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Land cover change analysis

1961 - 2008



Overview

- What is land cover?
- How is land cover data generated?
- Land cover change analysis
- Key findings

Land cover analysis

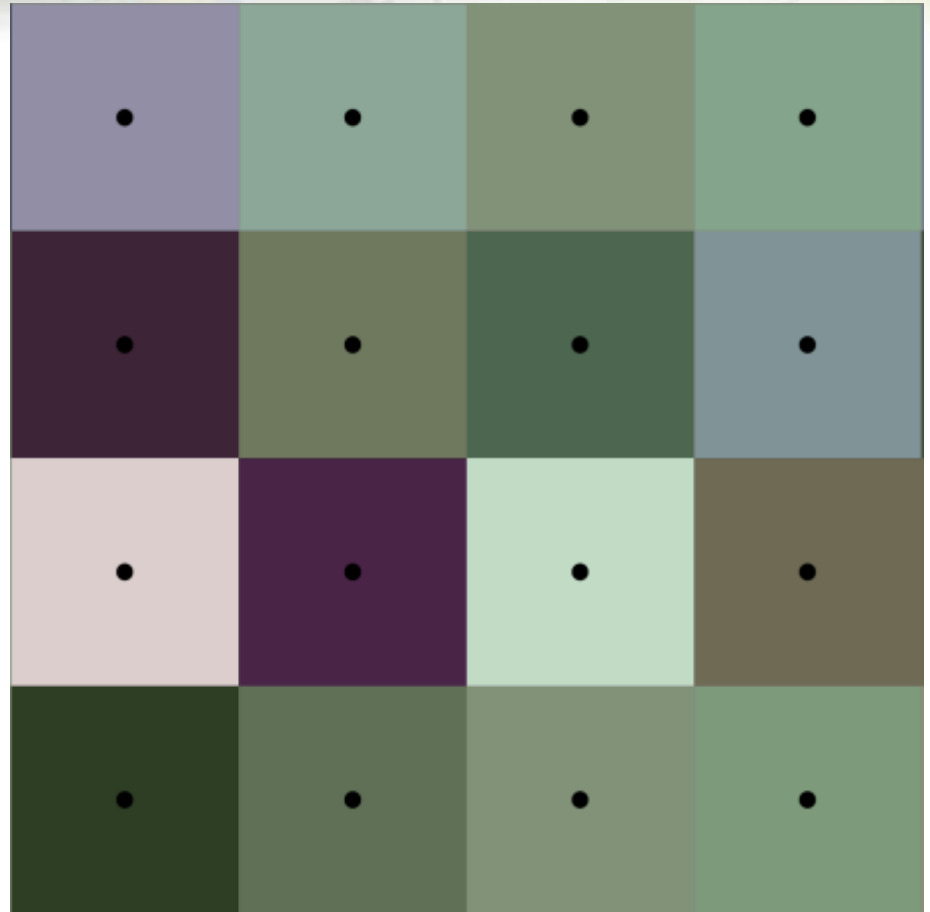
- What is land cover analysis?
- Definition of land cover:
 - *observed (bio)physical cover on the earth's surface (FAO, 2000)*
 - while land use describes the: *'arrangements, activities and inputs people undertake in a certain land cover type to produce, change or maintain it (FAO, 2000)*

Land cover analysis

- Why use land cover?
 - To quantify the gross changes in land cover over time
 - To identify the most significant types of land cover change
 - To identify where such changes have taken place in order to inform future policy, strategies and countryside management

Creating land cover data

- 100x100 metre grid with centre points



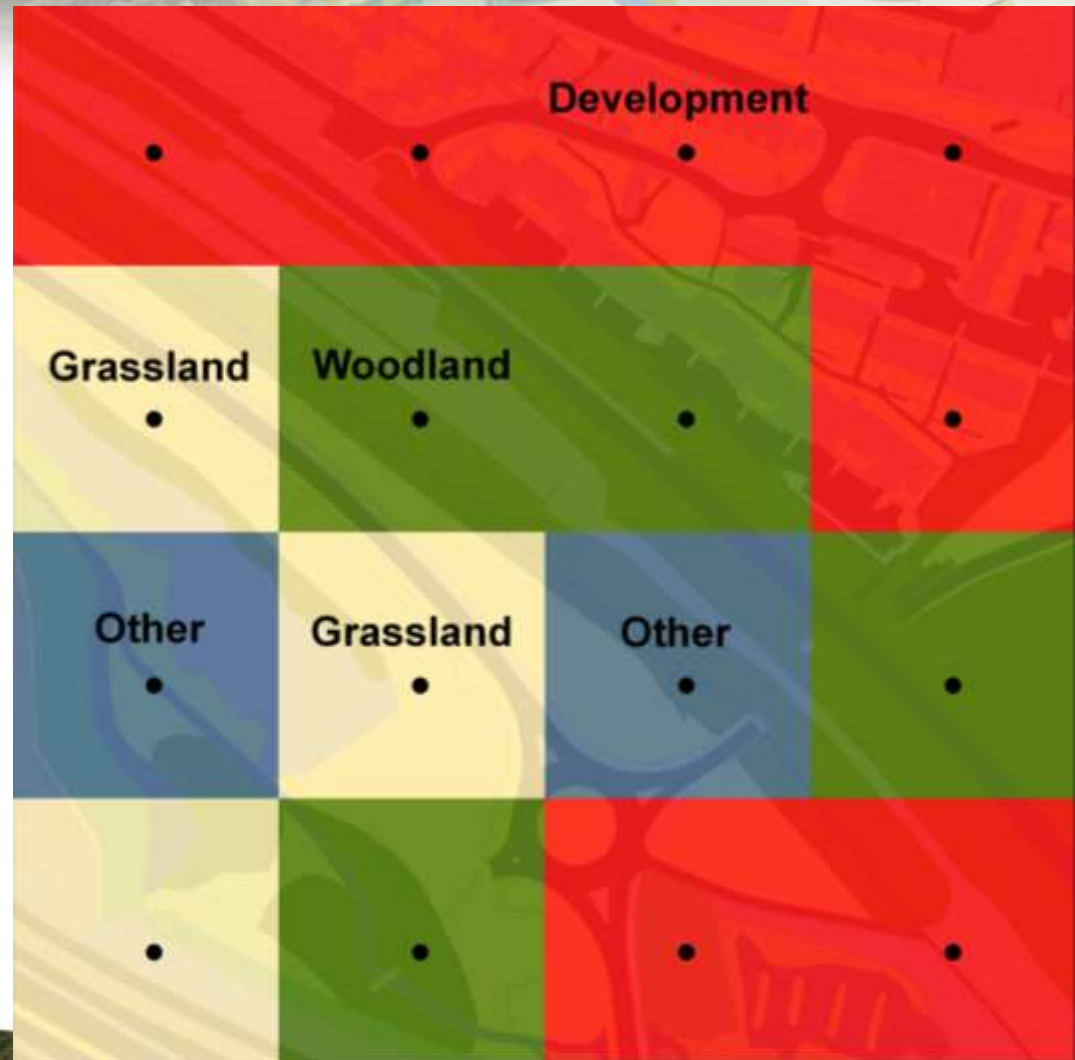
Creating land cover data

- Values for centre points derived from Kent Habitat Survey 2012



Creating land cover data

- Convert centre point data to grid cells with values from habitat converted to land cover classes



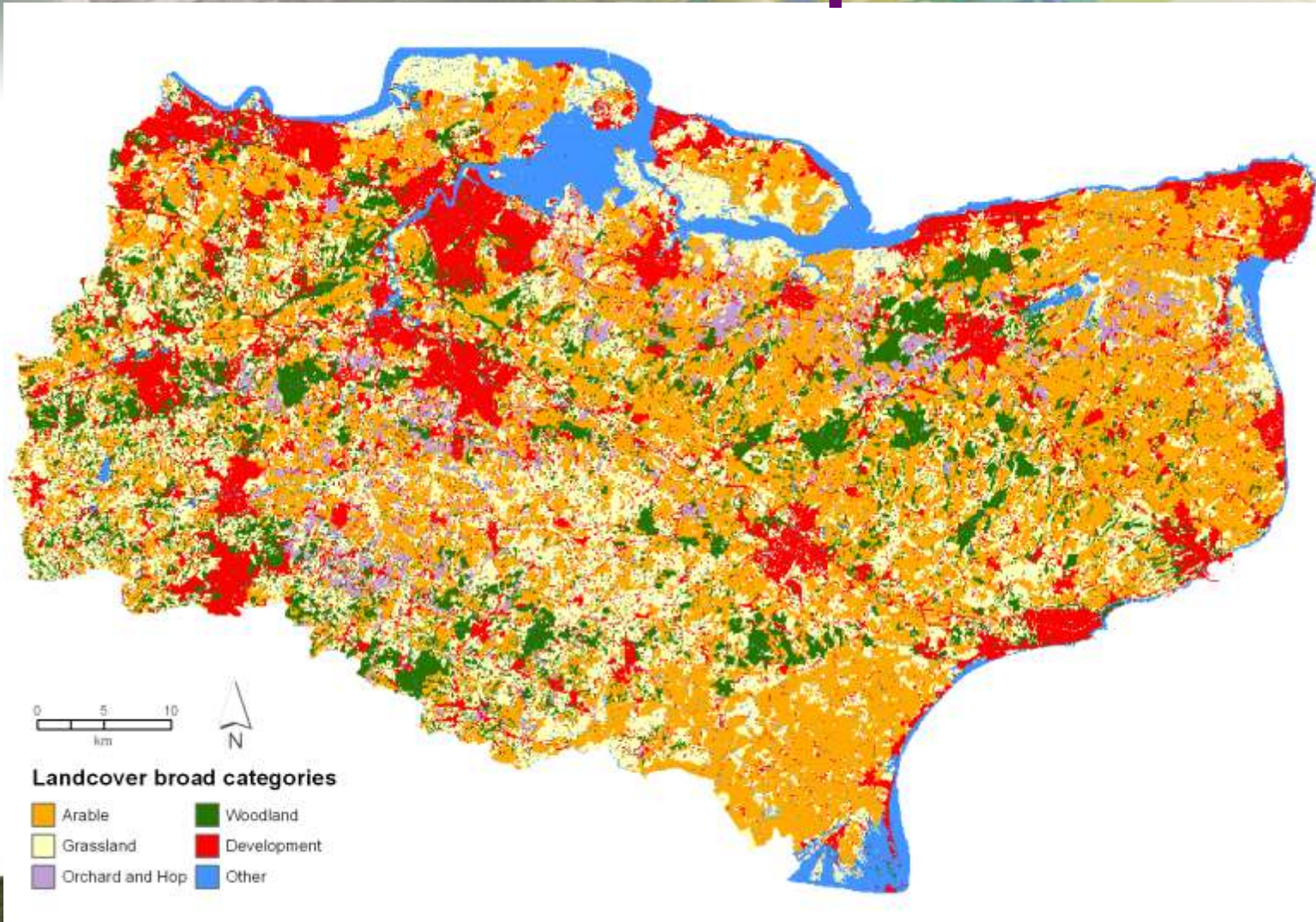
Classification

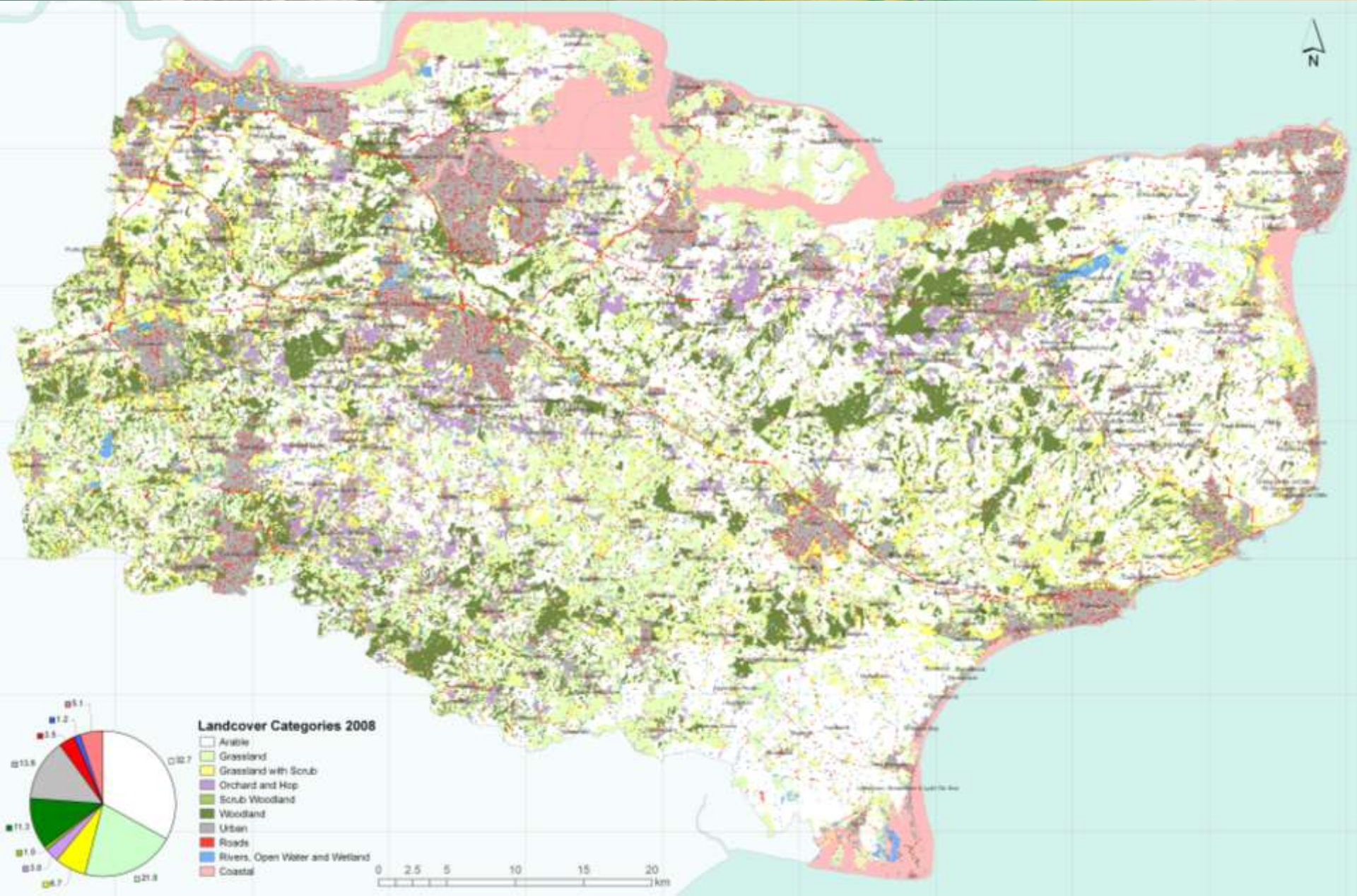
- 6 broad categories
- 11 categories
- 26 classes

Landcover Broad Category	Landcover Category	Landcover Class		
1 Arable	1 Arable	Arable		
2 Grassland	2 Grassland	Grassland Heathland		
	3 Grassland & scrub	Grassland with scrub		
3 Orchard & Hop	4 Orchard & Hop	Orchard Traditional orchards Hops		
		4 Woodland	5 Scrub	Scrub
			6 Woodland	Broadleaved woodland Coniferous woodland Mixed woodland
5 Development	7 Urban	Urban Railways Active mineral sites		
	8 Roads	Roads		
6 Other	9 Wetland	Freshwater Freshwater marsh		
		10 Coastal	Saltwater Saltwater marsh Intertidal sand and mud Intertidal shingle Intertidal rock Sand Shingle	
	20 Miscellaneous		Rock Other landuse	



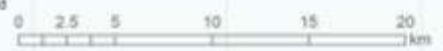
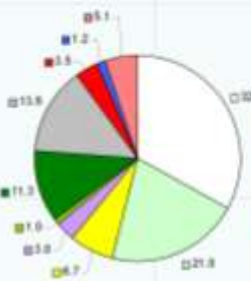
Land cover map 2008





Landcover Categories 2008

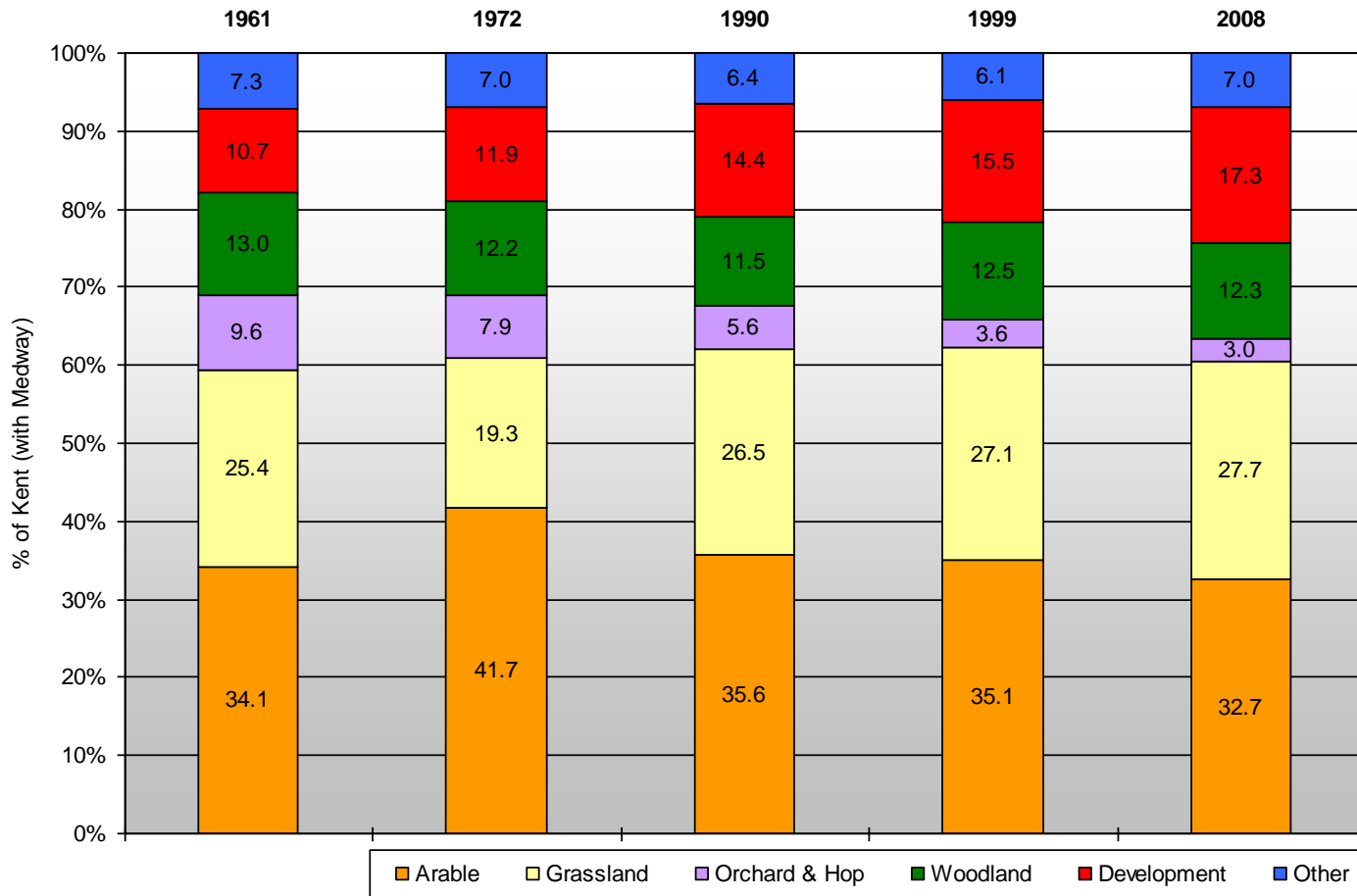
- Arable
- Grassland
- Grassland with Scrub
- Orchard and Hop
- Scrub Woodland
- Woodland
- Urban
- Roads
- Rivers, Open Water and Wetland
- Coastal



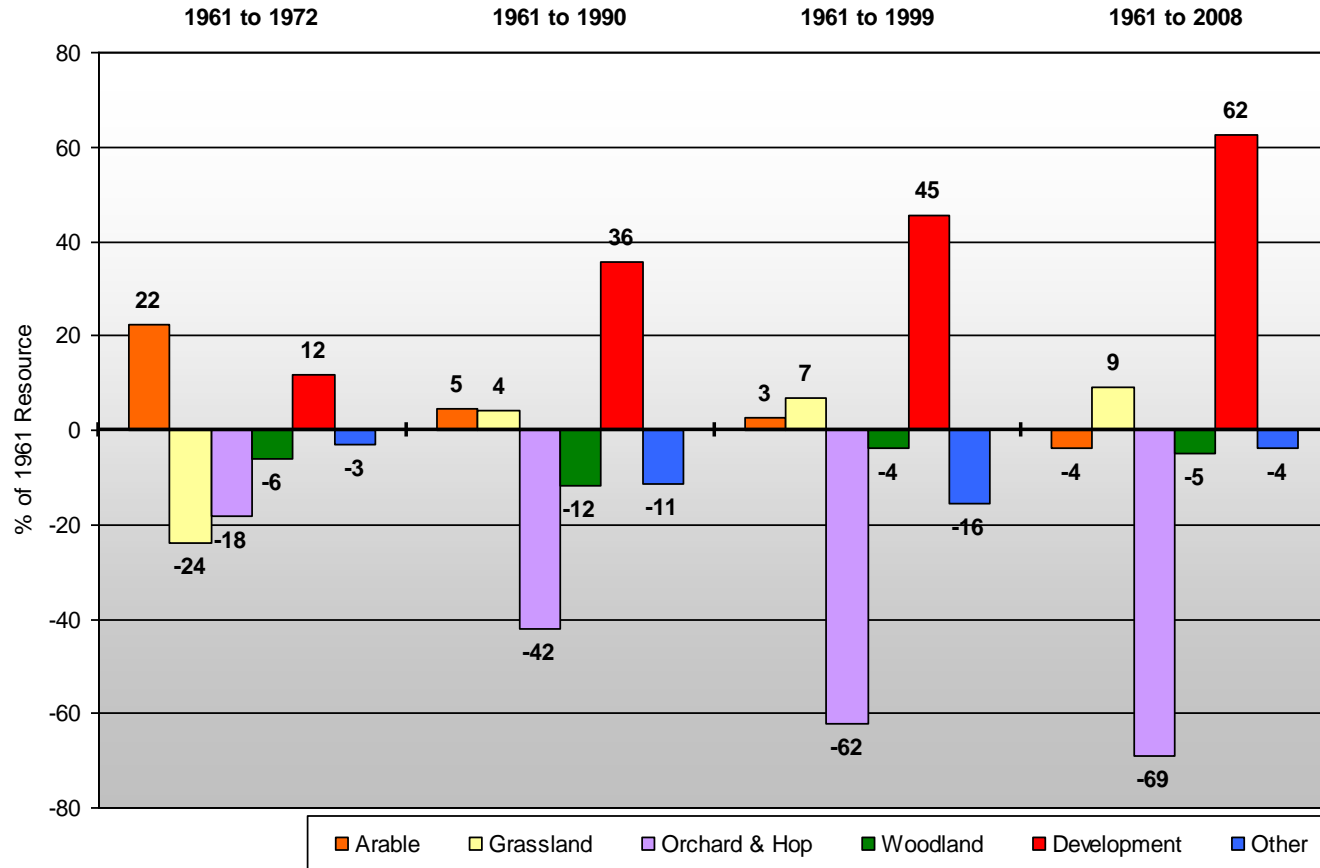
Change analysis

- Gross change: compare land cover totals of different periods: 1961, 1972, 1990, 1999 and 2008

Change analysis

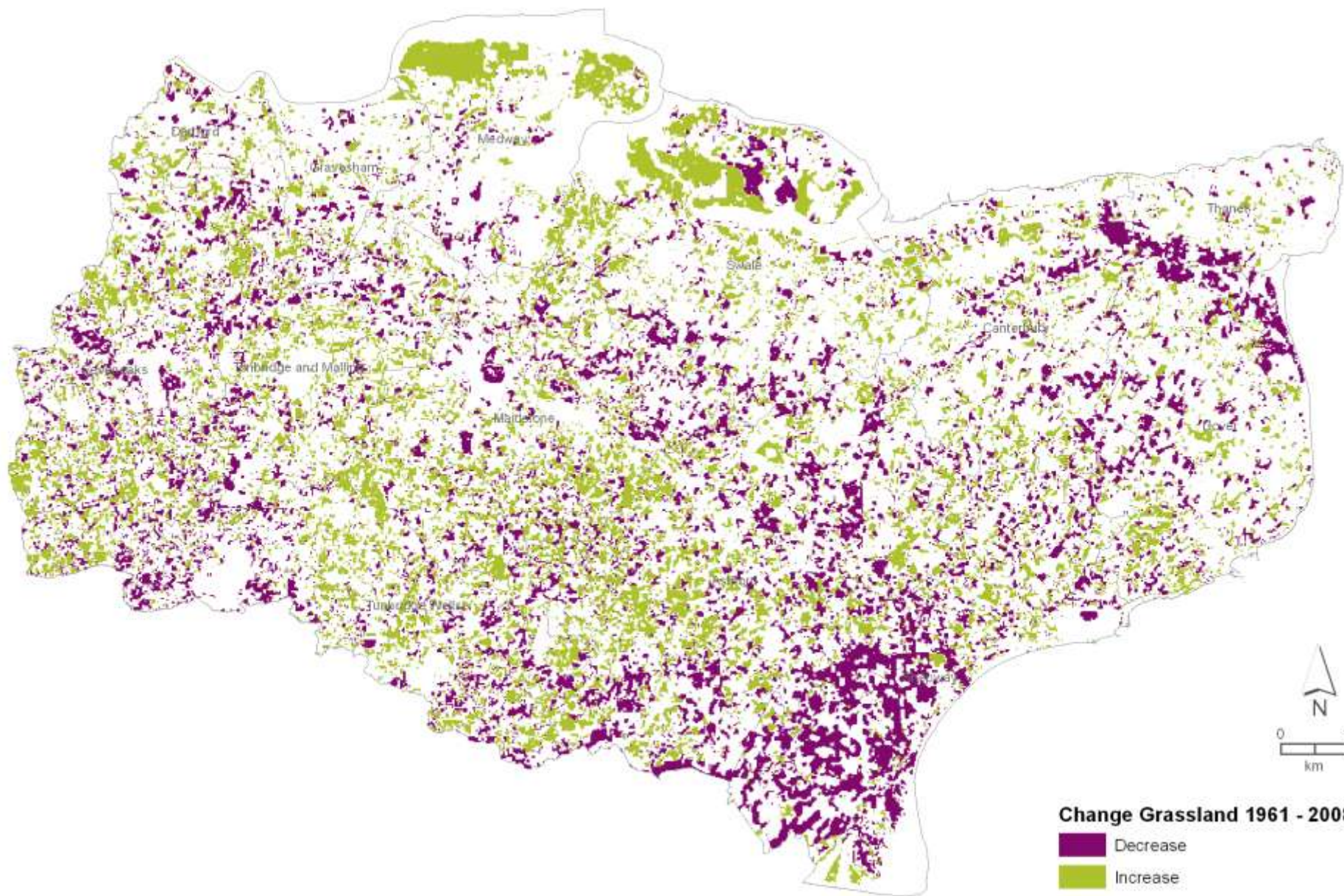


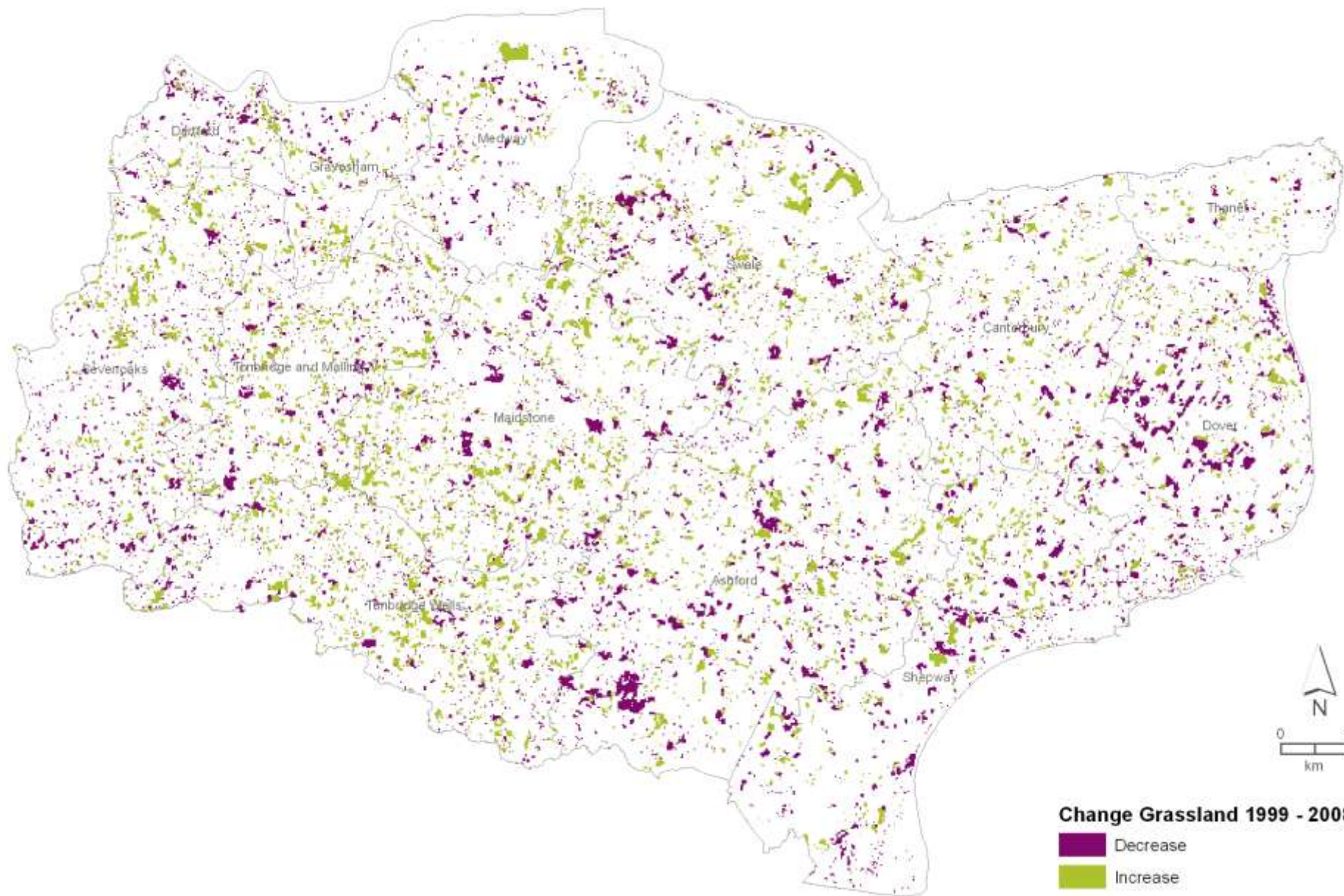
Change analysis



Change analysis

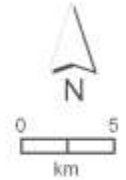
- In GIS combine grids of 2 periods
- Combined grid has values for each possible combination of change, with total area in hectares
- Apparent change
- Remove < 4 ha contiguous change

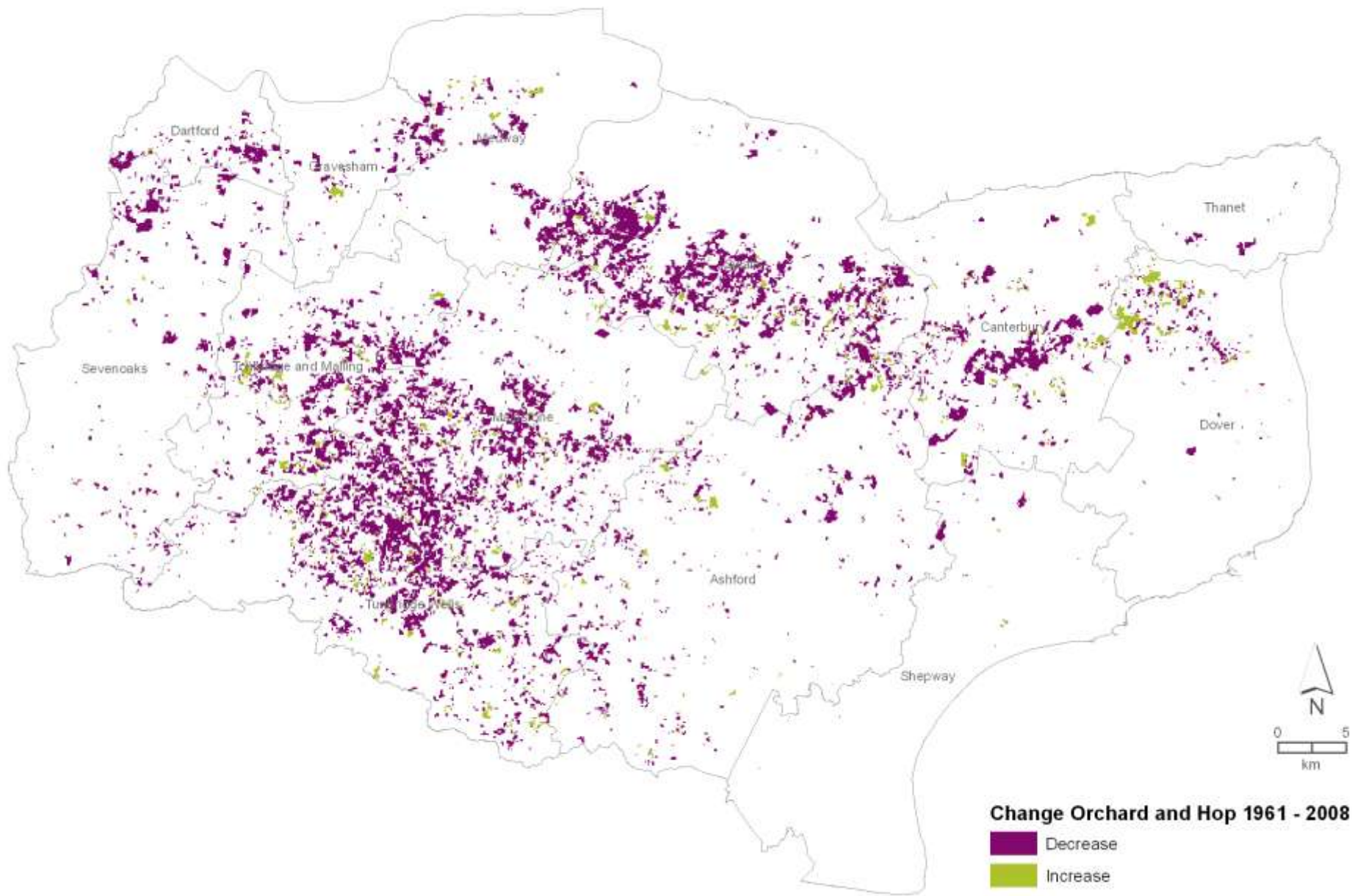




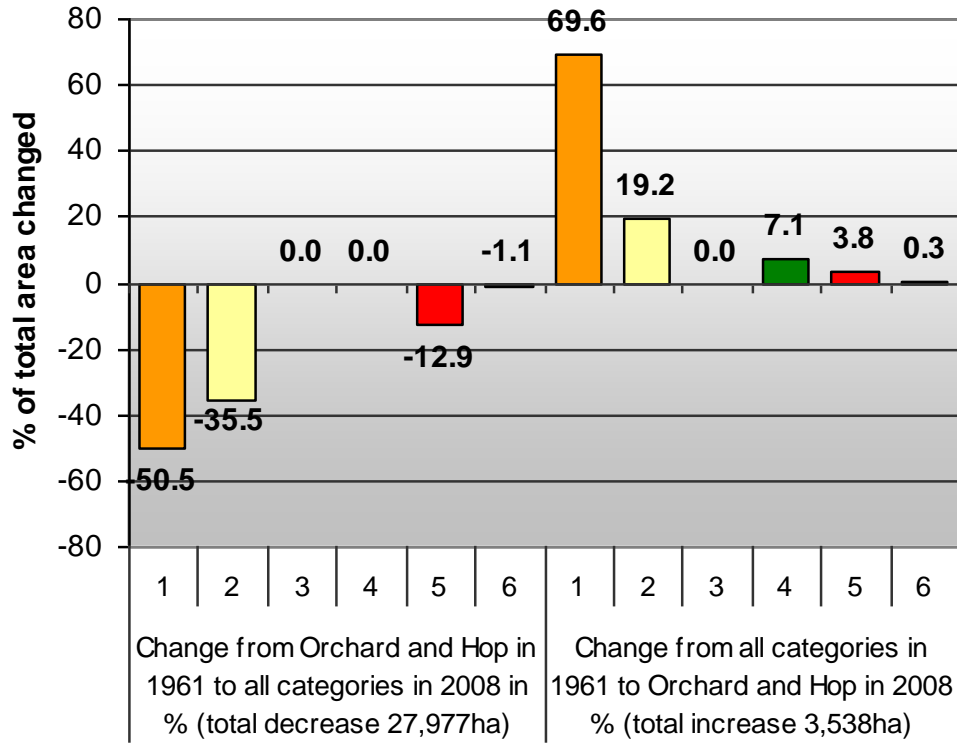
Change Grassland 1999 - 2008

- Decrease
- Increase





Change analysis



Net change Orchard and Hop: 24,439ha decrease

Landcover broad categories

- 1 Arable
- 2 Grassland
- 3 Orchard and Hop
- 4 Woodland
- 5 Development
- 6 Other

Key findings

- Significant increase in Development to 17.3%
- More than 65% loss of Orchard and Hop since 1960's
- Arable and grassland combined remain stable ~ 60%
- Woodland remains largely stable
- Other remains almost unchanged

Questions