# THE PORTUGUESE HYDROGRAPHIC OFFICE

**Brief history**

Although, from organic point of view, the first references to the Portuguese hydrographic offices date from the last century, it should be remembered that the school at Sagres, founded by Infante D. HENRIQUE in the XVth century, was the origin of this office. Through its astronomical and cartographical studies, this school has greatly facilitated maritime communications between eastern Europe and Africa, and later the East.

In order not to prolong this brief history, we shall only mention the period from 1862, the year the *Direcção Geral dos Trabalhos Geodésicos, Corográficos e Hidrográficos do Reino* (General Directorate of Geodetic, Chorographic and Hydrographic Work of the Kingdom) was created, to the present day.

This General Directorate, attached to the Ministry of Public Works, became known in 1864 under the name of *Instituto Geográfico* (Geographical Institute). In 1869, after having been provisionally under the authority of the Ministry of War with the name of *Depósito Geral de Guerra* (General War Office), it was reorganized again and took the name of *Direcção dos Trabalhos Geodésicos, Topográficos, Hidrográficos e Geológicos do Reino* (Directorate of Geodetic, Topographic, Hydrographic and Geological Work of the Kingdom).

In 1892, activities concerning hydrography were separated from the others to make up the *Repartição de Cartografia do Ministério da Marinha e do Ultramar* (Cartographic Office of the Ministry of Marine and Overseas Provinces).

It is known, however, that hydrography came within the purview of this Ministry from 1869 onwards.

In spite of all the previous reforms, this service left something to be desired and that is why in 1912 the *Missão Hidrográfica da Costa de Portugal* (Hydrographic Mission for the Coast of Portugal) was created.

This Mission, with the hydrographic ship *Cinco de Outubro* at its disposal, surveyed the coast of Portugal and thus enabled uniform marine charts to be prepared.

The charts of Madeira, the Azores and the Overseas Provinces, which had more varied origins, lacked uniformity and were clearly inadequate.

In 1924, the hydrographic office was again reorganized and the *Direcção de Hidrografia e Navegação Náutica* (Directorate of Hydrography, Navigation and Maritime Meteorology) was created, which replaced the Cartographic

Office of the Ministry of Marine and which, as from 1936, was entrusted with the marine cartography of the archipelagos of Madeira and of the Azores together with the *Missão Hidrográfica das Ilhas Adjacentes* (Hydrographic Mission of the Adjacent Islands), and the keeping up to date of nautical charts of the Portuguese coast in cooperation with the *Brigada Hidrográfica Independente da Costa de Portugal* (Independent Hydrographic Brigade of the Coast of Portugal). The latter replaced, on this date, the Hydrographic Mission of the Coast of Portugal.

In 1929, to speed up the hydrographic surveys in various parts of Portuguese territory all over the world, in the Ministry for Overseas Provinces which had already long been separated from the Ministry of Marine, were created the Hydrographic Missions of Mozambique, Angola (now Angola and S. Tomé), Guinea, Cape Verde (with the ship and the personnel of the Hydrographic Mission of the Adjacent Islands). These missions were first placed under the authority of the Cartographic Commission and later under that of the Council for Overseas Research and under the Hydrographic Brigade of the State of India.

In order to avoid the sharing between two ministries of hydrographic offices, of physical oceanography and of navigation, it was thought more practical to centralize them at the Ministry of Marine, to ensure, for both technical and practical reasons, the essential uniform standards of control, terminology and application. It was for this reason that, at the end of 1960, was established the Hydrographic Institute which combines the services of the Hydrographic Directorate of the Ministry of Marine and of the Missions Council of the Ministry for Overseas Provinces. This institute is responsible for the research and national activities relating to hydrography, oceanography as well as for maritime assistance to the navy, the merchant navy, fishing fleets and passenger ships.

**Hydrographic Institute**

The following is a summary of the duties of the Hydrographic Institute :

(*a*) To proceed with the organization, direction, administration and inspection of independent missions and brigades responsible for hydrography, physical oceanography and navigation, and ensure them all they need, from a theoretical as well as practical point of view. This also covers a standard policy in direction, terminology, methods, standard procedures and a coordination of results in conformity with technical progress.

(*b*) To ensure hydrographic assitance to all maritime navigation along the coast of Portugal and Portuguese territories and to Portuguese navigation in all seas where this assistance is necessary or advantageous.

(*c*) To procure for officers and certain naval personnel, within the Institute or in any training establishment or other competent organization, the necessary acquisition of knowledge for the efficient working of the technical services and to follow the progress of students during their period of instruction.

(*d*) To ensure the engagement of the necessary civilian technical personnel.

(*e*) To represent Portugal in the international organizations in this field.

(*f*) To maintain liaison with similar Portuguese and foreign organizations, communicating directly with them in order to follow the evolution of their technical progress and organization.

(*g*) To publish Annals and the results of scientific work based on the activities of the Institute or similar organizations, when this work is of national or international interest, and to ensure their distribution, exchange or sale.

(*h*) To supply to naval units non-electronic or non-electric navigational equipment and to ensure that it is in good working order.

(*i*) To inspect non-electronic or non-electric navigational equipment on Portuguese ships not belonging to the Navy and to ensure that it is in good working order.

(*j*) To deal with the acquisition, calibration, adjustment and repair of specialized instruments and apparatus and to issue the appropriate certificates.

(*l*) To cooperate with the Time Bureau and other related services.

(*m*) To supply special information to official authorities and to the public on request.

(*n*) To give its opinion or general information on plans for construction or for changes in port facilities.

(*o*) To give its opinion or general information on projects or plans for the setting up or for modifying lighting or beaconage of coasts or ports.

(*p*) To continue studies of a military nature in this field.

(*q*) To carry out studies on the chemistry of sea water and on the submarine geology needed for military purposes and for the understanding of certain phenomena of physical oceanography.

(*r*) To give technical aid to organizations authorized to carry out work connected with hydrography or physical oceanography.

(*s*) To carry out studies on magnetism needed for hydrographic surveys.

(*t*) To facilitate the installation of meteorological stations on board naval ships and to supervise the taking of observations.

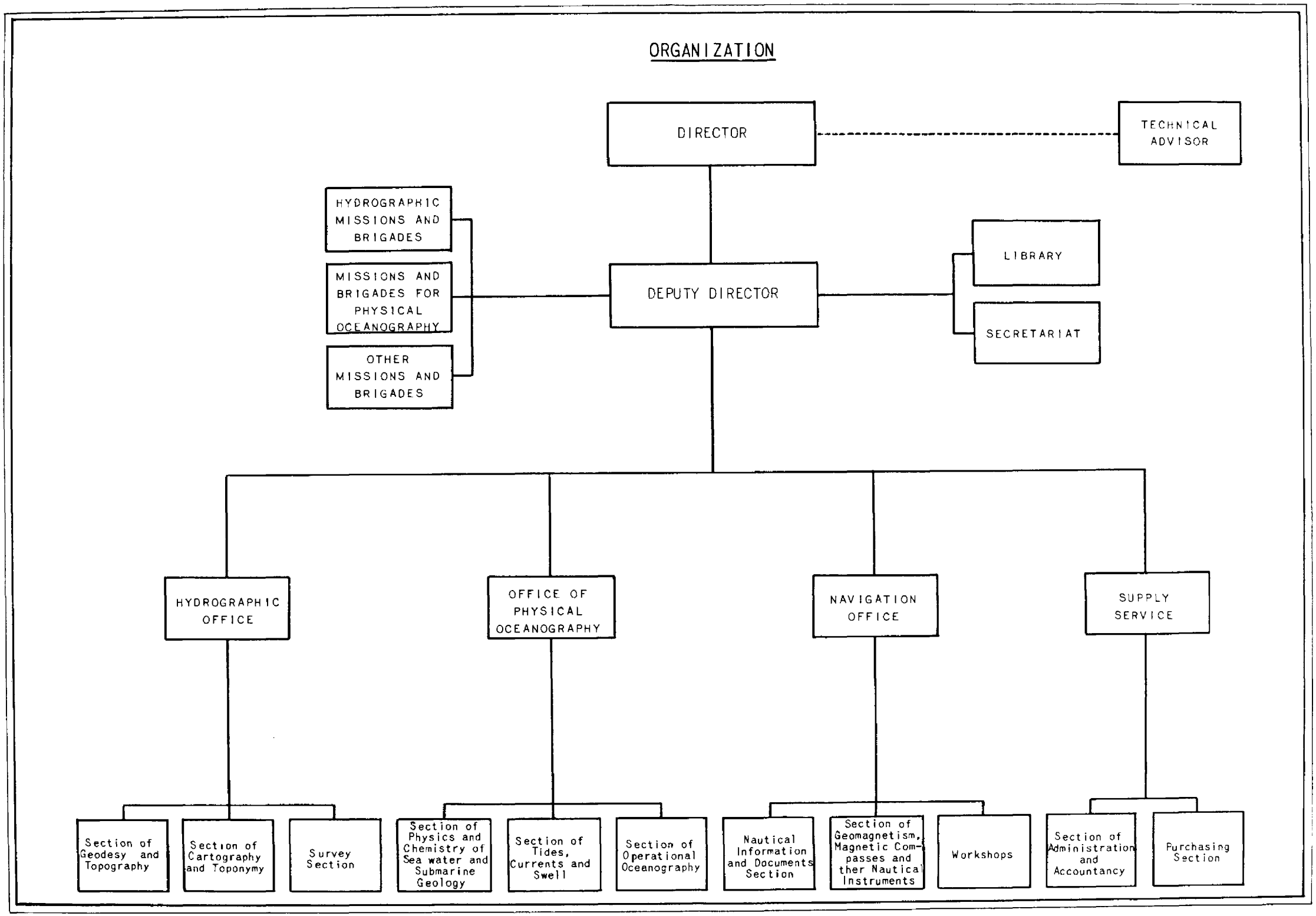
(*u*) To proceed with the drafting and publication of marine charts and other nautical documents used for maritime navigation in Portuguese territory; to ensure their supply, distribution, exchange or sale.

The organization of the Hydrographic Institute is shown in the attached diagram.

**External organization**

At present, there are in the Hydrographic Institute the following external units :

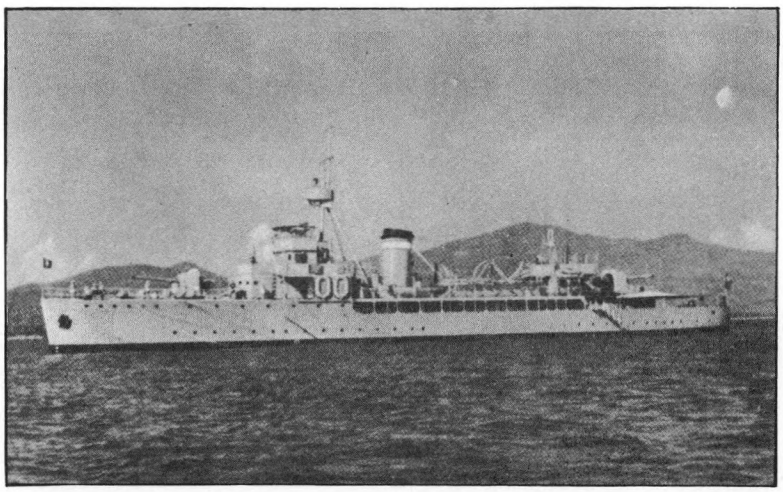
# ORGANIZATION



***Brigada Hidrográfica Independente do Continente***

This brigade has at its disposal the hydrographic ship *João de Lisboa*. Its main specifications are :

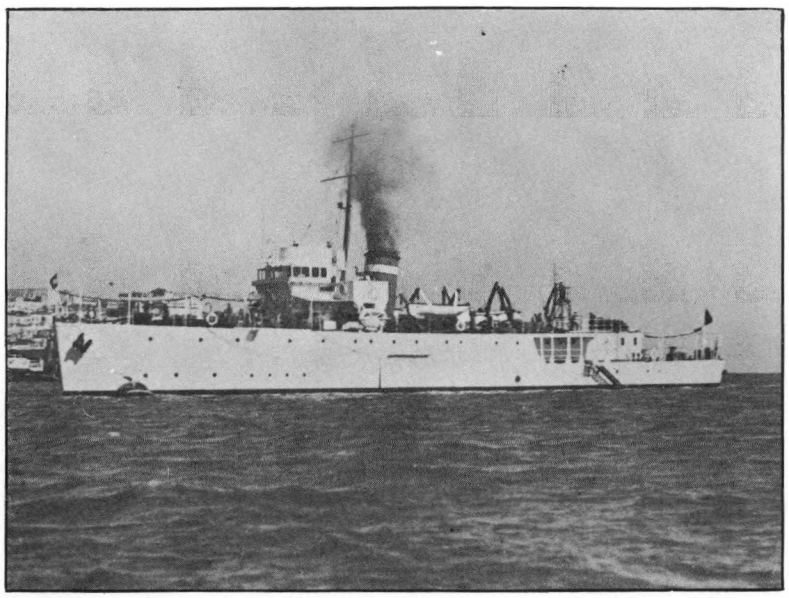
| | |
|---|---|
| Displacement | 1 108 T |
| Overall length | 73.12 m |
| Width | 10.00 m |
| Draft | 3.4 m |
| Maximum speed | 13 knots |
| Cruising speed | 10 knots |
| Range | 12 620 miles at 5.8 knots and 5 960 miles at 13 knots. |



***Missão Hidrográfica das Ilhas Adjacentes e Cabo Verde***

This mission has at its disposal the hydrographic ship *Comandante Almeida Carvalho*. Its main specifications are :

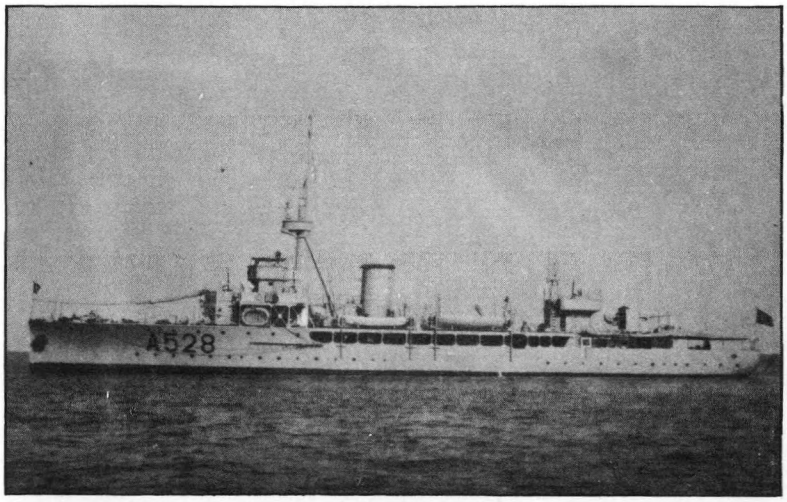
| | |
|---|---|
| Displacement | 689 T |
| Overall length | 54.9 m |
| Width | 8.8 m |
| Draft | 3.7 m |
| Maximum speed | 18 knots |
| Cruising speed | 13 knots |
| Range | 3 500 miles at 8 knots |



### *Missão Geo-hidrográfica da Guiné*

This mission has at its disposal the hydrographic ship *Pedro Nunes*. Its main specifications are :

| | |
|---|---|
| Displacement | 1 152 T |
| Overall length | 70.5 m |
| Width | 10.00 m |
| Draft | 3.30 m |
| Maximum speed | 13.5 knots |
| Cruising speed | 10.0 knots |
| Range | 9 800 miles at 10 knots |



### *Missão Hidrográfica de Angola e S. Tomé*

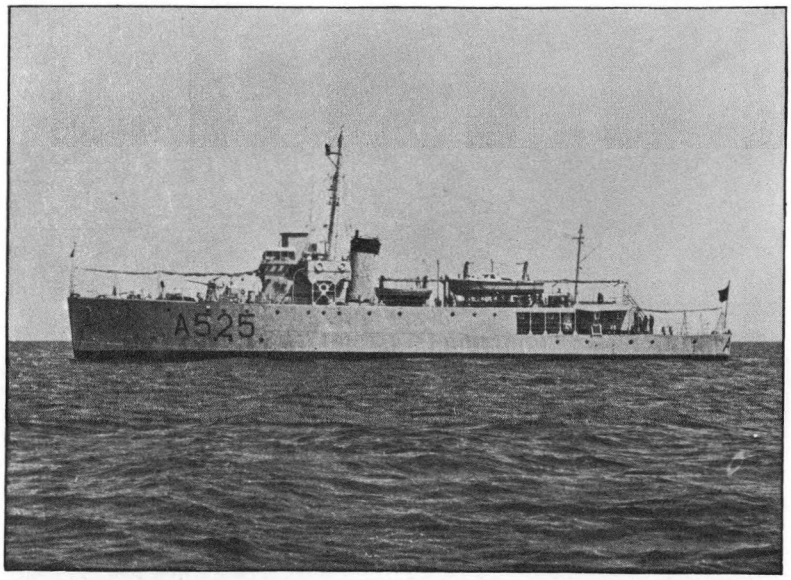
This mission has at its disposal the hydrographic ship *Carvalho Araujo*. Its main specifications are :

| | |
|---|---|
| Displacement | 1 090 T |
| Overall length | 62.5 m |
| Width | 10.3 m |
| Draft | 4.5 m |
| Maximum speed | 15.5 knots |
| Cruising speed | 9 knots |
| Range | 6.900 miles at 9 knots |

***Missão Hidrográfica de Moçambique***

This mission has at its disposal the hydrographic ship *Almirante Lacerda*. Its main specifications are :

| | |
|---|---|
| Displacement | 780 T |
| Overall length | 54.9 m |
| Width | 8.70 m |
| Draft | 3.70 m |
| Maximum speed | 15.0 knots |
| Cruising speed | 8.6 knots |
| Range | 3 000 miles at 8.6 knots |




***Brigada Hidrográfica Independente do Estado da India***

In this brigade there are only small craft adapted to hydrographic work.

**Hydrographic surveys carried out**

The hydrographic surveys carried out cover completely or in part the regions indicated on the attached sketch map.

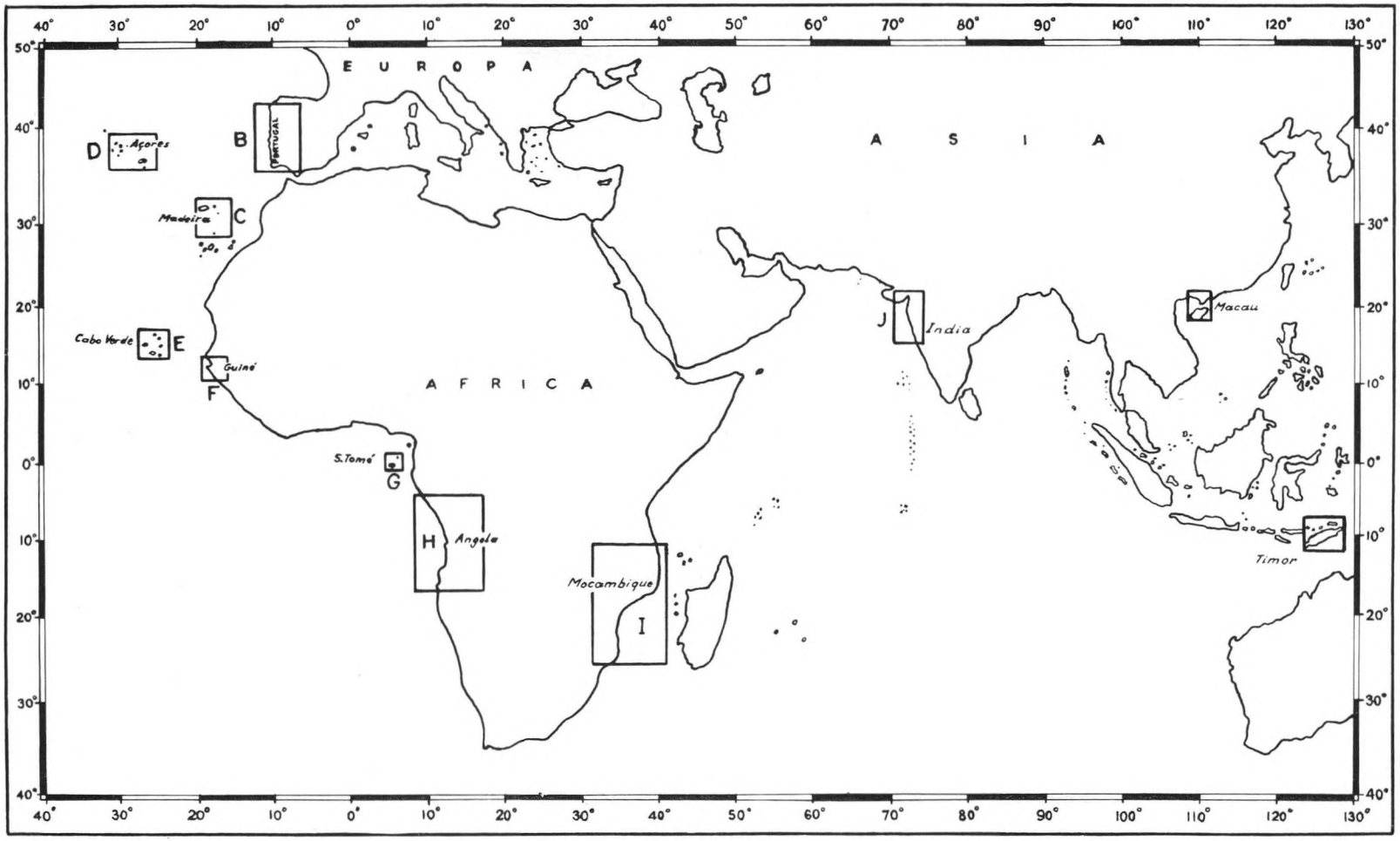



FIG. 1. — Chart showing areas completely or partly surveyed