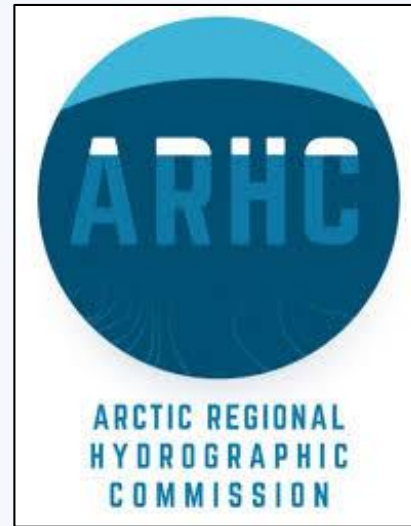


# WORLDWIDE ENC DATABASE WORKING GROUP



AICCWG REGION N  
Report to WENDWG-11

WENDWG-11 VTC 01 – 17-18 February 2021

# Region N: ENC Overlaps

| RENC Membership | RHC       | ENC 1    | ENC2     | Usage Band | Status   |
|-----------------|-----------|----------|----------|------------|----------|
| IC-ENC - PRIMAR | ARHC      | DE110000 | NO1A3000 | 1          | RESOLVED |
| IC-ENC - PRIMAR | ARHC      | DK1GEAST | NO1A3000 | 1          | RESOLVED |
| IC-ENC - PRIMAR | ARHC      | DK1GNORT | NO1A3000 | 1          | RESOLVED |
| IC-ENC          | ARHC      | RU2O5Z00 | US2AK95M | 2          | RESOLVED |
| IC-ENC - PRIMAR | ARHC      | RU2O9091 | RU2O5Z00 | 2          | RESOLVED |
| IC-ENC - PRIMAR | ARHC      | RU2OQ0T1 | US2AK92M | 2          | RESOLVED |
| IC-ENC          | ARHC/EAHC | RU4OH1S0 | US4AK8DM | 4          | RESOLVED |
| IC-ENC - PRIMAR | ARHC/EAHC | US3AK89M | RU3OH0B0 | 3          | RESOLVED |

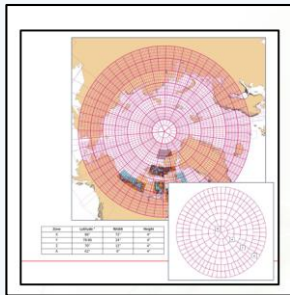
All instances of overlapping ENCs that may impact on safe navigation in the Region have been successfully resolved.

# Region N: Gridded ENC Scheme.

- Work continues to investigate the possibilities for establishing a common gridded ENC scheme in the region.
- The Canadian Hydrographic Service (CHS) commissioned a study of Arctic charting .
- IIC Technologies conducted the study and provided a very informative analysis of regional Arctic grid proposals.
- Three potential grid options are being considered

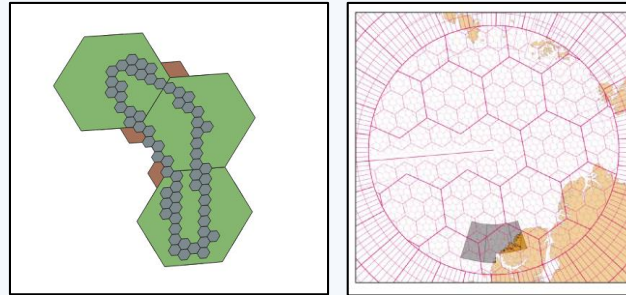
## 1: Rectangular-Rectilinear Grid:

- The most 'traditional' grid based approach.
- Covers the entire Arctic region and includes a 'polar cap' divided into 72-degree 'wedges'.



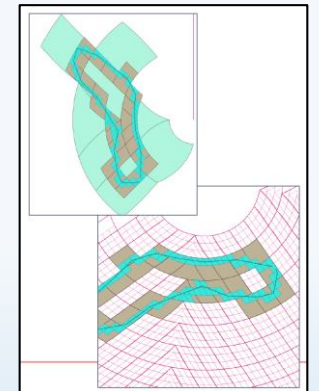
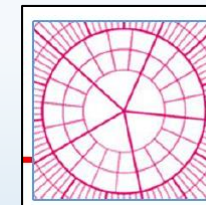
## 2: DGGs Hexagonal:

- Grid comprised of hexagonal cells at three different resolutions.
- All the cells within a resolution band are exactly the same size -benefits for wider usage applications.



## 3: DGGs rHealPix:

- Consists of a polar cap, quadrilateral based cells, as well as some irregularly shaped 'dart' cells.
- Each cell has same area – benefits for broader application.
- Uses Iso-latitude projection – can be clipped to a more traditional rectangular grid south of limiting latitude



A hybrid solution could also be possible consisting of a central polar cap tiled with hexagonal cells at three different resolutions with a more traditional rectangular grid south of the limiting latitude.

# Region N: Gridded ENC Scheme cont...

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Next steps.

- ARHC to fully define the scope of the project both in terms of location extent and data content.
- AICCWG members to continue technical research based on the different grid options.
- Direct focus towards developing a common grid for smaller scale ENCs first (UB 1-3).
- Monitor and contribute to the development of ENC grids in other regions as other IHO members start to investigate and make advances in this area.
- Develop a concrete grid proposal for the region.