

160 YEARS OF PARTNERSHIP WITH FRANCE

Hydrography in Monaco

France has been providing hydrographic services on behalf of Monaco for 160 years. This article describes this partnership from the early days of systematic surveying to the present state of affairs (including digital chart production). The long-lasting partnership was formalised in a bilateral arrangement in 2005.

The event was called exemplary in the annual report of the International Hydrographic Organization (IHO) for 2005: on 19th September 2005, France and Monaco signed the first known bilateral arrangement formalising the provision of hydrographic services by one country on behalf of the other, in accordance with the revised Safety of Life at Sea (SOLAS) Convention, in force since July 2002. This arrangement illustrates, if need be, the strong and everlasting friendship and co-operation between France and Monaco. It makes SHOM, the French Navy Hydrographic and Oceanographic Service, officially responsible for producing up-to-date nautical charts of the Monegasque maritime area. On the one hand, it acknowledges the support that France has been providing in that field to Monaco since 1848. On the other hand, it implements the resolve of Monaco to fulfil in the most efficient way its international obligations regarding the safety of navigation, as suits the IHO host country.

When Prince Albert II of Monaco made his first official visit to France in November 2005, the President of the French Republic stressed the exceptional quality of the relations between the two countries, which traces back to the P ronne treaty of 1641. Hydrography has been a domain of continuous partnership since 1848.

From the Early Days of Surveying

The first systematic hydrographic survey along the French Mediterranean coast was started in 1839 on the instigation of the hydrographer Paul Monnier. It was naturally extended to the neighbouring waters of the Principality of Monaco. This extension was conducted in 1845 by Gabriel Cyprien Le Bourguignon-Duperr  and benefited from a significant upgrade of the survey means: the sailboats that had been used so far were replaced with the steamboat *Le Brasier* in 1844. Three years later, the first large-scale nautical chart of Monaco was published by the French D p t g n ral de la Marine (FR1170, Figure 1). When the development of steamship navigation required improved surveys, Monaco was included again in the complete revision that was conducted by Alphonse Mion from 1895 to 1898. A new large-scale chart of Monaco based on the 1898 survey was published in 1909 (FR5207).

to Modern Times

The generalisation of radio positioning systems and acoustic sounders made the lead-line surveys of the 19th century obsolete. Due to higher priorities given to surveys overseas and along the western and northern coasts of France, the systematic resurvey of the Mediterranean coast did not start until 1968. This significant effort took about 20 years and employed up to four survey ships based in Toulon. Again, in agreement with the authorities of Monaco, the maritime area of Monaco was included in that work. Two survey ships, *La Recherche* and *Octant*, were involved in the survey of Monaco that took place in November 1978. This survey was complemented in April 1979, using side-scan sonar, with a specific focus on the Larvotto nature reserve (which had been set up by Monaco in 1975). A new large-scale chart was published in 1980 (FR6881) and remained in service until 2005.

Maritime Delimitations

After the adoption of the United Nations Convention on the Law of the Sea in December 1982, the Monegasque authorities were eager to extend the maritime delimitations between France and Monaco beyond the traditional 3 nm of territorial sea. In the name of its privileged relations with Monaco, France agreed to negotiate the delimitations not only up to the 12-nm width of the territorial sea but also for the maritime area beyond the territorial sea over which the Principality of Monaco exercises or shall exercise sovereign rights according to international law, i.e. up to 200nm from the baseline. The delimitation convention was signed on 16th February 1984.

A Permanent Tidal Observatory

Although tidal range is limited to a few decimetres in that part of the Mediterranean, sea level observations are of interest not only for sounding reduction but also for other applications such as natural risk mitigation, coastal zone management and climate change studies. With the advent of digital gauges and advanced communication technologies, in 1992 SHOM decided to modernise and consolidate the network of permanent tidal observatories under the project Ronim (r seau d bservatoires du niveau des mers) in co-operation with various partners such as port authorities. This effort included the Mediterranean Sea with the modernisation of the observatories of Marseille, Nice and Toulon in 1998. A fourth observatory was installed in Monaco in April 1999, in co-operation with the Directorate of Environment, Urban Planning and Construction. The equipment was installed on Quai Antoine Ier, not far from the International Hydrographic Bureau. Levelling checks took place in 2002 and 2003.

Keeping Up With the New Port Infrastructures

After the completion of the new infrastructures of Port Hercule in 2002, the Monegasque authorities asked for various checks of the area. First, some topographic work was carried out around the harbour in January 2003, using static GPS techniques. A control survey around

the new jetty was conducted in July 2003 by a survey launch (Figure 3) deployed from the brand new survey ship Beutemps-Beaupré during its shakedown cruise. The launch was equipped with a multibeam echosounder and a GPS receiver. At the request of the director of the Oceanographic Museum, an additional area was also resurveyed along the seafront of the Museum. A new chart (FR7441) was published in 2005 to incorporate this new data as well as the data provided by the Monegasque authorities. In accordance with the large-scale international chart scheme of the Mediterranean Sea, this chart is also labelled as INT3190.

From the Revision of the SOLAS Convention to

The revised SOLAS Convention, which came into force on 1st July 2002, specifies explicit obligations for the provision of so-called hydrographic services. Regulation 9 of chapter V stipulates that “Contracting Governments undertake to arrange for the collection and compilation of hydrographic data and keeping up to date of all nautical information necessary for safe navigation”. It also asks Contracting Governments “to co-operate in carrying out, as far as possible [these] services”. In order to fulfil these obligations, the Monegasque authorities wished to formalise the historical support provided by the French Hydrographic Office with a bilateral administrative arrangement with France.

to the Signing of a Bilateral Arrangement

The framework of the arrangement was discussed between the Monegasque Directorate of Maritime Affairs and SHOM in December 2002. A draft arrangement was agreed one year later. Another year was necessary to process it through the diplomatic channels of both countries and reach agreement on the final text. The positive conclusion of the process was saddened by the grievous loss of Prince Rainier III. The arrangement was signed on 19th September 2005 by the Councillor of the Monegasque Government for Equipment, Environment and Urban planning, on the authority of the Monegasque State Minister, and the Director of SHOM, on the authority of the French Minister of Defence (Figure 4). The arrangement stipulates that France is responsible for providing up-to-date nautical charts and publications and that Monaco is responsible for collecting the appropriate nautical information. Hydrographic surveys are to be conducted by France when requested by Monaco.

Into the Digital Era

In accordance with the arrangement, Monaco benefits from the development of new products and services by SHOM. For example, Monaco was naturally included in SHOM ENC (Electronic Navigational Chart) coverage of the Mediterranean coast. Full ENC coverage is now available for the various usage bands (coastal, approach and harbour) through Primar Stavanger. The “Comment” (COMT) subfield of the Catalogue Directory field of the ENCs covering Monegasque waters acknowledges that they are produced on behalf of the Directorate of Maritime Affairs of Monaco.

Entering its 160th year since the publication of the first nautical chart of Monaco, the hydrographic partnership between France and Monaco is moving resolutely into the digital era! Both countries offer their partnership as a model for capacity building and co-operative endeavours within the IHO in general and within the Mediterranean and Black Seas Hydrographic Commission in particular.

Biography of the Author

Gilles Bessero is a graduate of École Polytechnique and a qualified hydrographer. He joined SHOM in 1976 and held various technical and managerial positions at sea and ashore until 1999. Following a stint with the French Defence Procurement Agency (DGA), he has been the director of SHOM since 1st October 2005.

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