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Brazil

**Q1**

In the 19<sup>th</sup> century, Brazil received French hydrographic campaigns that conducted surveys on the Brazilian coast and helped to train the first Brazilian hydrographers. These Brazilian hydrographers led to the creation of the Brazilian Hydrographic Office in 1876.

The creation of the International Hydrographic Bureau (today IHO) in 1921 reverberated on the standardization of cartographic products by the Brazilian Hydrographic Office. Subsequently, the acting of IHB/IHO and the interaction with other national Hydrographic Offices in the International Hydrographic Conferences induced the Brazilian Hydrographic Office to create the advanced course in hydrography in 1933, to adopt the First Brazilian Nautical Cartographic Plan in 1935 and to purchase two new hydrographic vessels in 1958.

The adoption of the IHO standard on the specifications for hydrographic surveys (S-44) in 1968 significantly conditioned the hydrography carried out by public and private entities in Brazil, bringing important consequences for the safety of navigation, for a better knowledge of the seabed in the Brazilian jurisdictional waters and to improve the training of Brazilian hydrographers."

**Q2**

The automation of data collection and processing, including the automatic calibration of hydrographic systems. Additionally, the implementation of new nautical products based on S-100 standard will be of fundamental importance for safer and more integrated navigation.

**Q3**

Article "Multibeam Processing for Nautical Charts", issued in the November 2009 edition of IHR. It was developed a reliable and efficient semi-autonomous workflow for processing multibeam data that supported the charting production.