Northumberland Knowledge

Know Guide

Standard Geography in Northumberland Knowledge

- November 2012 -

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About this guide

The Know Guides are a suite of documents that provide useful information about using data and information supplied via the Northumberland Knowledge website.

This guide outlines the main standard geographies used to present statistical information and explains then in relation to Northumberland and their use on the Northumberland Knowledge website.

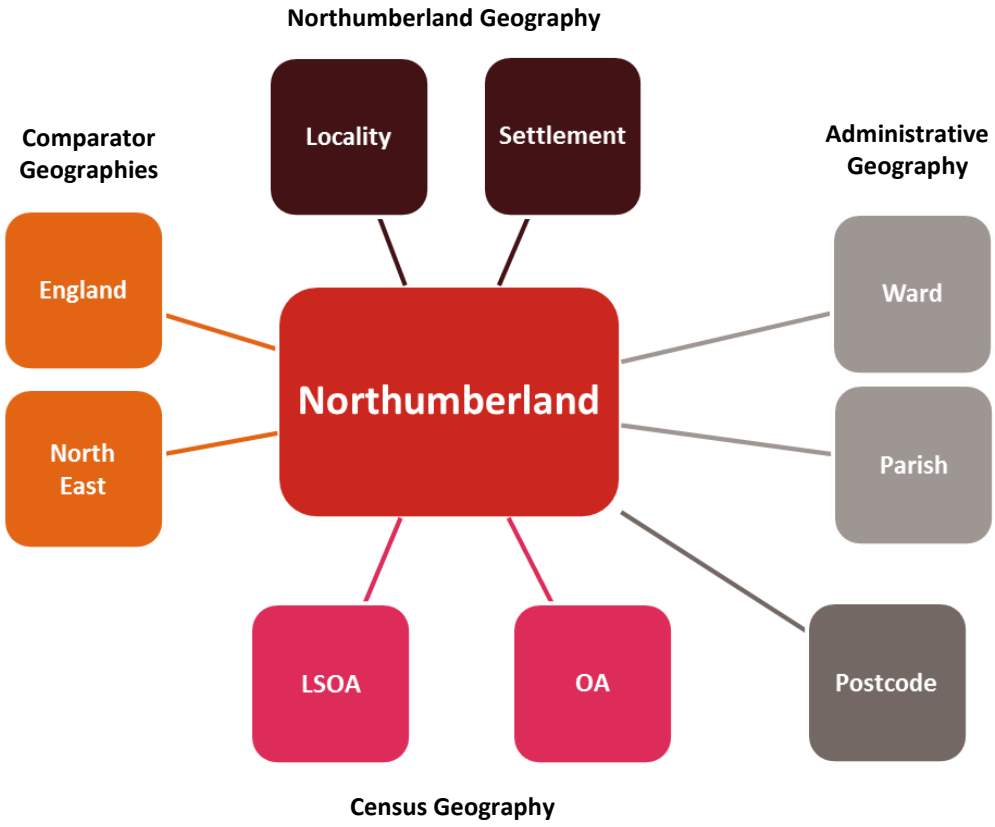
More detailed information regarding standard geographies can be found on the Office for National Statistics (ONS) website.

Introduction

Geography is key to the information supplied on the Northumberland Knowledge website. It provides a framework by which data can be structured and compared. The main geographies used on the Northumberland Knowledge website are comparator, administrative, census and Northumberland specific geographies.

A number of different geographical units are used by the ONS to provide statistical information (see the chart below). As well as statistical and administrative geographies used nationally, specific geographies have been created for Northumberland by Northumberland County Council to allow for comparisons between areas and communities within the County and better target delivery of services and allocate resources.

Geographies used on the Northumberland Knowledge website



Comparator Geographies

Comparator geographies allows statistical information for Northumberland to be compared to that of other areas, regions or nationally. The main comparators geographies used in the Northumberland Knowledge website are England and the North East. By using comparators it allows

us to see how Northumberland compares to other areas over a range of indicators. For example, does Northumberland have a higher or lower unemployment rate than the North East or England?

Countries are the highest level of administrative geography in the UK. These are England, Scotland, Wales and Northern Ireland.

Regions are the top-level subdivision of England. The North East region geography reflects the boundaries of the former Government Office for the Regions (GOR) area. Although GORs were disbanded in March 2011, the areas are still used for statistical purposes, however they are now referred to as Regions. Regions are built up of complete counties and unitary authorities. The North East region is made up of: Northumberland; Tyne and Wear; County Durham; Darlington; Hartlepool; Middlesbrough; Redcar and Cleveland; Stockton-On-Tees.

Northumberland Specific Geography

Localities

Northumberland is divided into 27 localities. These localities have been defined by Northumberland County Council. Some localities were created using an amalgamation of parishes (for the old districts of Berwick-upon-Tweed, Castle Morpeth, Alnwick and Tynedale) and others were created using an amalgamation of Lower Layer Super Output Areas (LSOAs) (for Blyth Valley and Wansbeck). Dividing the county in this way allows for data and information to be produced on the quality of life and local services in these areas which helps to identify priorities that cut across service boundaries and enables local public service providers to identify where improvement is most needed locally. They allow for the highlighting of issues and needs specific to an area that may be masked by examining the data at Northumberland

level. These localities are used in the area profiles in the Northumberland Knowledge website.

Settlements

The Local Development Framework for Northumberland categorises the county's settlements into a number of tiers according to the provision of education, health care, employment, retail, community facilities, sport and leisure facilities, and transport linkages. Those in the top tier are regarded as Northumberland's towns, as follows:

Alnwick, Amble, Ashington, Bedlington (including Bedlington Station), Berwick-upon-Tweed (including Spittal, East Ord and Tweedmouth), Blyth (including Bebside), Cramlington (including East Cramlington), Haltwhistle, Hexham, Morpeth, Ponteland, Prudhoe

Administrative Geography

Administrative geography is concerned with the hierarchy of areas relating to national and local government in the UK. There are several layers to the hierarchy but the structure is different in each constituent country of the UK. In addition, the boundaries of many of the layers in the hierarchy are subject to change. These changes can have implications when tracking data over time. The administrative geographies most commonly used on the Northumberland Knowledge website are wards and parishes.

Electoral Wards

Electoral wards/divisions are the key building block of administrative geography in the UK and are the units used to elect local government councillors. They cover the whole of the UK. As of 31 December 2011 the UK had 9,523 electoral wards/divisions. Northumberland has 67 electoral wards.

All higher administrative units are built up of whole electoral wards/divisions. They are also used to constitute many other geographies such as the health geographies and Westminster parliamentary constituencies.

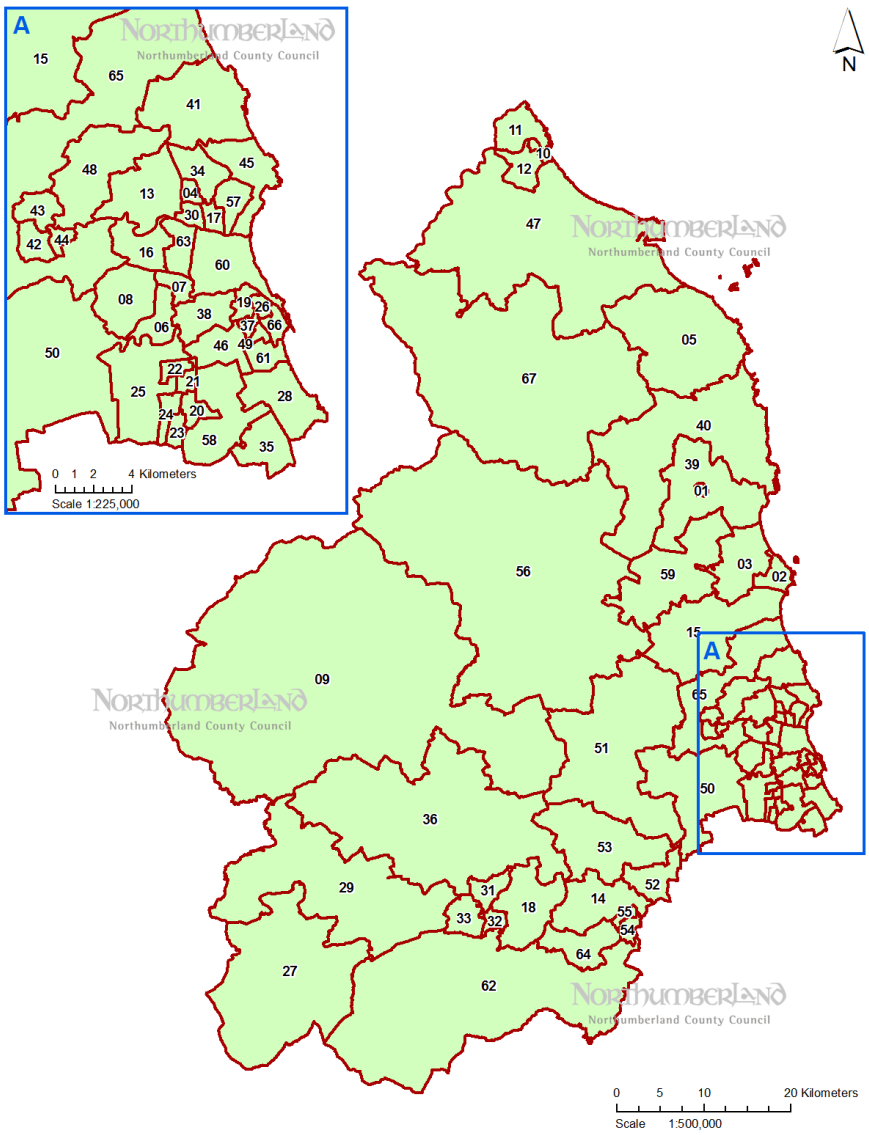
Population counts can vary substantially, even within a single local authority, but the national average is about 5,500. More populated electoral wards/divisions tend to occur in large urban areas. In Northumberland the largest ward in terms of population is Prudhoe East (population 5,829) and the smallest is Cramlington South East (population 3,850) (Census 2011 ward population estimates).

Electoral wards are changed to ensure electoral equality meaning that each elector's vote bears a similar weight. As population sizes should be approximately equal and because people are constantly moving, so the boundaries need frequent review and alteration.

Electoral ward/division boundary changes are usually enacted on the first Thursday in May each year, to coincide with the local government elections.

01 Alnwick
02 Amble
03 Amble West with Warkworth
04 Ashington Central
05 Bamburgh
06 Bedlington Central
07 Bedlington East
08 Bedlington West
09 Bellingham
10 Berwick East
11 Berwick North
12 Berwick West with Ord
13 Bothal
14 Bywell
15 Chevington with Longhorseley
16 Choppington
17 College
18 Corbridge
19 Cowpen
20 Cramlington East
21 Cramlington Eastfield
22 Cramlington North
23 Cramlington South East
24 Cramlington Village
25 Cramlington West
26 Croft
27 Haltwhistle
28 Hartley
29 Haydon and Hadrian
30 Haydon
31 Hexham Central with Acomb
32 Hexham East
33 Hexham West
34 Hirst
35 Holywell
36 Humshaugh
37 Isabella
38 Kitty Brewster
39 Lesbury
40 Longhoughton
41 Lynemouth
42 Morpeth Kirkhill
43 Morpeth North
44 Morpeth Stobhill
45 Newbiggin Central and East
46 Newsham
47 Norham and Islandshires
48 Pegswood
49 Plessey
50 Ponteland East
51 Ponteland North

Northumberland County Electoral Divisions



Northumberland County Council
Policy & Research Team (Transformation Service)

Northumberland InfoNet

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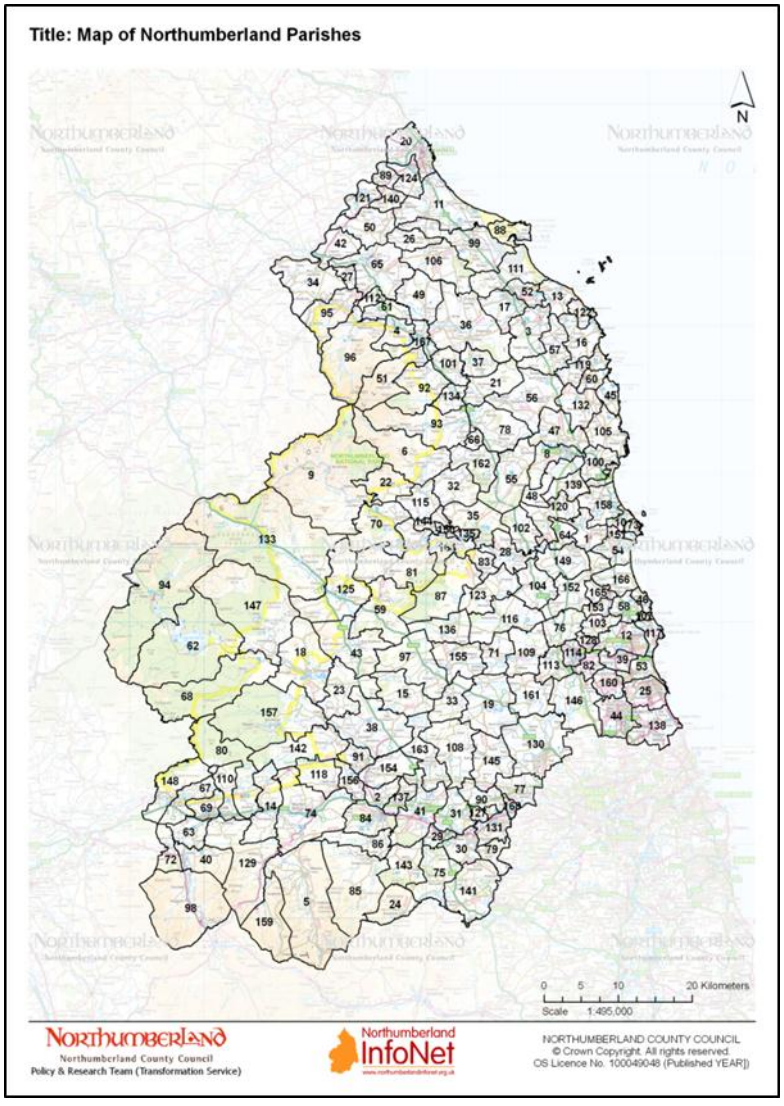
52 Ponteland South with Heddon
53 Ponteland West
54 Prudhoe East
55 Prudhoe West
56 Rothbury
57 Seaton with Newbiggin West
58 Seghill with Seaton Delaval
59 Shilbottle
60 Sleekburn
61 South Blyth
62 South Tynedale
63 Stakeford
64 Stocksfield and Broomhaugh
65 Ulgham
66 Wensleydale
67 Wooler

Parishes

Parishes are the smallest administrative area in England. English Parishes are a very old form of spatial unit which originally represented areas of both civil and ecclesiastical administration. They cover parts of largely rural England, relating to 35% of the population. Where they exist, they are the lowest level of local government.

They used to be significant local government areas but now have very limited functions. Modern parish councils (which may choose to call themselves a town council) can provide additional services to their localities and are consulted on issues that particular effect their localities. However, not all parishes have a council - if there are fewer than 200 parishioners, or if the parishioners do not want one, decisions can instead be taken at parish meetings. The geography is further complicated by the fact that several smaller parishes may come together to elect a joint council.



Parishes are confined within local authority boundaries but are not contiguous with electoral wards. Some areas of the country have parishes and others not, making them an unsatisfactory unit for national statistical production. Northumberland has complete coverage.

Many parishes are a similar size to wards, but some can contain several wards, and ward boundaries need not be followed. As at 31st December 2010 there were 10,479 parishes in England**.** Northumberland has 168 parish or town councils.
Link to Northumberland parishes web page.

Census Geography

The main geographies directly associated with the Census are Output Areas (OAs) and Super Output Areas (SOAs). They were specifically created for the output of census data. Before OAs and SOAs

were introduced local statistics were produced at electoral ward/division level. This had drawbacks because electoral wards/divisions vary greatly in size, from fewer than 100 residents to more than 30,000. This was not ideal for nationwide comparisons, and also meant that some data could not be released for smaller wards due to disclosure issues and the need to protect the confidentiality of individuals.

OAs and SOAs were designed to:

- be the lowest level geography for publishing census estimates
- be a geography that would not change, allowing better comparison of statistics over time and between censuses
- have roughly similar-sized populations
- be used as a building block that can be used to build statistics for any higher level output
- geography
- align with the local authority, ward and parish boundaries current at the time the 2001 OAs
- were created
- be built from aggregations of postcodes
- where possible align to road centrelines and railways
- group together households that are socially similar, as far as possible.

Following the 2011 Census, some modification of the previous OAs and SOAs has taken place where significant population size changes have occurred since 2001. Where populations have grown too big they have been split into two or more areas; where the population has decreased they have been merged with neighbouring areas. In some cases areas were changed to improve social homogeneity or to align with changed local authority boundaries. However, the total changes across the OA hierarchy are estimated to be no more than five per cent overall. In Northumberland 1.7% of OAs were modified and 3.5% of LSOAs.

Output Areas

Output Areas (OAs) are the base unit for census output. They were introduced in the UK at the 2001 Census. The minimum OA size is 40 resident households and 100 resident people.

The total of 2011 OAs is 171,372 for England (165,665 in 2001). In Northumberland there are 1,084 OAs (1,074 in 2001). The mean population of OAs in Northumberland is 292 and the mean number of households is 128.

Lower Layer Super Output Areas

There are two layers of Super Output Areas (SOAs), Lower Layer Super Output Areas (LSOAs) and Middle Layer Super Output Areas (MSOAs). The 2001 SOAs were initially introduced for use on the Neighbourhood Statistics website, but later became the standard units for presenting local statistical information across National Statistics. They allow for comparison between small areas due to the similar population size of the units.

LSOAs were built using 2001 Census data from groups of OAs (typically four to six). They had a minimum size of 1,000 residents and 400 households, but average 1,500 residents. Measures of

proximity (to give a reasonably compact shape) and social homogeneity (to encourage areas of similar social background) were also included.

There are 32,844 LSOAs in England (32,482 in 2001). There are 197 LSOAs in Northumberland (199 at the 2001 Census). The mean population of an LSOA in Northumberland is 1,604 and the mean number of households in an LSOA is 703.

Link to maps of LSOAs on Northumberland Knowledge

Postal Geography

Royal Mail maintains a UK-wide system of postcodes to identify postal delivery areas. Most people know their postcode so the ONS are able to use this as their main geographic reference when collecting data. This reference can be related to any geographic unit used for statistical production, such as a district or electoral ward. Therefore postal geography is very valuable.

Postcodes are alpha-numeric references comprising an outward code of 2-4 characters (e.g. NE61) and an inward code of 3 characters (e.g. 2EF). Postcodes are structured hierarchically supporting 4 levels of geographic unit. Unit postcodes (e.g. NE61 2EF) are the base unit of postal geography. There are approximately 1.75 million postcodes (August 2011). Larger user (business) postcodes are usually allocated to a single address which receives large volumes of mail. Small user postcodes are made up of up to 100 addresses though usually around 15 addresses.

However, postcode boundaries are not contiguous with other geographic boundaries, therefore linking postal geographies to other geographic units is not straightforward. If a unit postcode straddles a ward (or higher level) boundary, a decision must be made about which ward to allocate the data. ONS Geography's postcode directories take the grid reference of the postcode centroid and matches this up to digital administrative boundaries. However, some addresses (and therefore data) will still inevitably be allocated to the wrong area. For small areas these errors can be considerable. The problem will be reduced in future with the move towards using address-based rather than postcode-based grid references.

Postcode boundaries are subject to continuous change due to new addresses, single addresses acquiring large user postcodes as mail volume increases, and the need to restrict the number of addresses per unit to less than 100. Areas can also be recoded and codes can be re-used in a different place after just two years. Continuous monitoring is therefore required to avoid data misallocation.

National Statistics postcode products are available which link all current and terminated postcodes to the geographic areas in which the postcodes fall. These are:

- ONSPD (ONS Postcode Directory) – each postcode is allocated individually to a higher level geography.
- NSPL (National Statistics Postcode Look-up) each postcode is allocated to an OA and its assigned OA is used look up its higher geography.

A key principle of National Statistics is that higher level geographies should be built from 'small area stable statistical building bricks'. These are output areas (OAs). This policy allows for national statistics that are geographically consistent and comparable. Postcode referencing has a number of drawbacks and with the increase in the use of small areas statistics a better method of referencing is required. Therefore ONS are moving towards geographic referencing using address-level grid referencing. This type of referencing uses a fixed grid reference and will reduce the problems and errors.

Maps

Northumberland Map Library on Northumberland Knowledge
Maps of geographic boundaries for Northumberland including wards, parishes and output areas can be downloaded from http://www.northumberland.gov.uk/default.aspx?page=10280

Map of geographic boundaries for the United Kingdom including Administrative Geography, Health Geography, Electoral Geography and other geographies can be downloaded from http://www.ons.gov.uk/ons/guide-method/geography/beginner-s-guide/maps/index.html

The Neighbourhood Statistics map viewer allows you to select the boundaries of various geographical units on a map.
http://www.neighbourhood.statistics.gov.uk/dissemination/LeadBoundaryViewer.do?xW=1344&xH=840

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Geography Links

ONS Beginner's Guide to Standard Geography http://www.ons.gov.uk/ons/guide-method/geography/beginner-s-guide/index.html

Neighbourhood Statistics geography page
http://neighbourhood.statistics.gov.uk/dissemination/Info.do?page=aboutneighbourhood/geography/geography.htm

Northumberland Knowledge

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