

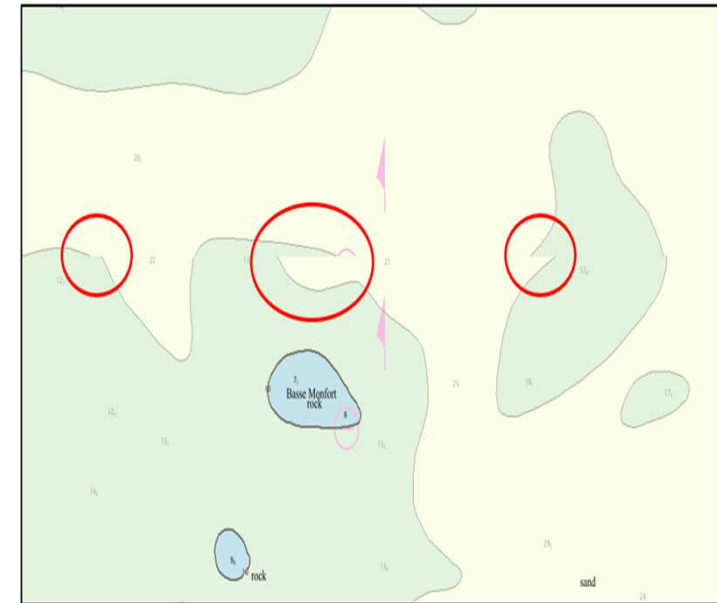
Impact of multiple-scale content on ECDIS

Discontinuities can occur between 2 adjacent ENC's when displayed on an ECDIS

- within the same usage band : inconsistent compilation scales and different charting methods
- between two different usage band : cartographic discontinuities
- Within Shom's ENC scheme and between Shom's ENC's and the ENC's of other HO's

Consequences result :

- difficulty in using the nautical charted information by mariners and other users
- risk of navigation error when displayed on an ECDIS



To avoid this: data-centric approach instead of products orientated approach

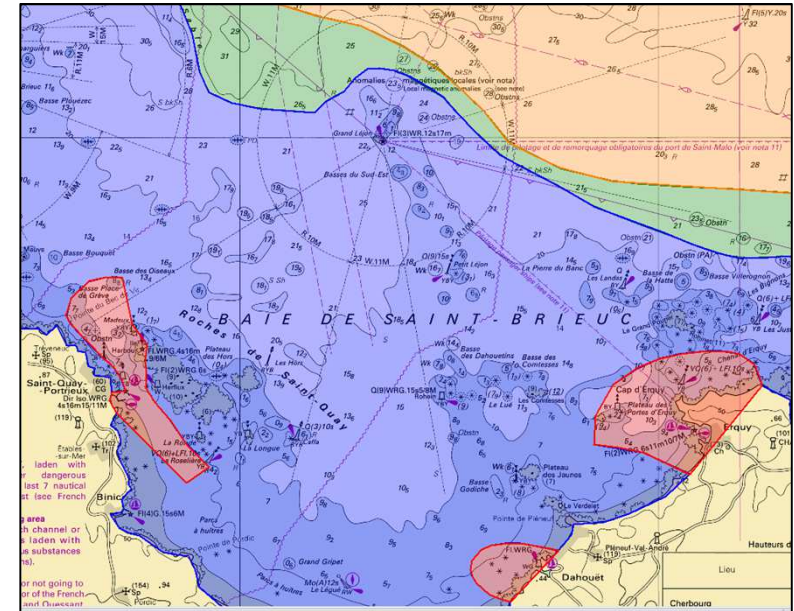
A single charting scale per area

In one area, the scale will be adopted taking into account :

- Known hazards and bathymetry
- Navigation practice and density
- Economic activities (harbour, wind farm, etc.)

Limited number of compilation scales: 4

Result is a **unified cartographic source** as the assemblage of the areas of different scales (compilation of the 4 layers).



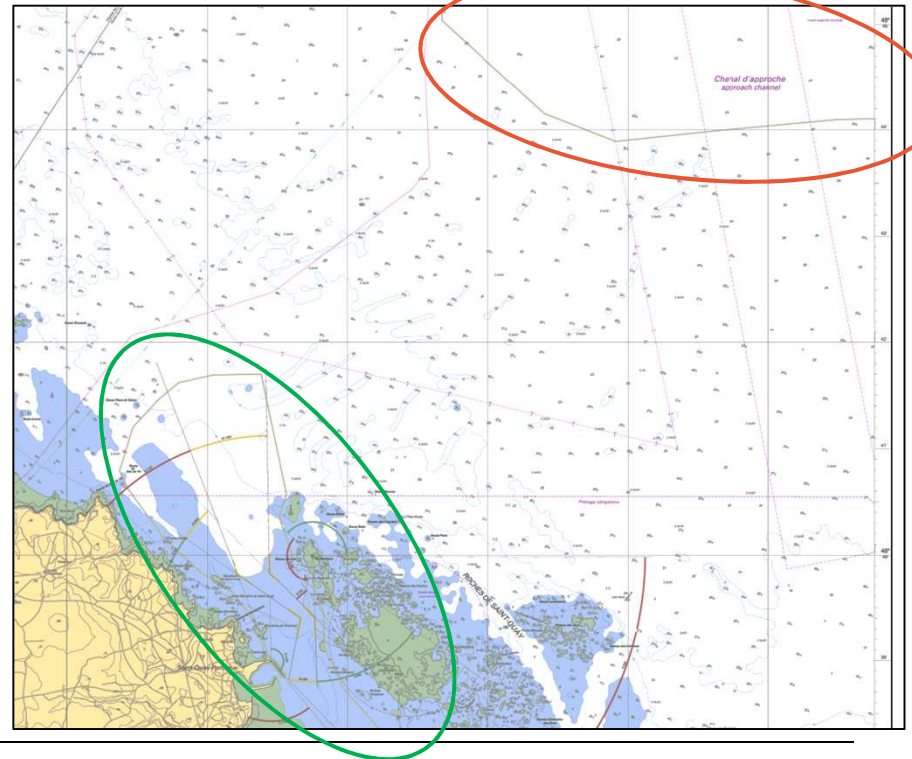
No intention to change FR ENC and Paper Chart schemes

Chart (paper/ENC) building from unified cartographic source

A chart will be a view/extraction from the **unified cartographic source** :

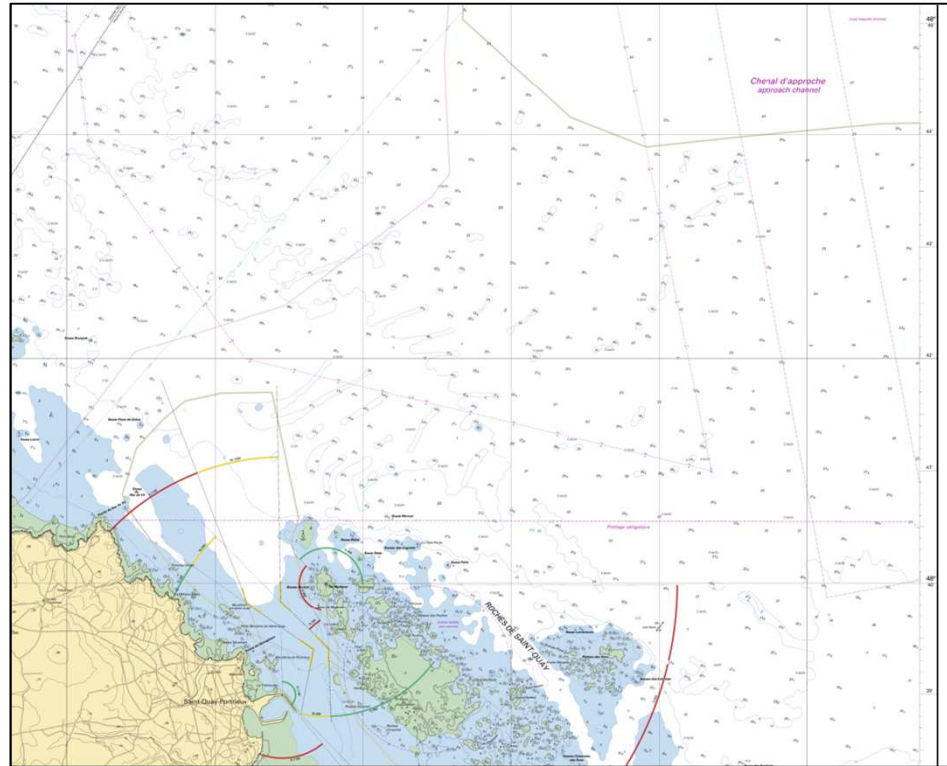
- Where unified cartographic source scale is the same or **smaller than** chart scale → use directly the unified cartographic source for content
- Where unified cartographic source scale is **higher than** chart scale → use a minimal depiction in the chart

Objects will be connected across scale layers by the cartographer



Unified cartographic source : data-centric approach benefits

- Improved **safety of navigation** (use of appropriate scale)
- **No discontinuities** (seamless representation)
- Easier and less time consuming maintenance
- **Possibility to automate** paper chart production and/or **chart on demand**
- Cartographer focus on **most sensitive areas**



Evolutions and perspectives

- Review of **cartographers' methods**
- High level of **automation in cartographic production**
(new tools available)
- Consultation with **mariners**, **regulatory authorities** (in progress) and foreign countries where France is PCA
- Possible interactions with **other Hos and within RHCs to harmonize scales**
- **Adaptation of nautical charts** (paper charts, charts on demand, ENC, etc.)

No impact on the transition to S-101 during dual-fuel period

Full coverage of the FR S-101 ENCs will be available for the first ECDIS S-100



**Start of production :
mid-2024**