

present extensions of the Ninnis and Mertz glacier tongues are apparently far short of what they were when Sir Douglas Mawson first mapped them.

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### THE EDGE OF THE ANTARCTIC CONTINENTAL SHELF

On British and Commonwealth charts of coastal waters the 100-fathom contour is shown, where it exists. This contour has come to be accepted as the edge of the continental shelf. Charts produced for navigational purposes do not delineate the shelf as such.

On Admiralty charts of Antarctica the 100-fathom line and the 1000-fathom line are shown. Charts by the United States Hydrographic Office for Antarctica show the 100-fathom line, 500-fathom line and 1000-fathom line. Charts by the USSR Hydrographic Office show the 200-m. line, 500-m. line, 1000-m. line and 2000-m. line; the areas within the limits of the first three are shaded.

The author considers that a precise criterion should be used for the delineation of the continental shelf in Antarctica. This shelf in many places extends 60 to 100 miles from the coast, it is deeper than that of other continents, its position is of great interest to navigators, oceanographers, biologists, glaciologists and others, and its limit is fairly obviously defined by the very sudden lunge of the sea bed to oceanic depths.

In a number of separate voyages since 1954, the ANARE have carried out ocean soundings from the *Kista Dan*, the *Thala Dan* and the *Magga Dan*. In each approach towards the Antarctic continent care has been taken to record the position where the sudden rise of the sea bed on to the continental shelf occurred, and conversely when leaving Antarctica. The depth of the shelf varies considerably between shoal depths and about 500 m., but most of the shelf soundings lie in the range 300 to 500 m. The transition in depth is shown by the following examples, taken when leaving the shelf:

480 to 1640 m. and deeper in 5 miles of sailing;

380 to 2000 m. and deeper in 7 miles of sailing.

I would like to suggest that maps and charts of Antarctic water delineate as accurately as possible the edge of the continental shelf, using as a criterion not some arbitrarily chosen depth (e.g. 400 fathoms) but the place, irrespective of small variations in depth, where the fairly level sea bed of the continental platform suddenly turns downward to plunge to great depths. This exact, rather than arbitrary, delineation would be of interest to many users of the charts.

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