Introduction

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Fra Mauro Map

- ▶ Drawing maps has a long history
- ▶ Fra Mauro map (1450) is the greatest memorial of medieval cartography
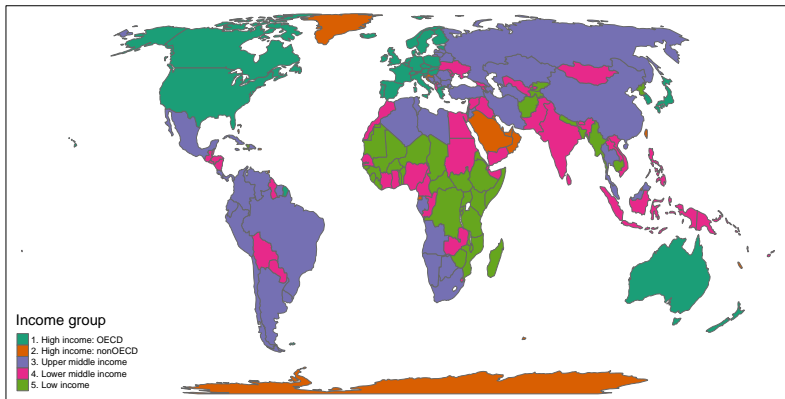- ▶ Source: Wikipedia
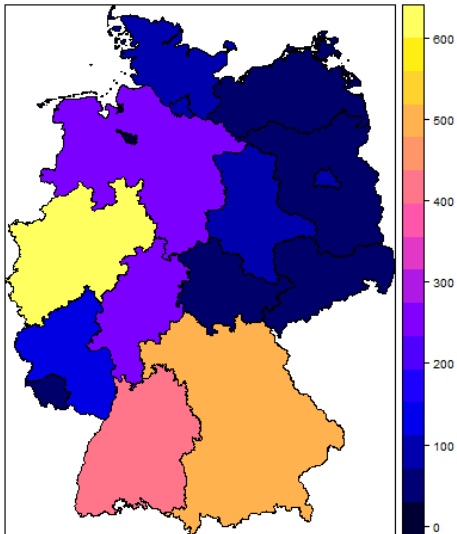
Migrant route to Germany

Migrant route to Germany

- Data on the conflict in Syria - UNHCR
- Analysis on Syrian Refugee Settlement Clinic Locations with R

GDP per capita

Data source: World Development Indicators

Income group
1. High income: OECD
2. High income: nonOECD
3. Upper middle income
4. Lower middle income
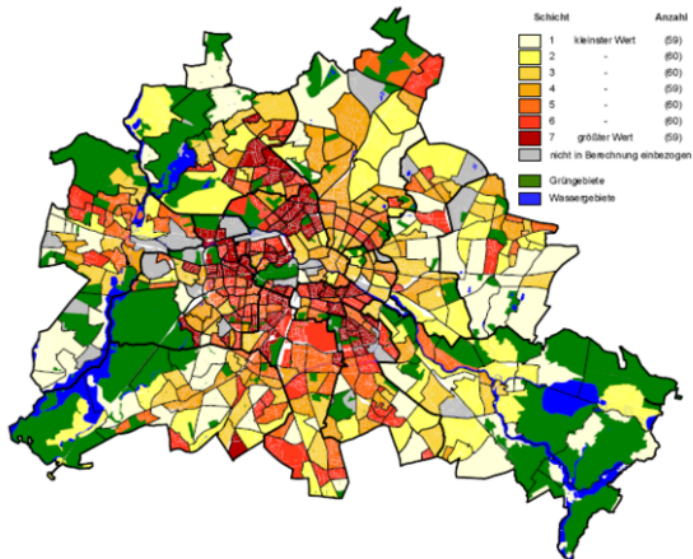5. Low income

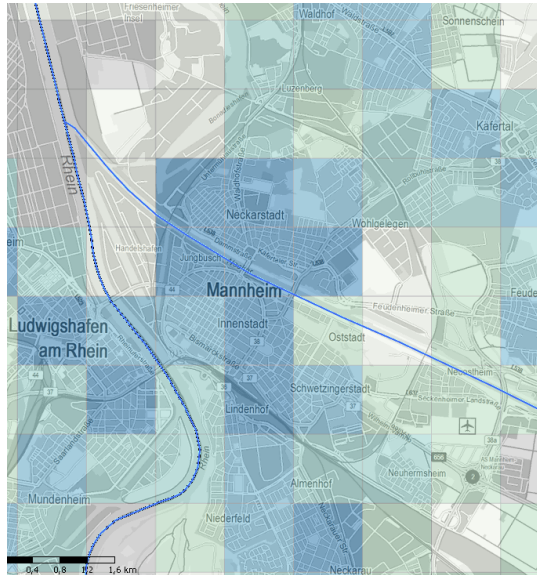# GDP in German federal states

GDP in German federal states

- Map produced with R-package sp
- Data source: Wikipedia
- Polygon source: Global Administrative Areas (GADM)

More detailed - more interesting?

Social index - Proportion of social benefits recipients in Berlin

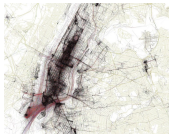# Is the necessary data available?

Source

The spatial perspective. . .

- ▶ . . . is relevant to get an overview of current developments
- ▶ . . . is relevant to understand circumstances.

But how to get the adequate data?

- ▶ Necessary data is often not available
- ▶ More spatial visualisations are possible with web-data via Application Programming Interface (API)
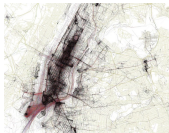
A little quiz - which town is it?

Background info

- ▶ Map of photographic/traffic activity
- ▶ Data from flickr used
- ▶ Guess about picture taker's mode of transportation
- ▶ Time stamps and distance traveled between a user's pictures
    - ▶ Black is walking (less than 7mph),
    - ▶ Red is bicycling or equivalent speed (less than 19mph),
    - ▶ Blue is motor vehicles on normal roads (less than 43mph);
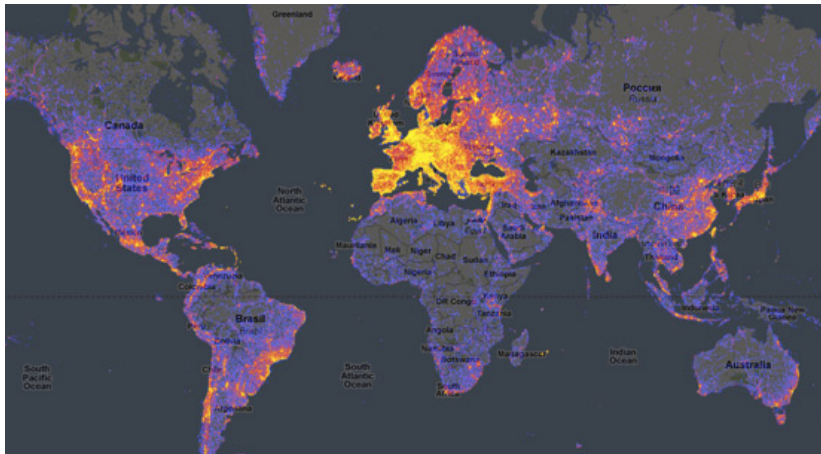   - ▶ Green is freeways or rapid transit.

New York

Source: Eric Fischer

Two ideas combined

- Map Of Touristiness
- Tracking Taxis Across Manhattan
- The geotaggers world atlas

World Map Of Touristiness

Source: Touristiness
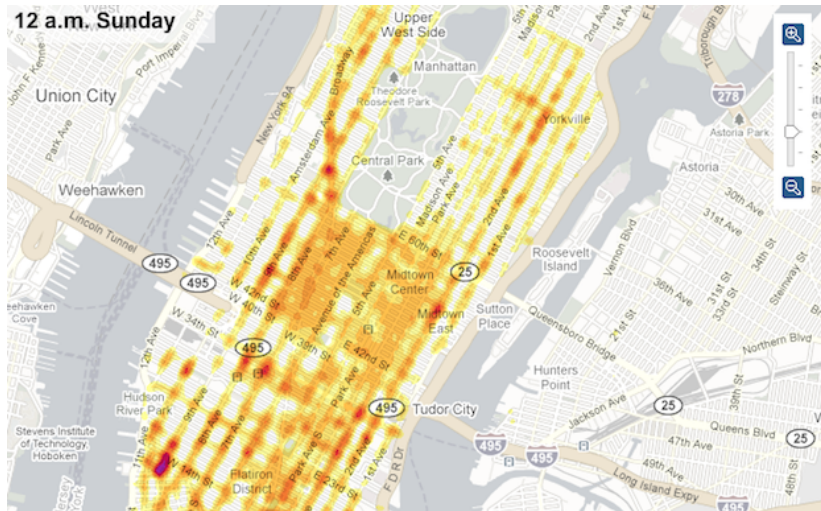
Based on tourist pictures uploaded on panoramio

Locals and Tourists

- Blue points on the map are pictures taken by locals (people who have taken pictures in this city dated over a range of a month or more).

- Red points are pictures taken by tourists (people who seem to be a local of a different city and who took pictures in this city for less than a month).

- Yellow points are pictures where it can't be determined whether or not the photographer was a tourist (because they haven't taken pictures anywhere for over a month).
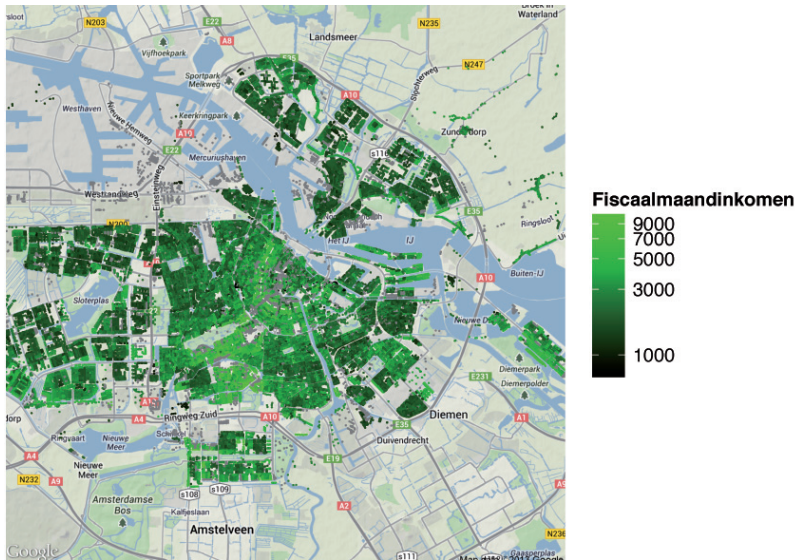
Tourists and Locals

Tracking Taxis Across Manhattan

Source: The New York Times

Target / Motivation

The target is to visualize social aspects in maps.

More examples

Spatial? - Motivation

- Massive amounts of data . . . and growing!
- Often freely accessible on the web (e.g. through APIs)
- Often unstructured or semi-structured (e.g. web documents, news archives), often heterogeneous
- Often not intended for geographic purposes, but implicitly containing geographic info implicitly (Web 2.0)
- Often with little or no metadata

Examples

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