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International Bathymetric Chart of the Southern Ocean

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The Southern Ocean and adjacent waters surrounding Antarctica drive a range of climatic and oceanographic processes with global effects. The region is also characterised by high biological productivity and biodiversity. Since 2013, the International Bathymetric Chart of the Southern Ocean (IBCSO) represents the most comprehensive compilation of bathymetry in and authoritative map for the Southern Ocean and adjacent waters. IBCSO is a regional mapping project of the General Bathymetric Chart of the Oceans (GEBCO).

GEBCO is a project under the auspices of the International Hydrographic Organization (IHO) and the Intergovernmental Oceanographic Commission (IOC) with the goal to produce the authoritative map of the world's oceans. Furthermore, IBCSO has combined its efforts with and is supported by the Nippon Foundation – GEBCO Seabed 2030 Project launched in 2017 by the Nippon Foundation of Japan and GEBCO. The IBCSO Project is also an integral part of the Antarctic research community and an expert group of the Scientic Committee on Antarctic Research (SCAR).

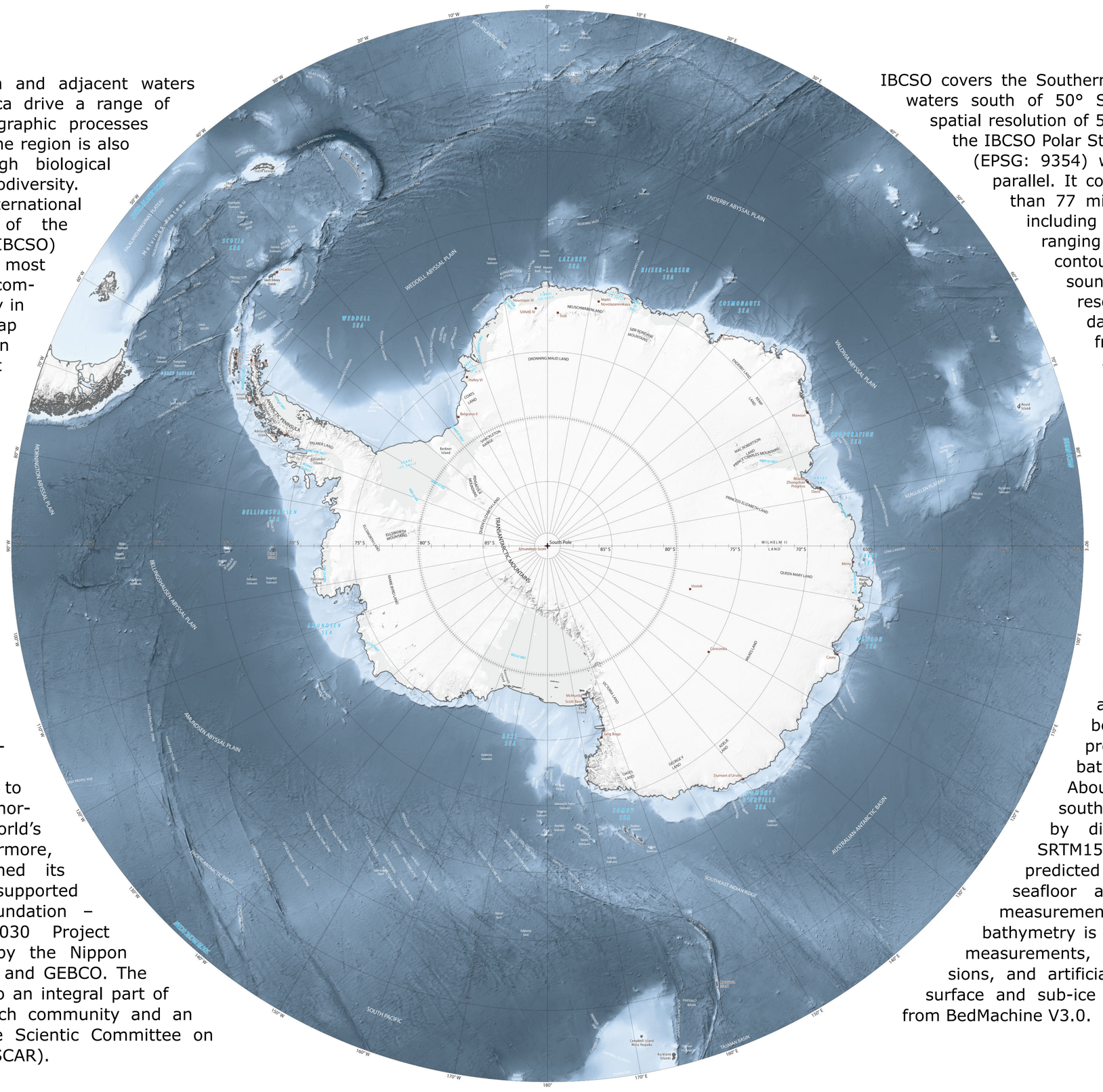

Figure 1: Elevation grid south of 60°S

IBCSO covers the Southern Ocean and adjacent waters south of 50° S, offers a horizontal spatial resolution of 500 × 500 m and uses the IBCSO Polar Stereographic Projection (EPSG: 9354) with a 65°S standard parallel. It covers an area of more than 77 million km² of seafloor, including a variety of data sets ranging from digitized contours and lead line soundings to high-resolution multibeam data. The data stems from 106 organizations and 23 different countries. The figures in this poster show a prerelease of the 2024 IBCSO annual product.

High-resolution multibeam data sets make up the basis of the compilation, with a total of 543 data sets alltogether. In addition, 1010 single beam data sets also provide measured bathymetric information. About 25% of the area south of 50°S is covered by direct measurements. SRTM15+ v2.5.5 was used as predicted bathymetry for seafloor areas without direct measurements. Sub-ice shelf bathymetry is constrained by direct measurements, bathymetric inversions, and artificial steering lines. Ice surface and sub-ice sheet topography is from BedMachine V3.0.

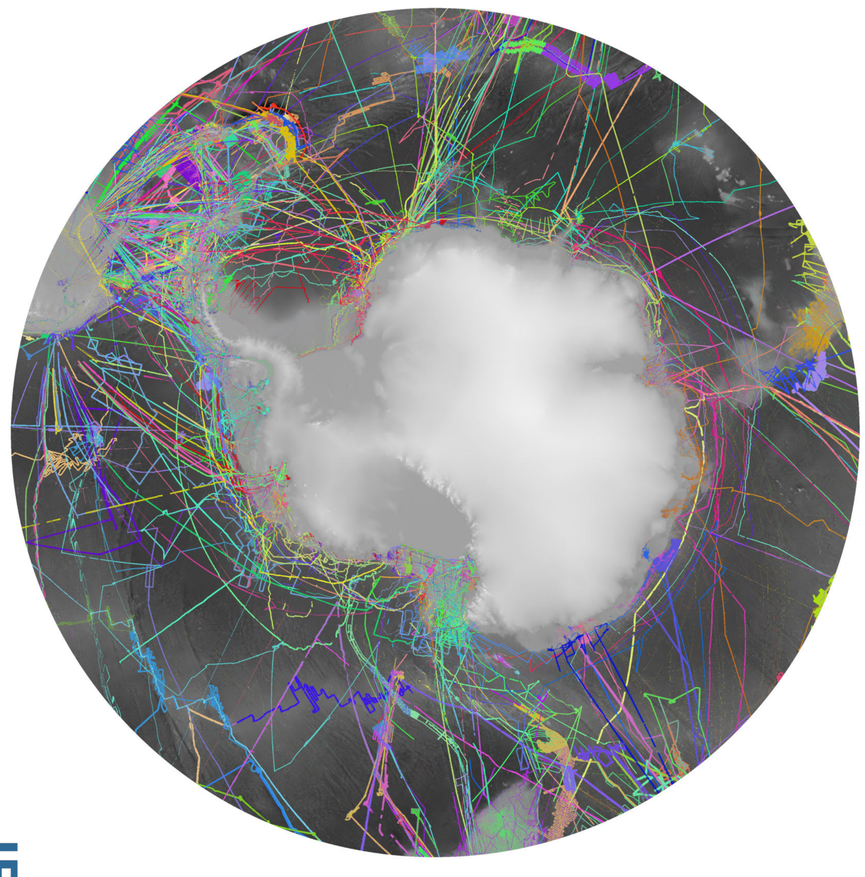
Figure 2: Regional identifier grid

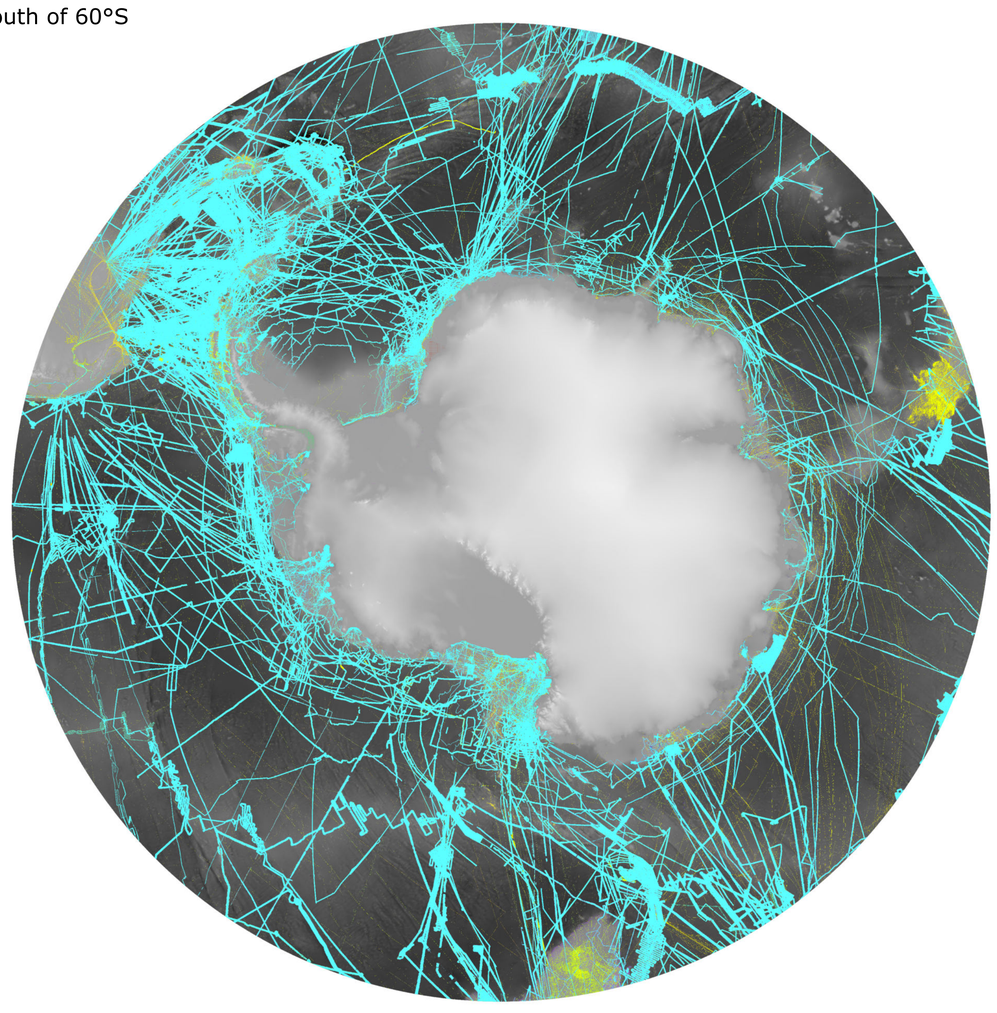
Figure 3: Type identifieer grid (blue multibeam, yellow singlebeam)

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