

Statistical bulletin

2011 Census: Population and Household Estimates for Small Areas in England and Wales, March 2011

This is the first release of small area statistics from the 2011 Census, with extra information to supplement the results published on 16 July 2012.



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1. Main points

- Output areas (OAs) are the lowest level of geography produced across all census topics. Population estimates at OA level are important to users as they give information on the stability of a population over time and provide insight into local patterns of change
- OAs contain approximately equal numbers of usual residents, and are intended to provide geographies that allow reporting of statistics across time on a consistent geographical base
- Changes to the 2001 OAs were kept to a minimum with 2.6% of OAs being changed using the 2011 Census data
- In 2011 there were 181,408 output areas (OAs), 34,753 lower layer super output areas (LSOAs), 7,201 middle layer super output areas (MSOAs) and 8,570 electoral wards/divisions in England and Wales
- The average population in England and Wales on 27 March 2011 was 309 in OAs, 1,614 in LSOAs, 7,787 in MSOAs and 6,543 in electoral wards/divisions
- The average number of households in England and Wales on 27 March 2011 was 129 in OAs, 672 in LSOAs, 3,245 in MSOAs and 2,726 in electoral wards/divisions

2. Summary

This bulletin, Population and Household Estimates for Small Areas in England and Wales, is the first release of small area statistics from the 2011 Census. It provides additional information to supplement the data published in the [2011 Census – Population and Household Estimates for England and Wales](#) on 16 July 2012.

Commentary and methodological documentation for the census population estimates were published on 16 July 2012 and can be found at the bottom of [2011 Census – Population and Household Estimates for England and Wales](#) under Other useful information.

This bulletin provides technical notes about output areas and other small geographies. It does not provide analytical commentary further to that published on 16 July 2012.

This bulletin presents the 2011 population estimates for output areas (OA), lower layer and middle layer super output areas (LSOA and MSOA respectively) and electoral wards/divisions. It provides estimates of the number of households with at least one usual resident and average household size together with the usually resident population of England and Wales by five year age group and sex at OA, LSOA, MSOA and electoral ward /division level.

3. Introduction

About the census

The census has collected information about the population every 10 years since 1801 (except in 1941). The latest census in England and Wales took place on 27 March 2011.

Census statistics describe the characteristics of an area and are used by government and local authorities, businesses and communities to inform policy and planning decisions and run public services. Further information on the uses of census data is included in the [2011 Census – Population and Household Estimates for England and Wales statistical bulletin](#) published on 16 July 2011.

Small area population estimates provide more detail and further help local authorities plan the delivery of services. OAs, LSOAs and MSOAs are the core statistical geographies from which statistics are built for all higher level geographies.

Personal census information is not shared with any other government department nationally, regionally or locally. The information collected is kept confidential by ONS, and is protected by law. Census records are not released for 100 years.

Low counts may be present in the data published in this release however statistical disclosure control (SDC) has been applied to protect the data against disclosure risk. Statistical disclosure control uses targeted record swapping between different areas to protect information supplied by respondents to the census. Every household has a probability of being selected for record swapping and some records are created by imputation for coverage adjustment. The method has been designed to ensure there is sufficient doubt as to whether a value of one is a true value or one that has been created by imputation or swapping persons in or out of that cell.

Information on Statistical Disclosure Control is available in the [Statistical Disclosure Control for the 2011 Census paper \(184.7 Kb Pdf\)](#) and the [Q and A paper \(59.9 Kb Pdf\)](#).

Information on the methodology used in the production of these statistics and the data quality is available in the [Quality and Methodology Information paper \(157.6 Kb Pdf\)](#).

Information about the census estimates, including details about the methodology used and information about how other population subgroups are counted and defined, is available from the [2011 Census](#) pages.

The census quality assurance process confirmed the accuracy of local authority level census estimates. Some checks were carried out for the lower levels of geography but these were not as extensive as at local authority level because there is no reliable source of small area statistics with which to compare the census estimates - that is partly why a census is required. In any census there will be some variation in the quality of statistics for small areas and the local authority level is the level at which the quality of the estimates is highest. The census outputs are estimates, as they include imputed adjustments for households and people who did not respond, and also for some questions where a response was missing or incomplete.

Notes for Introduction

1. Further results from the 2011 Census will be released from 11 December 2012 adding more detail to the population picture of England and Wales. Information about releases is available in the [2011 Census Prospectus](#).
2. The usually resident population refers to people who live in England and Wales for 12 months or more, including those who have been here for less than 12 months but who intend to stay for 12 months or more.
3. In addition to the tables and commentary, data visualisations to aid interpretation of the figures are also available.

4. Output areas, super output areas and electoral wards /divisions

Super output areas (SOAs) were first introduced in 2004 to improve the reporting of small area statistics from the 2001 Census. They are built from groups of output areas, are of a consistent population size and have fixed boundaries. The comparability and stability of the geography is a key benefit to users of statistics which cannot be provided by other small area administrative geographies such as wards/electoral divisions or parishes.

Changes to the 2001 OAs, lower layer super output areas (LSOAs) and middle layer super output area (MSOAs) were kept to a minimum, and only done for the following reasons:

- There was a significant change in the population size of an area.
- The local authority where the OA/SOA is sited changed its boundary since the OA/SOAs were created and the OA/SOA no longer aligns with the local authority boundary.
- They were considered unsuitable for statistical outputs, by their local authorities, following consultation and agreement with ONS.

Of the 175,434 output areas created for the 2001 Census, 2.6% have been changed using the 2011 Census population data. This is well below the maximum of 5% that ONS set as an acceptable level of change that would still provide good stability between the 2001 and 2011 OAs.

Table 1: Percentage of change since 2001 to Output Areas, Lower and Middle Layer Super Output Areas in England and Wales

Area	Percentage of change from 2001
Output Areas	2.6
Lower Layer Super Output Areas	2.5
Middle Layer Super Output Areas	2.1

Source: Office for National Statistics

The number of local authorities with changes made to 5% or more Output Areas, Lower and Middle Layer Super Output Areas is as follows:

Table 2: Number of local authorities in England and Wales with changes made to five per cent or more Output Areas, Lower and Middle Layer Super Output Areas

Area	Number of local authorities with changes made to 5% or more areas
Output Areas	22
Lower Layer Super Output Areas	54
Middle Layer Super Output Areas	61

Source: Office for National Statistics

The updated number of OAs, LSOAs, MSOAs and electoral wards/divisions is as follows:

Table 3: Number of Output Areas, Lower and Middle Layer Super Output Areas and electoral wards /divisions in England and Wales

Area	Total number of areas
Output Areas	181,408
Lower Layer Super Output Areas	34,753
Middle Layer Super Output Areas	7,201
Electoral wards/divisions ¹	8,570

Notes:

1. This does not include 18 electoral wards which are below the minimum population threshold for the publication of census statistics.

Source: Office for National Statistics

If the population of 2011 output areas became too large or too small, they were split into two or more OAs using postcodes as building blocks or merged with adjacent OAs or SOAs.

Using splits and merges of the existing OA and SOA hierarchy, rather than a total redesign, allows better linkage and comparison between statistical outputs for the 2001 Census and 2011 Census.

Further information on the [revision of OAs and SOAs following the 2011 Census](#) is available.

Table 4: Lower and upper thresholds for Output Areas, Lower and Middle Layer Super Output Areas and electoral wards/divisions in England and Wales

Area type	Lower threshold		Upper threshold	
	People	Households	People	Households
Output Areas	100	40	625	250
Lower Layer Super Output Areas	1,000	400	3,000	1,200
Middle Layer Super Output Areas	5,000	2,000	15,000	6,000
Electoral wards/divisions	100	40	n/a	n/a

Source: Office for National Statistics

A total of 161 OAs and SOAs were changed in consultation with users because they were considered unsuitable for statistical outputs.

Electoral wards/divisions are the key building blocks of UK administrative geography. They are the units used for elections of local government councillors in metropolitan and non-metropolitan districts, unitary authorities and the London boroughs in England and unitary authorities in Wales.

2011 Census estimates for electoral wards/divisions are aggregations of OAs, on a best-fit basis. This is the method used to produce all 2011 Census and national statistics, so that statistics estimates produced on the same geography are consistent, comparable and non-disclosive. [An overview of best-fitting \(410.1 Kb Pdf\)](#) was published 9 November 2011 to explain how 2011 Census estimates were built from output areas.

Information about electoral wards/divisions can be found on [the electoral wards/divisions](#) section of the ONS website.

5. Population

The average population of output areas (OAs) in England and Wales on 27 March 2011 was 309 with 95% of OAs having a population of between 171 and 486. The OA with the smallest population (91) was in Tower Hamlets. Canterbury had the OA with the largest population at 4,140.

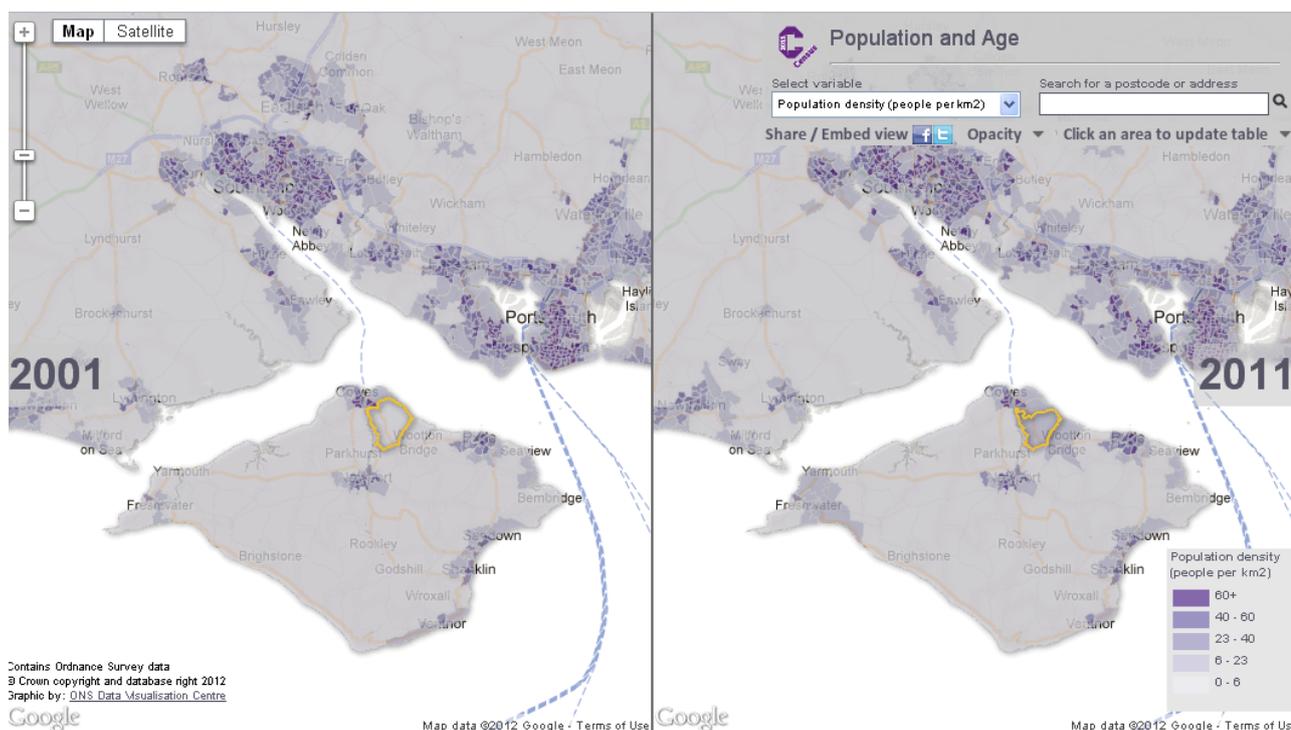
The average population of lower layer super output Areas (LSOAs) in England and Wales on 27 March 2011 was 1,614 with 95% of LSOAs having a population of between 1,157 and 2,354. The LSOA with the smallest population (983) was in Forest Heath. Oxford had the LSOA with the largest population at 8,300.

The average population of middle layer super output Areas (MSOAs) in England and Wales on 27 March 2011 was 7,787 with 95% of MSOAs having a population of between 5,443 and 11,579. Excluding the Isles of Scilly, because the MSOA has the same population as the Isles of Scilly local authority (2,203), the MSOA with the smallest population (5,003) was in Wiltshire. Oxford had the MSOA with the largest population at 16,342.

The average population of electoral wards/divisions in England and Wales on 27 March 2011 was 6,543 with 95% of electoral wards/divisions having a population of between 1,527 and 16,943. The electoral ward/division with the smallest population (136) was St. Martin's in the Isles of Scilly. The electoral ward/division with the largest population 36,412 was Central in Sheffield.

[Data visualisations](#) have been produced to aid users in interpreting the data and to enable them to easily compare 2001 and 2011 Census statistics.

Map 1: Example of data visualisation available to compare 2001 and 2011 Census statistics in England and Wales



Source: Office for National Statistics

6. Number of households

The average number of households within OAs in England and Wales on 27 March 2011 was 129 with 95% of OAs having between 79 and 189 households. The OA with least households was in Oxford with 23 households and the OA with most households was in Liverpool with 817 households.

The average number of households within LSOAs in England and Wales on 27 March 2011 was 672 with 95% of LSOAs having between 473 and 1,000 households. The LSOA with least households was in Cambridge with 304 households and the LSOA with most households was in Tunbridge Wells with 1,405 households.

The average number of households within MSOAs in England and Wales on 27 March 2011 was 3,245 with 95% of MSOAs having between 2,240 and 4,824 households. Excluding the Isles of Scilly, because the MSOA has the same number of households (989) as the Isles of Scilly local authority, the MSOA with least households was in Northumberland with 2,003 households and the MSOA with most households was in Plymouth with 6,100 households.

The average number of households within electoral wards/divisions on 27 March 2011 was 2,726 with 95% of electoral wards/divisions having between 643 and 7,071 households. The electoral ward/division with least households was St. Martin's in the Isles of Scilly with 54 households and the electoral ward/division with most households was Ladywood in Birmingham with 15,661 households.

7. Average household size

The OAs with the lowest average household size (1.0) were in Gateshead and Cornwall. The OA with the highest mean household size (6.9) was in Sheffield.

The LSOA with the lowest average household size (1.1) was in Liverpool. The LSOA with the highest mean household size (5.0) was in Oldham.

The MSOA with the lowest average household size (1.5) was in Leeds. The MSOA with the highest mean household size (4.1) was in Birmingham.

The electoral ward/division with the lowest average household size (1.3) was Queenhithe in the City of London. The electoral ward/division with the highest mean household size (3.8) was East Ham North in Newham.

8. Background notes

1. The census provides estimates of the characteristics of all people and households in England and Wales on census night. These are produced for a variety of users including government, local and unitary authorities, business and communities. The census provides population statistics from a national to local level. This bulletin provides the results at OA, LSOA, MSOA and electoral ward/division levels; future releases from the 2011 Census will include tabulations with greater levels of detail for these same geographies and for other geographies including health areas, parliamentary constituencies, postcode sectors and national parks.
2. This bulletin expands upon the [2011 Census – Population and Household Estimates for England and Wales](#).
3. Information on the [2011 Census Geography Products for England and Wales](#) is available.
4. This is the first release of 2011 Census Population and Households Estimates for small areas in England and Wales.

5. The numbers in this bulletin are calculated using the published data and do not include the 18 electoral wards which are below the minimum population threshold for the publication of census statistics. As such they may differ slightly from the number of electoral wards produced by ONS Geography, which include the 18 wards below the minimum population threshold. As detailed in the metadata accompanying the tables in this release these 18 wards have each been assigned to an output area. The estimates published for the corresponding output areas should be referred to for the lowest level estimates possible for each of these 18 wards.
6. A person's place of usual residence is in most cases the address at which they stay the majority of the time. For many people this will be their permanent or family home. If a member of the services did not have a permanent or family address at which they were usually resident they were recorded as usually resident at their base address.
7. A household is defined as one person living alone, or a group of people (not necessarily related) living at the same address who share cooking facilities and share a living room, sitting room or dining area.
8. ONS is responsible for carrying out the census in England and Wales. Simultaneous but separate censuses took place in Scotland and Northern Ireland. These were run by the National Records of Scotland (NRS) and the Northern Ireland Statistics and Research Agency (NISRA) respectively.
9. ONS is responsible for the publication of UK statistics (compiling comparable statistics from the UK statistical agencies above). These will be compiled as each of the three statistical agencies involved publish the relevant data. The [Northern Ireland census prospectus](#) and the Scotland census prospectus are available online.
10. All key terms used in this publication, such as usual resident are explained in the [2011 Census Glossary and Definitions](#).
11. In addition to the information in the Quality and Methodology Information (QMI) document ONS has also published [quality assurance information](#) which details the quality assurance process undergone for each local and unitary authority, [a report explaining the difference between rolled-forward mid-year population estimates and the 2011 Census estimates \(361.9 Kb Pdf\)](#) and a report on the [comparison between 2011 Census estimates and the Patient Register \(66.2 Kb Pdf\)](#).
12. There will be further releases of data from the 2011 Census over the next 18 months; information is available online in the [2011 Census Prospectus](#). The next releases will examine further data and cover topics such as ethnic group, religion, travel to work, health, families, identity, employment and education.
13. Details of the policy governing the release of new data are available by visiting www.statisticsauthority.gov.uk/assessment/code-of-practice/index.html or from the Media Relations Office email: media.relations@ons.gsi.gov.uk

These National Statistics are produced to high professional standards and released according to the arrangements approved by the UK Statistics Authority.