2011 Census – aggregate data

Richard Wiseman
Justin Hayes

Webinar
January 2015

UK Data Service
Census Support

2011 Census – aggregate data

The webinar will begin at 2pm

- You now have a menu in the top right corner of your screen.
- The red button with a white arrow allows you to expand and contract the webinar menu, in which you can write questions/comments.
- We won't have time to answer questions while we are presenting, but will answer them at the end
- You will be on mute throughout – we can't hear you.

UK Data Service
Census Support

Welcome

Some introductions…

Richard Wiseman

UK Data Service
Mimas, Jisc

Justin Hayes

UK Data Service
Mimas, Jisc

UK Data Service
Census Support

Can you hear us?

UK Data Service
Census Support

If you can’t hear us

- Check your speakers/headset
- Check your volume
- Use the phone number in your invitation to call in
- The webinar is being recorded - we’ll send a link

Webinar structure

- 30 minute presentation
- 20 minutes for questions and answers
- Finish by 2.50pm
- Please use chat facility to ask questions or let us know of any problems
- Some questions for the audience during presentation

Presentation content

- The UK Data Service
  - UK Data Service Census Support
- Census background
  - Aggregate data
  - Geographies
- InFuse
  - Demo
  - Data / geography model
  - Next release
  - Future plans

The UK Data Service

- Funded by the ESRC, integrating several previous resources
- A single, comprehensive and integrated point of access to a wide range of social science data
- Support, training and guidance
- ukdataservice.ac.uk

UK Data Service
Census Support

UK Data Service Census Support

- A specialist unit of the UK Data Service
- Access to, and support for use of data from the last five UK censuses (1971 – 2011)
- Bespoke interfaces to make data easy to find, understand and use
- census.ukdataservice.ac.uk

UK Data Service
Census Support

UK Data Service

Welcome to the UK Data Service

Your resource for quality social research data

A unified point of access to data from ESDS, Census Programme, Secure Data Service and others

STOP

LOGIN / REGISTER

DISCOVER UK DATA SERVICE

Search and browse our data collection, support guides, case studies and related publications.

GO

Data Website

LATEST TWEETS

UKDataService @PHE_obesity Soon -- within the next 30 days. Subscribe to our email list to get weekly updates on new data releases! http://t.co/0MrojGvxxN

LATEST NEWS

HASSET available as Linked Data

Call for papers: Opinions and Lifestyle Survey user meeting

OUR DATA COMMUNITY

The UK Data Service is at the core of a network of trust that includes data owners, producers, funders and users.

QUICK ACCESS TO

- Key data
- Census Support
- Information for new users
- Frequently asked questions

UK Data Service
Census Support

Census Support

Who we are

We provide access to and user support for 1971, 1981, 1991, 2001 and 2011 UK census data
Read more

START

LOGIN / REGISTER

DISCOVER UK DATA SERVICE

Search and browse the UK Data Service Census Support data collection:

GO

Census Data Website

Want to search wider? Search the whole of the UK Data Service

LATEST TWEETS

UKDataService Are you going to the GESIS Summer School in Survey Methodology? Cologne, 8-30 August http://t.co/IV9rDiN1lR

UKDataService @CLOSER_UK If you don't know, LSYPE is Long. Study of Young People in England. Data and documentation available here http://t.co/vMUGMljj42A

UKDataService RT @CLOSER_UK: @usociety has alcohol data from age 10

LATEST NEWS

Book now for an introduction to using UK census data geographically

Webinar week at UK Data Service: Five free online sessions

Updated 2011 Census Output Area

UK DATA SERVICE CENSUS SUPPORT

We are the UK Data Service Census Support. This site replaces the old ESRC Census Portal and provides access to a range of census-related resources.

We do not hold the census longitudinal data. However, these can be found at

QUICK ACCESS TO

- UK Data Service
- Aggregate data
- Flow data
- Microdata
- Boundary data

Are you a census user?

UK Data Service
Census Support

UK Censuses

- Decennial questionnaire surveys
  - Entire UK population every ten years* since 1801
  - Questions mainly about people and households
  - 2011 Census cost ~ £500m
- Primary evidence for government policy and spending
  - Wide range of high quality demographic and socio-economic characteristics
  - Detailed combinations of characteristics - *What?*
  - Small areas - *Where?*
  - Long history – *When?*
- Rich secondary source of information
  - Open Government License!

UK Data Service
Census Support

Aggregate data

- Counts of people and households with particular combinations of characteristics for particular geographical areas
  - Characteristics derived from questionnaire responses
  - Very large to very small areas (UK to postcodes)
  - Females aged 16-74 in employment in associate professional and technical occupations and usually resident in wards in the County of Devon?

Axminster Town
Axminster Rural
Broadclyst
Beer and Branscombe

43
65
152
38

Aggregate data

CDU_ID	GEO_CODE	GEO_LABEL	F403	F412
			Age : Age 16 to	Age : Age 16 to
1243845	E05003459	Axminster Rural	548	43
1243846	E05003460	Axminster Town	985	65
1243847	E05003461	Beer and Branscombe	403	38
1243848	E05003462	Broadclyst	1223	152
1243855	E05003469	Exmouth Halsdon	1547	153
1243856	E05003470	Exmouth Littleham	1262	138
1243863	E05003480	Ottery St Mary Town	1115	122
1243864	E05003481	Raleigh	475	37
1243865	E05003482	Seaton	1290	93
1243866	E05003483	Sidmouth Rural	396	39
1243867	E05003484	Sidmouth Sidford	1272	100
1243868	E05003485	Sidmouth Town	918	72
1243869	E05003486	Tale Vale	603	59
1243870	E05003487	Trinity	516	63
1243871	E05003489	Woodbury and Lympstone	1011	108
1243872	E05003490	Yarty	504	51

Age : Age 16 to 74 - Economic activity : in employment the week before the census - Occupation : 3. Associate professional and technical occupations - Sex : Female - Unit : Persons

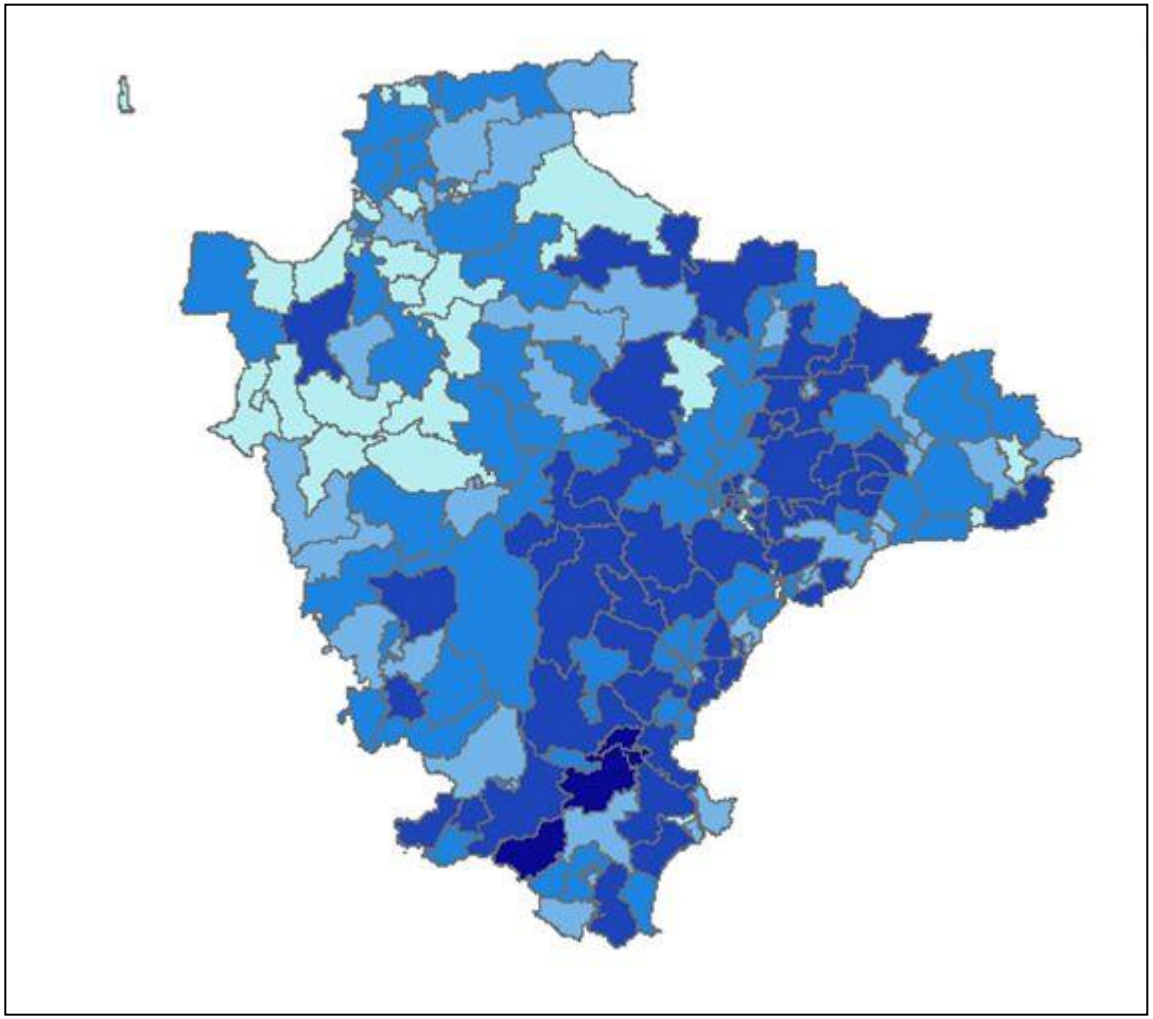
Age : Age 16 to 74 - Economic activity : in employment the week before the census - Occupation : All categories\ Occupation - Sex : Female - Unit : Persons

UK Data Service
Census Support

Aggregate data

CDU_ID	GEO_CODE	GEO_LABEL	F403	F412	
			Age : Age 16 to	Age : Age 16 to	Percentage
1243845	E05003459	Axminster Rural	548	43	7.8
1243846	E05003460	Axminster Town	985	65	6.6
1243847	E05003461	Beer and Branscombe	403	38	9.4
1243848	E05003462	Broadclyst	1223	152	12.4
1243849	E05003463	Budleigh	1017	107	10.5
1243850	E05003464	Clyst Valley	519	59	11.4
1243851	E05003465	Coly Valley	913	86	9.4
1243852	E05003466	Dunkeswell	412	33	8.0
1243853	E05003467	Exe Valley	461	42	9.1
1243854	E05003468	Exmouth Brixington	1491	121	8.1
1243855	E05003469	Exmouth Halsdon	1547	153	9.9
1243856	E05003470	Exmouth Littleham	1262	138	10.9
1243857	E05003471	Exmouth Town	1823	189	10.4
1243858	E05003472	Exmouth Withycombe Raleigh	1730	129	7.5
1243859	E05003475	Honiton St Paul's	1030	82	8.0
1243860	E05003476	Newbridges	470	35	7.4
1243861	E05003477	Newton Poppleford and Harpford	462	47	10.2
1243862	E05003478	Otterhead	524	52	9.9
1243863	E05003480	Ottery St Mary Town	1115	122	10.9
1243864	E05003481	Raleigh	475	37	7.8
1243865	E05003482	Seaton	1290	93	7.2
1243866	E05003483	Sidmouth Rural	396	39	9.8
1243867	E05003484	Sidmouth Sidford	1272	100	7.9
1243868	E05003485	Sidmouth Town	918	72	7.8
1243869	E05003486	Tale Vale	603	59	9.8
1243870	E05003487	Trinity	516	63	12.2
1243871	E05003489	Woodbury and Lympstone	1011	108	10.7
1243872	E05003490	Yarty	504	51	10.1
1243873	E05003491	Alphington	2220	223	10.0

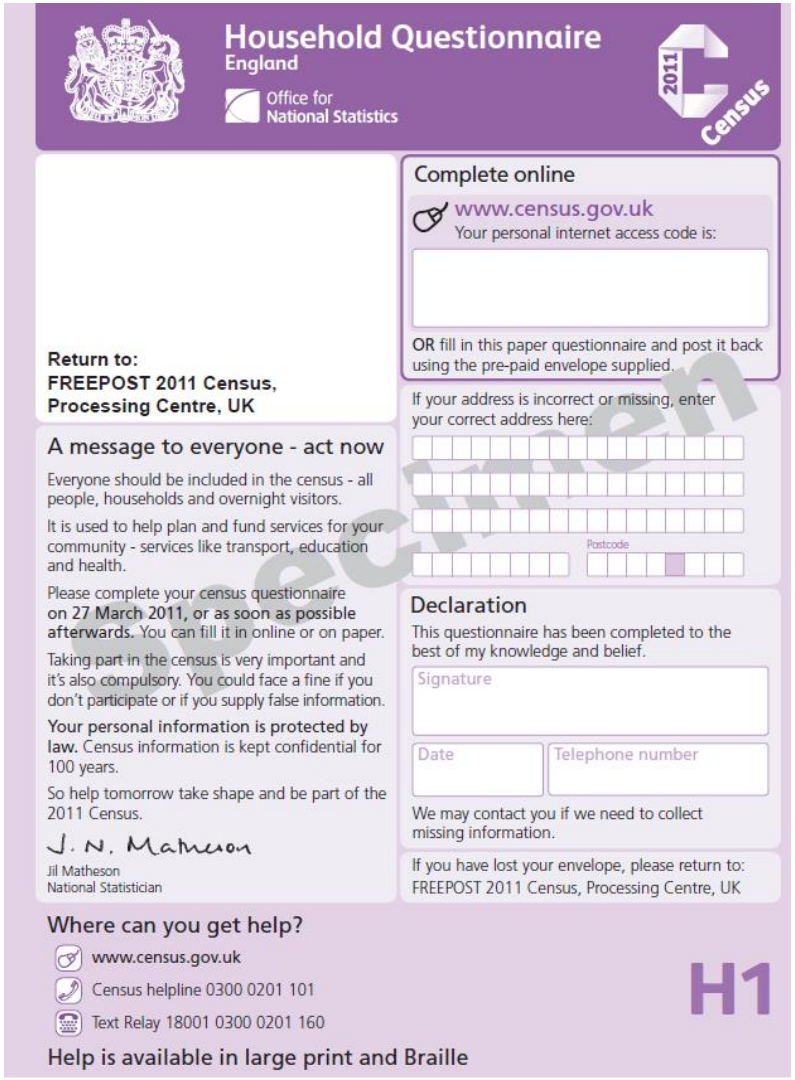
Aggregate data



UK 2011 Census

- 27 March 2011
- Three UK census agencies (ONS, NRS, NISRA)
- New questions and variables
- Online and postal completion
- Targeted enumeration
- Sophisticated quality assurance

New variables



Household Questionnaire
England
Office for National Statistics
2011 Census

Complete online
www.census.gov.uk
Your personal internet access code is:

OR fill in this paper questionnaire and post it back using the pre-paid envelope supplied.

Return to:
FREEPOST 2011 Census,
Processing Centre, UK

If your address is incorrect or missing, enter your correct address here:

Postcode

A message to everyone - act now

Everyone should be included in the census - all people, households and overnight visitors.

It is used to help plan and fund services for your community - services like transport, education and health.

Please complete your census questionnaire on 27 March 2011, or as soon as possible afterwards. You can fill it in online or on paper.

Taking part in the census is very important and it's also compulsory. You could face a fine if you don't participate or if you supply false information.

Your personal information is protected by law. Census information is kept confidential for 100 years.

So help tomorrow take shape and be part of the 2011 Census.

J. N. Matheson
Jil Matheson
National Statistician

Declaration

This questionnaire has been completed to the best of my knowledge and belief.

Signature

Date

Telephone number

We may contact you if we need to collect missing information.

If you have lost your envelope, please return to:
FREEPOST 2011 Census, Processing Centre, UK

Where can you get help?

www.census.gov.uk
Census helpline 0300 0201 101
Text Relay 18001 0300 0201 160

Help is available in large print and Braille

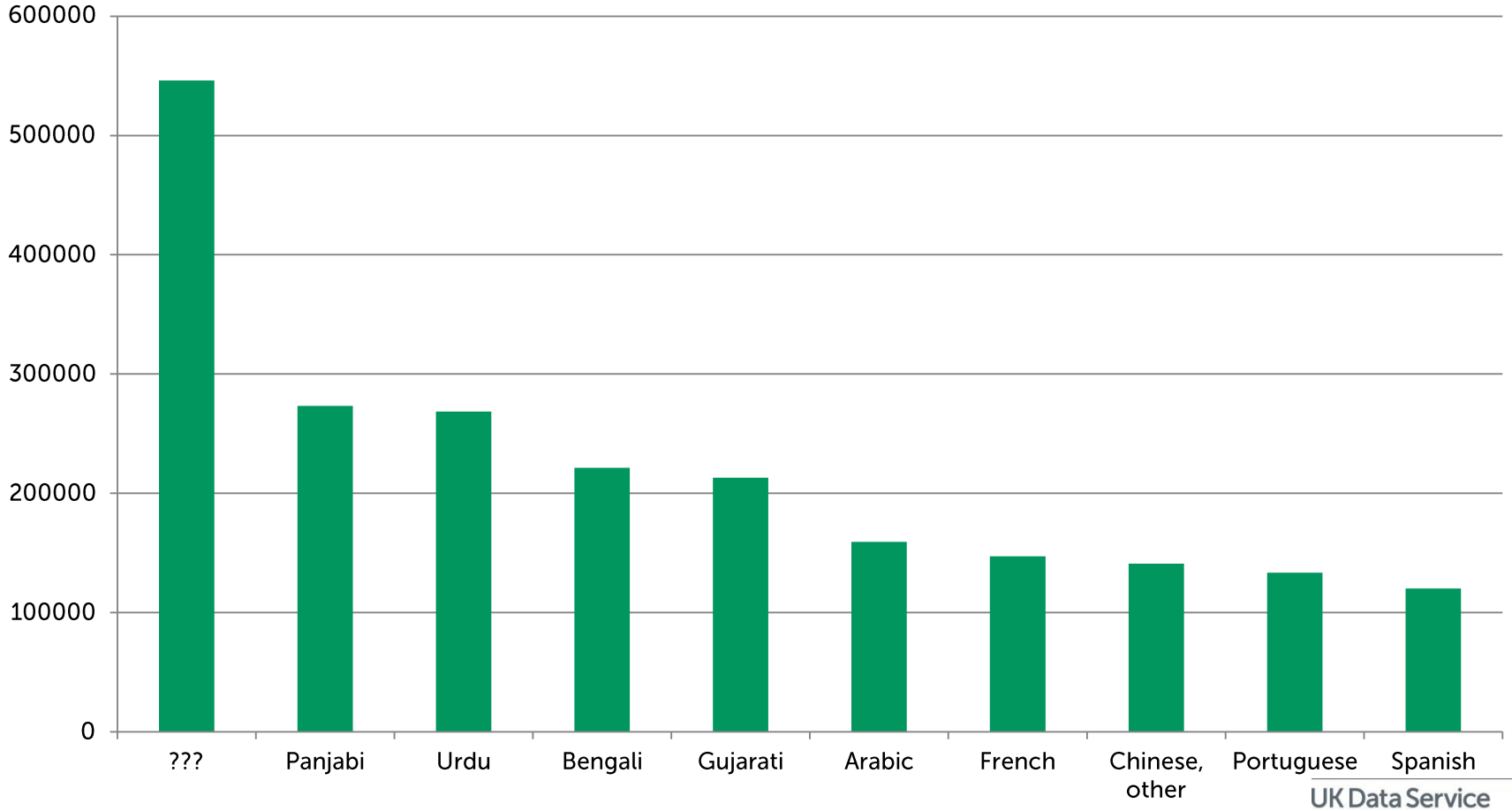
H1

Specimen

- National identity
- Passports held
- Ability in spoken English
- Languages other than English used at home
- Long term health conditions
- Month/year of arrival into the UK (for people not born in the UK)
- Intention to stay
- Second homes

UK Data Service
Census Support

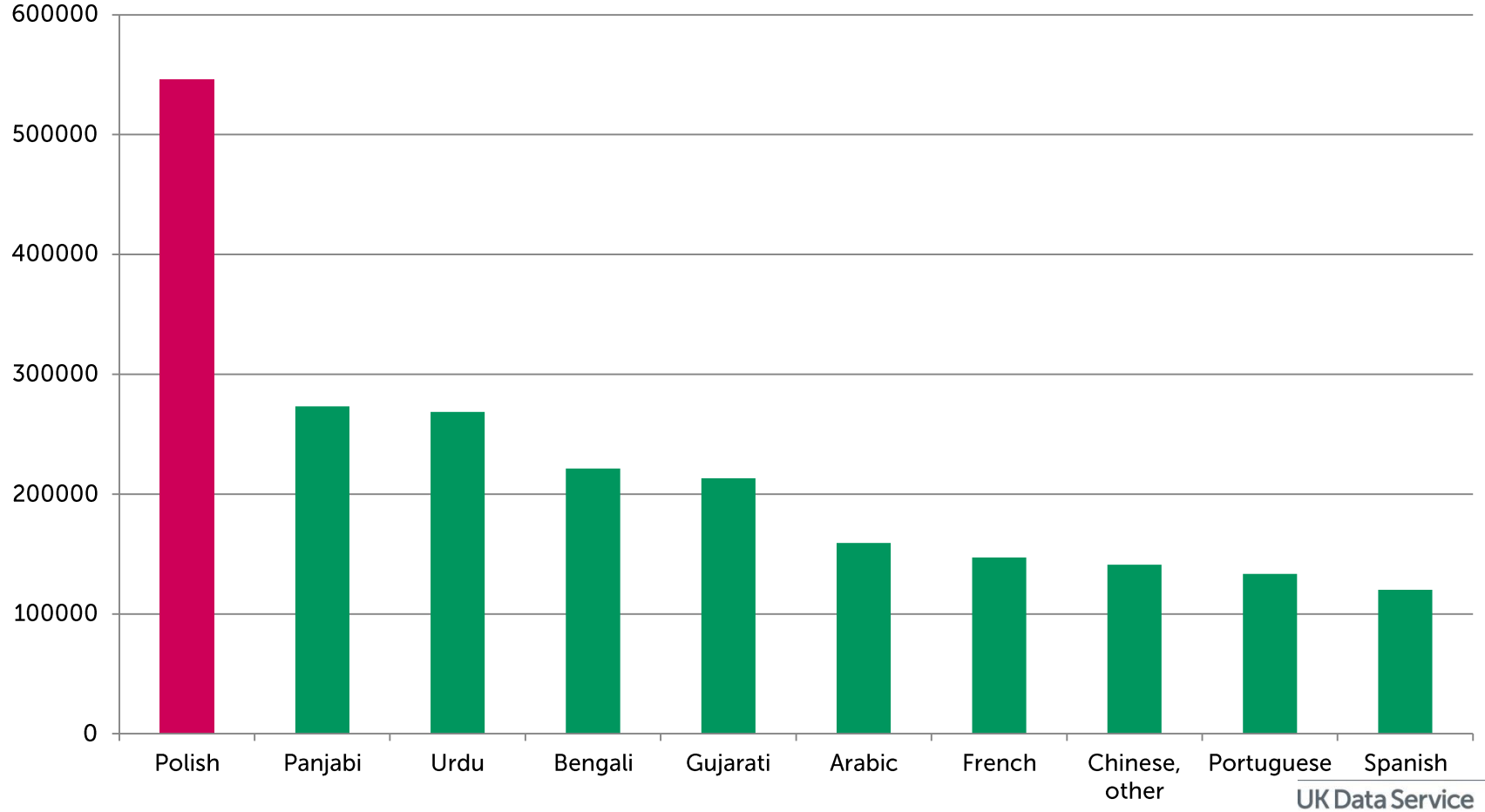
Main language other than English by number of speakers in England and Wales



UK Data Service
Census Support

What is the largest non-English main language by number of speakers in England and Wales

Main language other than English by number of speakers in England and Wales



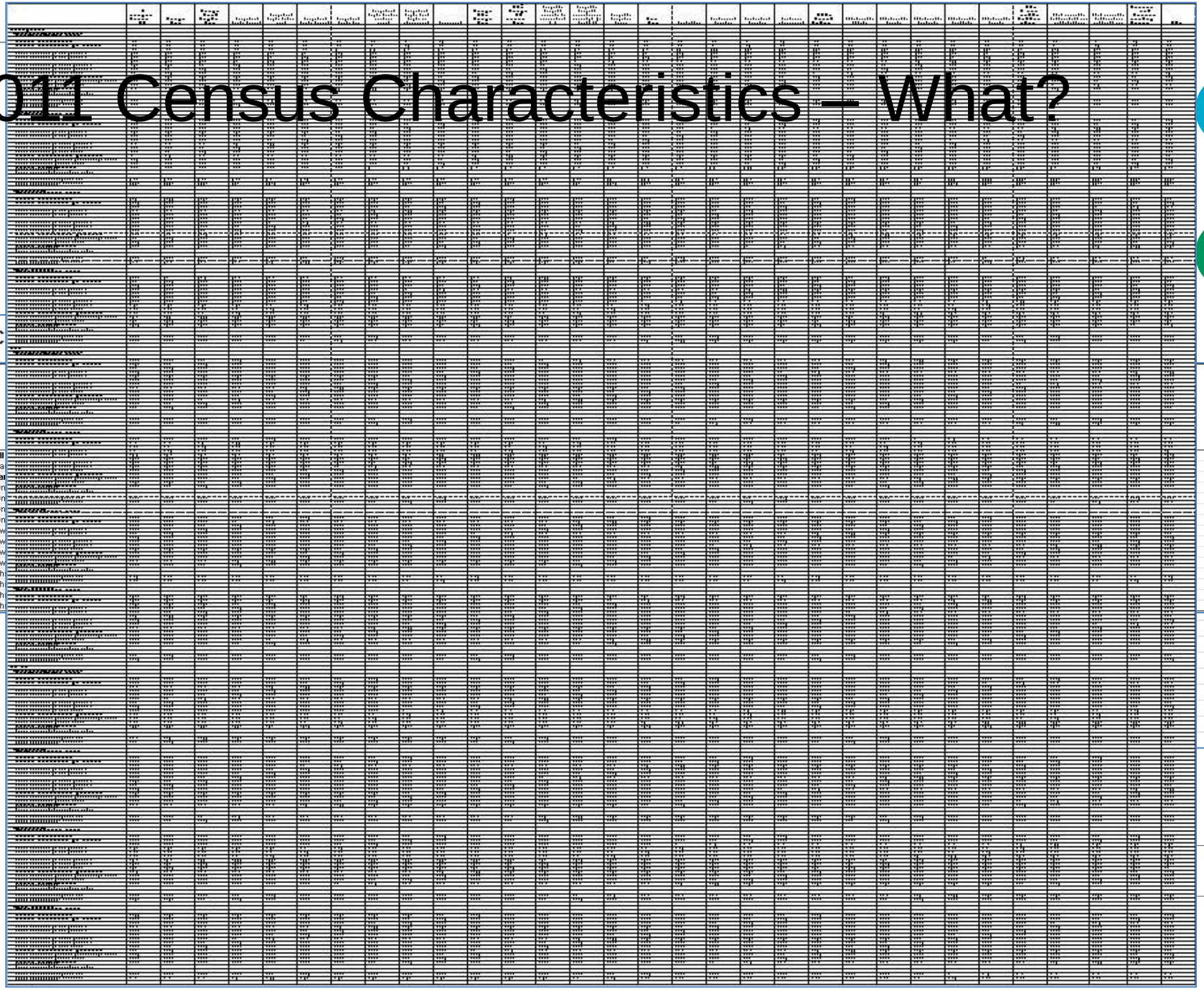
UK Data Service
Census Support

InFuse 2011 demonstration

- http://infuse.mimas.ac.uk/

Which interfaces have you used?

2011 Census Characteristics – What?



InFuse 2011 Release 2: Raw data

- England and Wales Local and Detailed Characteristics to output area level
- UK harmonised data to local authority level
- 422 table variants, mainly multivariate
- 31 geography types
- 11,311 files
- 15Gb volume
- Contextual metadata separate

InFuse data model

- Single multidimensional dataset
- Deconstruction, rationalisation and re-integration of variables and categories
  - All UK table specifications processed
  - Integration of table universes as variables
  - Enforce consistency across dataset
- Re-insertion of counts into model
  - Retain original cell identifiers
- Attachment of metadata

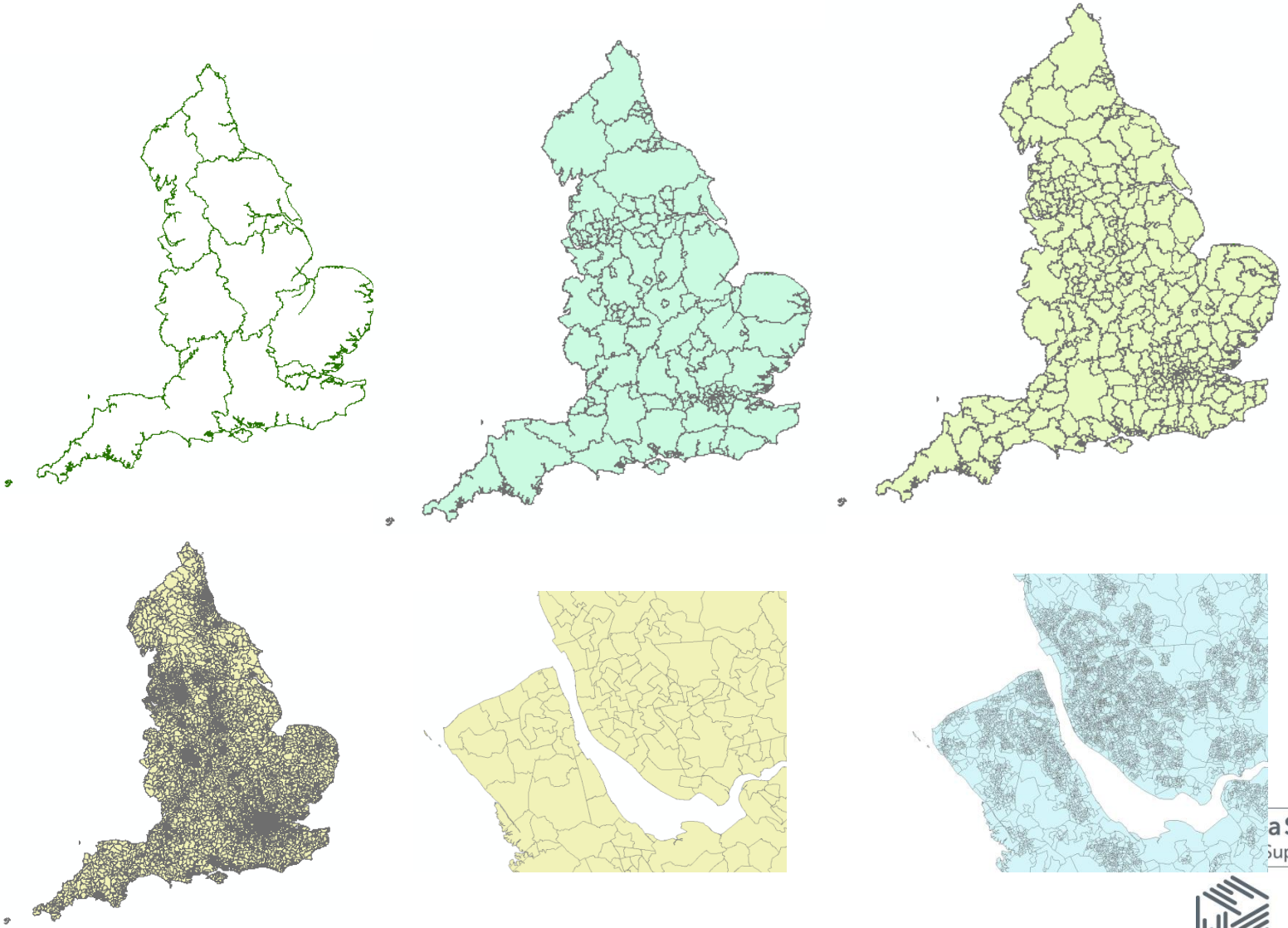
InFuse 2011 Release 2: Processed data

- 97 variables
- 2,501 categories
- 281 variable combinations
- 140 thousand category combinations
- 4.6 billion values
  - A 460Km high stack of sticky notes!
  - Anticipating approximately 10 billion values in all

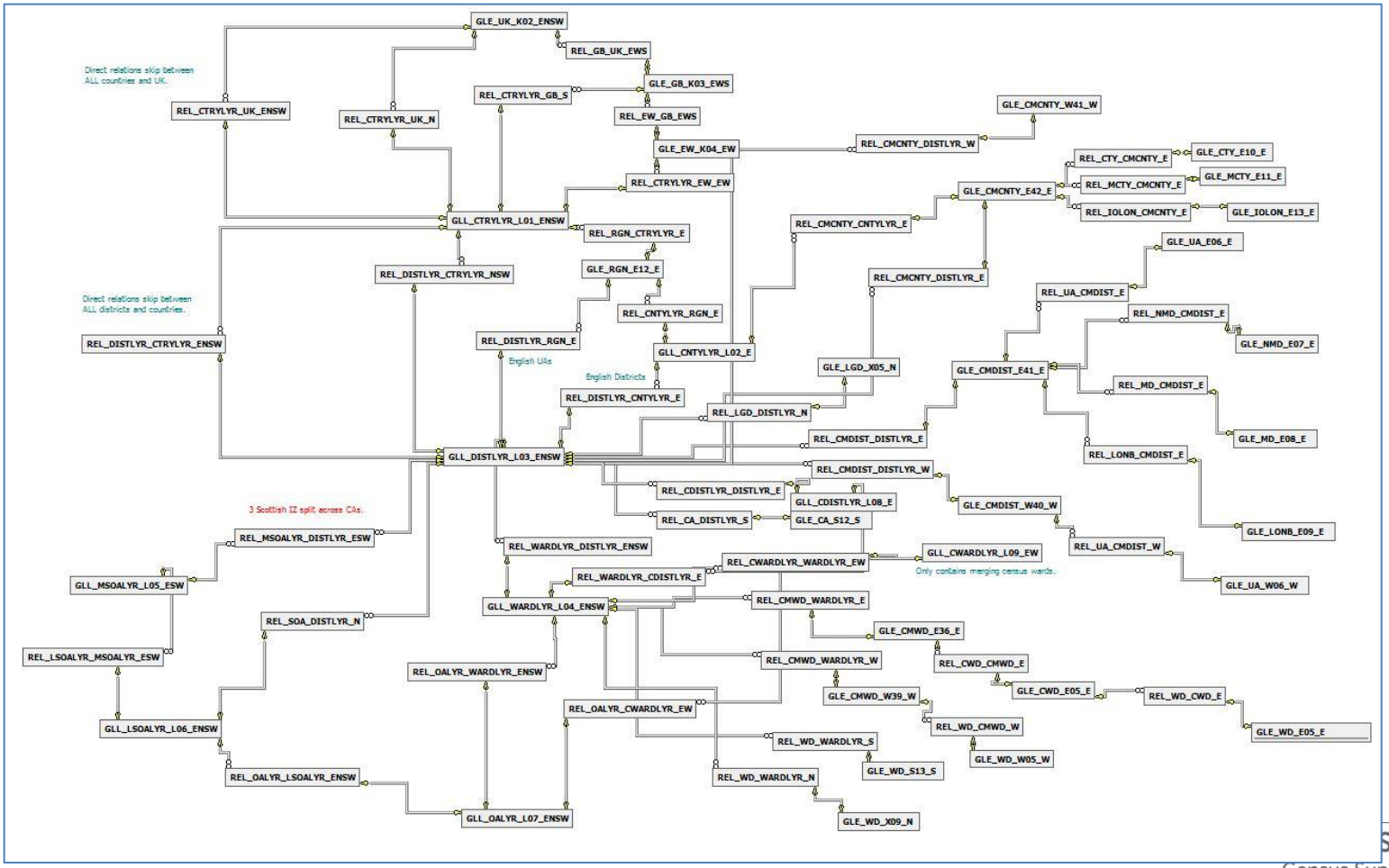
2011 Census geographies – Where?

- Subdivisions of the UK into smaller *areas*
- Sets of similar areas called *geographies*
  - Functional and statistical geographies
  - Local government districts
  - Wards and electoral divisions
  - Expecting around 100 different geographies
- Hierarchies of geographies with nesting areas
  - Administrative
  - Statistical
  - Health, Electoral, Postcode, etc

2011 census administrative hierarchy



Raw geography relationships

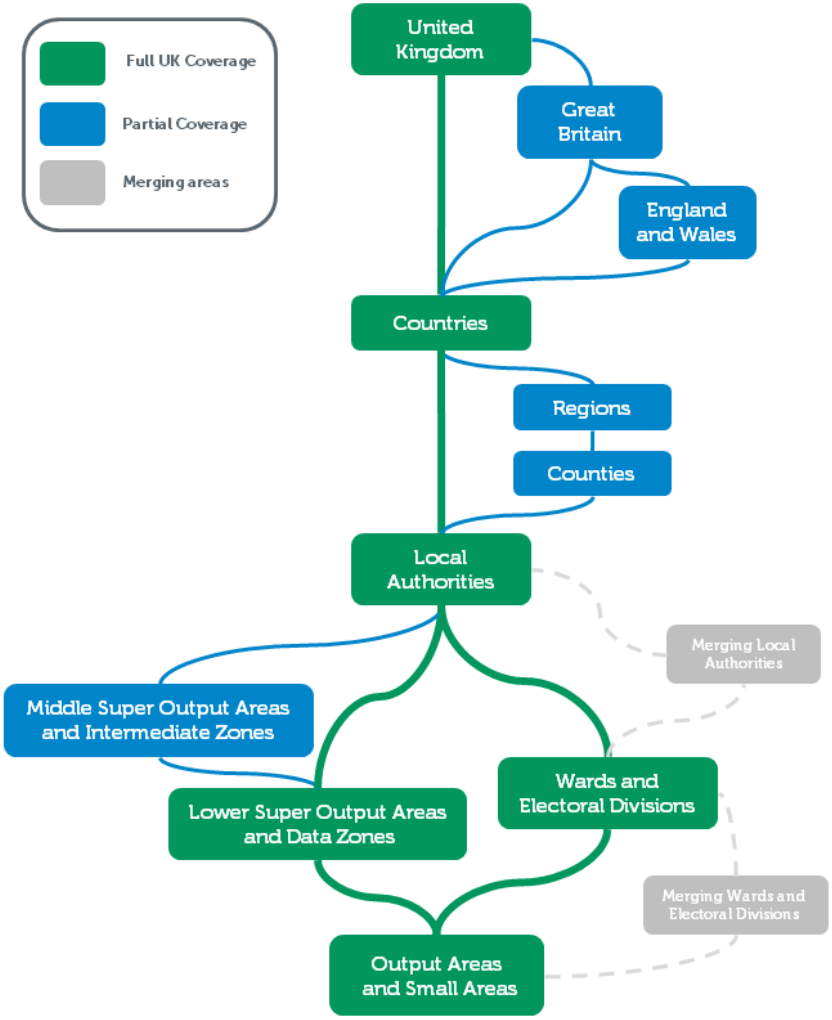


Service
Census Support

InFuse Geography Model

- Assembly and integration of raw geographies
  - 31 geography types with direct and indirect hierarchies
  - 241,334 areas (anticipating ~ 2 million including postcodes)
  - Model enables easy calculation of ‘missing’ data to fill gaps
- Simplified presentational model
  - 11 composite geography layers
  - Condensed standard and merged geographies
  - Selection of multiple geographies across the UK in one operation
  - *Geography jumps* in interface

Admin and statistical geography layers



UK Data Service
Census Support

What? Where?

- Not all data is available for all areas
- Confidentiality of personal information is fundamental
  - Low counts avoided
  - Trade-off between detail in characteristics (What?) and geographical detail (Where?)
- *Lower threshold data* (less detailed characteristics)
  - Produced for all areas
  - Key Statistics, Quick Statistics, Local Characteristics
- *Higher threshold data* (more detailed characteristics)
  - Produced for areas down to wards* and MSOAs
  - Detailed Characteristics

InFuse benefits

- Fast and easy global search
  - Variable and category combinations
  - No tables
  - ‘No data’ fast
- Guide users to find data
  - Variable combinations
  - Available geographies
- More data for more geographies
  - *All LT and HT data* available for *all areas* in condensed geographies
- Improved contextual information
- Open access
  - All data is open via Open Government Licence

InFuse currently contains

- England/Wales:
  - Key Statistics, Quick Statistics, Local Characteristics/Detailed characteristics down to Output Area Level
- UK wide
  - Harmonised UK wide data produced by the ONS down to Local Authorities for Key Statistics and Quick Statistics

Next release – big release!

- Due mid-February
- 837 tables and 5311 files
- England/Wales
  - Up to date with ONS data (DC/LC)
  - UK harmonised data down to output area
  - Workplace zones
  - Armed forces data
- Scotland
  - Data produced up to October 2014 (Release I)
- Northern Ireland
  - All Local and Detailed Characteristics

Future plans for InFuse

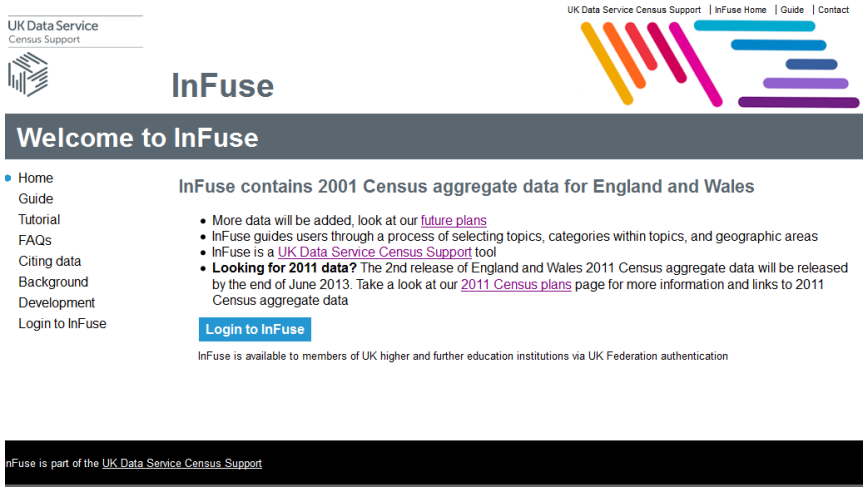
- More data
  - Remaining UK 2011 Census data
  - Data from previous UK censuses
  - Flow and boundary data
  - Non-census data
- Interface enhancement
  - Usability
  - Functionality
  - Work with users to identify requirements

Find out more!

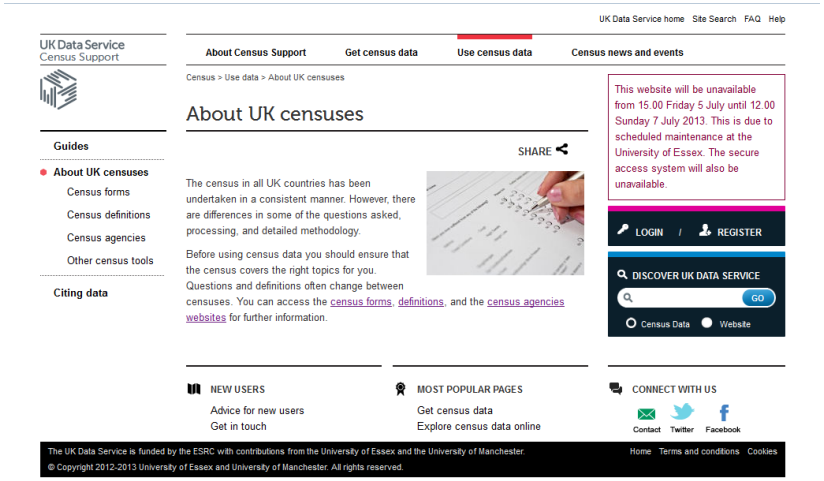
- Census aggregate data workshop – 17 February 2015
- ukdataservice.ac.uk/news-and-events/events

InFuse Support

infuse.mimas.ac.uk



census.ukdataservice.ac.uk



UK Data Service
Census Support

Questions

ukdataservice.ac.uk/help/

Follow us at:
- UKDATASERVICE@JISCMAIL.AC.UK
- twitter.com/UKDataService
- www.facebook.com/UKDataService

UK Data Service

ukdataservice.ac.uk

+44 (0)1206 872143

ukdataservice.ac.uk/help

twitter: @UKDataService

UK Data Service
Census Support