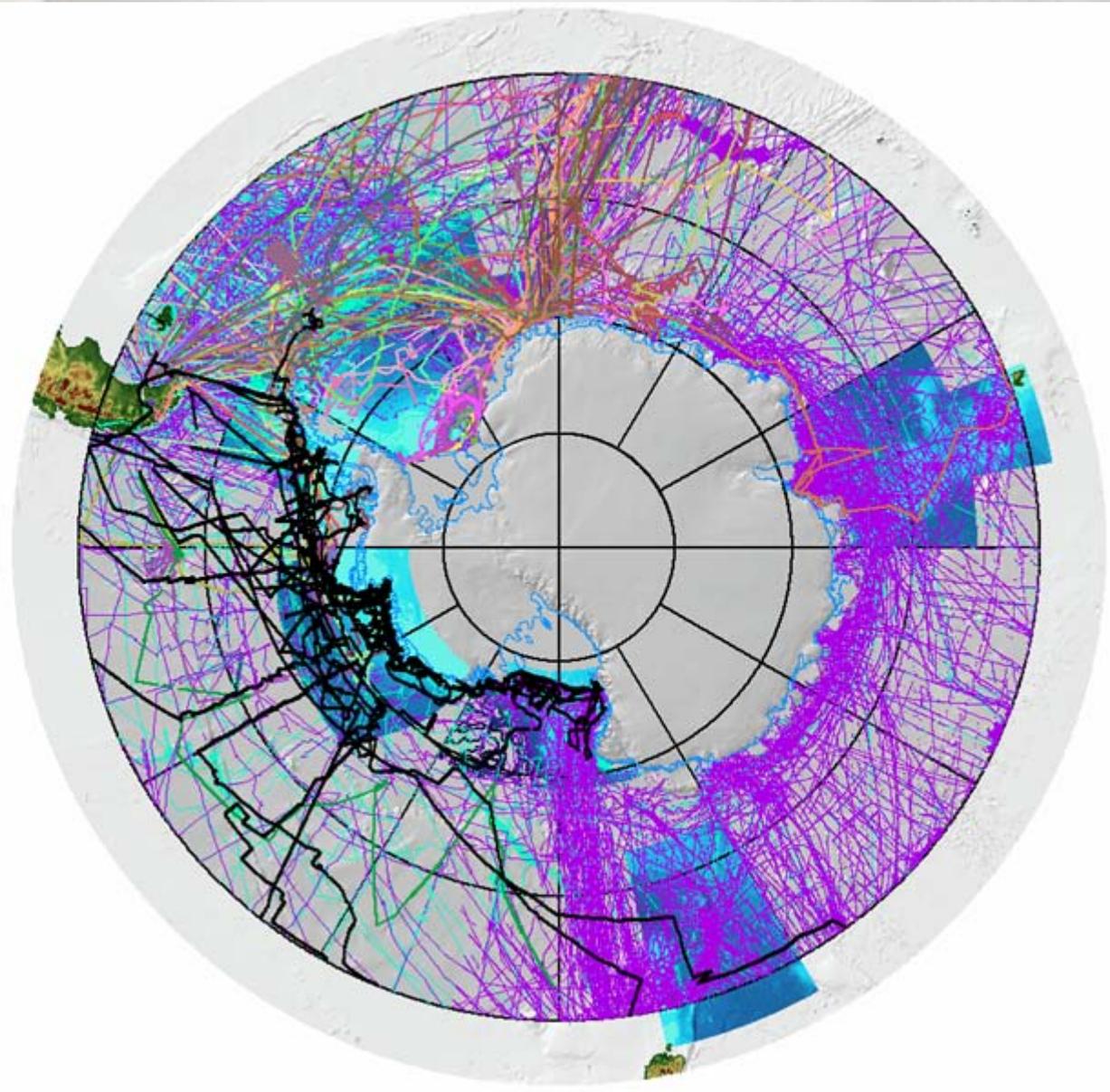


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- Sediment_SO
- Mosaics
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 - kerguelen
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 - bcws_30s
- GEBCO

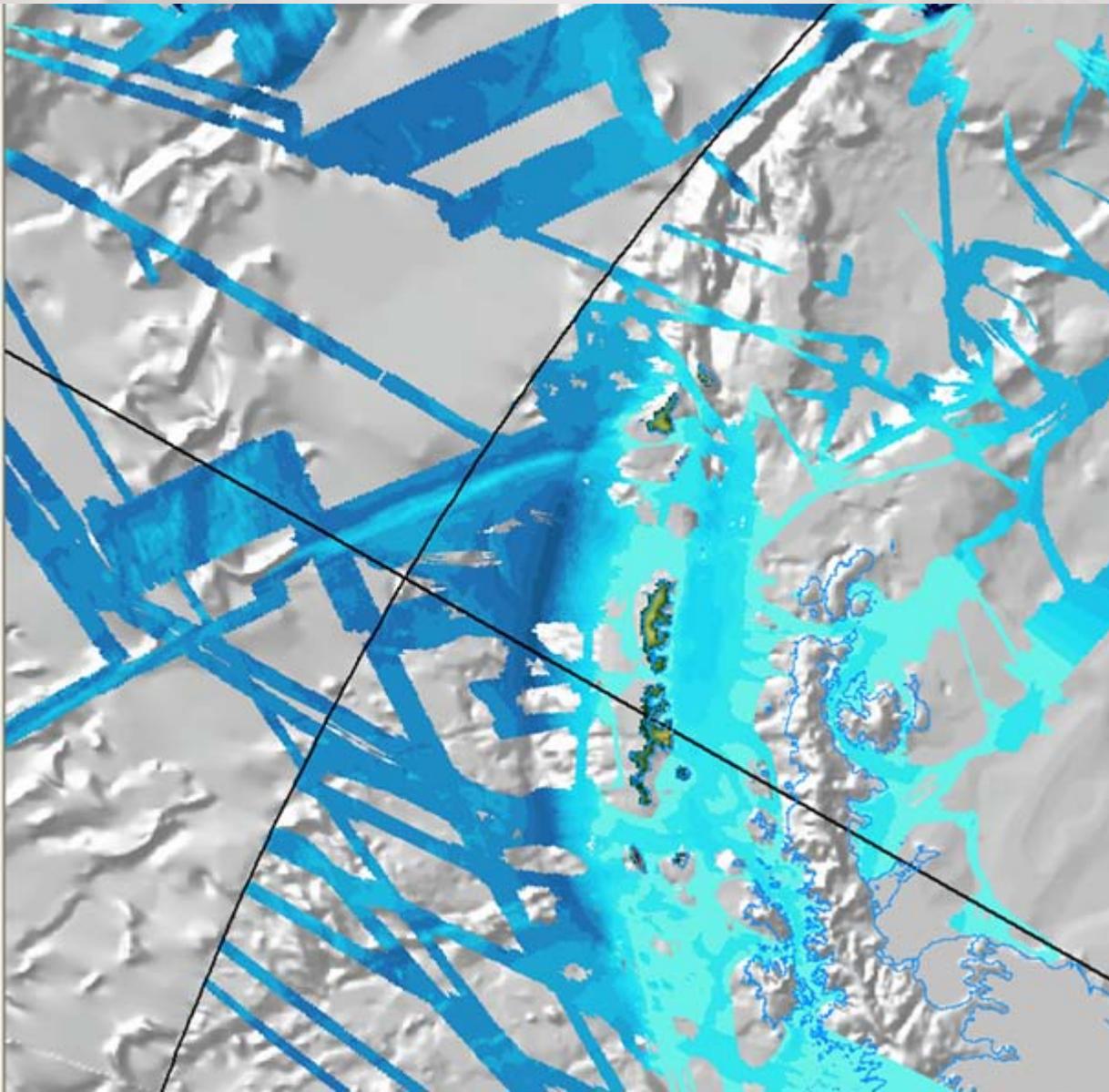


- stationen_geo
- gaz2009_so
- INT905
- areas
 - int905 polygon
 - int9055_area
 - bs_austr1 polygon
 - bs_ssforearc polygo
 - bs_ssandwichg poly
 - bs_eltaning polygon
 - poly50s_geo
- Tracks
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[Kein Titel]



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- US29018r.img
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 - bcws_dd
 - sndgs_gebco pc
 - bcws_30s
 - bcws 30s



Data Processing

Multibeam data post-processing

CARIS HIPS
IVS Fledermaus

DTM processing

ESRI ArcGIS

Map Making



Thank you!

