

UK experience of converting mapping data from national grid to EU grid

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Mapping baseline grids used in the UK

There are three mapping grids used across the UK

1) British National Grid OSGB36

(used for England, Scotland and Wales habitats & species)

2) Irish National Grid (TM65)*

(used for Northern Ireland habitats & species)

3) World Geodetic System WGS84

(used for UK Offshore marine and Gibraltar habs & species)

*The Irish grid partially overlaps the British grid. It uses a similar coordinate system but with a central meridian more suited to its westerly location.

UK in Atlantic (terrestrial) biogeographical region and Atlantic marine region. (Gibraltar in Mediterranean (terrestrial) biogeographical region and Mediterranean marine region.

EU mapping projection 'standard'

EU reporting guidelines require each MS to convert mapping data from their national grid(s) into:

10 km x 10 km ETRS89 grid,
projection ETRS LAEA 5210*

*European Terrestrial Reference System 1989; Lambert Azimuthal Equal Area Latitude of origin 52° N, Longitude of origin (central meridian) 10° E.

HL	HM	HN	HO	HP	JL	JM			
HQ	HR	HS	HT	HU	JQ	JR			
HV	HW	HX	HY	HZ	JV	JW			
NA	NB	NC	ND	NE	OA	OB			
NF	NG	NH	NJ	NK	OF	OG			
NL	NM	NN	NO	NP	OL	OM			
		NR	NS	NT	NU	OQ	OR		
			NX	NY	NZ	OV	OW		
			SC	SD	SE	TA	TB		
			SH	SJ	SK	TF	TG		
			SN	SO	SP	TL	TM		
			SR	SS	ST	SU	TQ	TR	
			SV	SW	SX	SY	SZ	TV	TW

A	B	C	D
F	G	H	J
L	M	N	O
Q	R	S	T
V	W	X	Y
			SM

UK approach to conversion

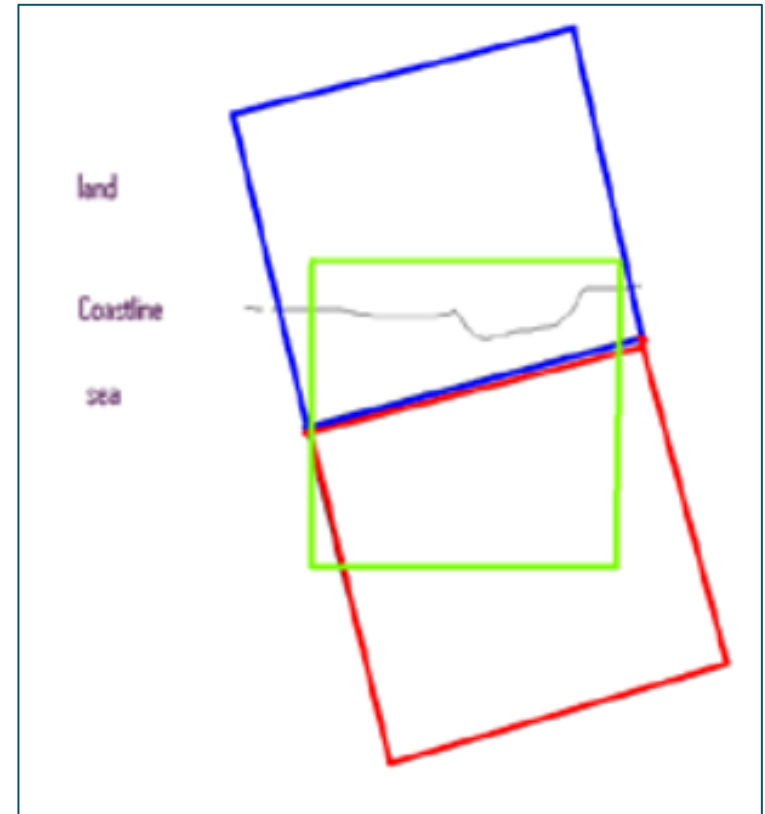
- 1) Overlay grids in GIS, via comparator algorithm
- 2) Match each of the individual GB/Ireland grid squares with the 10 km ETRS square that has the **maximum overlap** with the GB/Ireland square

In this example:

Green – source distribution square in BNG

Red – ETRS grid square A

Blue – ETRS grid square B



Green square has greater overlap with the **red square** than the **blue square**

UK approach to conversion

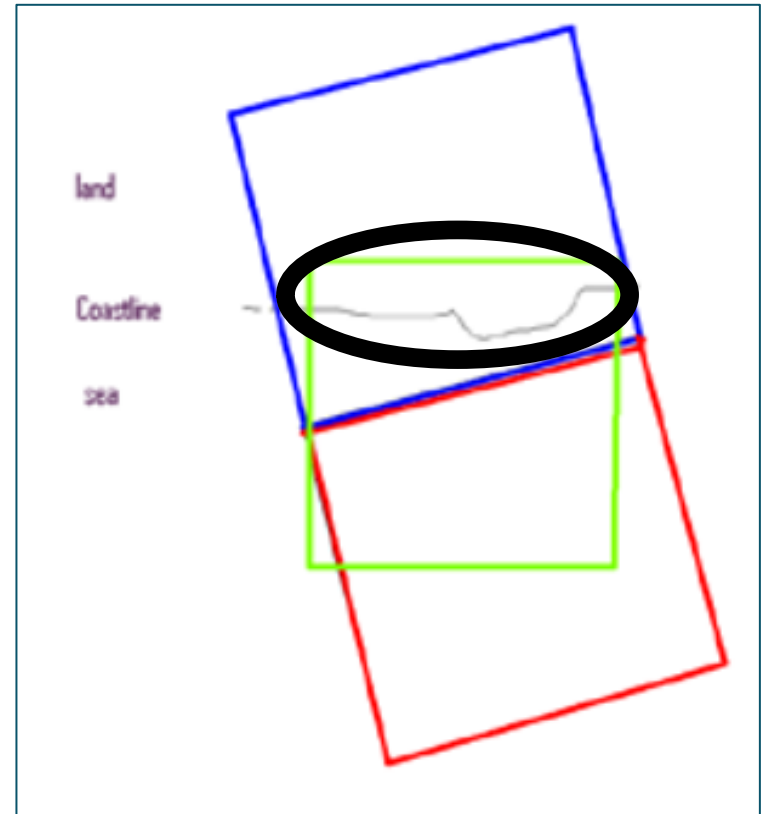
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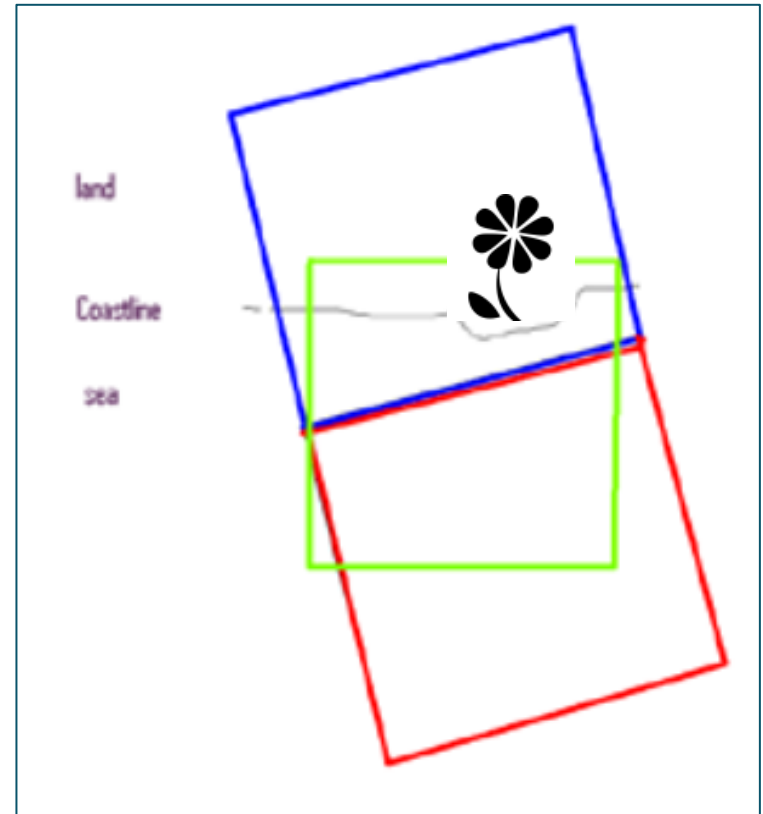
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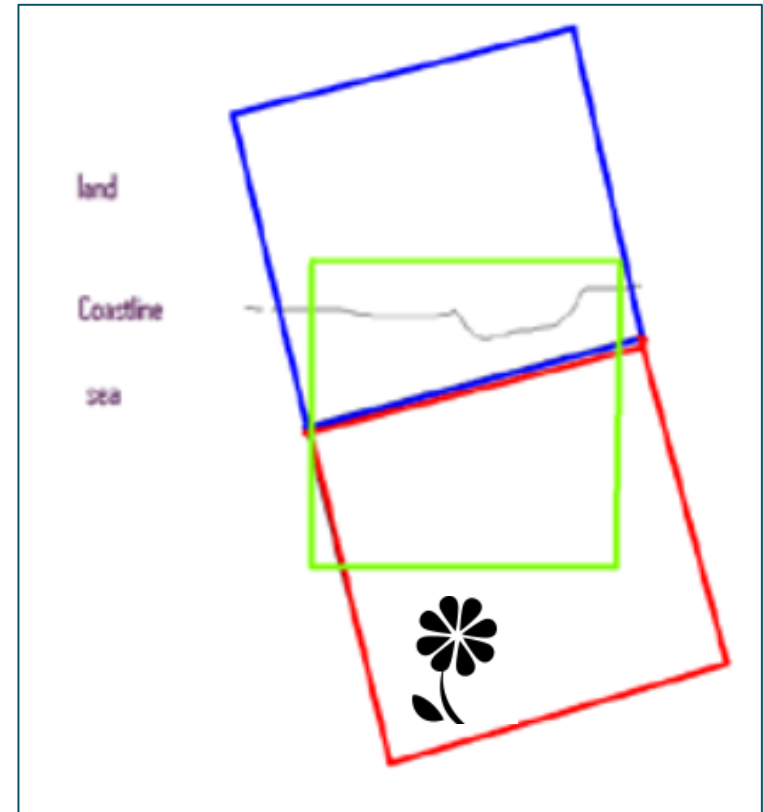
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UK Approach of conversion (2)

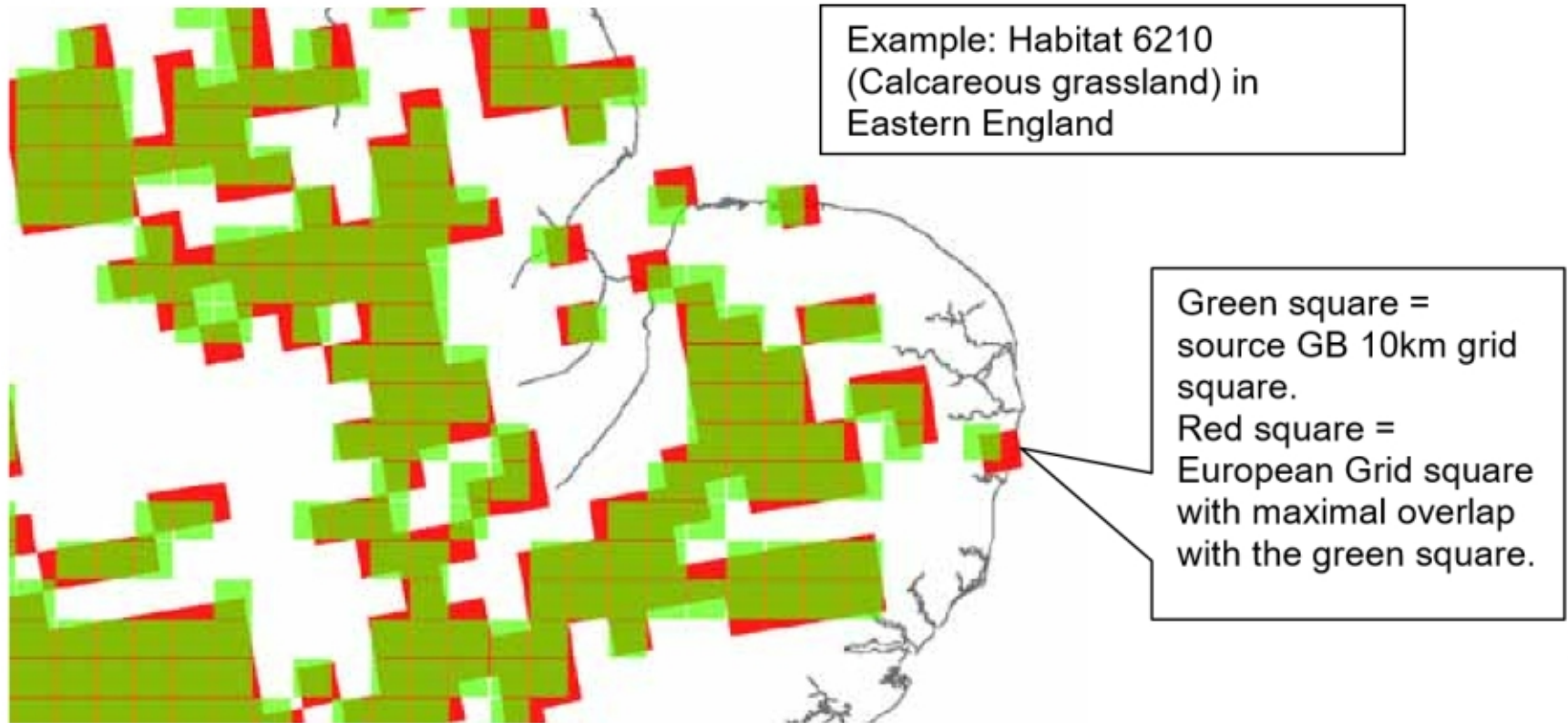
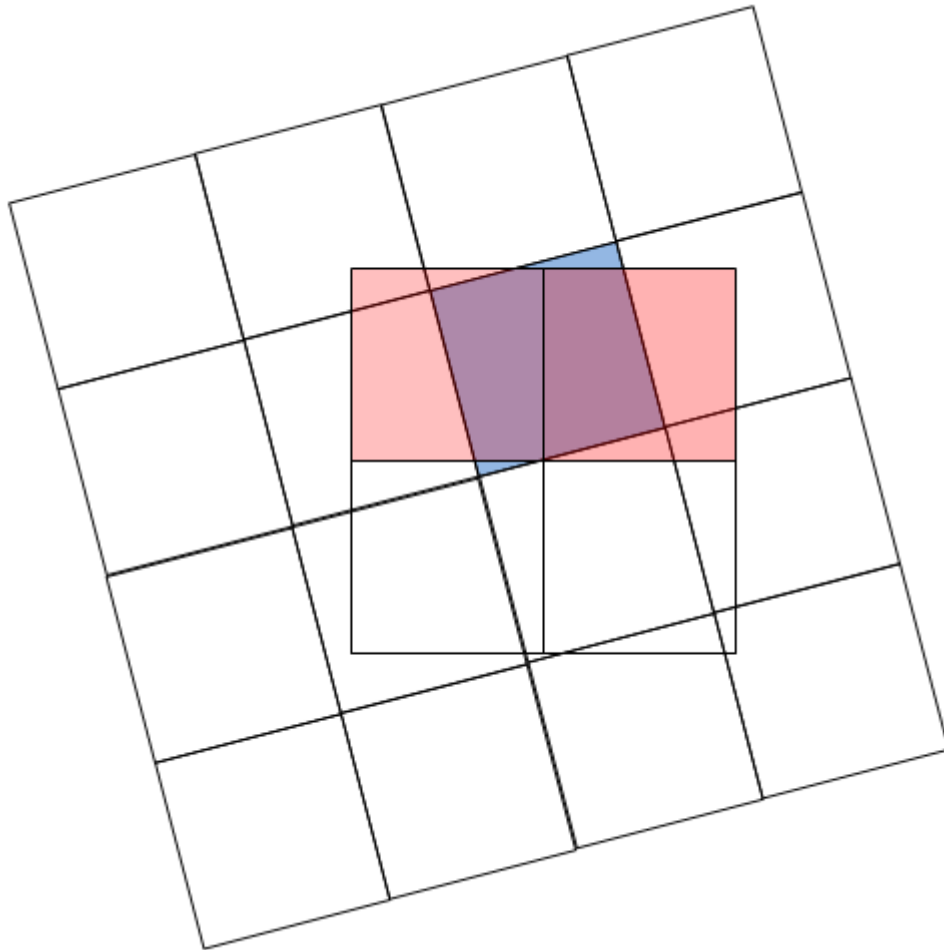


Illustration of distribution of H6210 calcareous grassland in part of the distribution within England converted from **BNG** (green grid squares) to **ETRS** (red grid squares)

Technical implications (1)



1) In some cases two adjacent GB/Ireland squares match the same single ETRS square.

2) Therefore UK uses the distribution information in national grids to assess trend information e.g. between reporting rounds (not the distribution in ETRS) – accuracy!

National grid (straight): two red squares e.g. in British National Grid

European grid (at angle): one blue square – main overlapping grid square in ETRS

Calculating range – some reflections

For terrestrial habitats and species, use 10 km British/Irish grid data in customised UK range tool. Have defined 'gap distances' per feature

Range area calculations created – note the UK tool creates irregularly shaped (as opposed to 10 km grid blocked square) polygons. More accurate. UK reported range value per feature.

Boundaries: area clipped to the coastline giving improved accuracy.



Calculating range – some reflections

Then, for reporting processes, intersect irregular UK range map area with ETRS.

Implication:

*Range area
(via 10 km square
ETRS blocked
grid map)* > *Range area
(via UK range
tool)*

Marine range (habitat range often the same or similar to distribution (additional expert knowledge is added). Mobile marine species range in 2013 range used 50 km ETRS grids.

