ABSTRACT

The purpose of this research is to determine if a new international electronic navigational chart feature is needed for Oceanic Commerce. The Maritime Community, which navigates from a Global Positioning System called an Electronic Chart Display and Information System, uses a data dictionary for features that are tied into alarms aboard a ship’s warning system. One particular feature, shoal, which has been consistently proven to be one of the most dangerous underwater features impacting navigation, does not have its own feature and is not tied to any warning system.

Two hundred and fourteen Electronic Navigational Charts (ENCs) produced by The National Oceanic and Atmospheric Administration (NOAA) of The Department of Commerce were analyzed in this study. The data was looked at from several aspects concentrating on East Coast charts of 1:5,000 to 1:80,000 scales, determining shoal data per state, scale, and how the data is encoded for use by the mariner.

The analysis determined that a new chart feature, herein called Shoal Area (SHLARE), is needed to streamline the data and make navigation safer. This feature would be tied into a ship’s warning system and would be applied not only to the suite at NOAA, but to the international suite of ENCs making navigation safer for the overall maritime community.