

Bathymetry of the Amundsen Sea Continental Shelf

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The Amundsen Sea is one of the remotest areas of coastal Antarctica, and was relatively unexplored until the mid-1980s. Over the last two decades, oceanographic, glaciological and geological interest has led to several cruises, one result of which is sufficient bathymetric data to compile a fairly detailed regional map of the area. We have combined all known single and multibeam bathymetry to create a new chart for the Amundsen continental shelf and slope. After editing individual data sets we used a natural neighbor algorithm to interpolate between existing tracklines and produce a grid at 2 km resolution. The most prominent regional features are deep inner shelf troughs, aligned with present glaciers and separated by shallower ridges, that coalesce and shoal seaward. Cut by larger ice streams during past glacial periods, these troughs now channel oceanic heat to a vulnerable WAIS.