

## PORTUGAL

The foundation of Portugal occurred in 1143. Exploring the seas was one of the early main priorities and concerns of the Portuguese. Immediately after independence, Dom Fuas ROUPINHO became the first Portuguese Admiral and Commanding Officer of the Fleet. The greatest figure behind the Portuguese discoveries, which took place in the 14th and 15th centuries, was Prince Henry the Navigator who, from the school that he himself founded at Sagres, developed innovative methods of navigation that allowed the Portuguese caravels to cross the seas of the world.

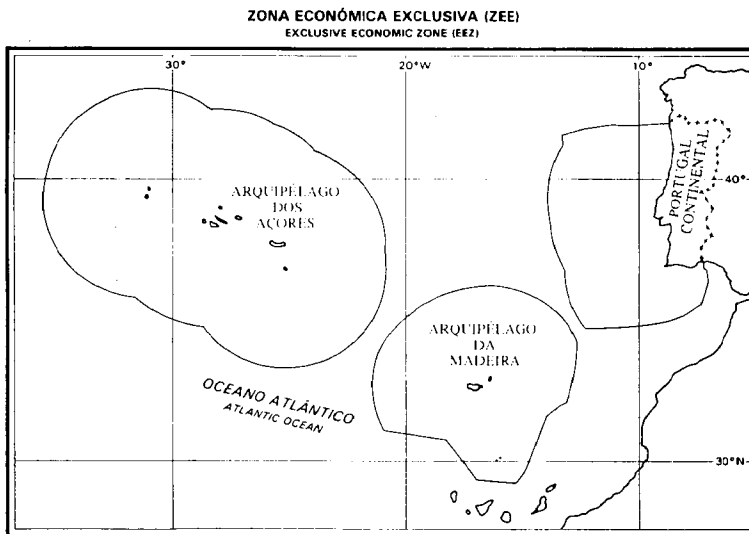


FIG. 1.- Portugal.

During this golden age, the Portuguese provided the world with knowledge of places as far distant and varied as America, almost the entire coast of Africa, India and Timor, while spreading abroad both knowledge and Christian faith, bringing back to the Old Continent products unknown until then.

Portugal, today, consists of its mainland area, set at the westernmost point of continental Europe, and of the Azores and Madeira archipelagos.

In addition to its fairly long coast-line of some 1,775 km, Portugal has a large Exclusive Economic Zone (EEZ) extending over a total area of 1,715,800 km<sup>2</sup>, of which 319,500 km<sup>2</sup> correspond to mainland Portugal, while the Azores and Madeira account for 984,300 km<sup>2</sup> and 411,000 km<sup>2</sup> respectively. This EEZ is particularly large taking into account the size of the country, amounting to about 88,600 km<sup>2</sup> for the mainland, 2,400 km<sup>2</sup> for the Azores archipelago and 823 km<sup>2</sup> for the Madeira archipelago, including the Selvagens Islands.

Lisbon is the country's capital. It is an important maritime port located near the mouth of the river Tagus, Iberia's largest river that flows across mainland Portugal. Several dozen ports lie scattered along the coasts of the mainland and in the islands of the Azores and Madeira, with special emphasis on the ports of Leixões, Aveiro, Setúbal, Sines, Funchal and Ponta Delgada.

Portugal is a founder member of the International Hydrographic Organisation (IHO), within the scope of which it is also a member of the Eastern Atlantic Hydrographic Commission (EAHC) and of the Southern Africa and Islands Hydrographic Commission (SAIHC), in which it is represented by the Hydrographic Institute (IHPT).

The IHPT is a central administration and management agency of the Navy, and it is administratively and financially autonomous reporting to the Chief of Staff of the Navy. Its fundamental mission is to carry out activities linked to the sciences and techniques of the sea envisaging their military application, and to contribute to the development of the country in scientific areas and to the preservation of the marine environment. Its Director-General is appointed by the Prime Minister together with the Minister of Defence upon recommendation of the chief of staff of the Navy. At national level, the IHPT has sole responsibility for editing, publishing and canceling marine charts, while it is also the national co-ordinator of Notices to Mariners within NAVAREA II and the representative of the country in international hydrographic, oceanographic and navigation organisations.

Based in Lisbon, in a former 17th century convent, the IHPT also has a branch at the Azinheira Naval base (INAZ), where the ancillary services and the Hydrographic Brigades are located. This facility is provided with a wharf where smaller craft can berth.

The IHPT continues the footsteps of early Portuguese hydrography, begun in the 14th century. Some of the earliest known Pilots were the work of Portuguese, such as that of D. João DE CASTRO, between 1538 and 1541, dealing with the Indian Ocean, the Red Sea and the coast of India. These Pilots also include studies in the field of hydrography, navigation and oceanography. The first organised Hydrographic Service was set up in Portugal in 1798, being therefore one of the pioneers at world-wide level.

The IHPT cartographic folio covers the Portuguese territorial waters and those of the EEZ, in addition to the waters of the Portuguese-speaking countries of Africa, involving a total of 233 marine charts. This folio was restructured in 1994 to reduce the number of charts in the old folio and it made possible, through this measure, to increase the area covered by the charts. The preparation of the charts

of the new folio has been carried out strictly on the basis of the prevailing IHO specifications and regulations.

The IHPT has kept up its efforts to update its resources and methods of carrying out hydrographic surveys and of producing its charts. It is now provided with a multi-beam sounding system for medium depths and several echo-sounders employing the very latest technology. It has recently acquired several positioning systems including DGPS. As far as the production of charts is concerned, the IHPT relies on a Computer Assisted Cartography system (CAC) which is provided with the means to produce electronic charts and it has developed other capabilities for the system, such as an automated system used to correct marine charts, in operation since 1993.

This same degree of commitment can be found in the developments in the field of oceanography and attention should be called to the numerous scientific research projects within the scope of physical oceanography, marine environment chemistry and marine geology. In research and development work, both in oceanography and in hydrography, the IHPT has co-operated with similar institutes both at home and abroad, and with several universities.

To carry out the hydrographic and oceanographic surveys, the IHPT is provided with an oceanographic ship, NRP "ALMEIDA CARVALHO", two coastal hydrographic ships, NRP "ANDROMEDA" and NRP "AURIGA", and several smaller craft. The fleet is expected to be increased during 1997 with a further vessel, the NRP "DOM CARLOS I", named after one of the most notorious kings of Portugal which, by the end of the XIX<sup>th</sup> century, pioneered the oceanographic cruises and, together with Prince Albert of Monaco, made a remarkable contribution to the world science.

In the area of training, A and B level courses of the FIG/IHO are given at the IHPT hydrography and oceanography School. In this field, training has been given to personnel from Macao and to several technicians from Portuguese-speaking countries of Africa, namely Guinea-Bissau, Cape Verde, Angola and Mozambique.

About 400 people, both military and civil, work at the IHPT. Its present Director-General is Vice-Admiral António CAVALEIRO DE FERREIRA.