

Electronic Raster Chart production of Cuban Official Nautical Charts Portfolio

Authors:

Eng. Marivel Pérez Pérez
Lic. Sahily Matousek Rementería
Lic. Edenia Machín González
Ing. Alexis Primelles Cárdenas
Tec. Manuel Pedroso Picos
Ing. Alexis López Miranda
Ing. Rafael Mendieta Casal
Tec. Margarita Ruiz Martínez
Tec. Alida Fernández Papín
Téc. Liudamila Consuegra

GEOCUBA Researching and Consulting

Calle 4. # 304 e/ 3ra y 3ra A. Miramar. Playa.

La Habana 11300. CUBA.

Phone: 29 1693, 23 3587

FAX: (537) 24 2869

e-mail: geocuba@geocuba.get.cma.net

On December 1999 was finished the electronic raster chart production of Cuban Nautical Charts Portfolio. Totally were converted 144 nautical paper charts to digital format. They have covered all the waters around CUBA at different scales.

During the production process were used traditional plastic mylars from existing printed charts on traditional offset printing techniques. They ensure precision, accuracy and image quality because the stability of the material.

This paper describe the experiences and solutions taken by the work team, as well as the main stages of the production process.

The process simulate the traditional printing process. As a result is obtained a 16 colors image, 254 DPI, a photograph of the paper chart. The black mylar is the support of the chart construction because there are calculated borders and graduation. This mylar is mathematically corrected using transformation methods of different degree to obtain a perfect grid, depending from the size of the image and available Control Points.

Once a black mylar is corrected and cleaned the others are registered to them using register marks. Before mix all colors layers they are updated by Notices to Mariners and cleaned. Updating stage is made on a separate colors mylars to have permanently the possibility to construct a new chart edition.

Once the binary image is mathematically corrected, updated, and cleaned is executed the combined and resampling stage from 762 DPI (scanning resolution) to 254 DPI, final image resolution, which ensure the quality of the color image and the cartographic precision.

Cuban nautical raster charts are in BSB format, referred to NAD-83, WGS-84 ellipsoid.

This project offer the mariners an advanced tool to make their job easier and much more interesting, and the most important significance: contribute on revolutionizing the mind of the navigators on the use of the new techniques and technologies.