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GIS Officer
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

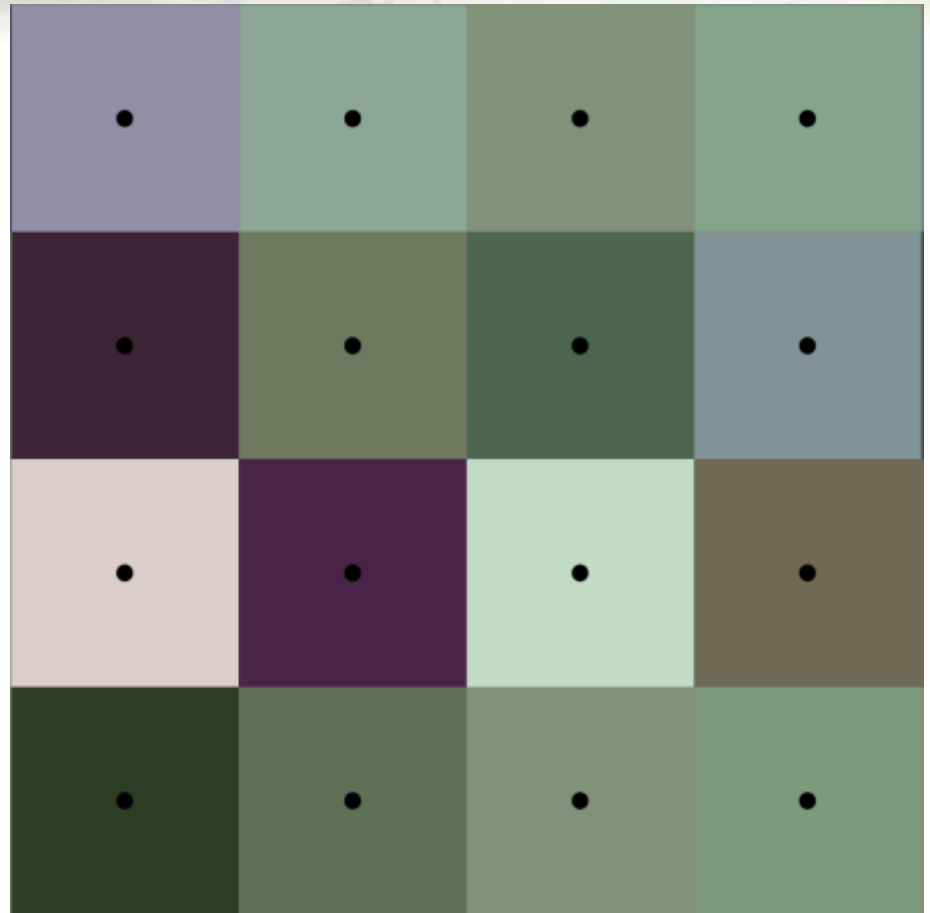
- What is land cover analysis?
- Definition of land cover:
 - *observed (bio)physical cover on the earth's surface (FAO, 2000)*
 - while land use describes the: *'arrangements, activities and inputs people undertake in a certain land cover type to produce, change or maintain it (FAO, 2000)*

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



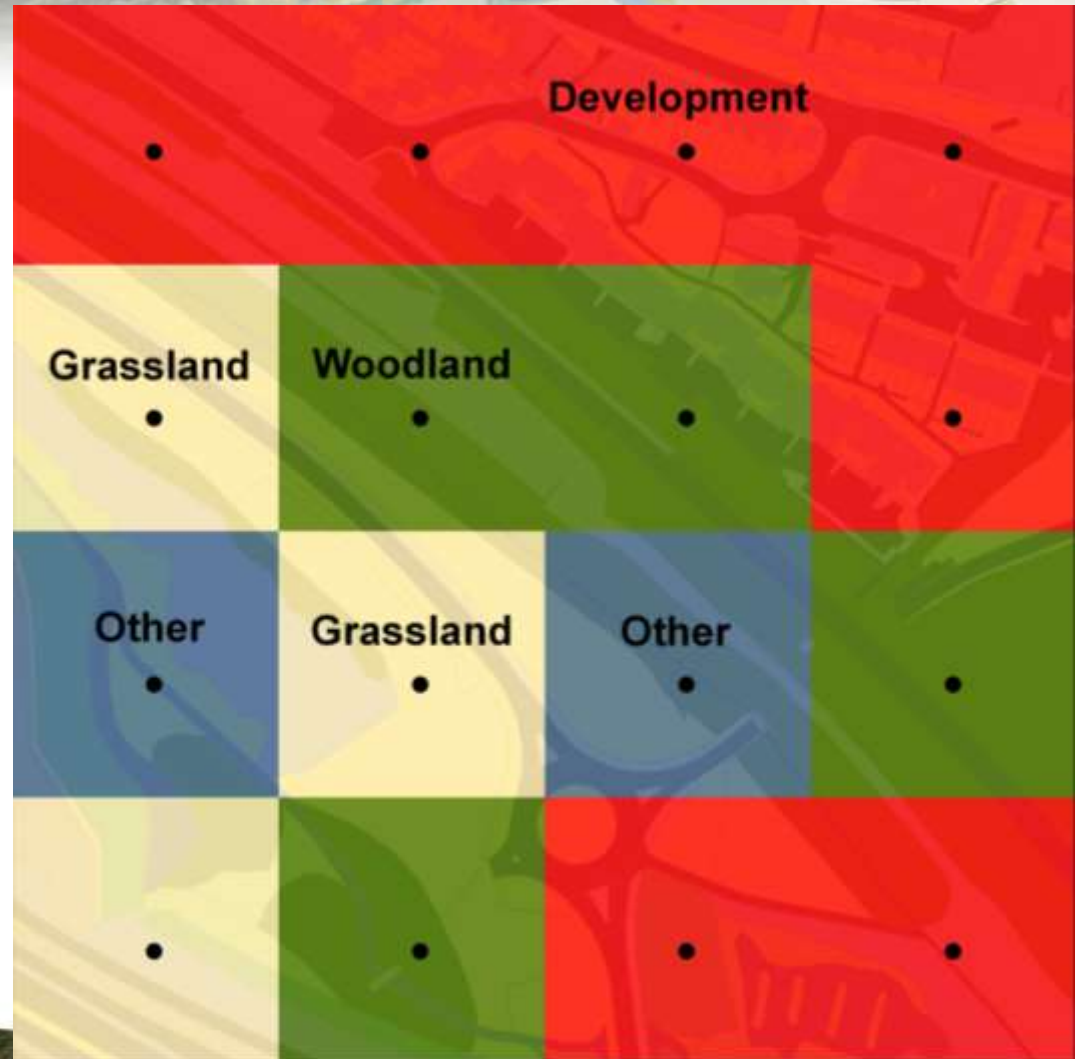
Creating land cover data

- 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



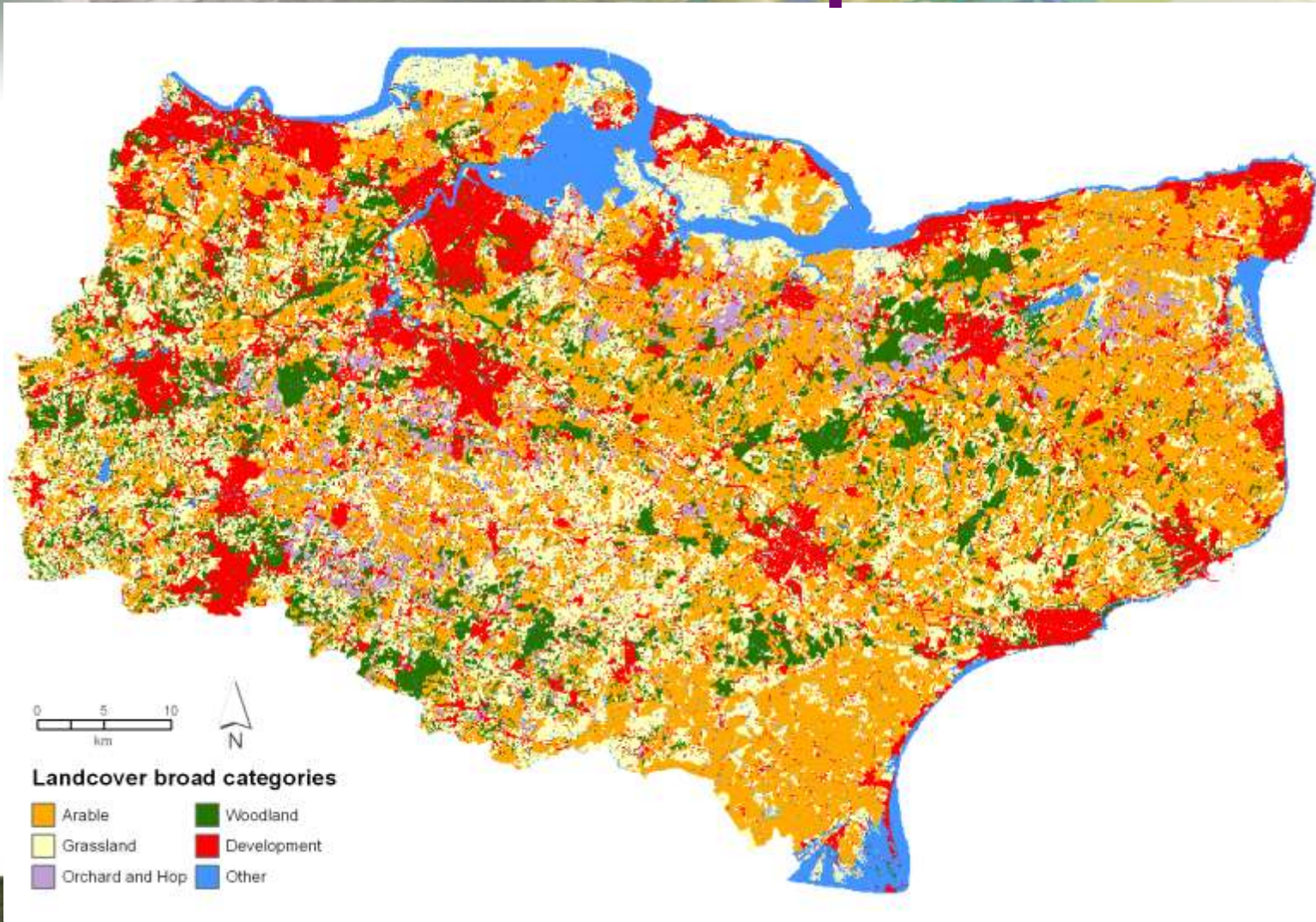
Classification

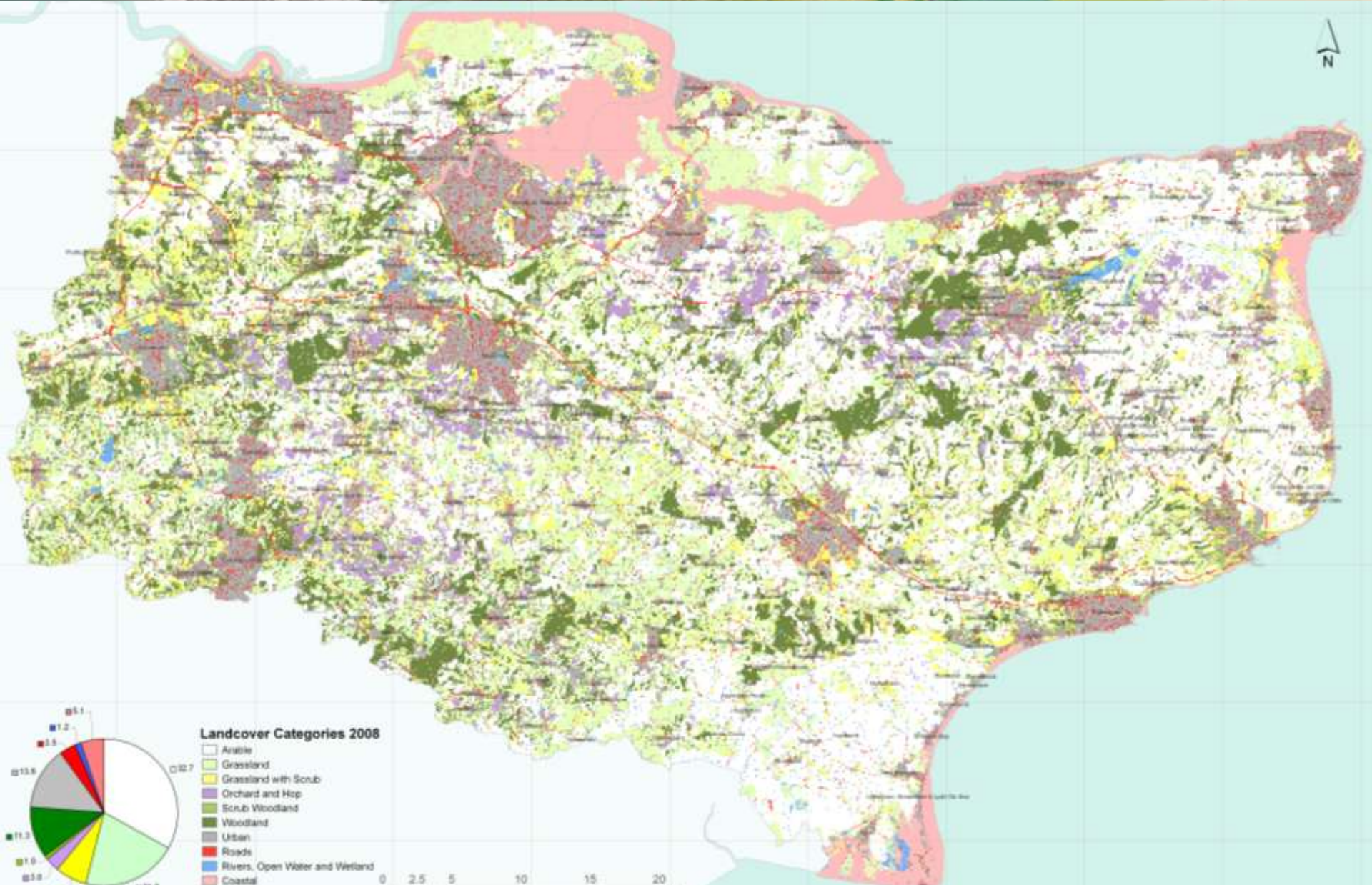
- 6 broad categories
- 11 categories
- 26 classes

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

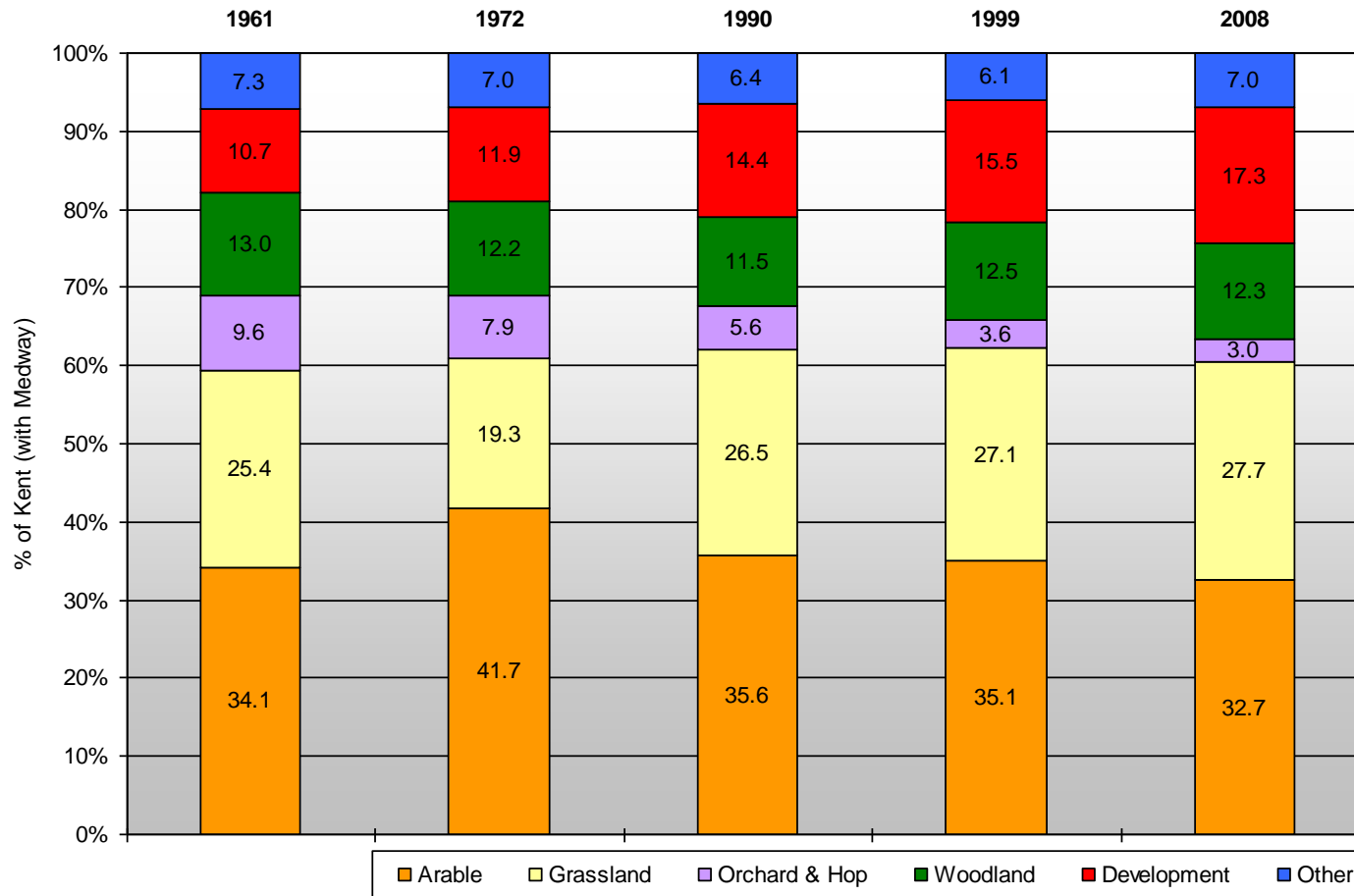




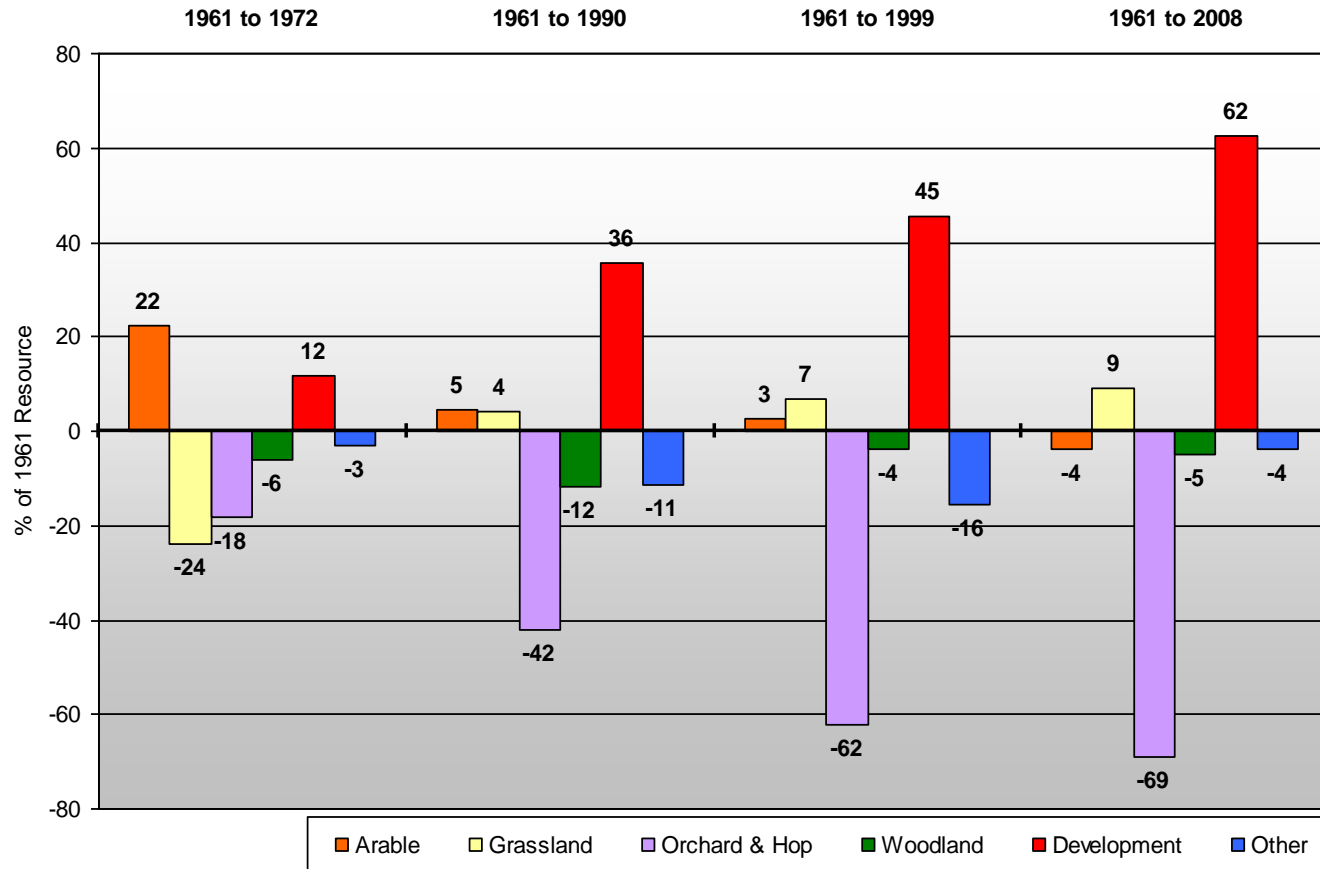
Change analysis

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

Change analysis

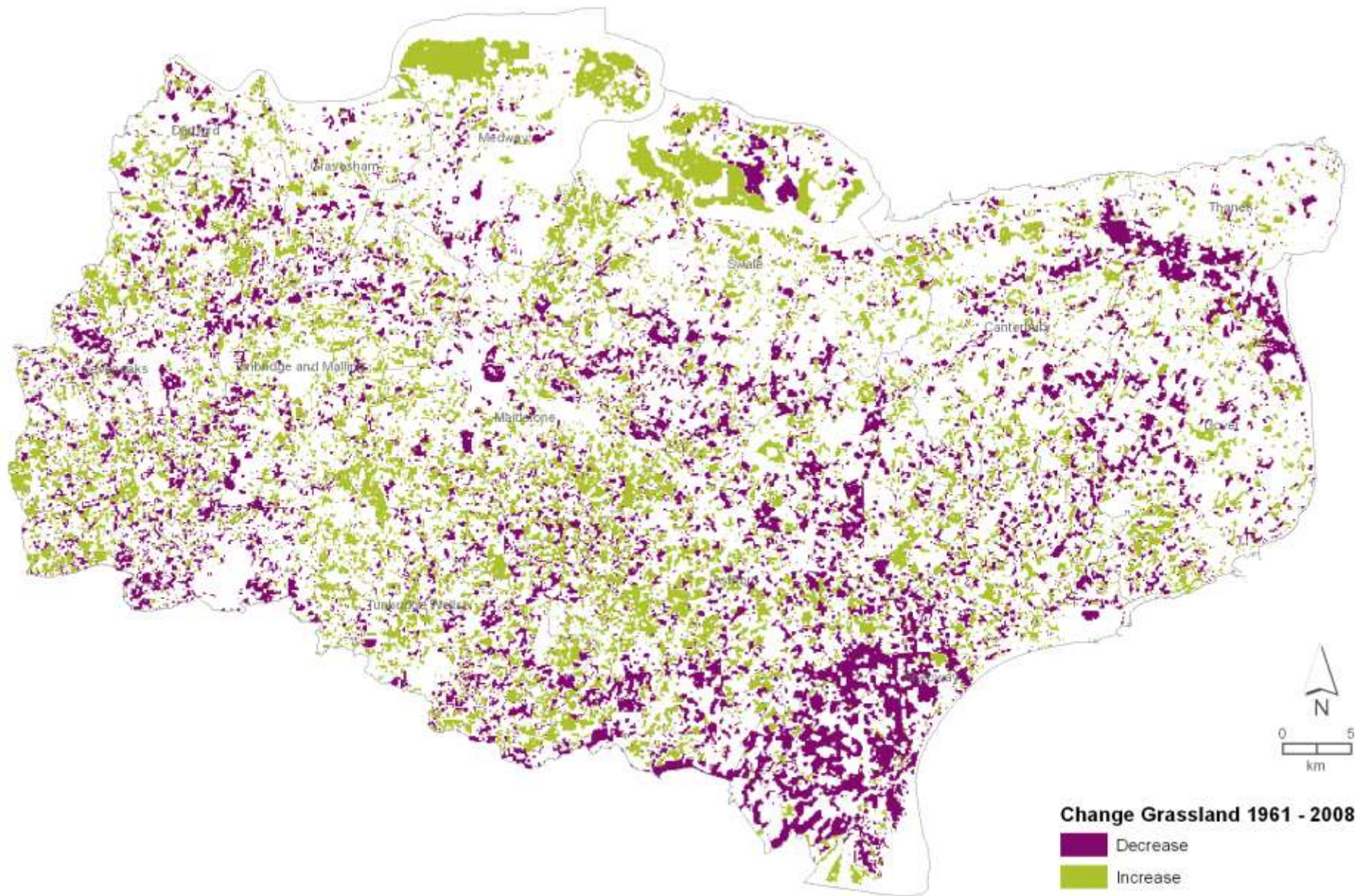


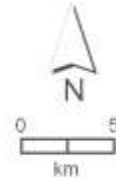
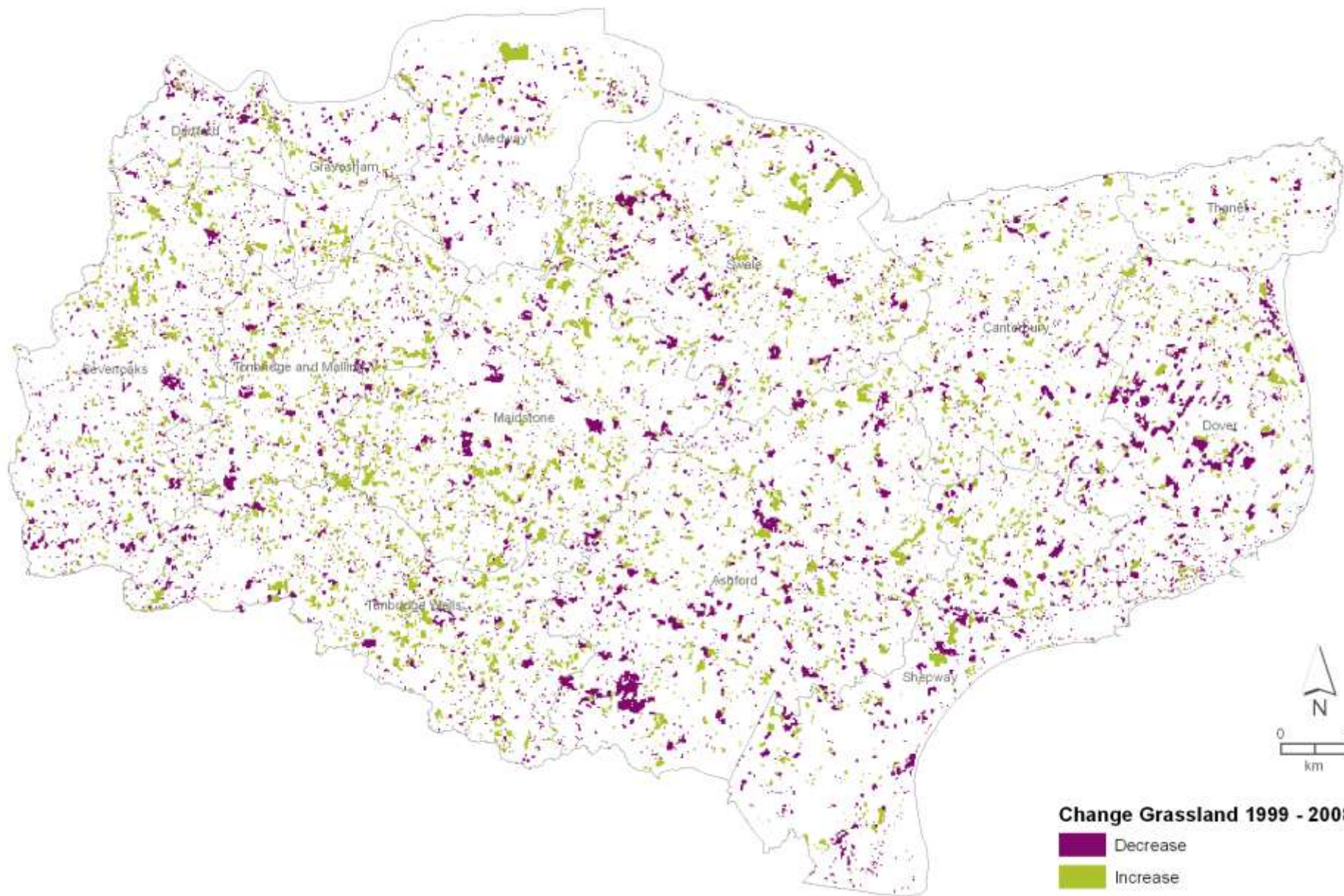
Change analysis



Change analysis

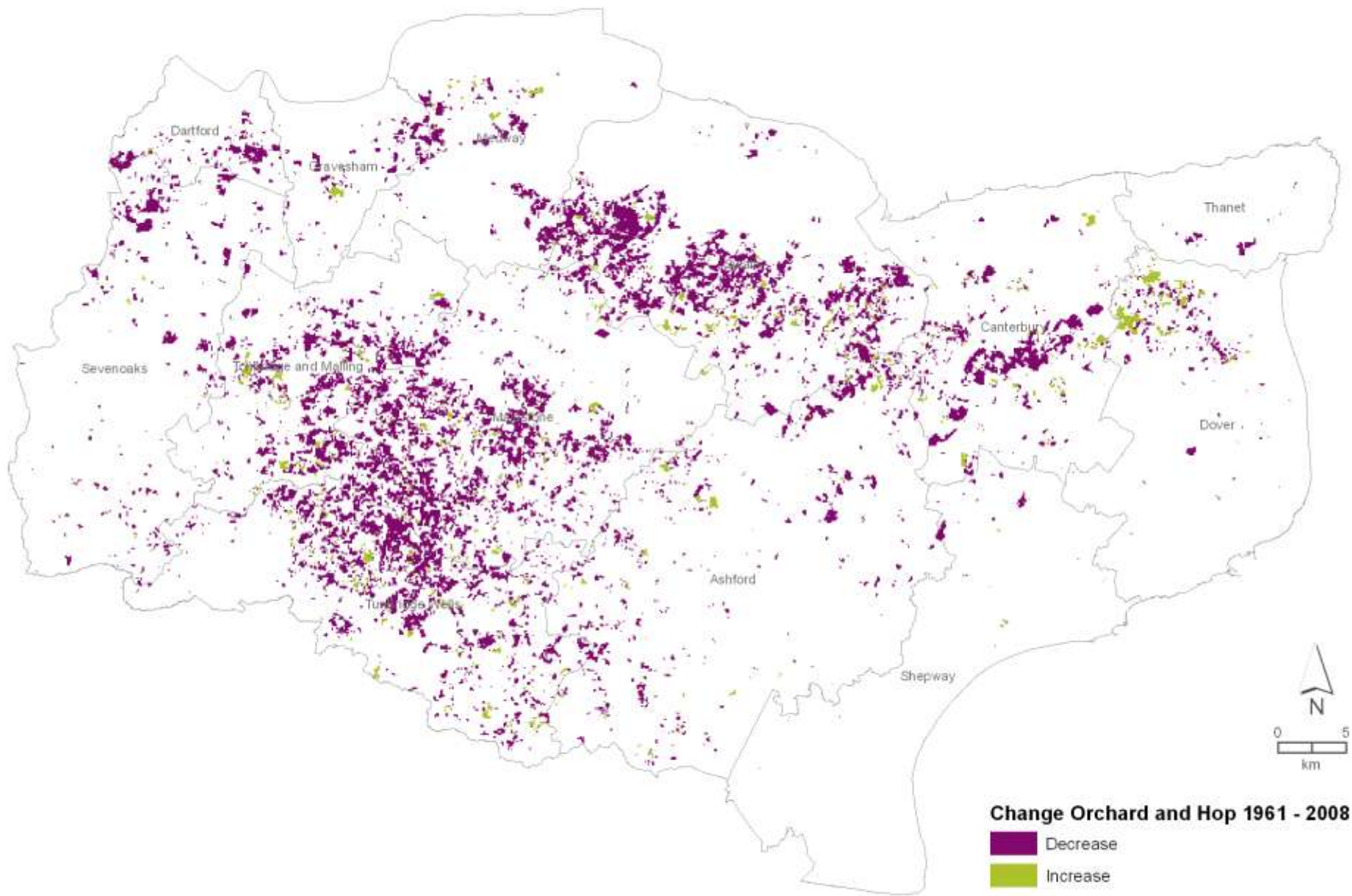
- In GIS combine grids of 2 periods
- Combined grid has values for each possible combination of change, with total area in hectares
- Apparent change
- Remove < 4 ha contiguous change



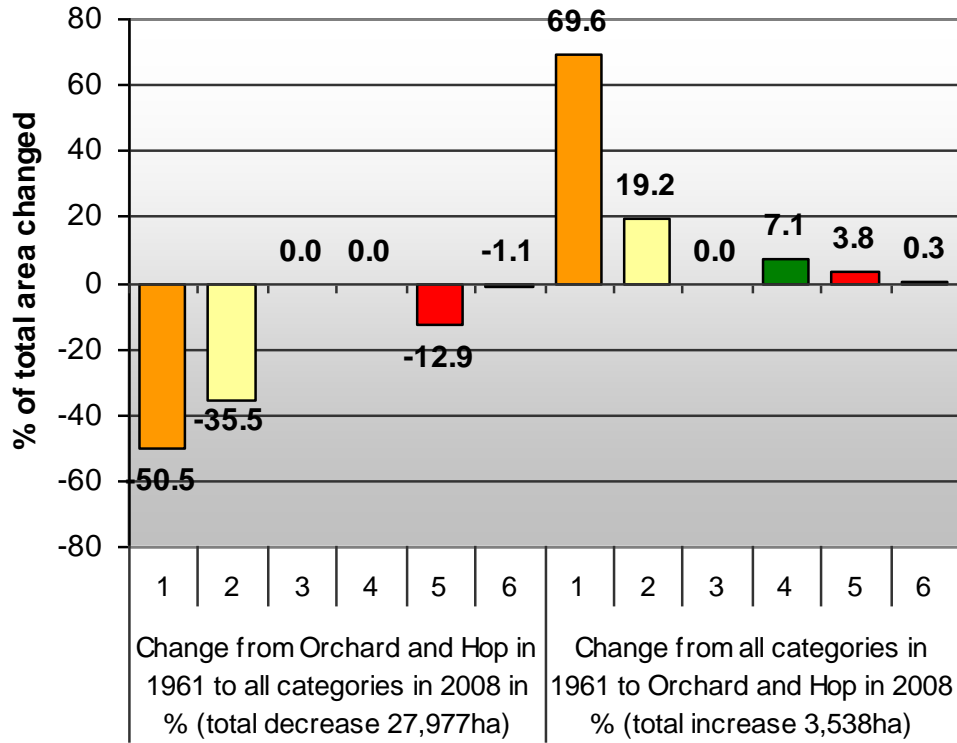


Change Grassland 1999 - 2008

-  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

