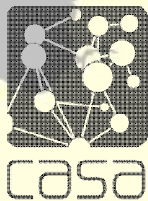
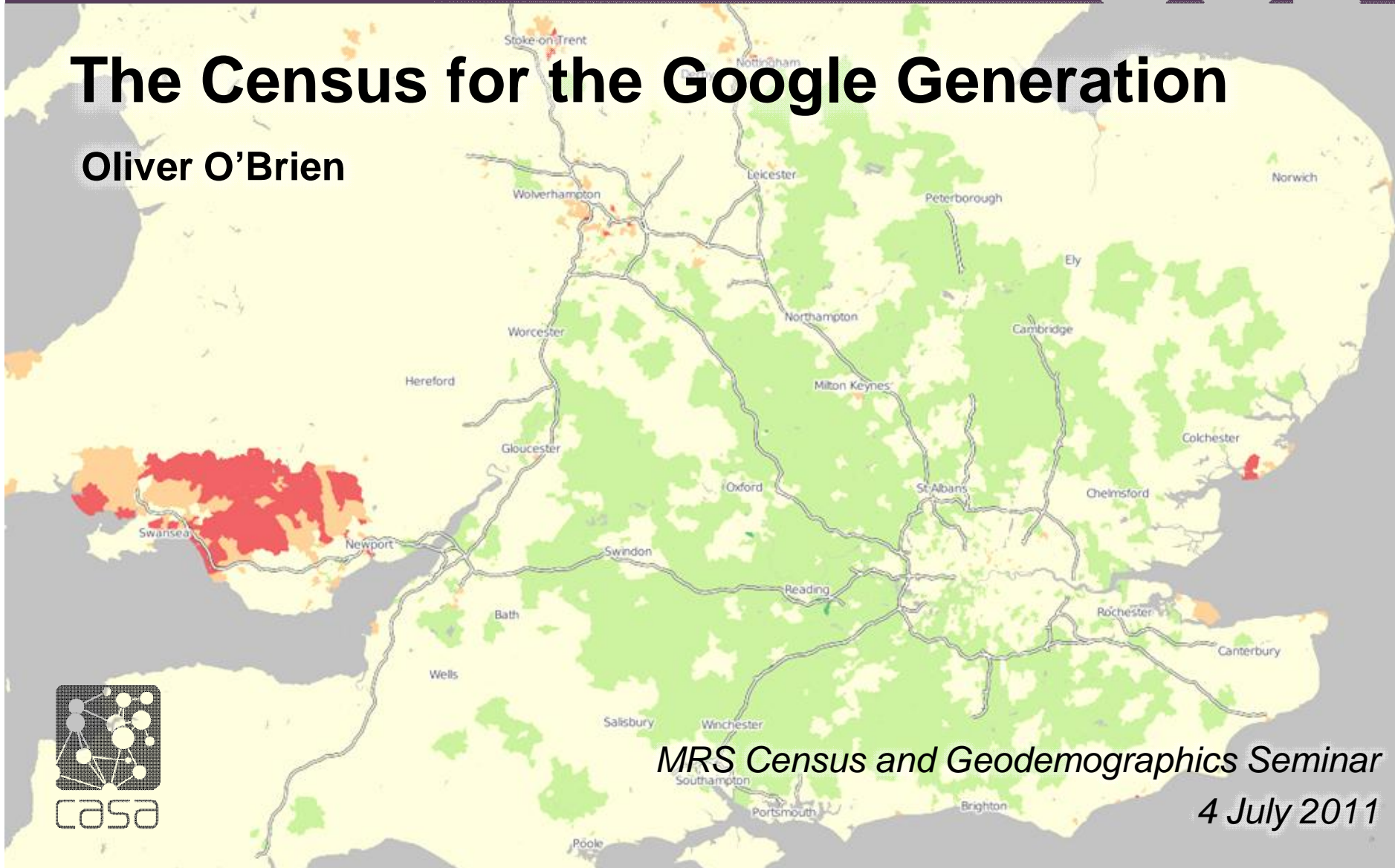


The Census for the Google Generation

Oliver O'Brien



MRS Census and Geodemographics Seminar

4 July 2011

Contents

- Who are the Google Generation?
- OAC and IMD
- Census and Demographic Visualisations
- CensusProfiler
- Future of Census Visualisation

Who are the **Google** Generation?

- Those born after 1993, have only known life with the web
“A generation whose first port of call for knowledge is the internet through Google’s search engine, as opposed to books, libraries or traditional (off-line) information sources
(CIBER, 2008)”

Who are the Google Generation?

google maps 1.00 gis 0.10 google earth 1.04 census 0.14



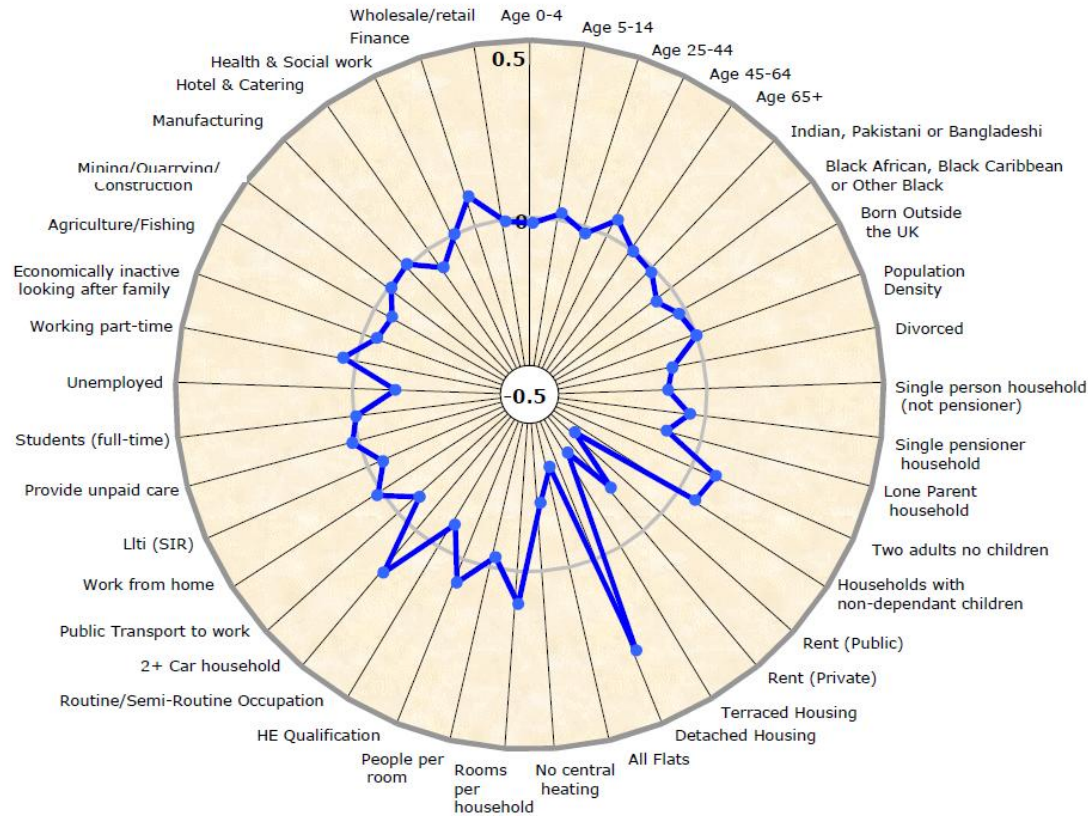
Visualising the Census – Back in 1841



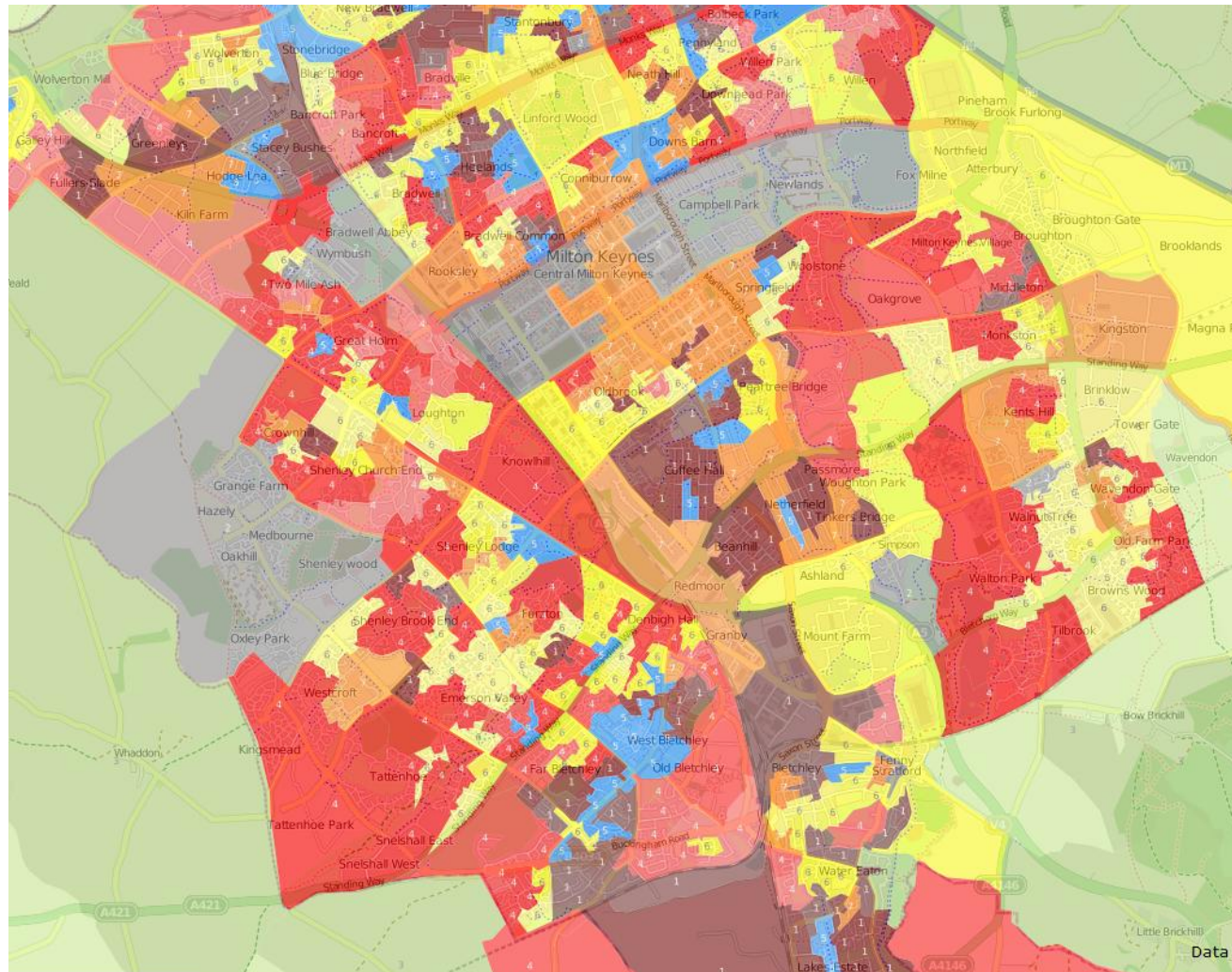
Output Area Classification

Supergroup 4

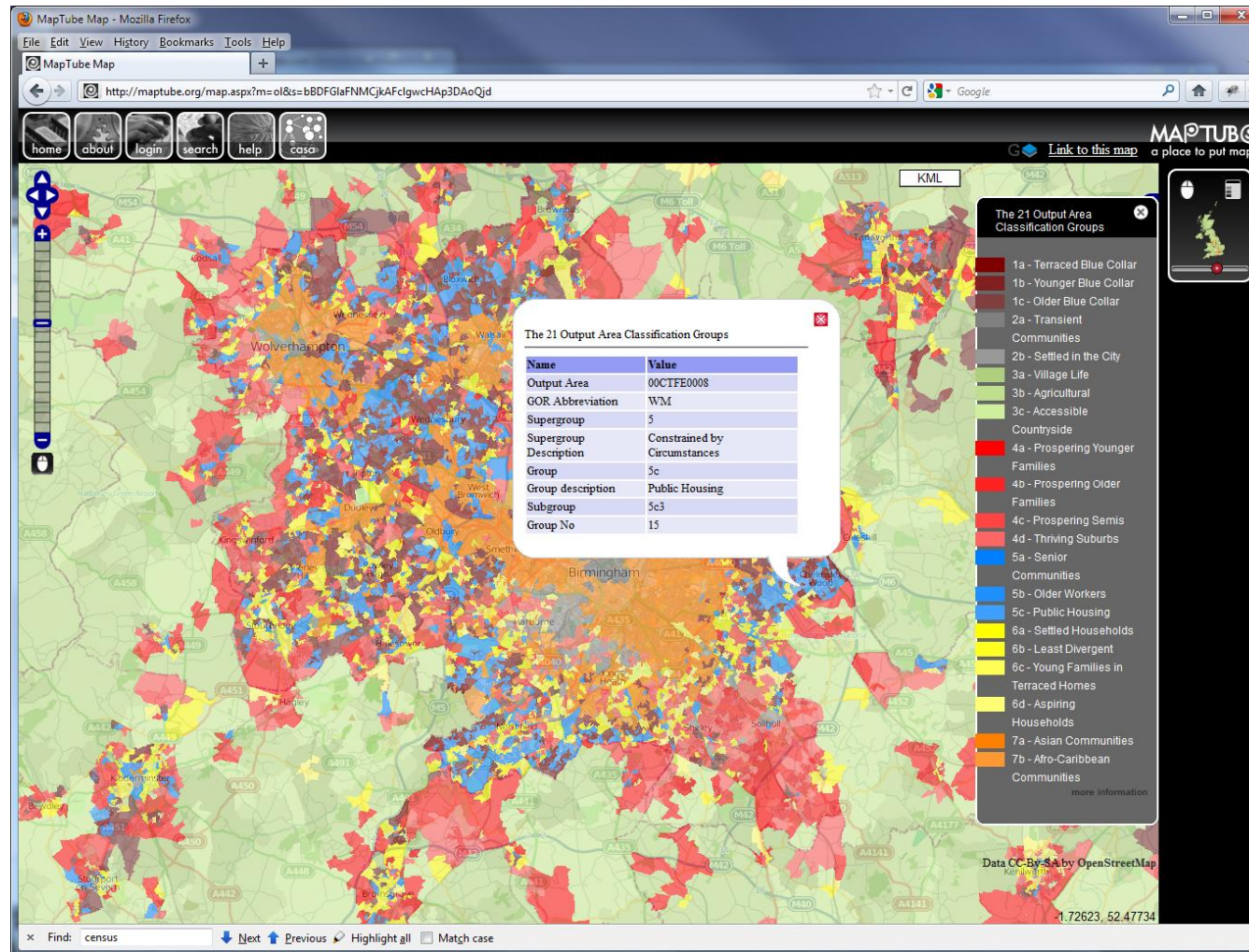
Range-standardised difference from the UK mean. Positive values show an above average level of the population and negative values show a below average level.



Output Area Classification



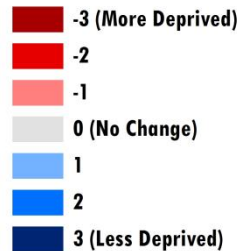
Output Area Classification



Index of Multiple Deprivation

Did London Become More Deprived Between 2007 and 2010?

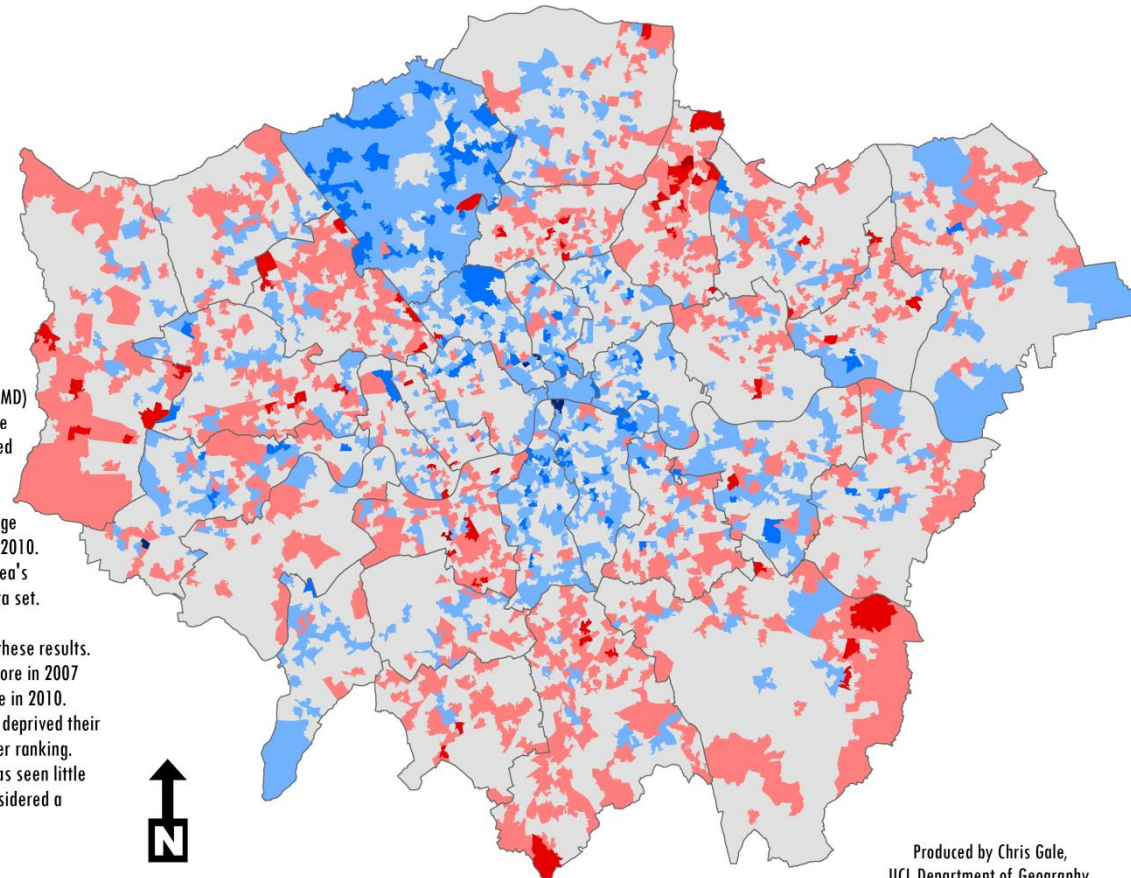
Change in Decile Assignment



The overall Index of Multiple Deprivation (IMD) for 2007 and 2010 have been used to create this map. Areas of London have been ranked according to their IMD score and split into deciles, 10 groups of equal size. Areas on the map are coloured according to the change in decile group assigned to it from 2007 to 2010. Colours reflect the change in rank for an area's IMD score and within the whole London data set.

Caution should be used when interpreting these results. For example, an area with the same IMD score in 2007 and 2010 may be assigned to a lower decile in 2010. If other areas in London have become less deprived their IMD scores will improve and receive a better ranking. In comparison, an area whose IMD score has seen little change could now be ranked lower and considered a relatively more deprived area of London.

For more information regarding the Index of Multiple Deprivation visit www.communities.gov.uk



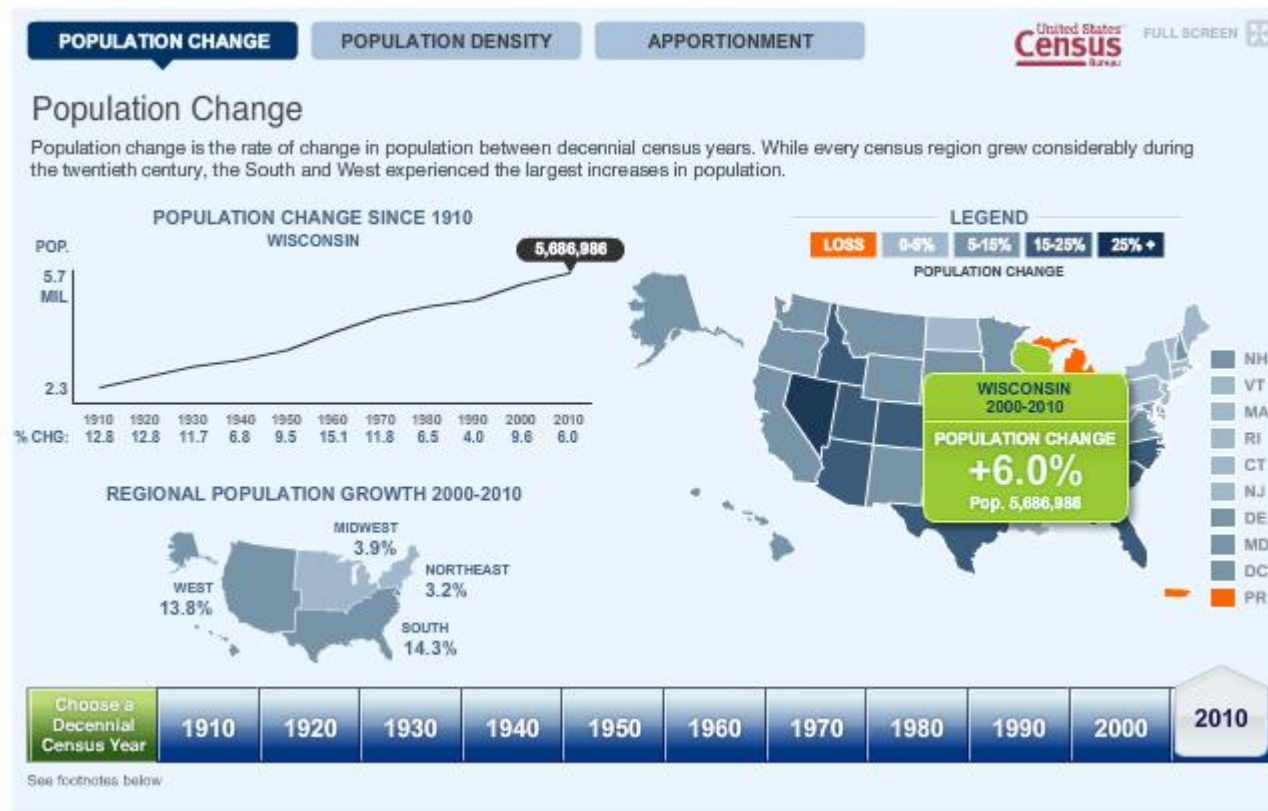
0 5 10 15 Kilometers

Produced by Chris Gale,
UCL Department of Geography.
Data downloaded from www.communities.gov.uk
Boundary data copyright of the Crown.

US Census 2010

- “The 2010 US Census has begun publishing its detailed demographic data state by state and the race now begins to see which data geeks can do the coolest things with the information. Remember when large-scale social data was only collected once a decade? When terms like "social graph" and "interest graph" didn't even exist?”

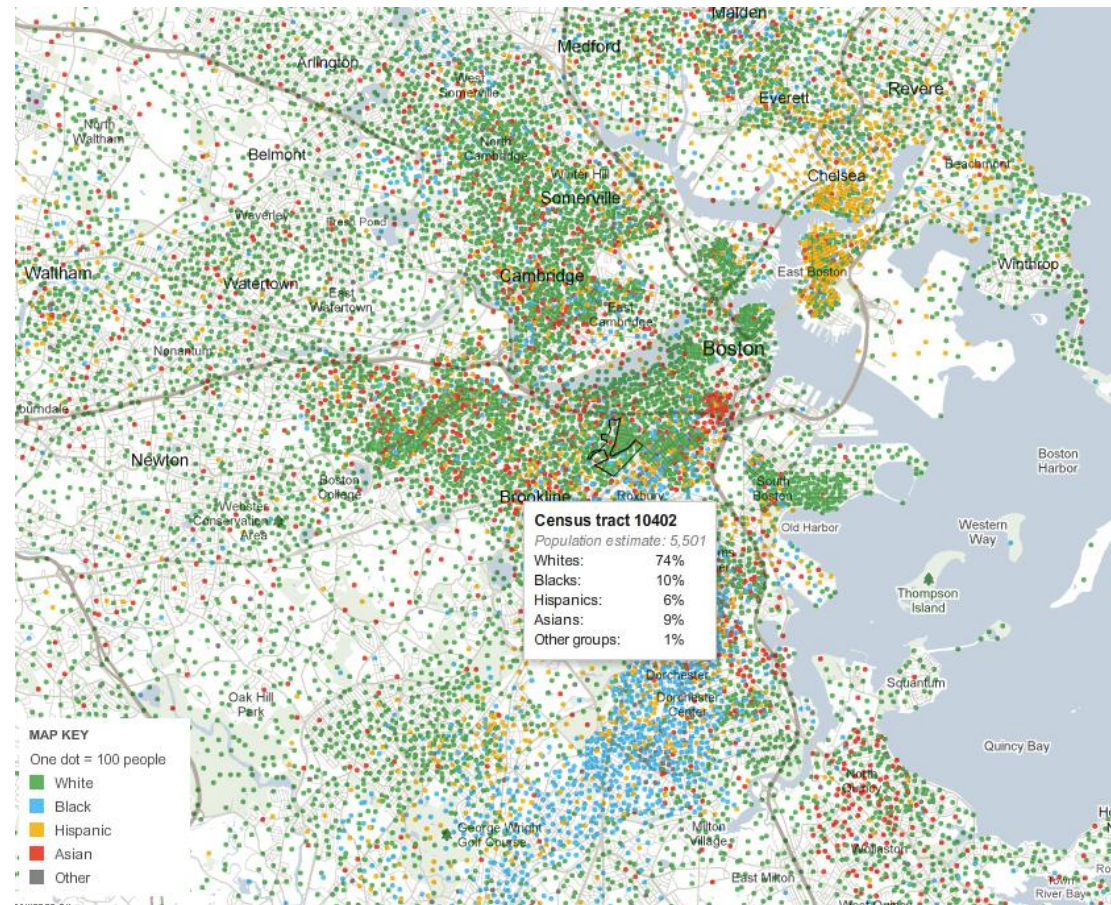
US Census Bureau



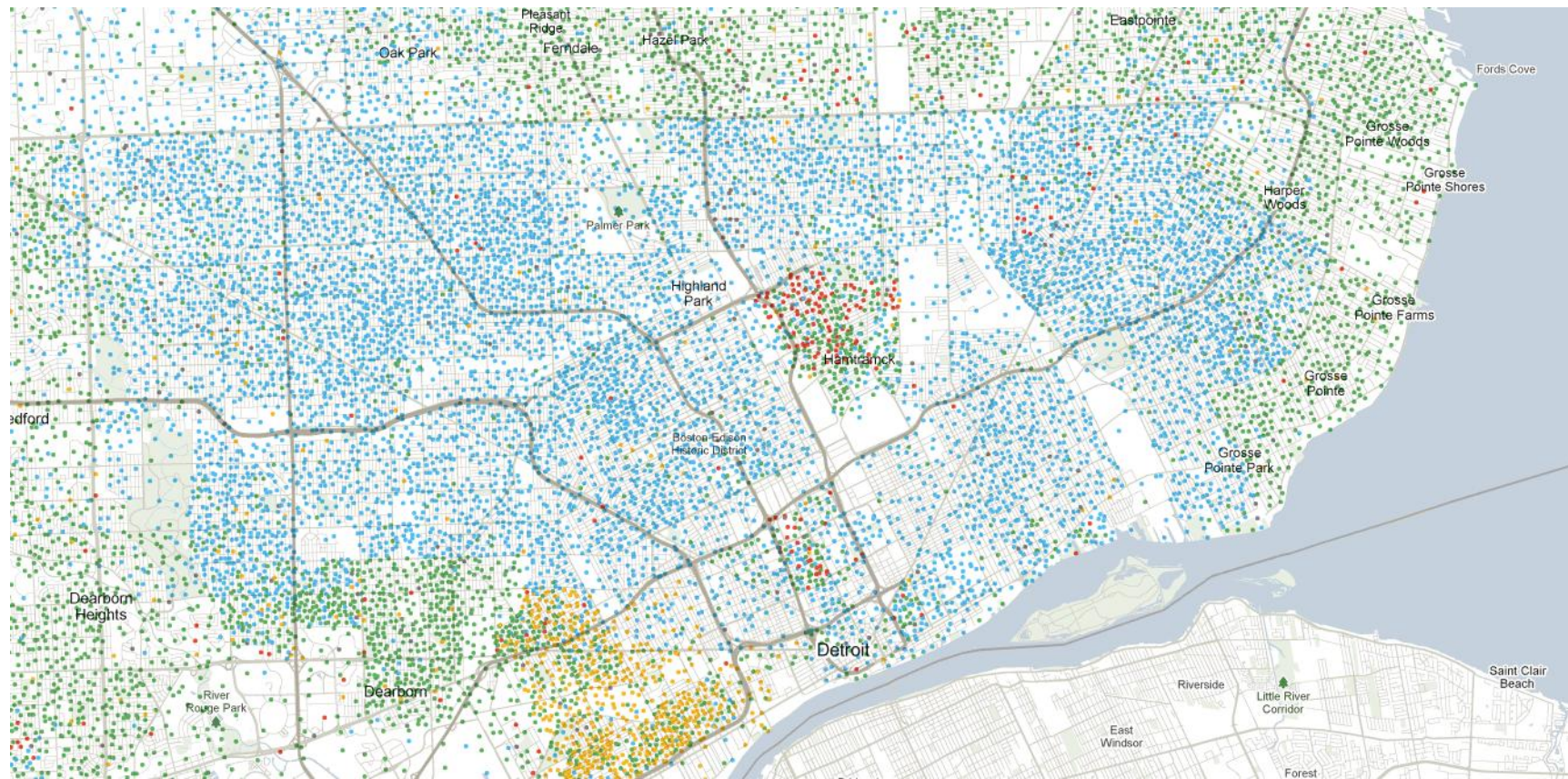
Mapping America

- Ethnicity “dot” maps
- Census Bureau's American Community Survey
- Based on samples from 2005 to 2009

<http://projects.nytimes.com/census/2010/explorer>

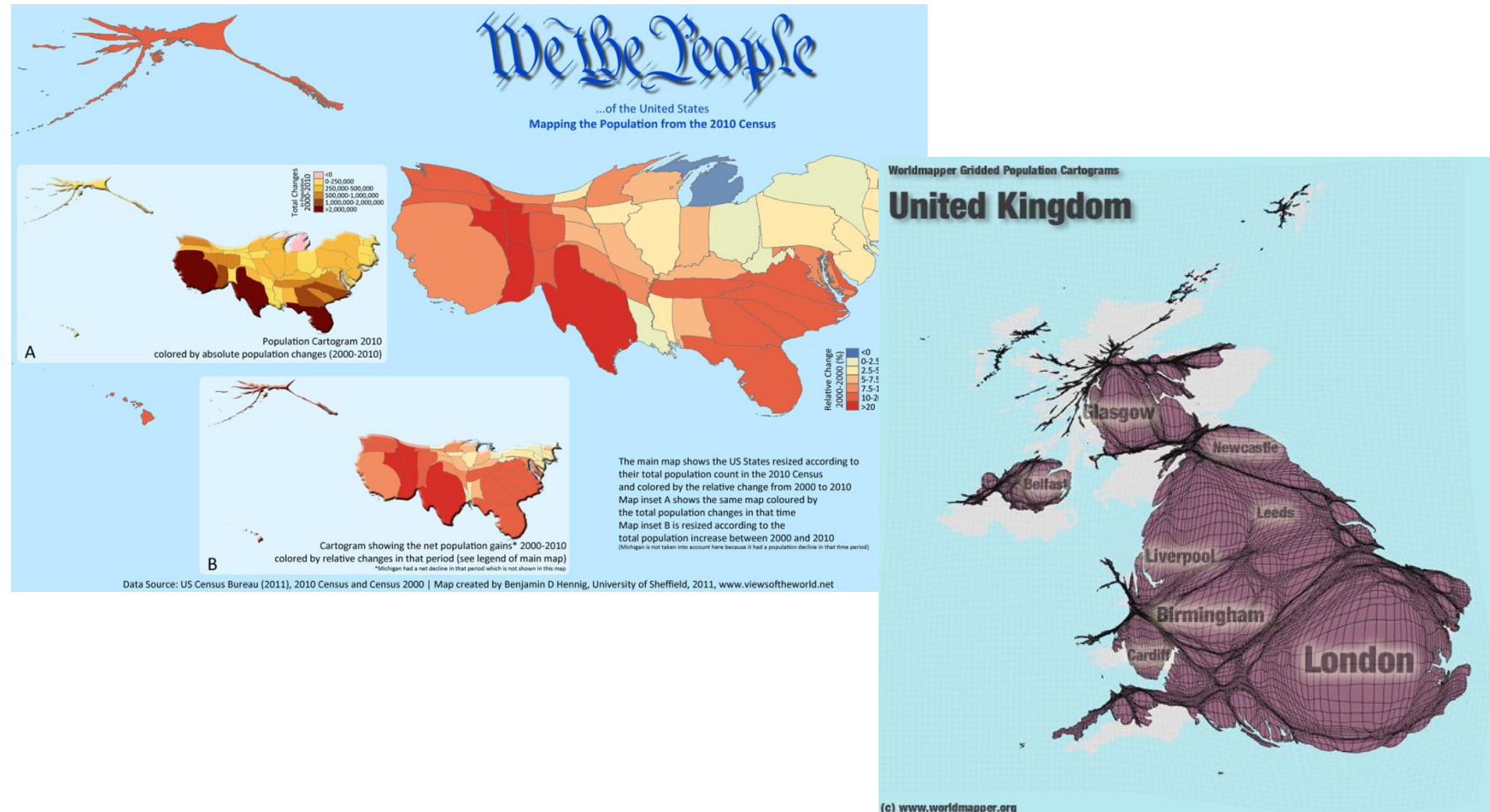


US – Mapping America

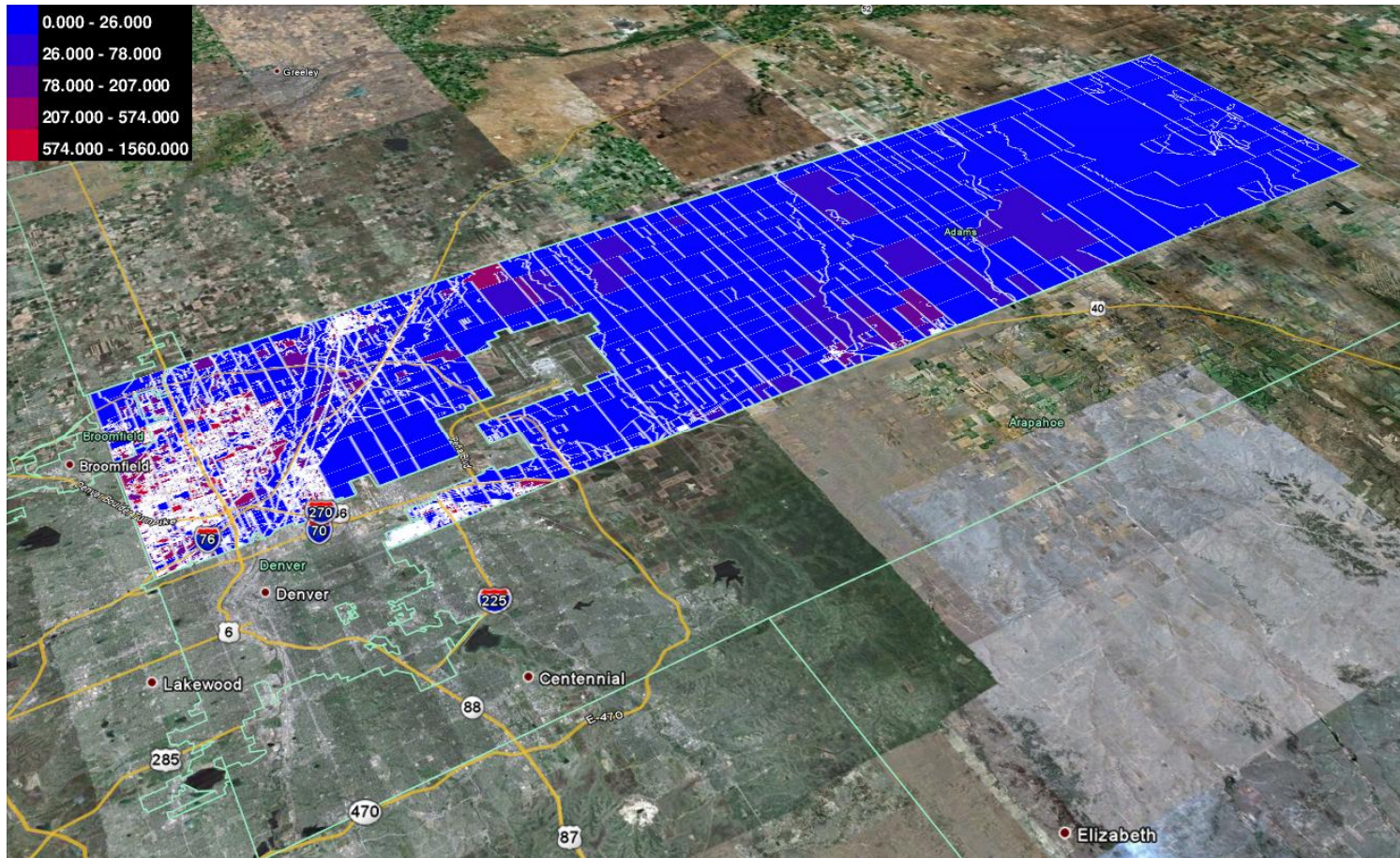


<http://projects.nytimes.com/census/2010/explorer>

WorldMapper Cartograms



gCensus (US)



<http://www.gcensus.com/>

This Tract

Block 06.075.012400.0000
Census Tract 124, San Francisco County, California



Census Tract 124

POPULATION
8,188

HOUSING UNITS
4,609

LAND AREA
0.5 km²

WATER AREA
0.0 km²

San Francisco County

POPULATION
776,733

HOUSING UNITS
346,527

LAND AREA
121 km²

WATER AREA
480 km²

California

POPULATION
33,871,648

HOUSING UNITS
12,214,549

LAND AREA
403,933 km²

WATER AREA
20,037 km²

United States

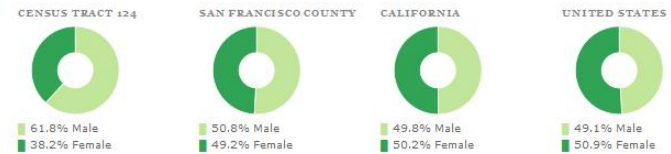
POPULATION
281,421,906

HOUSING UNITS
115,904,641

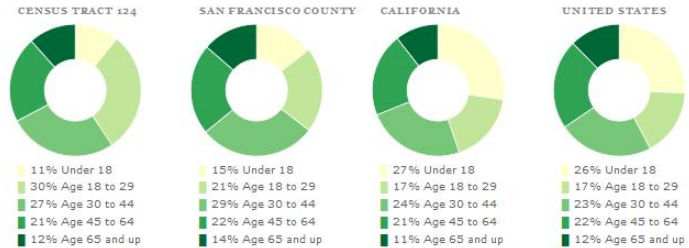
LAND AREA
9,161,923 km²

WATER AREA
664,706 km²

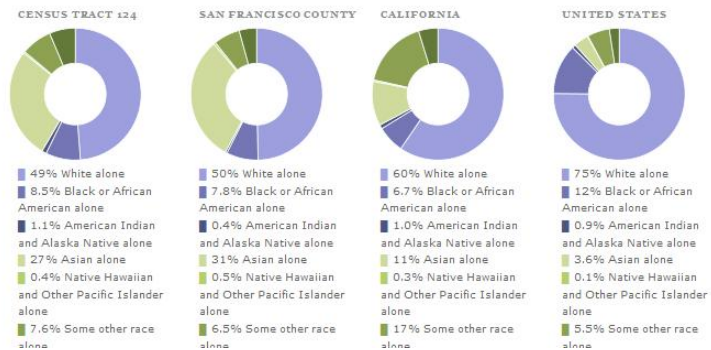
Gender



Age

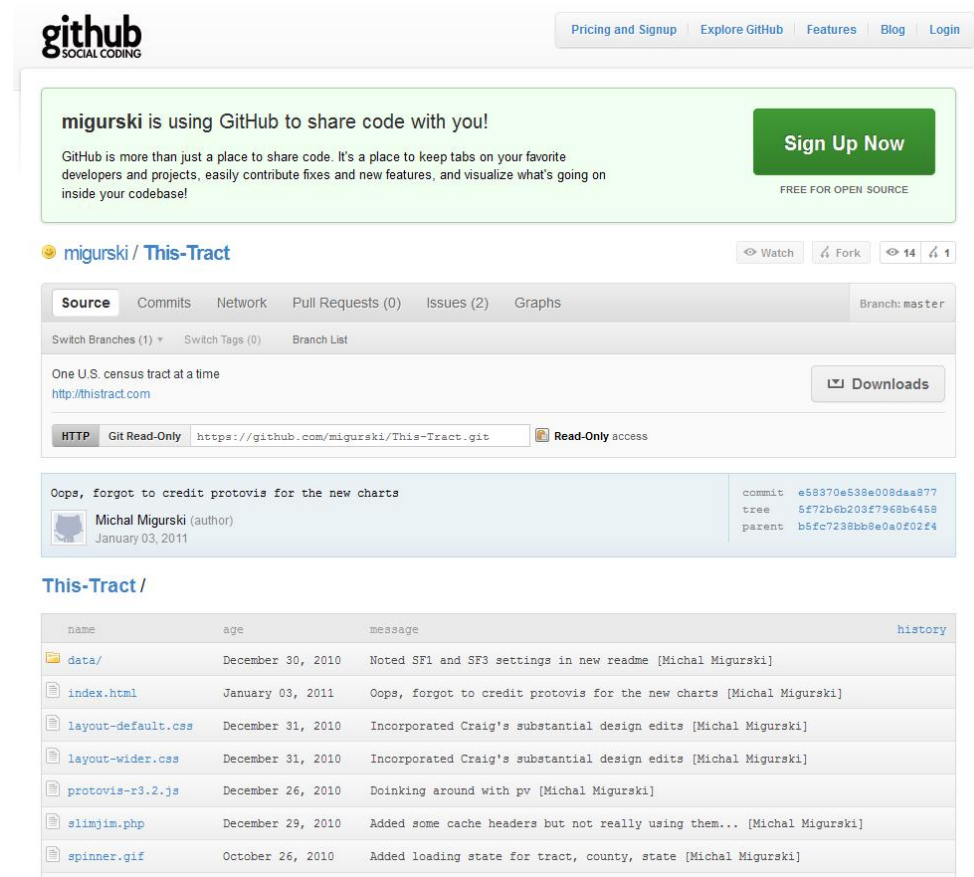


Race



This Tract

- <http://thistract.com/>
- Built by Michal Migurski of Stamen Design
- Uses geolocation
- On “GitHub”
 - Should be possible to implement it for the 2001 (and 2011) UK census data
 - “This OA”?



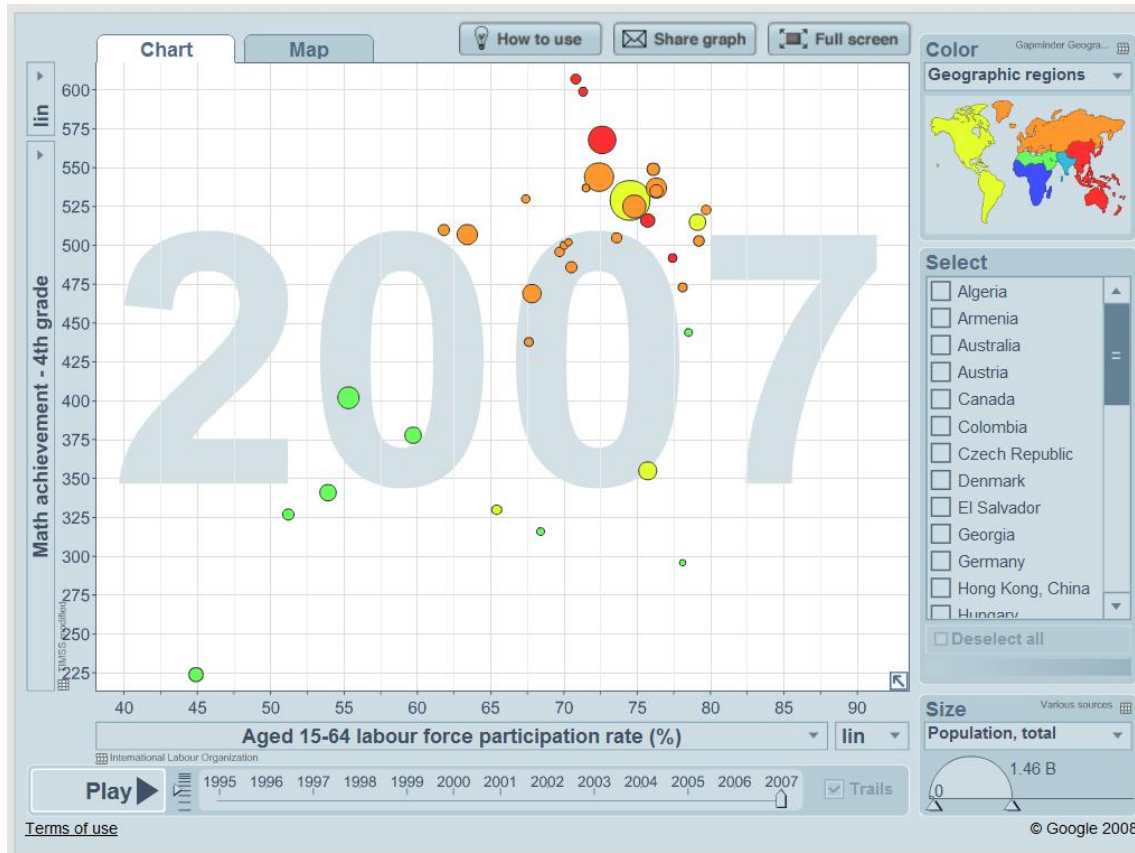
The screenshot shows the GitHub repository page for 'migrurski / This-Tract'. The repository is on the 'master' branch and contains one commit by Michal Migurski from January 03, 2011. The commit message is 'Oops, forgot to credit protovis for the new charts'. The repository includes files such as 'data/', 'index.html', 'layout-default.css', 'layout-wider.css', 'protovis-r3.2.js', 'slimjim.php', and 'spinner.gif'.

Repository details:

- Repository: migrurski / This-Tract
- Branch: master
- Source: <https://github.com/migrurski/This-Tract.git>
- Access: Read-Only access
- Commit: e58370e538e008daa877
- Tree: 5f72b6b203f7968b6458
- Parent: b5fc7238bb8e0a0f02f4

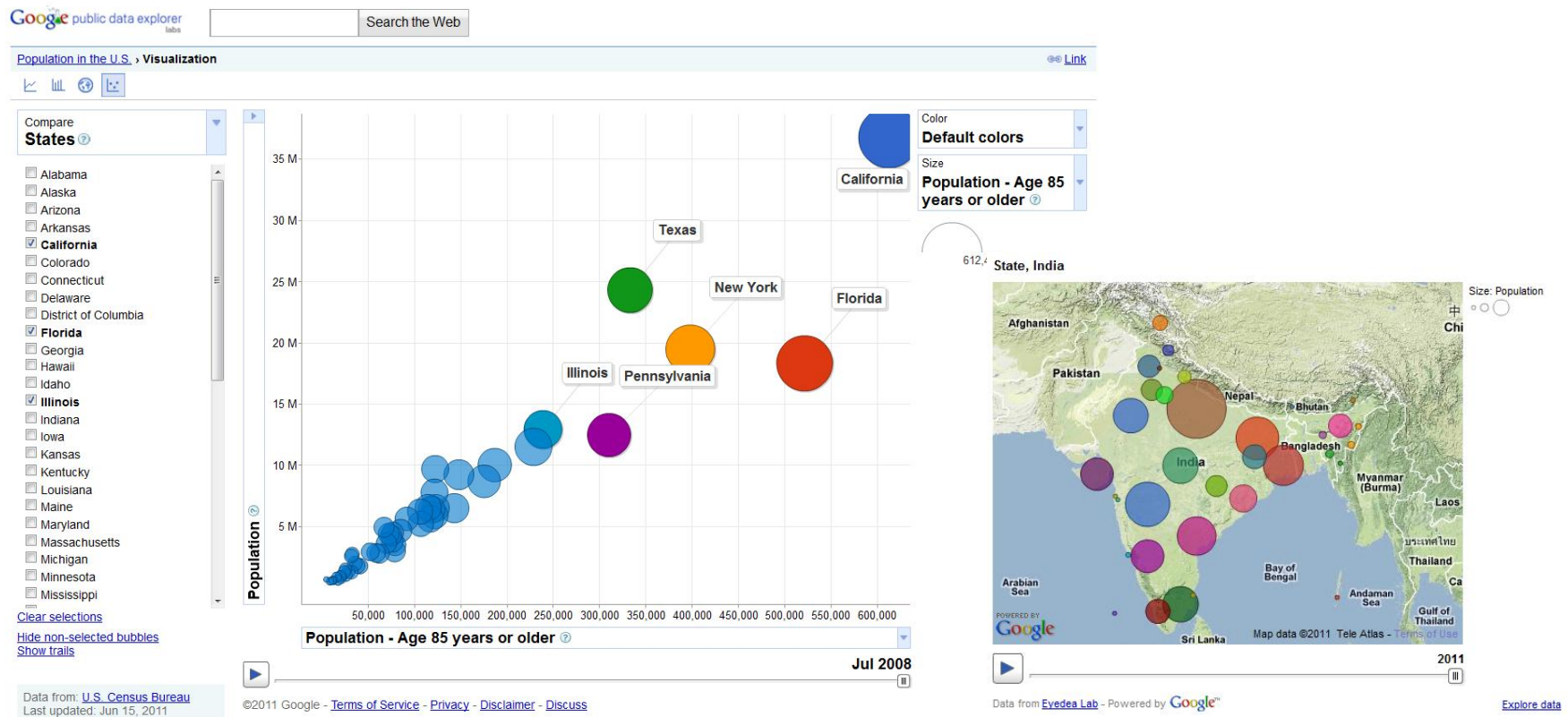
name	age	message	history
data/	December 30, 2010	Noted SF1 and SF3 settings in new readme [Michal Migurski]	
index.html	January 03, 2011	Oops, forgot to credit protovis for the new charts [Michal Migurski]	
layout-default.css	December 31, 2010	Incorporated Craig's substantial design edits [Michal Migurski]	
layout-wider.css	December 31, 2010	Incorporated Craig's substantial design edits [Michal Migurski]	
protovis-r3.2.js	December 26, 2010	Doinking around with pv [Michal Migurski]	
slimjim.php	December 29, 2010	Added some cache headers but not really using them... [Michal Migurski]	
spinner.gif	October 26, 2010	Added loading state for tract, county, state [Michal Migurski]	

GapMinder



<http://www.gapminder.org/>

Google Public Data Explorer



<http://www.google.com/publicdata/home>

US Census Data Visualisation Challenge

visualizing.org

Upload Your Work

ABOUT DATA VISUALIZATIONS ISSUES PARTNERS CHALLENGES



Eyeo Data Visualization Challenge

VISUALIZING THE 2010 CENSUS DATA

Earlier this month, we announced a media partnership with the brilliant new [Eyeo Festival](#) - a three-day long event that is bringing together some of the most creative coders, designers and artists working today. Tickets sold out fast - so here's your chance to visualize your way to the festival...



Visualizing.org and Eyeo are challenging the world's design community to **create an interactive portrait of America by visualizing the 2010 census data.**

The 2010 Census was the most extensive ever conducted. Approximately 74 percent of households returned their census forms by mail; remaining households were counted by census workers walking neighborhoods throughout the country. National and state population totals from the 2010 Census were released on December 21, 2010. Redistricting data, which include additional state, county and local counts, were released in February and will continue to be released through the beginning of April.

DATA

The 2010 Census

[About the 2010 Census Data](#)

[Decennial Census Data Tables on American Factfinder](#)

[2010 Census brief Population Distribution and Change: 2000 to 2010](#)

[An Overview: Race and Hispanic Origin and the 2010 Census](#)

CensusProfiler

Image-based

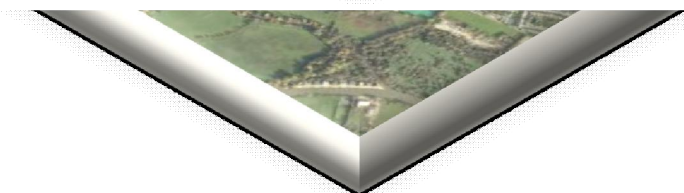
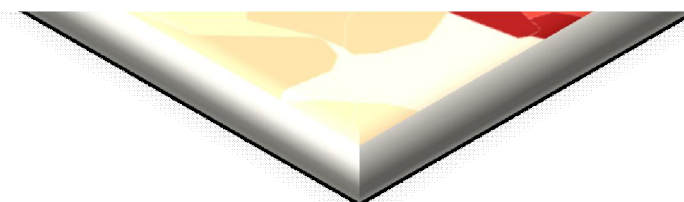
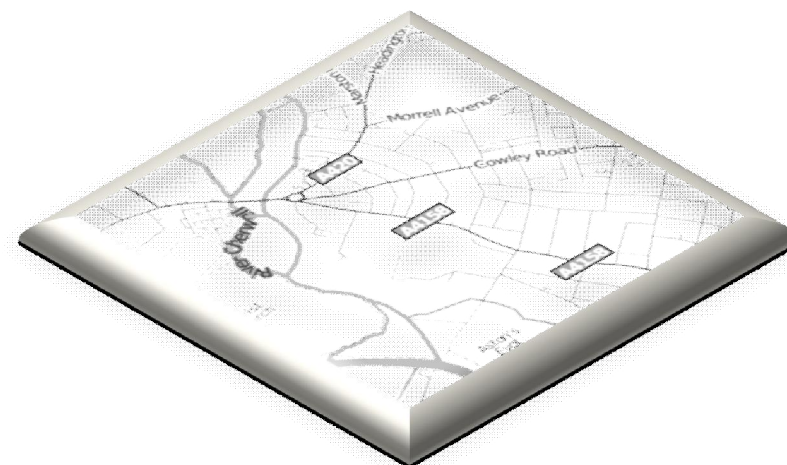
- Faster on the web browser
- Not delivering restricted data to the web browser

Open Source software

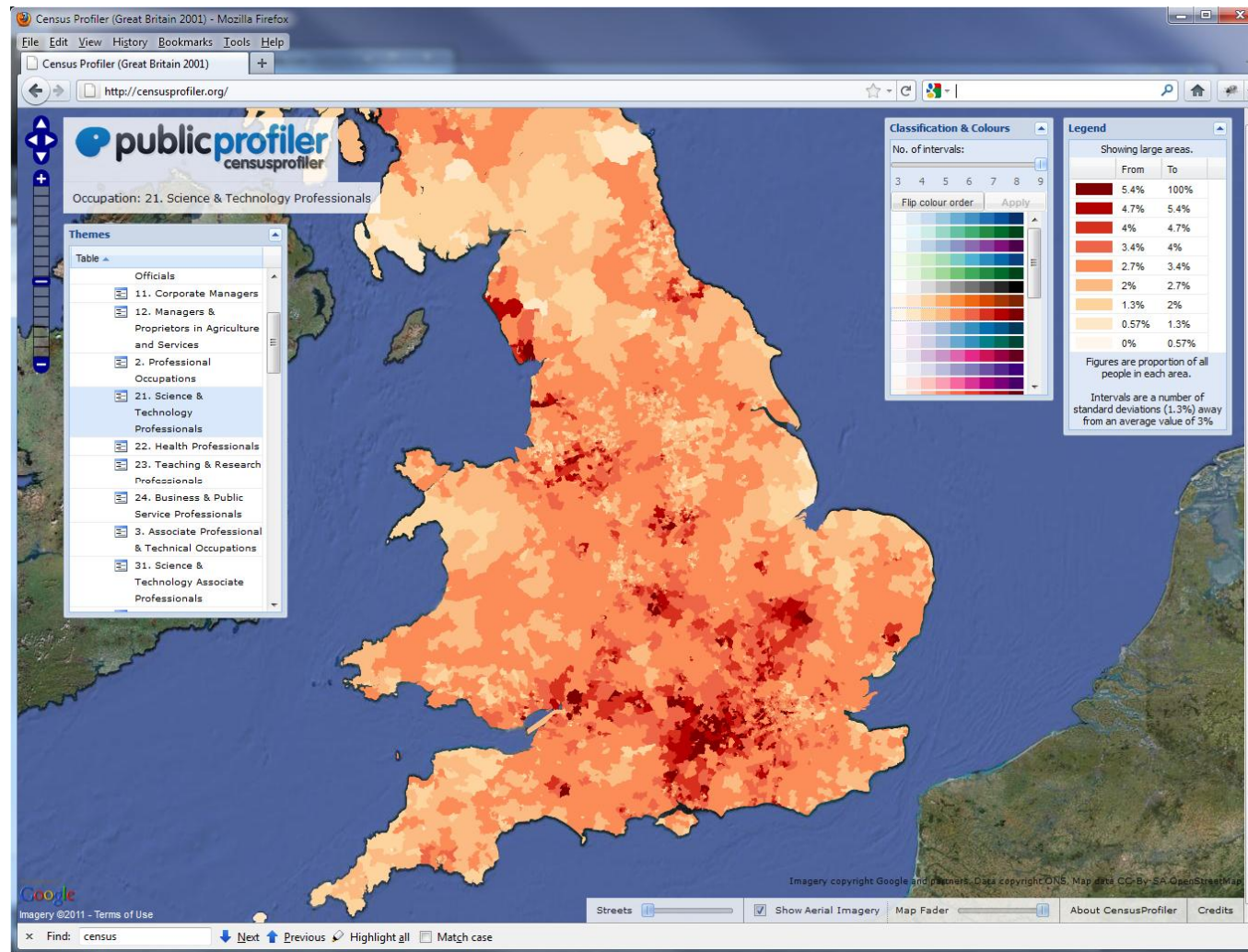
- Leverage the powerful OpenLayers mapping software
- More powerful than Google Maps equivalent
- An active development community
- Full access to the underlying code – greater flexibility

“Slippy” map

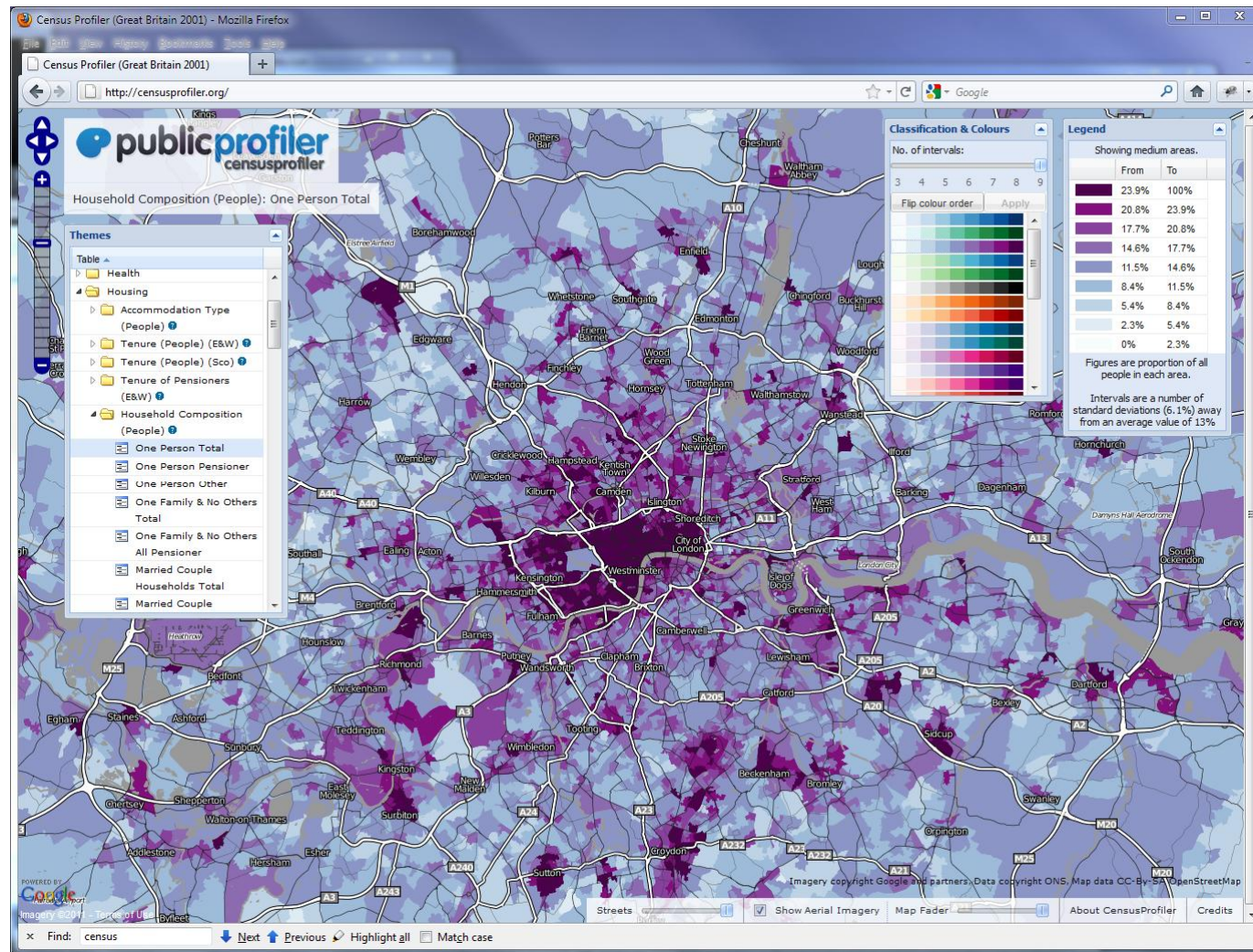
- Intuitive
- Encourages exploration



CensusProfiler



CensusProfiler



CensusProfiler + Google Earth



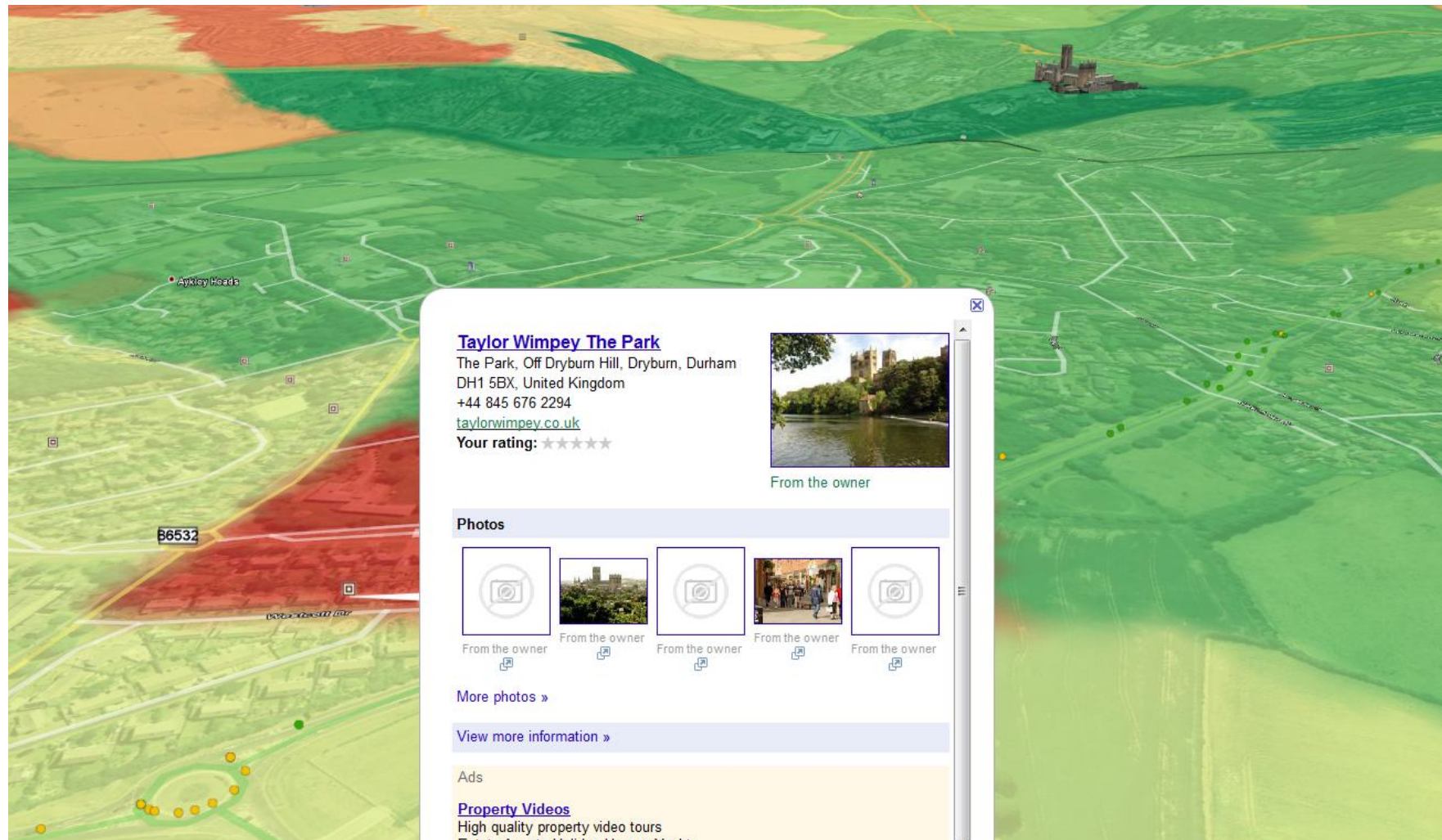
Aerial imagery Copyright Google, Boundary data Crown Copyright, Census data Copyright ONS

CensusProfiler + Google Earth



Aerial imagery Copyright Google, Boundary data Crown Copyright, Census data Copyright ONS

CensusProfiler + Google Earth



Future of Census Visualisation



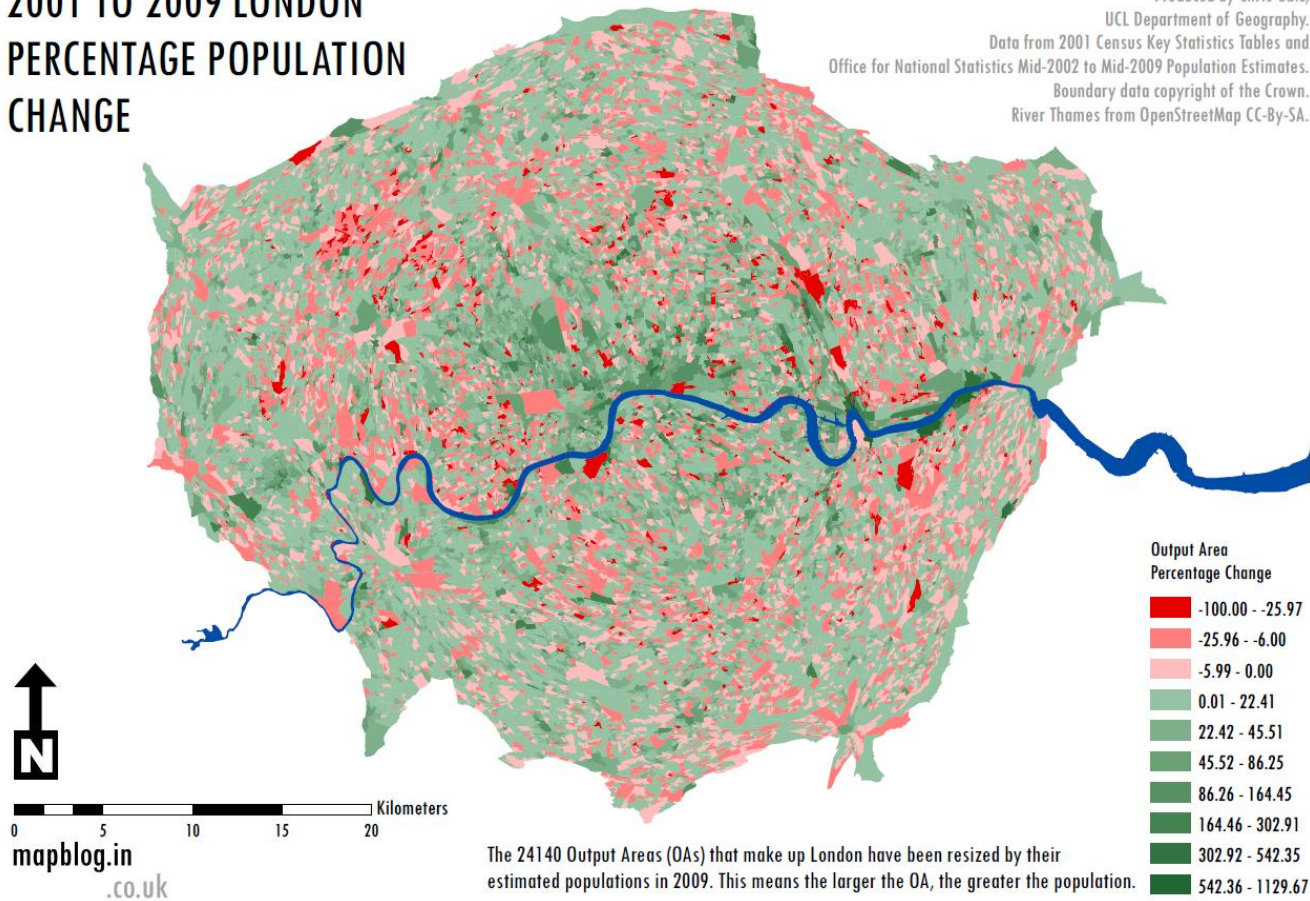
Open Government Licence
for public sector information

- Depersonalised census data can be part of the #opendata movement
- It is “Big Data”
- There is an army of amateur visualisers waiting to create innovative graphics from the data
- We have a PhD at UCL who will be creating demographics from the 2011 UK census data

The Census Gap

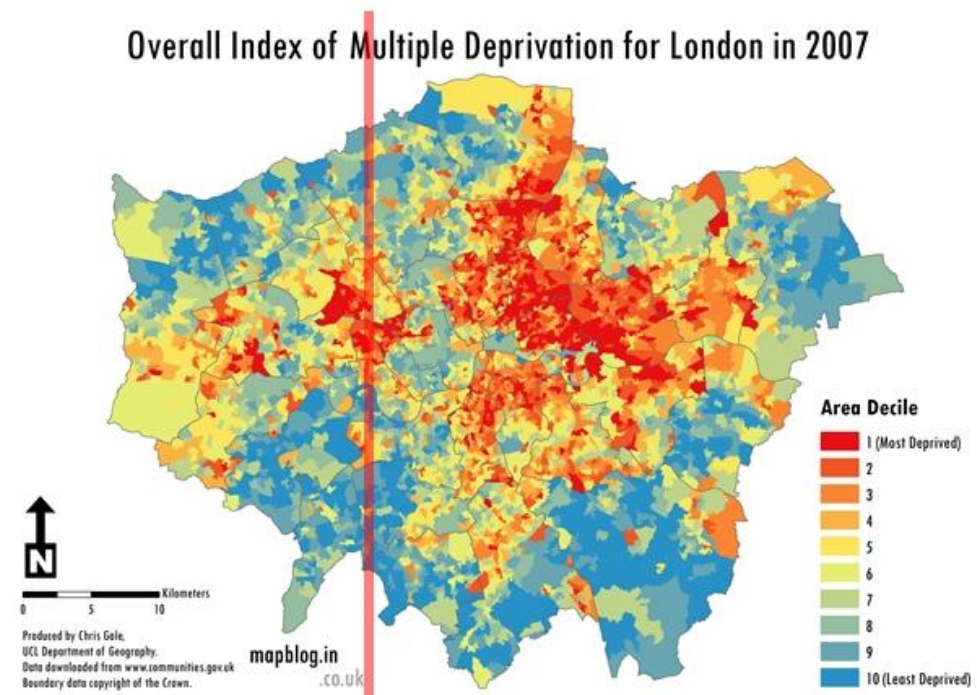
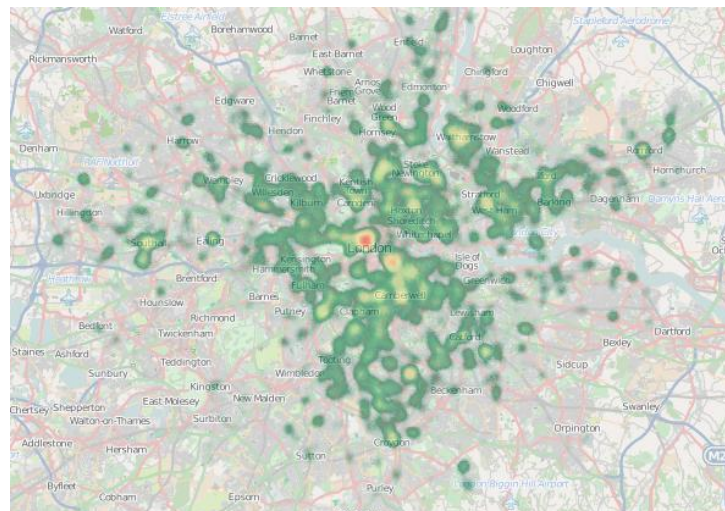
2001 TO 2009 LONDON PERCENTAGE POPULATION CHANGE

Produced by Chris Gale,
UCL Department of Geography.
Data from 2001 Census Key Statistics Tables and
Office for National Statistics Mid-2002 to Mid-2009 Population Estimates.
Boundary data copyright of the Crown.
River Thames from OpenStreetMap CC-BY-SA.



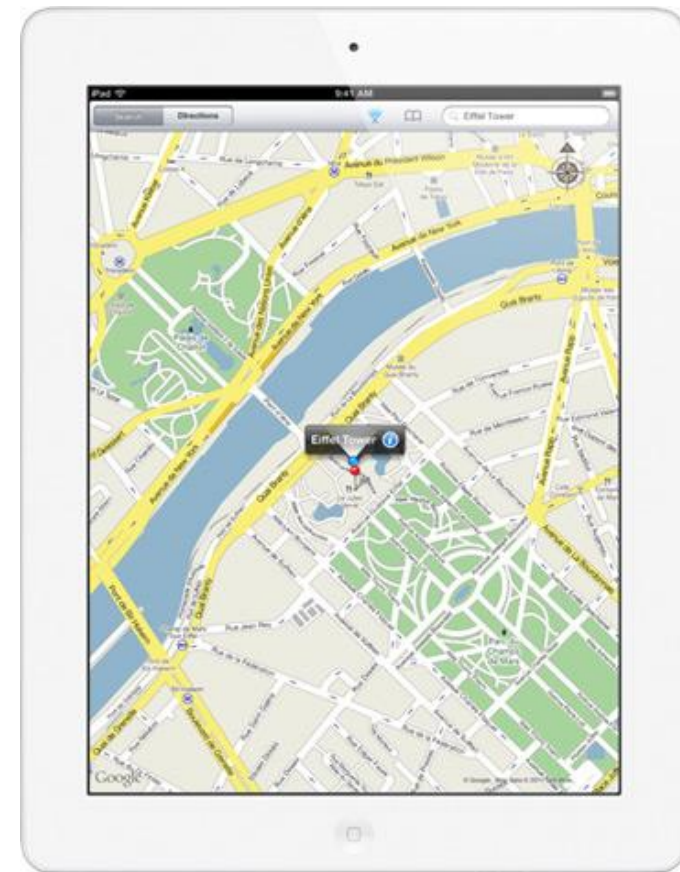
Future of Census Visualisation

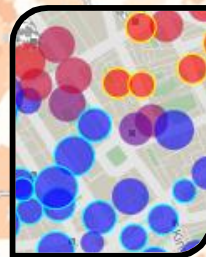
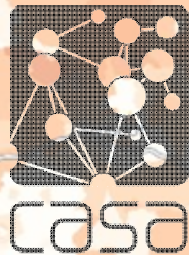
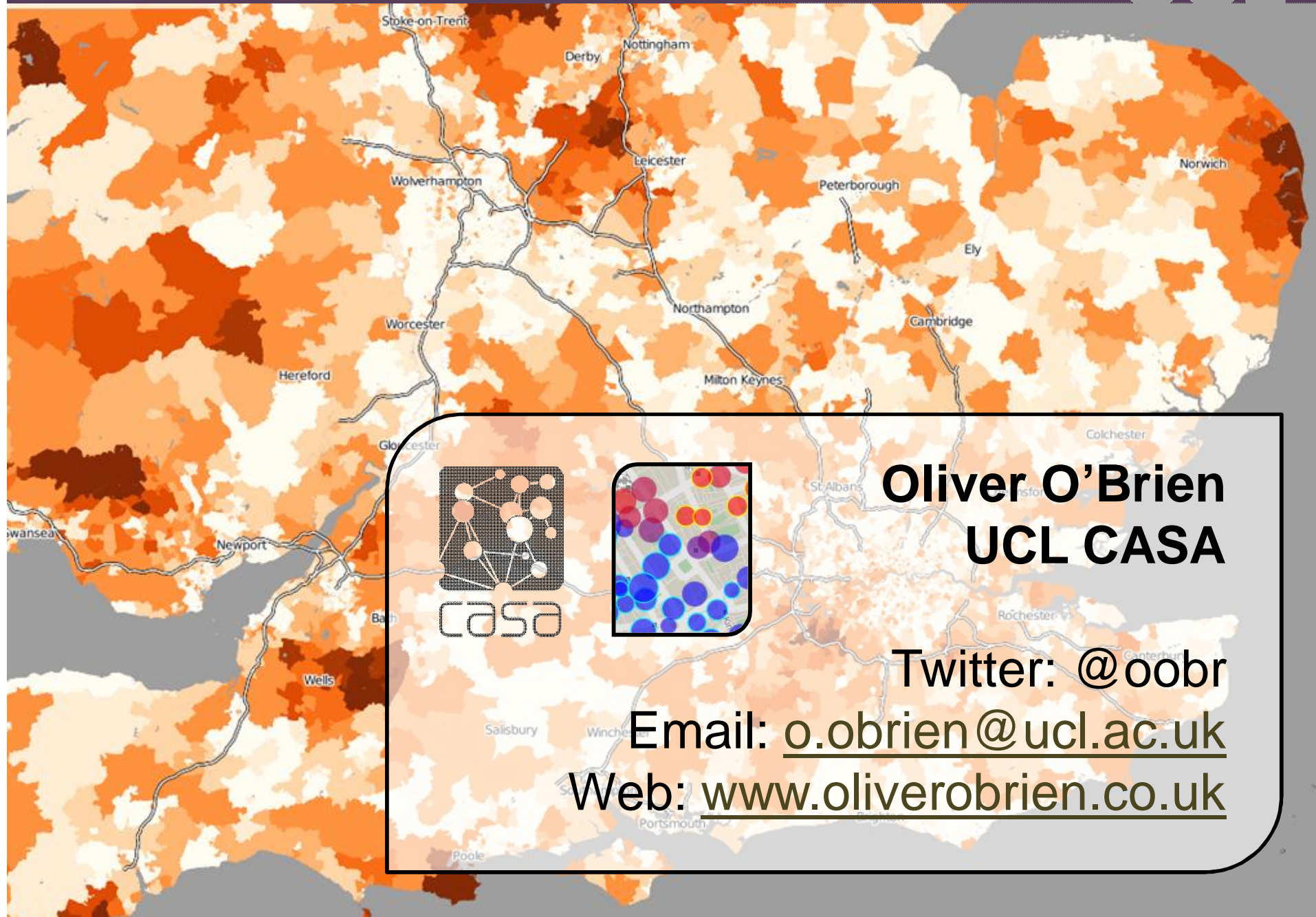
- Choropleths to show specific value or % differences
- Heatmaps to show general patterns of differences
- Fade between years
- Swipe maps



Future of Web Visualisation

- HTML5
 - Replaces Flash, Silverlight
- Not just on a Computer
 - Mobile
 - Tablet
- Not just a Website
 - Social network embedding





Oliver O'Brien
UCL CASA

Twitter: @oobr

Email: o.obrien@ucl.ac.uk

Web: www.oliverobrien.co.uk