

## Paper for Consideration by HSSC 11

### Production of Paper Charts from ENC Data

<b>Submitted by:</b>	United States
<b>Executive Summary:</b>	Support the initiative of Canada and the United Kingdom, for the IHO to support the automatic creation of paper charts from ENC data. Explain NOAA's progress regarding the production of paper charts using ENC Data.
<b>Related Documents:</b>	<a href="#">HSSC11-05.4D</a> , <a href="#">HSSC11-05.4E</a> , and <a href="#">HSSC11-05.4F</a>
<b>Related Projects:</b>	NCWG sub working group on the "Future of the Paper Nautical Chart," <a href="#">HSSC11-05.4B</a>

#### Introduction / Background

NOAA, and many other hydrographic offices, have been working to produce standard (S-4 compliant) nautical charts from ENC data for over a decade. NOAA released its National Charting Plan in 2017 where it outlined a plan to transform its charting program to an ENC first model. In alignment with this model of doing business, NOAA has announced that it will not produce INT charts and intends for paper charts to be primarily used for backup to ECDIS, situational awareness, and recreational mariners. NOAA has also started to produce ENC only coverage, usually at scales that would not work well on paper and has started to publish ENC only information like controlling depths in maintained channels.

#### Analysis/Discussion

In recent years technology has improved and NOAA has started to focus its paper chart effort on improving NOAA Custom Chart (<https://devgis.charttools.noaa.gov/pod/>) and the technology behind it. This technology will allow for the production of paper and raster charts from NOAA's ENC database. NOAA is working with its partners in the private sector to ensure that this will eventually become a viable avenue for feeding raster charting data to NOAA's distribution partners. The technology will also ensure parity between ENCs and Raster charts, regarding both timing and information included.

#### Conclusions

This type of automation will increase the efficiency of chart production thus allowing NOAA to redirect this resource savings toward the improvement of ENC and S-100 based products.

#### Recommendations

- Work with the IMO to accept a simplified backup paper nautical chart for ECDIS.
- Task the ENC WG or the NCWG to develop and test automated paper chart creation and maintenance from ENC databases and to support automation.

#### Justification and Impacts

- Hydrographic offices will be able to focus on ENC products, improving them to be products that mariners want to use, rather than products they must use.

#### Action Required of HSSC 11

The HSSC 11 is invited to:

- a. note this paper
- b. Task relevant working groups to focus on ENC to paper automation
- c. propose that the IHO work on "ENC First" regulations with IMO
- d. further focus on ENC as the preferred charting product of the IHO