

Usage Merge and Gridded ENC's in Haida Gwaii

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The Canadian Hydrographic Service (CHS) is transforming its database and products to prepare for the S-100 standard. To do this, usage merge and gridded ENC creation must be completed. The motto is "ENC first." The Haida Gwaii region of British Columbia was chosen for phase one.

Usage merge combines data from six existing CHS usages - overview, general, coastal, approach, harbour and berthing - to three new usages - overview (180,001+), transit (22,001 – 180,000) and port (2,000 – 22,000). In this way, a maximum of only three scales exist in one given area (the rule of three).

Gridded ENC creation cuts the data into predefined cells - overview (4°x 4°), transit (1°x 1°) and port (0.4°x 0.4°). This has the advantage of simplifying planning, production and distribution. Cells cannot be aggregated. ENC cells (typically Transit) that exceed the S-57 5 MB limitation must be cut in half or more. ENC's are exported using the IHO specified scales which are based on radar ranges (e.g. 12,000, 22,000, 45,000).

Usage merge was completed and gridded ENC's released in the Haida Gwaii area in 2021 for all three usages. Challenges included planning, resources, moving large amounts of data from usage to usage, coordinating with updates and creating new editions with new limits of existing adjacent ENC's. One future challenge is the management of existing paper charts now that they don't exactly match the gridded ENC's. Paper Chart 2.0 (automatic paper chart creation from ENC) may fill this gap.

Phase two has begun in the Prince Rupert area. There will likely be six phases for the entire British Columbia coast.

Gridded Transit ENC's in Haida Gwaii:

