LANDMAP, landscape and a changing climate

The classification

An adapted LANDMAP Visual & Sensory hierarchical classification* that brings together landform and land cover classes at level 2 and 3 into new categories for reporting the potential impacts of climate change on landscape types and potential adaptations that may be associated with these landscapes.
(*https://cdn.naturalresources.wales/media/677816/visual-sensory-landmap-methodology-2016-v2.pdf?mode=pad&rnd=131472708500000000 page 3)

Explanatory notes behind the classification choices

- The hybrid classification uses all three LANDMAP Visual & Sensory classes, however the key determinants behind the classification places particular emphasis on groupings that may reflect landscape habitats and elements such as woodland, hedgerows, moorland and grazing, which may be impacted by potential climate changes such as pests and diseases, wild fires, desiccation/drying out of grasslands and coastal flooding changes more than underlying landform. These factors therefore have increased emphasis in the categories identified.

- Current percentages relating to predominant landcover at level 3 have been highly influential in the categorisation.

- The existing Visual & Sensory 45 classifications at level 3 are refined to 14 new categories that are still underpinned by LANDMAP quality assured and consistent evidence. Table 1 illustrates how the categories have been arrived at by grouping classifications. Table 1 includes simplified definitions of the LANDMAP Visual & Sensory classification categories to aid understanding of the basis for the groupings. The full description is available from the methodology link* above, on page 5.

- Table 2 summarises the 14 key landscape categories of table 1 and will be the basis for the mapping at the most detailed level

- Colour coding of categories helps with tracing how the categories have been grouped and will relate to the thematic maps to be produced.

List of tables

Table 1 Origin of categories for reporting the potential impacts of climate change on landscape (Updated to include Flat Lowland Mosaic and reservoir and note ria is as yet unused)

Grouped level 2 classifications	Containing these Level 3 classifications	Summary definitions
Upland 150-300+m		
Upland, exposed plateau, valleys, hillsides and scarp slopes Wooded 20-50%	Wooded >20% upland & plateaux	woodland >20%
	Mosaic upland & plateaux (<10 ha, 20-50%)	<10ha woodland 20-50%
	Open/wooded(<10 ha, 20-50%) mosaic upland valleys	<10ha woodland 20-50%
	Wooded >20% upland valleys	wooded >20%
	Hillside & scarp slopes mosaic	patchwork woodland 20-50%
	Hill and lower plateau mosaic	woodland 20-50%
Upland plateau, hillsides and scarp slopes Moorland 20-50%+	Upland moorland	moorland >50%
	Hillside & scarp slopes moorland	wooded <20%, <50% open moorland
	Hill and lower plateau moorland	wooded <20% <50% open moorland
Upland Rock & Scree	Barren/rocky upland	>25%rock & scree
Upland valleys, hillsides, lower plateau and scarps Grassland >50%, open, predominantly unwooded	Upland grazing	grazed grassland >50%
	Hill and lower plateau grazing	wooded <20% grazed grassland >50%
	Open upland valleys (<20% wooded)	unwooded <20%
	Hillside & scarp slopes grazing	wooded <20%, grazed grassland >50%
	Open hillside and scarp slopes	predominantly unwooded
	Open hill and lower plateau	predominantly unwooded.
Upland Hills, lower plateau & scarp slopes Wooded >50%	Wooded hillside & scarp slopes	wooded >50%
	Wooded hill and lower plateau	wooded >50%
Lowland		
Valleys and rolling lowland Mosaic 20-50% wooded, hedgerow character	Mosaic lowland valleys	woodland 20-50% hedgerow trees. villages, mosaic.
	Mosaic rolling lowland	small woodland 20-50% density hedgerow trees. other land uses mosaic.
Valleys, rolling and flat lowland Grassland >50%, open, <20% wooded, lacking hedgerow trees	Open lowland valleys	wooded <20% lack hedgerow trees.
	Open rolling lowland	wooded <20% with few trees.
	Flat open lowland farmland	wooded <20% farmland
Valleys, rolling and flat lowland Wooded >50%	Wooded lowland valleys	wooded >50%
	Wooded rolling lowland	Predominantly wooded >50%
	Flat lowland mosaic	woodland 20-50%, mosaic
	Flat wooded lowland	wooded >50%
	Lowland wetland	wetland >50%
Coastal edge, cliffs and islands	Intertidal	between low and high water, beaches, mud and rocks
	Dunes and dune slack	Face open sea dunes or dune slacks.
	Cliffs & cliff tops	rocky or sandy cliffs cliff-top rough grazing, scrub, or woodland
	Other coastal wild land	As cliffs but <10m
	Small island	separated from the coast at low tide less than 20ha

Development		
Built land - communities	Village	rural communities
	Dispersed settlement	rural communities >15 houses
	Urban	larger, urban communities
Amenity and informal space	Amenity land	open space (>10Ha), formal parks, golf courses, playing fields
	Informal open space	informal open space (>100Ha) in built context, urban river corridors and woodland
Industry and infrastructure	Excavation	(>100Ha) working quarries, mines, landfill
	Derelict / waste ground	(>100Ha) disused industrial sites, mines and quarries, tips.
	Road corridor	Major road corridor, dual carriageway
Water		
Coastal waters	Sea	Open Water beyond the OS map low water line.
	Estuary	Open water areas, beyond the OS map low water line that is predominantly river mouths
Inland water	River	Inland Water areas that is a large river approximately >20m
	Lake	Inland Water area
	Reservoir	Inland Water area
	Ria (unused)	Inland Water extension to an estuary with tidal characteristics

Table 2 Summary of 14 categories for reporting the potential impacts of climate change on landscape

Upland Hills, lower plateau & scarp slopes Wooded >50%	Valleys, rolling and flat lowland Wooded >50%	Classification key
Upland, exposed plateau, valleys, hillsides and scarp slopes Wooded 20-50%	Valleys and rolling lowland Mosaic 20-50% wooded, hedgerow character	Inland water
Upland plateau, hillsides and scarp slopes Moorland 20-50%+	Valleys, rolling and flat lowland. Grassland >50%, open, <20% wooded, lacking hedgerow trees	Built land - communities
Upland valleys, hillsides, lower plateau and scarps Grassland >50%, open, predominantly unwooded	Coastal edge, cliffs and islands	Industry and infrastructure
Upland Rock scree	Coastal waters	Amenity and informal space

Table 3 is a further simplification to refine the 14 landscape categories into broad landscapes. Table 3 defines the origin of the 9 high level categories from the 14 categories

Table 3 Origin of 9 high level categories from 14 categories

					Classification key
Upland >20% Wooded	Upland Hills, lower plateau & scarp slopes Wooded >50%	Lowland mosaic, >20% wooded	Valleys, rolling and flat lowland Wooded >50%		
	Upland, exposed plateau, valleys, hillsides and scarp slopes Wooded 20-50%		Valleys and rolling lowland Mosaic 20-50% wooded, hedgerow character	Inland water	Inland water
Upland 20-50% Moorland and scree	Upland plateau, hillsides and scarp slopes Moorland 20-50%+	Lowland open >50% grassland, <20% wooded	Valleys, rolling and flat lowland. Grassland >50%, open, <20% wooded, lacking hedgerow trees	Built land	Built land - communities
	Upland Rock scree	Coast	Coastal edge, cliffs and islands		Industry and infrastructure
Upland open >50% grassland	Upland valleys, hillsides, lower plateau and scarps Grassland >50%, open, predominantly unwooded		Coastal waters	Amenity and informal space	Amenity and informal space

Table 4 is a summary of the 9 high level categories from table 3. These categories will be further refined by selected datasets.

Table 4 Summary of 9 high level categories for reporting the potential impacts of climate change on landscape

Upland >20% Wooded	Lowland mosaic, >20% wooded	Inland water
Upland 20-50% Moorland and scree	Lowland open >50% grassland, <20% wooded	Built land
Upland open >50% grassland	Coast	Amenity and informal space