EXTRACTS AND REVIEWS OF BOOKS.

TRIANGULAÇÃO E LEVANTAMENTO DA CARTA DA ILHA DO PRINCIPE.

(TRIANGULATION AND SURVEY FOR A MAP OF PRINCIPE ISLAND.)

by

JOÃO AUGUSTO CAPÊLO.

(1 Vol., 26 × 20 cm., 36 pages - Imprensa Nacional, Lisboa, 1934.)

During 1929 and 1930, a triangulation and a survey for the map of Principe Island were carried out under the technical direction of the Commission on Cartography, on behalf of the Portuguese Colony of São Tomé and Principe (Gulf of Guinea). São Tomé Island had been mapped and triangulated by Gago COUTINHO.

The book gives the final results in rectangular coordinates and in geographical positions.

It was deduced from the measurements of plumb line deviation at the outermost stations that the mean geoid in the island area has a radius equivalent to 0.956 of the mean radius of the ellipsoid of reference adopted, namely the International Ellipsoid of Madrid, 1924.

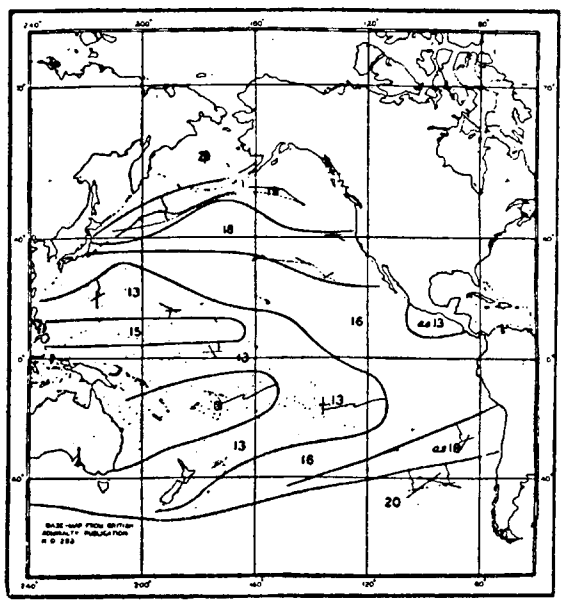
SOUNDING VELOCITIES IN THE PACIFIC.

by

FLOYD M. SOULE.

(Extract from the *Report of the Fifth Pacific Science Congress*, Victoria, Vancouver, 1st-14th June 1933).

In an article published under the above title, F. M. SOULE of the Carnegie Institution, Washington, taking as basis oceanographic data collected on the last cruise of the *Carnegie* in the Pacific from October 1928 to November 1929, has computed the velocity of propagation of sound through Pacific Ocean water, using for the purpose the salinity and temperature measurements taken by the exploring vessel.



The vertical distribution of temperature and salinity was determined from actual measurements at each oceanographic station (i.e. about every second day) down to the greatest depths which were usually 2,000 to 4,000 metres.

The various oceanographic stations were then grouped together where the distribution of temperature and salinity was sufficiently similar, and these groupings served to compute the velocity of propagation of sound for various areas, of which the accompanying sketch shows the distribution.

The cruise of the *Carnegie* having several times intersected the boundaries of the areas indicated in British Admiralty publication *H. D.* 282: *Tables of the Velocity of Sound in pure water and sea water for use in echo-sounding and sound-ranging*, attempts were made to check the characteristics of the boundaries corresponding to these frontiers.

There are seasonal temperature and salinity variations in the upper layers of the ocean; these variations attain 10° C. in the temperate regions and even more in the regions adjoining the Japan Current. It may be assumed that annual variations in temperature occur down to about 500 metres. Under such conditions the computed values in sounding velocity would be in error by about 0.2 per cent at a depth of 2,500 metres, and the error at 4,000 metres would be about 2 metres per second.

It is very desirable that much more information regarding the seasonal variations in subsurface temperatures in the open ocean should be collected in the near future.

ANNAES HYDROGRAPHICOS.

TOMO II.

Rio de Janeiro, 1934

The second volume of these *Annaes* has just reached the Bureau. A summary of the contents of the first number was given in *The Hydrographic Review*, Volume XI, No. 1, May 1934, page 134.

This second volume opens with a report on the *Courses in Hydrography* and mentions that the first "term", consisting of 5 Officers, has completed the course and two of them have been sent abroad (1 to the U. S. of America and 1 to Great Britain) to complete their instruction. In addition to these, two other Officers who have acted as instructors are considered to have qualified in hydrography.

The "term" now undergoing the course consists of 6 Officers; as practical instruction they have carried out the triangulation of Bahia das Tijucas and made surveys of the Ganchos Inlets.

The next article gives a brief history and description of the Surveying Vessel *Rio Branco*. This vessel was built in England in 1914 and is of the following dimensions:

	metres	*feet*	*inches*
Length	55.6	181	5
Beam	9.8	32	2
Draught	4.2	13	9
Tonnage	756 tons.		
Maximum speed	14 knots (approx.).		

The succeeding chapter, which is entitled *On the Accuracy of Air Photography in Hydrographic Surveys*, opens with the following statement:–

> "The application of aerial photogrammetry in the hydrographic surveys undertaken by the Directoria de Navegação shows indisputably the two great advantages over all other methods that it can be carried out very rapidly and that it gives an absolutely faithful representation of those outlines which are of interest to the surveyor:"

and continues with a study of the errors which may creep into the work and of how to avoid them.