



18th Conference of the IHO Hydrographic Commission on Antarctica

Report to HPWG on Implementing a Gridded Scheme by UK

Agenda item 07.3B



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UK Gridded Scheme Parameters

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Following trials of multiple options, UK has chosen the following parameters for a gridded scheme.

	Scale Band 1	Scale Band 2	Scale Band 3	Scale Band 4	Scale Band 5	Scale Band 6
Chosen Grid	20	4	0.8	0.2	0.1	0.05

Origin = 90S, 180W

UK is happy to share these parameters and offer any support if HOs are interested in trialling the same grid parameters

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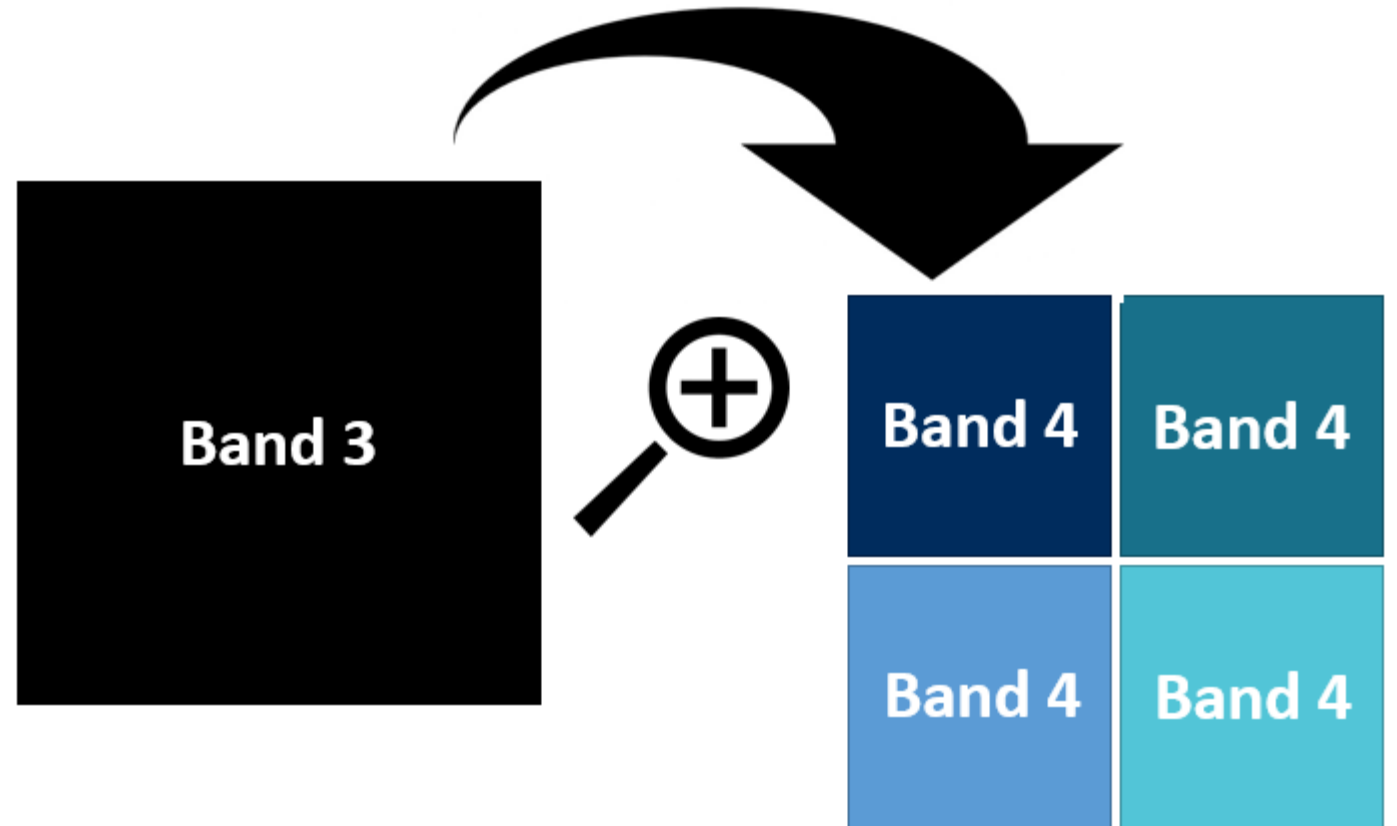
UK Gridded Scheme in Antarctica

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Grid Interaction

The chosen grid fits together across the scales, subdividing as the scale increases as shown in the image for UB3 and 4

The S-102 grid is 0.1 grid. This will intersect with chosen the UK grid.



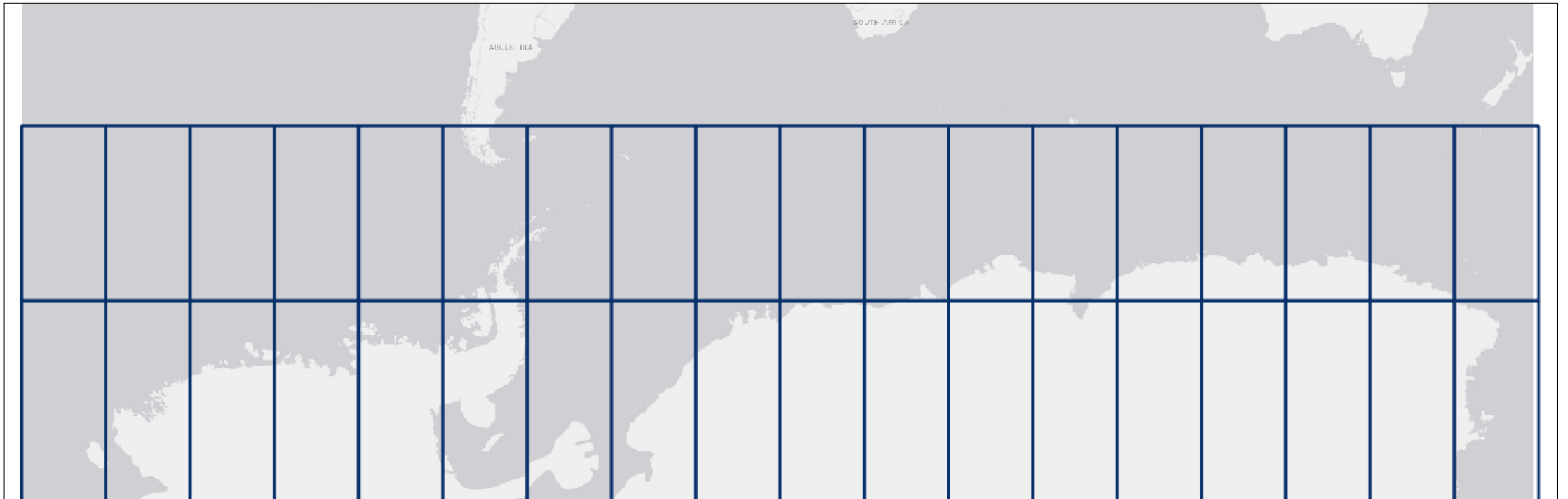


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Band 1 Grid in Antarctica



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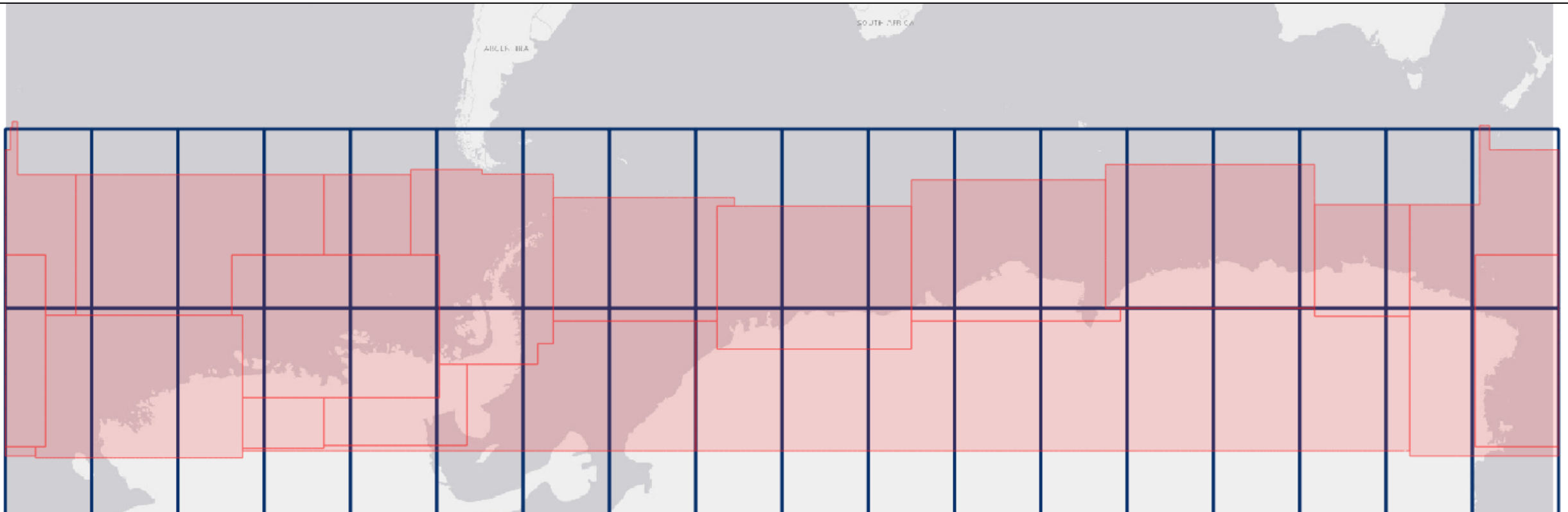


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Band 1 Grid in Antarctica & Existing ENC



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Band 2 Grid in Antarctica & Existing ENCs



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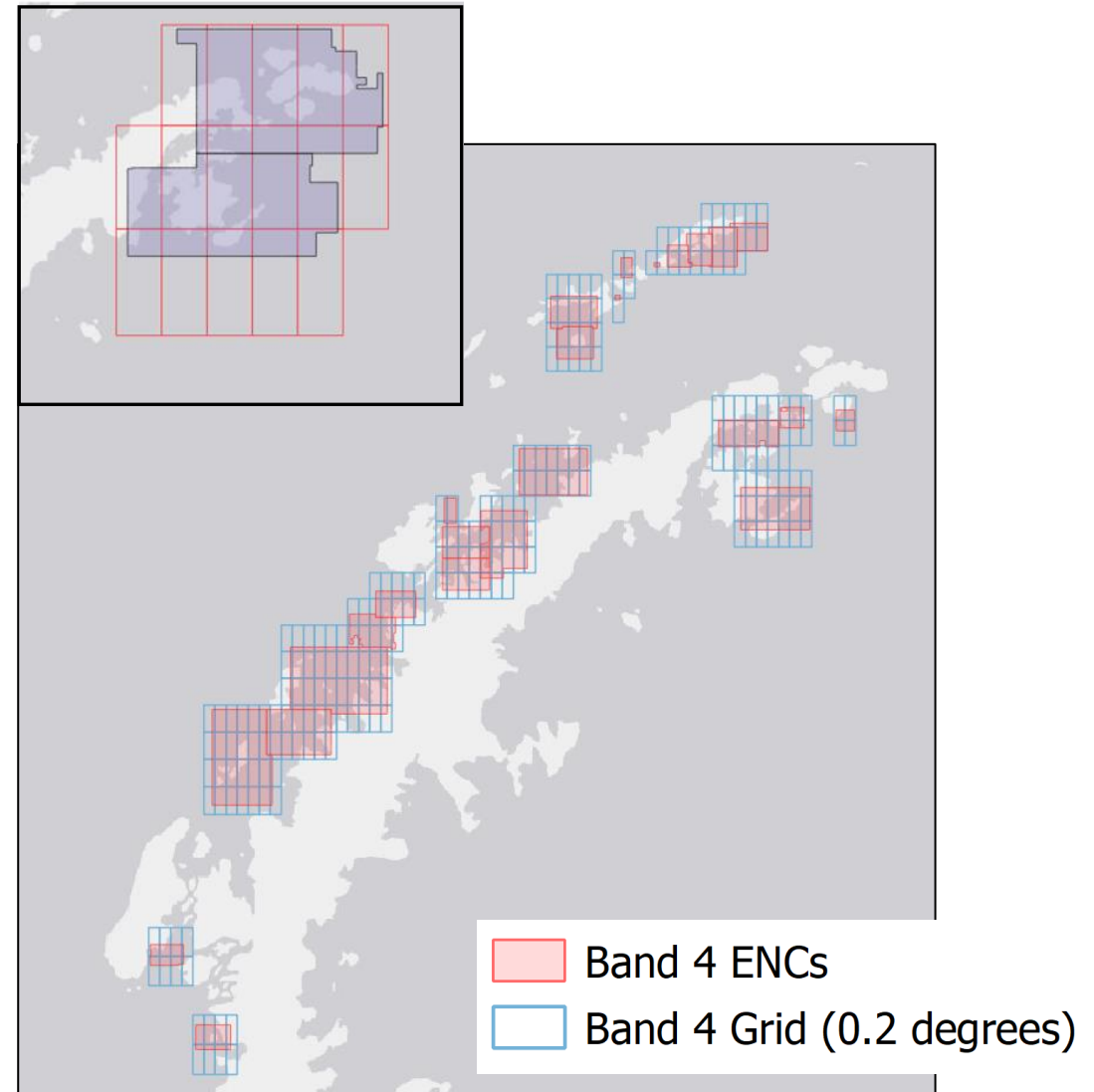
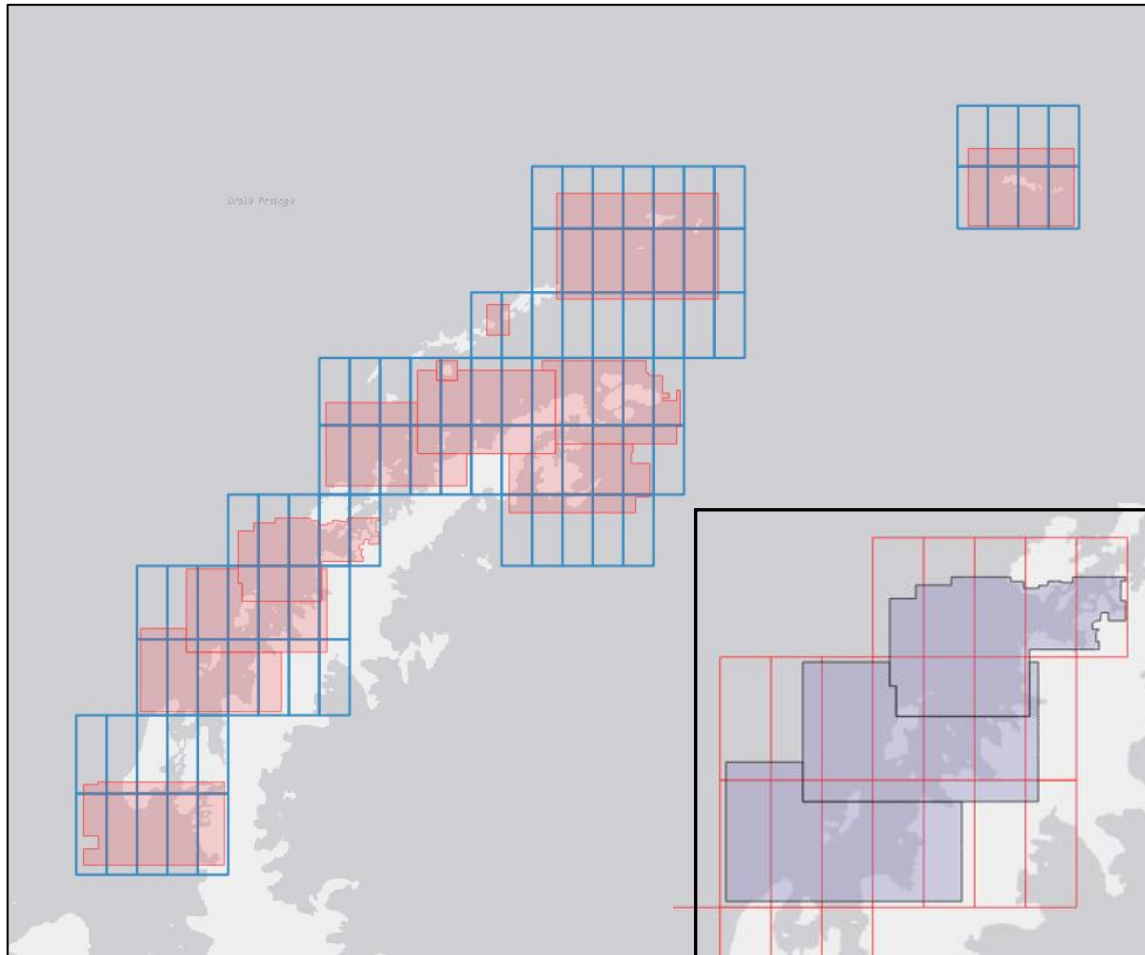


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Band 3 & 4 Grids in Antarctica & Existing ENC



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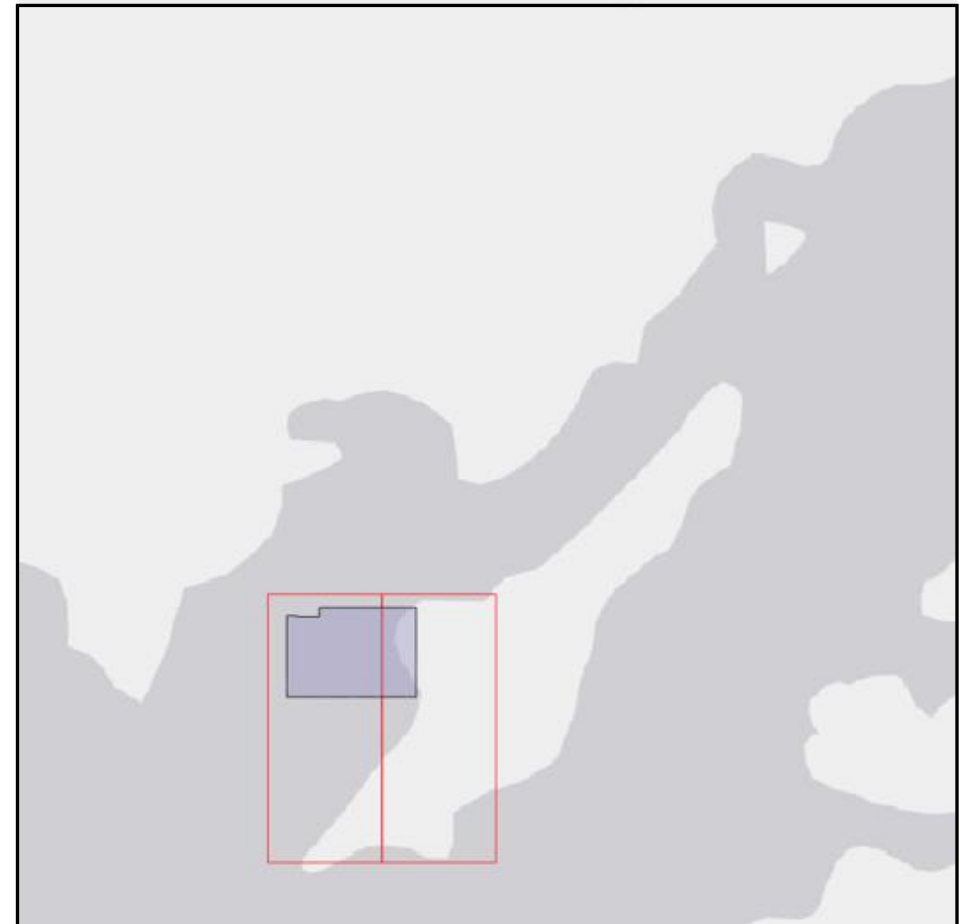
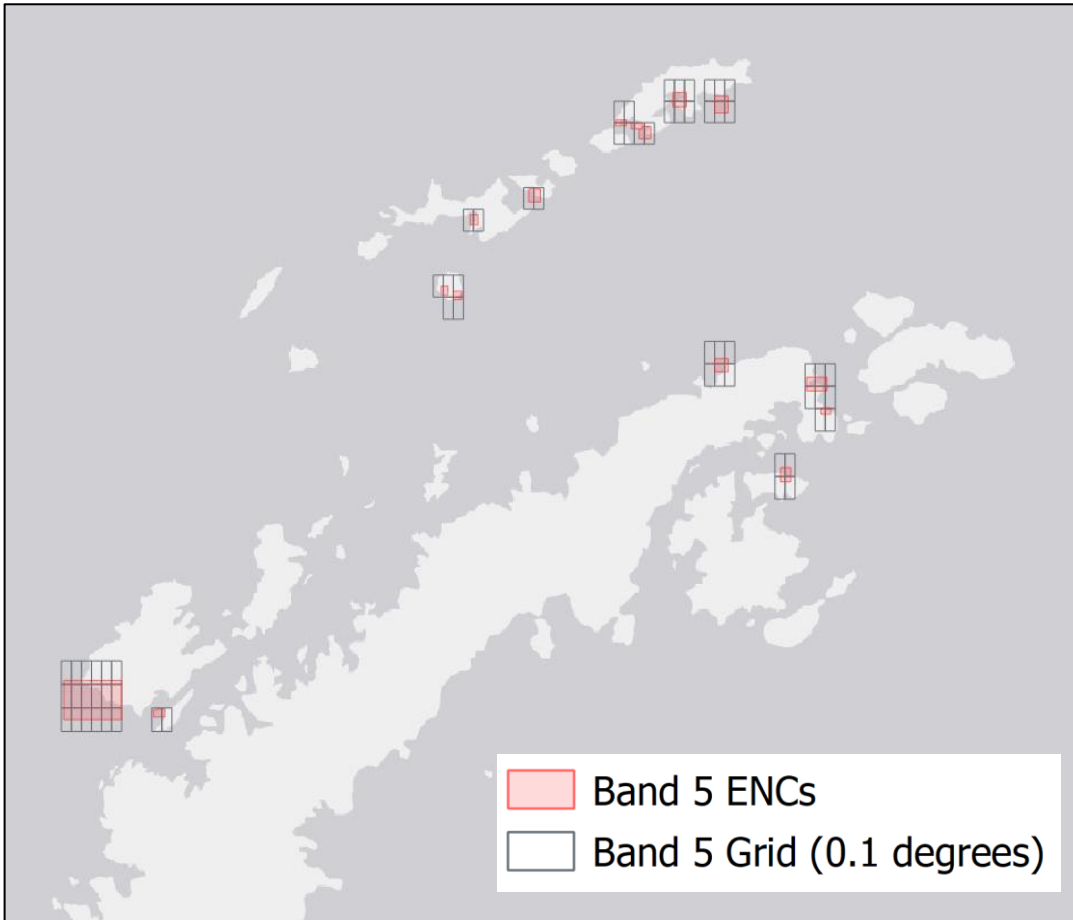


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Band 5 Grid in Antarctica & Existing ENC



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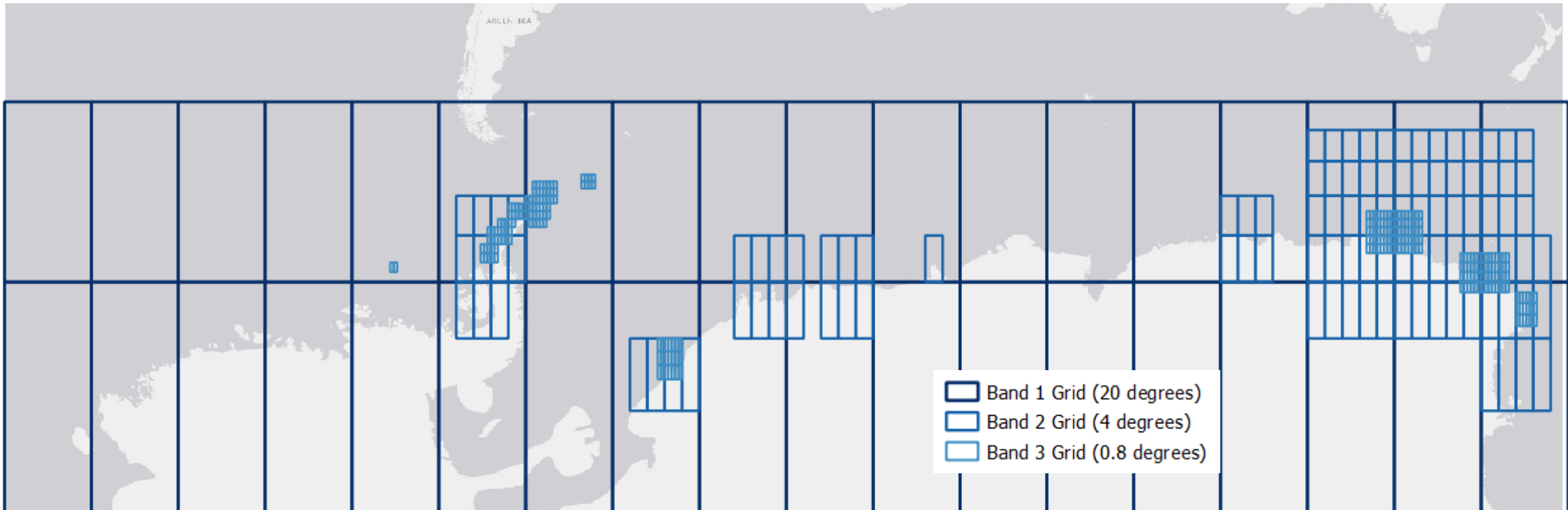


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Interaction of Band 1-3 Grids in Antarctica



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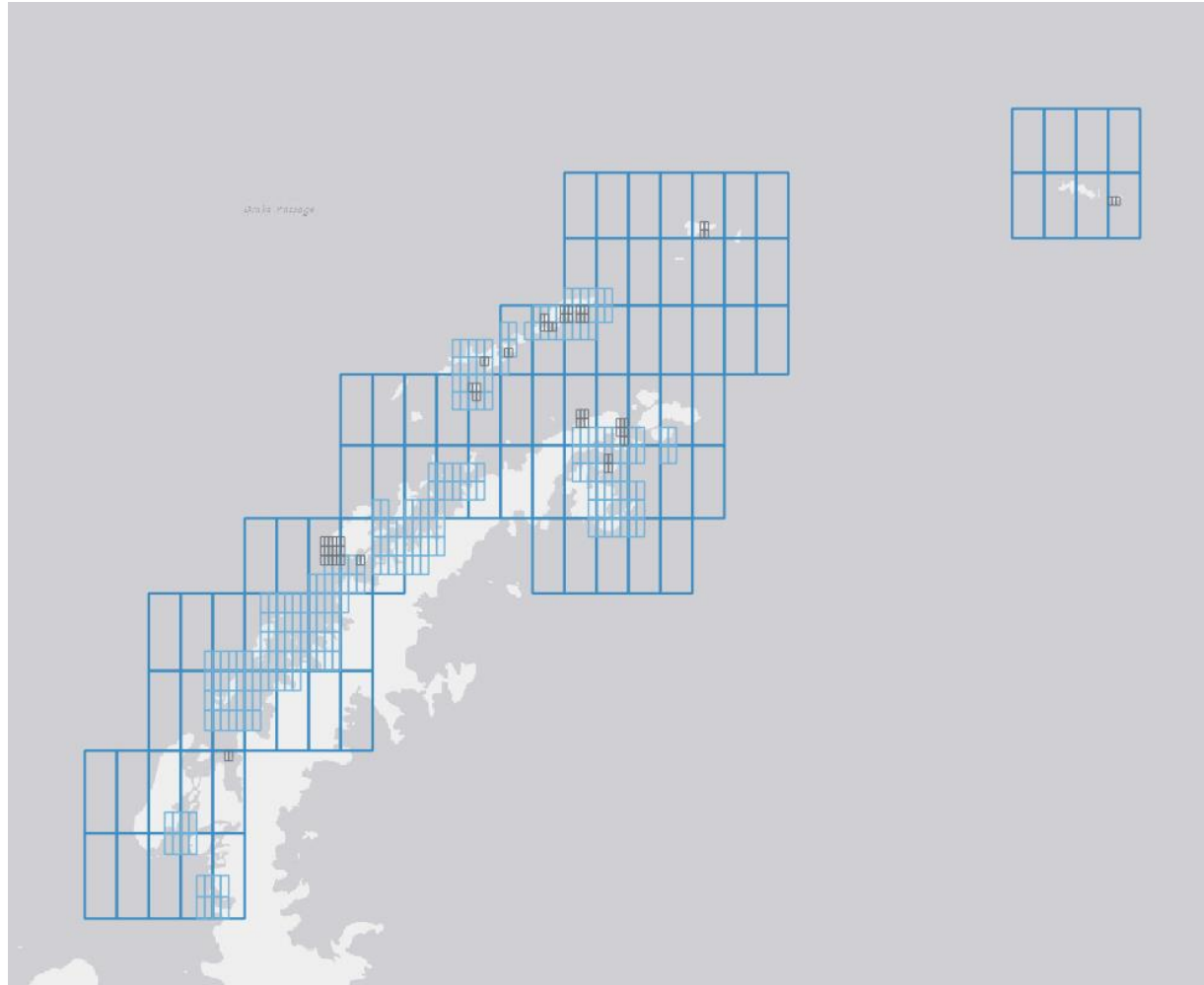


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Interaction of Band 4-5 Grids in Antarctica



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Principles in Applying the UK Grid

The UK gridded scheme will be applied within the limits of the current GB data coverage

There will be no change to coverage limits where GB cells adjoin with ENC's created by other producer nations.

Where an independent large scale cell has minimal data due to the grid the following options will be considered:

1. Merge with other adjoining grid (non uniform grid)
2. Extend coverage and fill with additional data
3. Reduce coverage



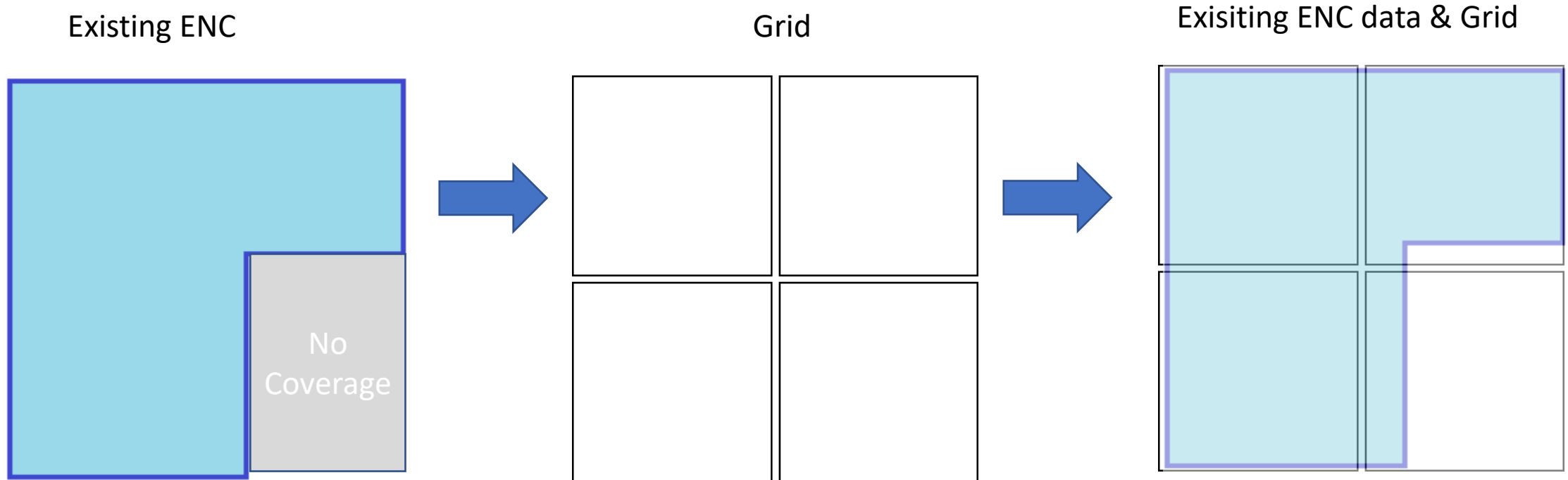
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Principles in Applying the UK Grid - Example of Irregular Data

Applying the gridded scheme may result in incomplete grid cells





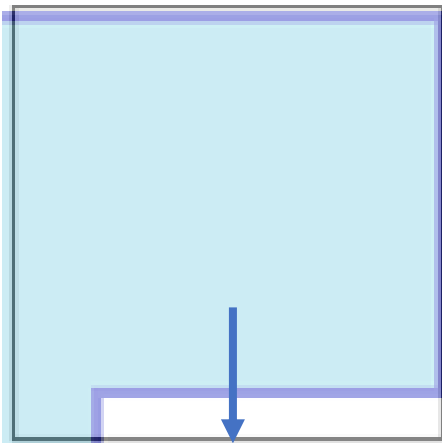
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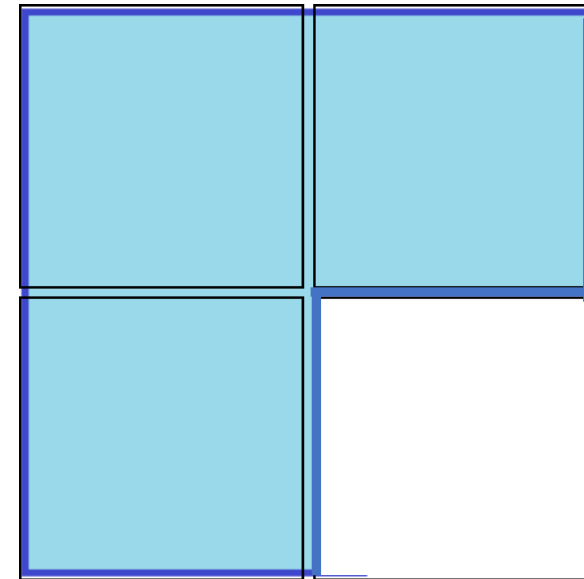
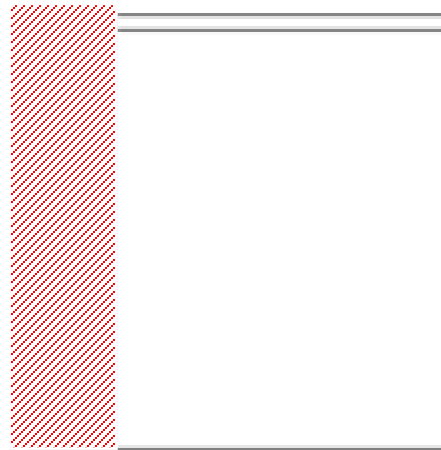
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Principles in Applying the UK Grid – Resolving Irregular Data

Extend data to fill



Clip data





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UK Application of Compilation Scales for Gridded Schemes

Selectable Range	Standard Scale (rounded)
200 NM	1:3000000
96 NM	1:1500000
48 NM	1:700000
24 NM	1:350000
12 NM	1:180000
6 NM	1:90000
3 NM	1:45000
1.5 NM	1:22000
0.75 NM	1:12000
0.5 NM	1:8000
0.25 NM	1:4000

The S-57 UOC states that HO's should use 1 of these scales (left). UKHO chose the next largest scale to the scale of the paper chart from which the ENC was derived.

Nav Purpose	Name	Scale Range
1	Overview	<1:1499999
2	General	1:350000-1:1499999
3	Coastal	1:90000-1:349999
4	Approach	1:22000-1:89999
5	Harbour	1:4000-1:21999
6	Berthing	>1:4000

S-57 Ed 3.1 does not define max and min comp scales for each Nav Purpose, above is an example of how scale ranges may be assigned to Nav Purposes.

S-101 does not give any guidance on scale ranges and navigational purpose is only for cataloguing purposes.



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UK Gridded Scheme in Antarctica

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UK Application of Compilation Scales for Gridded Schemes

Applying a flexible approach to scales within the scale bands, generally following the standardised scales, potentially flexing depending on the coverage and features being depicted in the ENC. These decisions will be informed by the ongoing trials.

Nav Purpose	Standardised S-57 Scale example	Alternate scale 'Cut-off' option	Alternate scale 'Cut-off' options	Alternate scale 'Cut-off' option
Scale band 1	1:1500000+			
Scale band 2	1:350000-1:1499999			
Scale band 3	1:90000-1:349999	Cut-off between bands 3 and 4 to 1:75000	Cut-off between bands 4 and 5 to 20,000, 1:25000 or 1:30000	
Scale band 4	1:22000-1:89999			
Scale band 5	1:4000-1:21999			Cut-off between bands 5 and 6 to 1:6000
Scale band 6	>1:4000			