# Big Data Analytics – Studies on Social Media

with contributions from: Spyridon Spyratos, Levente Juhász, Irene Eleta, Jacopo Grazzini, Elena Roglia, Cristina Rosales Sanchez, Chrisa Tsinaraki, Massimo Craglia, and Sven Schade

## Case Study: Detect building block use from Foursquare

We investigated the suitability of social media data (especially from Foursquare) as a data source for determining building use. A case study has been conducted in Amsterdam, in an area of approximately 72 km2 (example below). This work provides an example of how data from social media platforms can complement authoritative vector data.
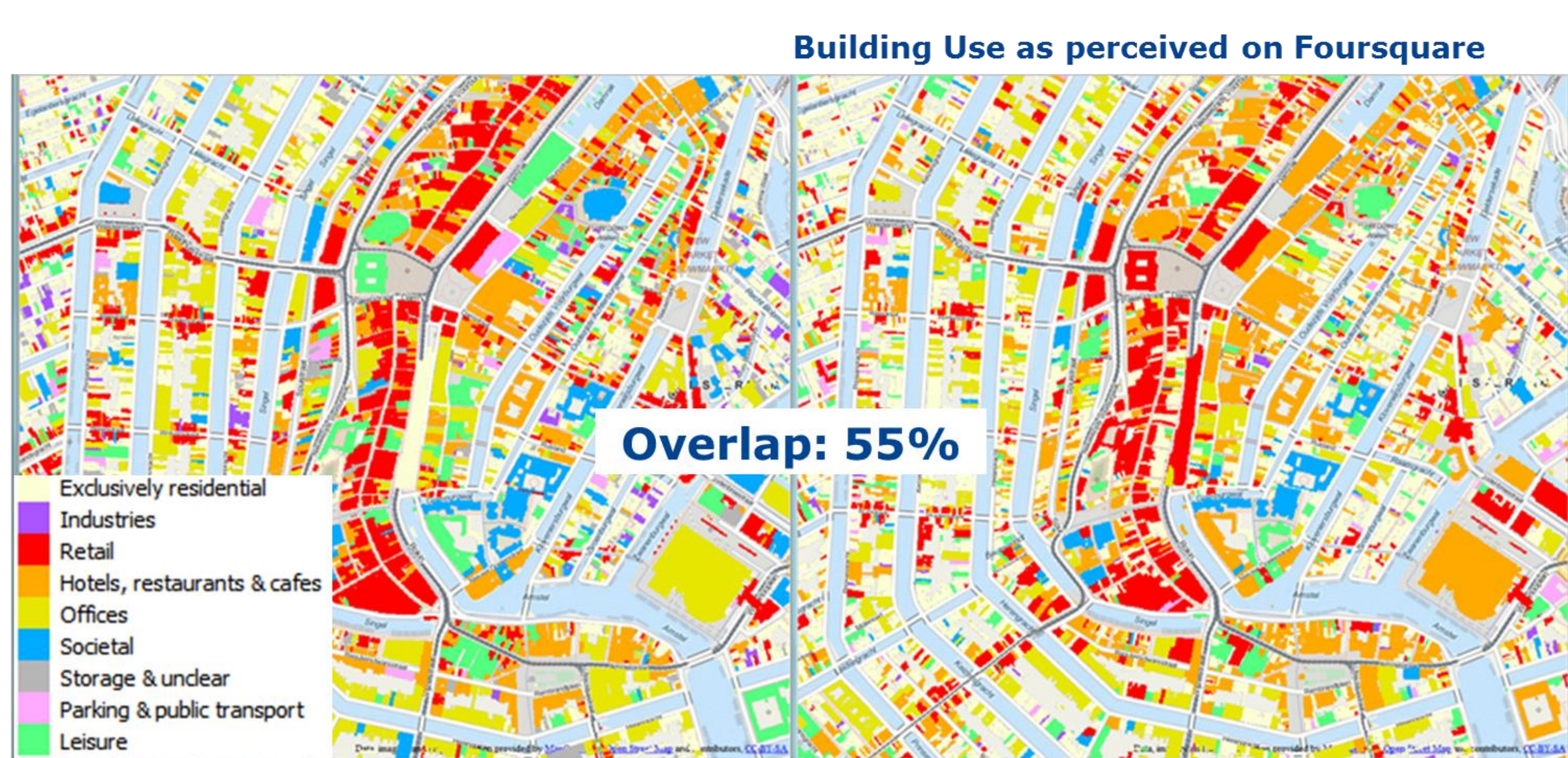
Case Study lead: Spyridon Spyratos

Case Study: Use of NoSQL Databases for Tweet analysis

In order to examine the particular capabilities of the NoSQL database MongoDB, we ran a case study that investigated its potential use for social media analysis – here, especially focusing on weather related data feeds from the microblogging site Twitter, and its analysis with word clouds and heat maps (examples below).
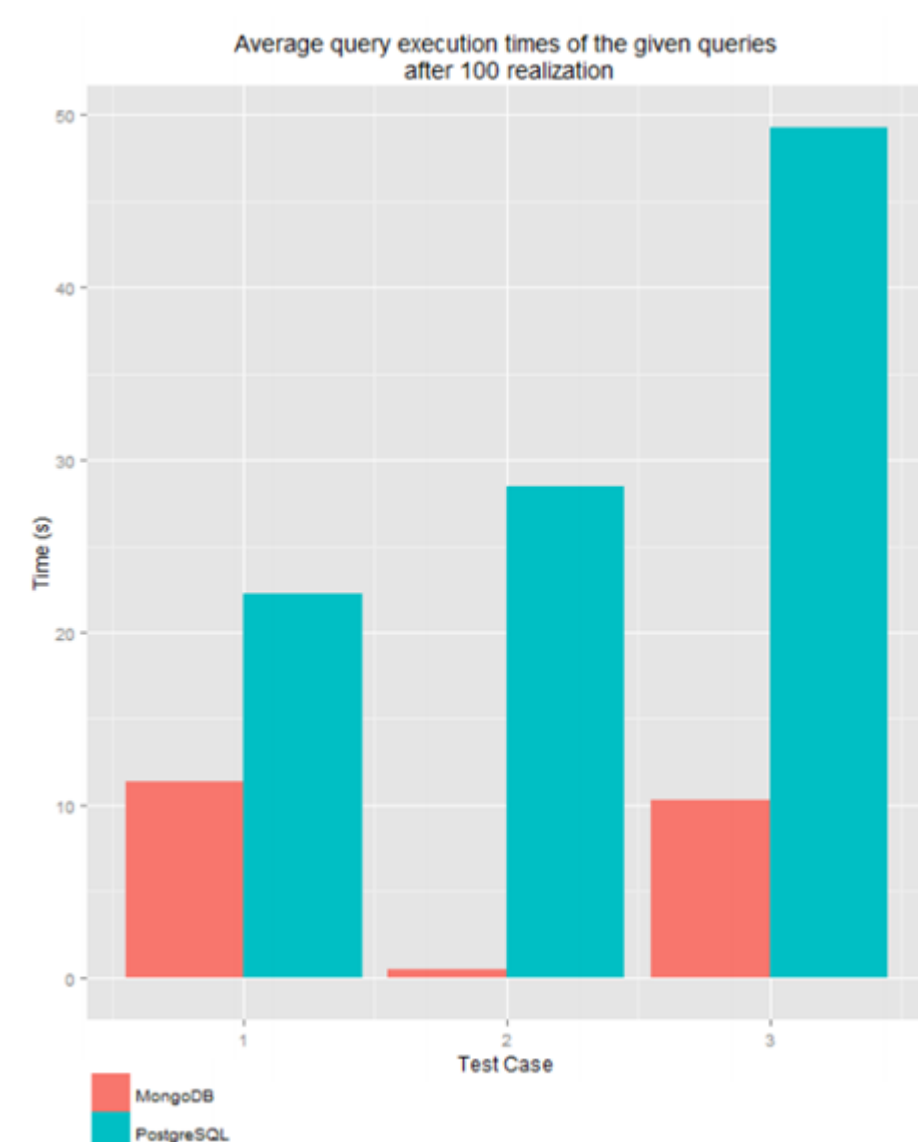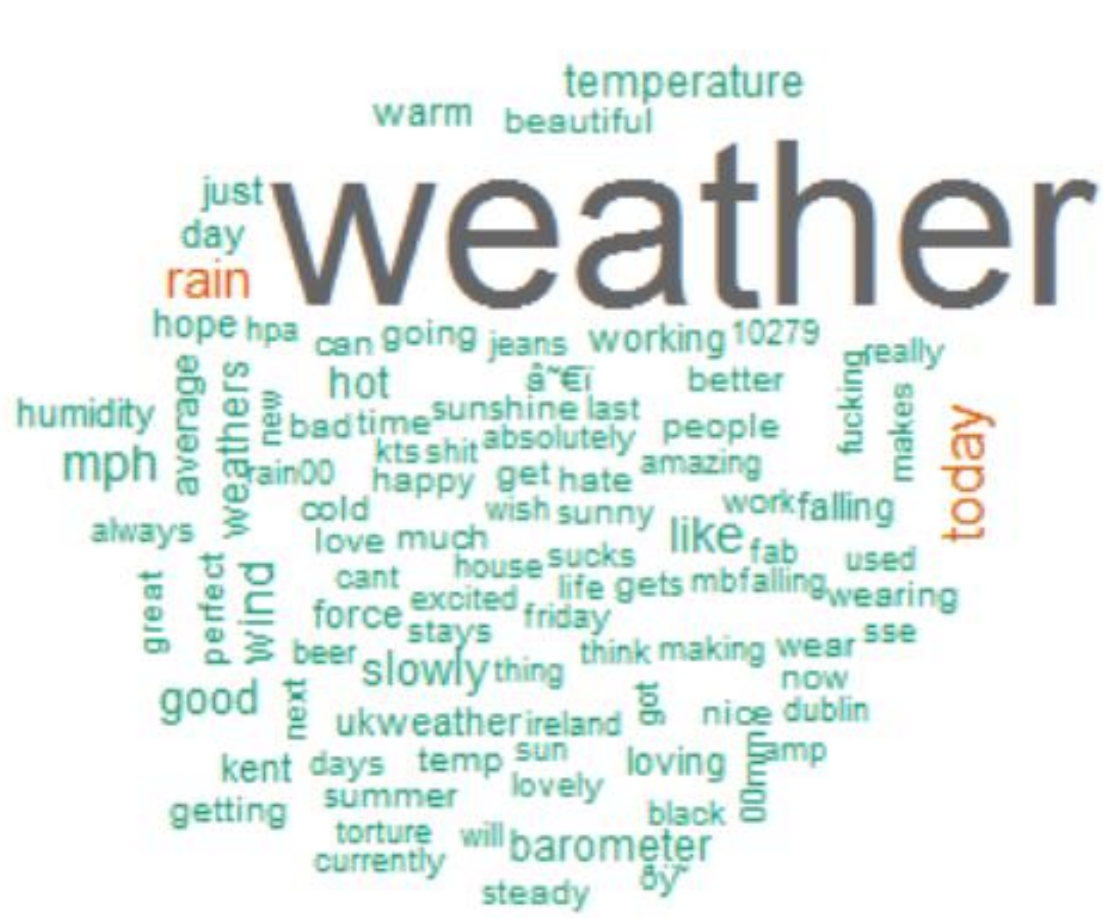
Case Study lead: Levente Juhász

Big Data at the Joint Research Center (JRC)

In summer 2014, JRC Directors' Task Force on Big Data concluded that there is no single solution fitting all Big Data related challenges of the center. We began to investigate a part of the Big Data landscape, with a special focus on case studies of data analytics in the environmental and earth sciences.

This poster presents some of the highlights and illustrates the usage potential of social media platforms.

Case Study: Investigating social behavior via Twitter

We conducted a study on communication patterns in Twitter surrounding the United Nations climate summit in September of 2014 and its preceding social mobilization campaign. This activity was conceived as a didactic example of how to make scientific processes more transparent (and reproducible) and re-used tools of the other experiments. The graphic below follows the hashtags #climatemarch and #climate2014 with a peak of over 7.5 million mentionings on 23 September at 15:00.

Case Study lead: Irene Eleta

Next Steps

We will continue to exploit the use of Big Data for spatio-temporal data analytics, especially in support of the combined use of (i) public sector information, including official statistics, environmental monitoring and products of mapping agencies; (ii) commercial data sources, including mobile phone data or data from social media platforms such as Twitter and BlaBlaCar; and (iii) data collected by citizen, especially volunteered geographic information such as Open Street Map.

https://ec.europa.eu/jrc

Contact   Sven Schade
European Commission • Joint Research Centre
Digital Earth and Reference Data Unit
Email: sven.schade@jrc.ec.europa.eu
Tel. +39 0332 78 5723

Joint Research Centre