

INF Paper for Consideration by HSSC4

National Report of USA (NOAA) on Technical Matters

Submitted by:	USA (NOAA)
Executive Summary:	The USA reports results from its “On-Line Chart Viewer Service,” its “Free Electronic Chart Distribution Practice,” and progress on its “Coast Survey Mobile App.” Points-of-Contact are provided for Member States who may wish to collaborate further on these matters.
Related Documents:	None
Related Projects:	None

Introduction / Background

Paper HSSC4_04.3A recommends that HSSC add a permanent agenda item to its annual meeting during which member states present short statements on technical matters which might be of interest to other member states and invite further collaboration. This method of facilitating the exchange of ideas on emerging technology or successful techniques and methods could contribute to greater efficiency and improve the quality of hydrographic data, products, and services provided by member states. This INF paper is the annual technical report of the USA (NOAA). It serves to share information about three technical matters and as an example of such an annual report.

Analysis/Discussion

Topic 1 – The USA (NOAA) operates a free, On-Line Nautical Chart Viewer that permits the public to see any NOAA chart using a Web browser (<http://www.nauticalcharts.noaa.gov/mcd/NOAAChartViewer.html>). The service uses the commercial software package Zoomify (<http://www.zoomify.com/>) (29 USD). Zoomify works from raster images of the charts; tiles them using an included tiling functionality; and manages the presentation and user interface. The user interface provides simple functionality such as pan, zoom, and overview but does not support printing except for screen captures, and does not support saving the files. USA (NOAA) has done a small amount of programming to automate the weekly processing of the Print-on-Demand/RNC raster chart files for the On-Line Nautical Chart Viewer so the Viewer presents the most recent chart edition with all NTMs applied.

The On-Line Nautical Chart Viewer is one of USA (NOAA)’s most popular services. Approximately 25 percent the 250,000 monthly visits to the USA (NOAA) hydrographic office’s web site use the chart viewer. In addition, the site has become a popular reference among NOAA’s cartographers because the displayed charts are up-to-date. Individual charts may be dragged to the desktop creating an icon for convenient future use. For further information contact Marc.Higgins@noaa.gov.

Topic 2 – The USA (NOAA) distributes its electronic charts (ENCs and RNCs) and their updates for free over the Internet (see www.nauticalcharts.noaa.gov/mcd/enc/index.htm and www.nauticalcharts.noaa.gov/mcd/Raster/index.htm). The sites offer both a graphic and a text based interface for downloading. A small amount of software was written to find and transfer ENCs, RNCs, and updates to the download site daily. The software also pre-packages the electronic charts by state, Coast Guard District, or region and compresses them into a single file. Thus one can download single charts, pre-packaged areas, or the entire suite as a single compressed file. An XML catalogue of the ENCs and RNCs is also provided for chart redistributors’ software to monitor changes in the chart suite.

The free electronic charts have been very popular. Approximately 100 million ENCs and 100 million RNCs are downloaded annually. (Note: The most commonly requested file is "All" so the large number of charts downloaded may not accurately reflect the actual number of charts eventually used.) The simple user interface, without encryption and keys or passwords, permits even casual users to succeed in getting the electronic charts they want. This method of providing charts has permitted NOAA and mariners to avoid the complexity and cost of other methods of electronic chart distribution. For further information contact John.Nyberg@noaa.gov.

Topic 3 - USA (NOAA) is developing a tablet-based mobile App for voyage planning. The App could potentially fulfill carriage requirements for the [United States Coast Pilot®](#). The App will enhance mariners' ability to find, display and switch between views of the latest sailing directions and chart data.

The App integrates user access to images of 1,021 Raster Navigational Charts (RNCs) and the content of 4,200 pages from the Coast Pilot. This will enable mariners to seamlessly move between the graphic and text content, and with a few finger taps locate and display related information in either product. The App can automatically plot the user's position on the largest scale chart. It can search for specific place or aid-to-navigation names within the Coast Pilot and bookmark the text. Users can also tap on place names or positions in the text to be switched to a display of the applicable chart.

As USA (NOAA) moves forward with geocoding the positions of places and aids referenced in the Coast Pilot, future versions of the App will be able to switch to a chart display centered over the place or aid being tapped in the text. It will also be able to display a list of Coast Pilot paragraphs that refer to places or aids within a certain radius of the user's position or another location designated in the chart display mode.

The App runs on the Android operating system and an iOS version is being considered. The RNCs and Coast Pilot, which describe the over 95,000 statute miles of the U.S. shoreline, require 5 GB of storage. The App software itself takes up less than 2 MB of data. For further information contact John.Nyberg@noaa.gov.

Conclusions

The On-Line Chart Viewer is a popular, low cost service that furthers awareness of nautical charts. Other member states may wish to consider similar services where they do not compete with a member state's commercial offerings.

Free distribution of electronic charts has greatly increased the quantity of charts distributed and provides easy access to the latest navigational data for a variety of users.

The XML catalog of electronic charts has proven to be useful. Chart redistributors use it to automate the updating of their inventory. The IHO may wish to pursue a standard for electronic catalogues which would permit an ECDIS to automatically update its chart suites.

Mobile devices are becoming the device of choice for many users of navigation data. It is important for hydrographic offices to gain sufficient experience with such devices in order to anticipate emerging needs for hydrographic data and its portrayal on those devices.

Action Required of HSSC

Note the information in this paper. Member states interested in additional information may directly contact the identified points-of-contact.