

LIMITS OF OCEANS AND SEAS.

SOUTHERN OCEAN.

Report by International Hydrographic Bureau.

The International Hydrographic Conference (1932) instructed the International Hydrographic Bureau to institute an inquiry concerning the northern limit to be assigned to the waters which surround the Antarctic continent and which it had been agreed to call (in the *French* text) the *Océan Austral*; it was of course understood that this boundary should be reserved, like all boundaries of oceans and seas given in International Hydrographic Bureau Special Publication N° 23 of 1928, solely for the division of Sailing Directions and the geographical distribution of Notices to Mariners.

Circular-Letter N° 4-H/1933 issued by the Directing Committee requested Hydrographic Offices kindly to state their opinion with reference to a new limit of the Southern Ocean taken slightly more to the South than the limit given in Special Publication N° 23. This new limit, running mainly along the parallel of 56° S. in the Pacific Ocean area and the parallel of 40° S. in the Indian Ocean, terminated in the South Atlantic Ocean and south of the Australian Continent by portions of parallels and meridians in graduations which closely approximate to the circumference of a spheric cap extending approximately 41° from its pole which is in about latitude 81° S., longitude 62° E.

The graduations thus formed south of the Australian continent cut off on the edge of this continent an area which it has been proposed to call the Australian Sea or, preferably, the Great Australian Bight.

In the same Circular-Letter and its supplement of 6th February 1933, a few alterations of detail were, at the request of the Norwegian Hydrographer, proposed for the Southern and Eastern limits of the Norwegian and Greenland Sea.

Most of the Hydrographic Offices have communicated their opinion to the International Hydrographic Bureau. The following is a summary of their replies:

China, Denmark, Egypt, Italy, Netherlands, Norway, Siam and Sweden approve without reservation the limits proposed by the Bureau.

GERMANY: Has no objection to the above limits from a purely nautical point of view; directs attention, however, to the fact that the introduction of an individual "Southern Ocean" area is contrary to the views now held in scientific circles which recognise only three oceans, the Atlantic, the Indian, and the Pacific Ocean in this region, separating them by the three meridians which pass through the southern points of the continents.

Argentina, Brazil, Chile, Greece, Monaco, Peru, Portugal, Spain: send no remarks concerning the proposed limits.

France, Germany, Great Britain, Japan, Poland, United States of America: have stated no objection with regard to the new limit proposed between the Norwegian Sea and the North Sea.

With regard to the northern limit of the Southern Ocean, the following remarks have been communicated:

FRANCE: considers that a sea or ocean should be delimited only by lines which may be defined in the easiest possible manner; the proposed graduations do not appear to satisfy this condition and the *Service Hydrographique* suggests the following limit:

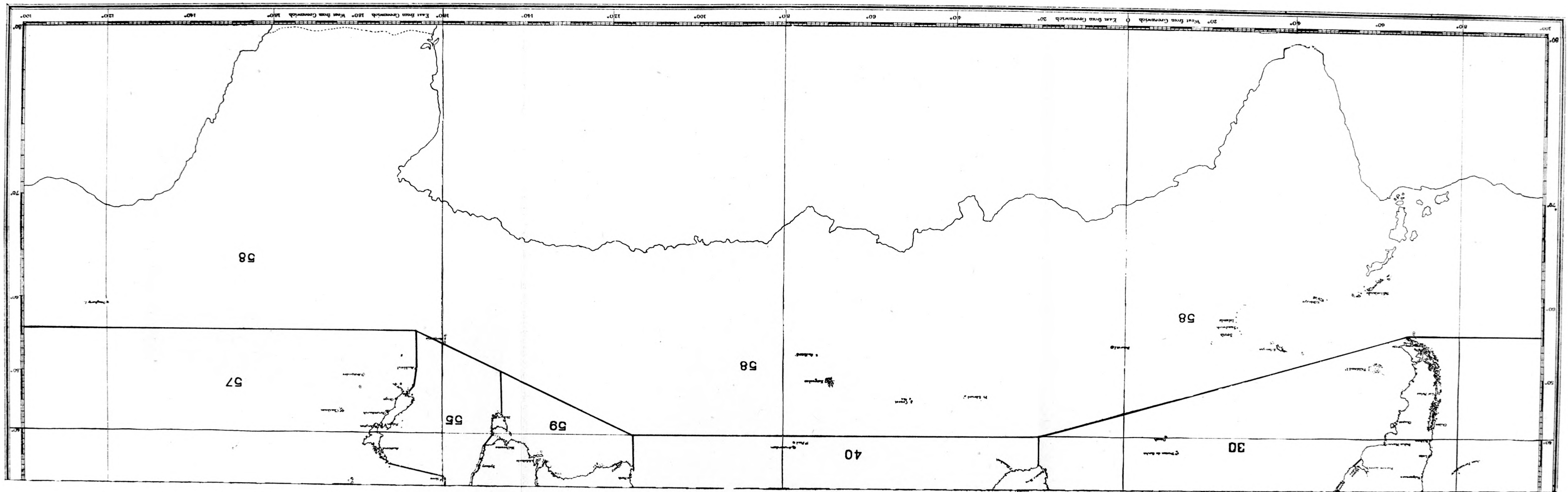
From Cape Horn eastward along the limiting line given in Special Publication N° 23 until this reaches South Cape, Tasmania, (parallel 43°38' S.), along the South Cape parallel, thence again following limit given in Special Publication N° 23 as far as Cape Horn.

The meridian of 20° E. (Cape Agulhas) becomes the limit between the Atlantic Ocean and the Indian Ocean, the meridian 115° E (Cape Leeuwin) becomes the limit between the Indian Ocean and the Australian Bight or Sea; the Australian Bight would be limited to the southward by the Southern Ocean and eastward between Tasmania and Australia in accordance with the proposal of the International Hydrographic Bureau.

Consequently the Tasman Sea would be changed only as to its southern limit.

GREAT BRITAIN: considers that the northern limit of the Southern Ocean shown on the existing chart in International Hydrographic Bureau Special Publication N° 23 is satisfactory and that, if any change is desired, this should be limited to the following:

The northern limit to be drawn from Cape Agulhas eastward to West Cape Howe thence south eastward to the south point of Tasmania, thence as shown on the chart annexed to Special Publication N° 23.



The British Hydrographic Office does not consider that any extension of the Tasman Sea is necessary, nor the proposed Australian Sea. It is, however, suggested that the area of water north of the line joining West Cape Howe and the south point of Tasmania should be called the Great Australian Bight.

JAPAN : has already adopted the limits shown in Special Publication N° 23 and therefore cannot approve any drastic change, or, if any change, that this be limited to the introduction of an Australian Sea the southern limit of which might be a line running, for instance, from West Cape Howe to South-west Cape, Tasmania.

U. S. A. HYDROGRAPHIC OFFICE : points out that the difficulties encountered by the Bureau in attempting to fix the limits of the "Southern Ocean" well illustrate the lack of a proper physiographic basis for the entire conception of an Antarctic Ocean. The Pacific, Indian, and South Atlantic Oceans should, in fact, be regarded as extending southward to the shore of Antarctica.

With regard to the "Australian Sea", there is no apparent practical need for further subdividing the waters of the Indian Ocean by introducing the term Australian Sea. The area described by this term lacks the well-defined characteristics of a sea, and the highly arbitrary limits that are proposed evidently depend upon the acceptance of the Bureau's recommended limits of the "Southern Ocean".

"Tasman Sea". The proposed southern limits evidently depend upon the acceptance of the Bureau's proposed limits of the "Southern Ocean" and are not concurred in. The U. S. H. O. sees no objection to the naming of a Tasman Sea but suggests that a more natural boundary would be a rhumb line from Auckland Island to the south point of Tasmania.

POLAND : The Geographical Institute of the University of Cracow points out that it would be preferable to give the seas which surround Antarctic territory the name of "Antarctic Seas". On the other hand, the simultaneous adoption of the names "Southern Ocean" and "Australian Sea" might lead to confusion; the proposed limits do not show to which ocean the "Australian Sea" in reality properly belongs.

The Polish Geographical Society, Warsaw, observes that it is inappropriate to give this part of the ocean an angular limit. Admitting latitude 56° S. as southern limit of the great (Pacific) Ocean, it would seem more logical that a prolongation of this same parallel should determine the southern limit of the Indian Ocean and the Atlantic Ocean.

According to this conception the South Georgia and the Sandwich Islands would lie in the southern portion of the Atlantic Ocean and the Kerguelen Islands in the southern portion of the Indian Ocean.

Besides, if it is absolutely desired to limit the Indian Ocean by the 42° S. line, instead of 56° S. as for the Pacific Ocean, it becomes necessary to change the line assigned to the South Atlantic Ocean, giving preference to the line from Cape Horn to a point in 20° E. and 45° S. The northern limit of the Southern Sea would thus pass along the 45° S. parallel from long. 20° E. to long. 140° E., and there would be no broken line along the 115° E. meridian which would limit the Australian Sea to westward.

AUSTRALIA : prefers to retain the name of Great Australian Bight rather than adopt the new name of "Australian Sea".

After some correspondence with the Bureau the boundaries of this sea might be as follows :

From the meridian of 115° E. along the parallel of 40° S. to the meridian of 130° E., thence south along this meridian to the parallel of 44° S., eastward along this parallel to the meridian of 147° E. (Pedra Blanca) and north along this meridian to the coast of Tasmania.

The southern limit of the Tasman Sea would be from the meridian of 147° E. eastward along the parallel of 51° S. to the meridian of 166° E.

The above remarks are published by the International Hydrographic Bureau in compliance with the decision of the International Hydrographic Conference (1932). Taking into consideration the various suggestions offered, the Bureau intends to submit to the next International Hydrographic Conference, which will take place at Monaco in April 1937, new proposals concerning the northern limit of the Southern Ocean.

