

Best Practices – Electronic Charts

Electronic Charts?!? That's right. We have moved away from paper charts. What types of electronic charts are there and what do you need to know to behave professionally regarding them? Note: All NOAA Raster (paper) charts were retired in December 2024 and not legitimate for navigation (although they can be used for training purposes).

The Platforms: These charts can be found on Multi-Functional Displays (MFDs, what we called chartplotters), laptops, and mobile devices.

What is their source data and how to they use it? Firstly, the source data is either the NOAA ENC (available free for download and updated weekly for US Waters including the Great Lakes). The good news for members navigating the Mississippi drainage rivers is Army CoE is continuing to issue both paper (11x17) chart books as well as electronic navigation chart files in their 21 waterways. Plus, besides the USCG LNMs, they also issue more frequent updates via their Notice to Navigation Interests. See <https://ienccloud.us/#> for details.

-MFDs: all MFDs, with one exception, take the NOAA ENC files and incorporate what they think is needed for your electronic chart using symbols they create, and they only update the 'base map' information on generally a quarterly basis. Almost all charge for these updates. You will not be able to directly update your MFD with the most recent NOAA ENC. (Again, there is one exception). However, you can go to NOAA/OCS's webpage (<https://distribution.charts.noaa.gov/navigation-updates/>) view the changes, week by week, making notes for yourself of what has changed from what you purchased from your vendor.

-Laptops: There are three laptop-based navigation programs that allow direct downloads from the NOAA ENC files (to keep those) programs up-to-date. Other than the three, any other navigation program will have the same stale data issue as the MFD navigation systems.

-Mobile Devices: There are many navigation apps available, but all except a couple have the same issue of stale data as the MFDs, and would need a review of the chart changes on the NOAA/ OCS website to keep informed and up-to date on chart data.

-Paper product version: NOAA has created an online program (NCC: NOAA Custom Chart) that allows you to create your own paper version of a subset of the NOAA ENC. Eleven Print-On-Demand Vendors are accepting orders from the public to create paper charts. However, NCC charts are missing information for at least one critical item – controlling depths in maintained channels. Plus they drop light characteristics too soon (on smaller scales). NOAA also does not plan on setting any standards for what constitutes an acceptable NCC paper chart. My strong recommendation is to not use these for navigation. (NOAA says they do not meet SOLAS requirements that are required on commercial vessels.)

General Recommendations:

- 1: Carry a laptop aboard the vessel that utilizes one of the three above-mentioned navigation programs. Have that laptop act as the navigation device and the existing MFD (or other navigation device) as a backup and secondary device.
- 2: If a vessel cannot accommodate a laptop, perform a comparison between the onboard system and the NOAA ENC during the week before each Patrol.

Additional Warning about Tides & Currents (T&C):

NOAA stopped issuing paper T&C books after 2020, and will not authenticate any T&C info other than that which is from NOAA's tidesandcurrents@noaa.gov website. (Note: This includes 3rd party-printed books.) Owners should check their unit's T&C information to see if it compares well with NOAA's. (Some do not compare well).