

Development of a tool to supplement efficient compilation of Electronic Navigational Chart utilizing paper chart

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Electronic Navigational Chart (ENC) is a new hydrographic product recognized by the international maritime instances as the equivalent of the traditional paper chart and designed to be used in Electronic Chart Display and Information System (ECDIS) onboard ships. The acquisition of data and its permanent updating for the purpose of cartographic production are time consuming, intense and very cost effective, either at human or material resources level. Therefore, there is an inadequate coverage of ENCs all over the world. Though there is a decreasing usage of paper nautical charts, they are still being used with sufficient coverage. Thus, it would be more productive, if the ENCs could be compiled utilizing existing paper charts to enhance its coverage over the world oceans. As the dynamic environment of the sea causes frequent changes in the seabed, ENC production and updating must be quick and frequent. Therefore, the aim of this study was to develop a new tool to supplement efficient compilation of ENCs utilizing paper charts. First, ENC product was obtained based on paper charts following the IHO-S-57 Standard which is known as the transfer standard for digital hydrographic data. Then, considering the difficulties in symbol assigning through the compilation, the new tool Symbol Master was introduced. It is an external tool which can be used as a symbol guide. CARIS the Marine GIS Experts: CARIS S-57 Composer and ArcGIS were the tools that were used for the ENC production and the Symbol Master was developed in the Android Studio environment. An ENC was successfully developed for the Galle Harbour area and the developed tool supports the ENC developer in choosing the appropriate symbols effectively.

Keyword: CARIS, Electronic Chart Display and Information System, Electronic Navigational Chart, IHO S-57

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