Advanced data analytics for creating information for waste management and collection

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Motivation

Large amount of waste monitoring data are extensively collected. In addition, other external data are increasingly opening for free usage.

Applying state-of-the-art data analytics creates useful information to monitor and implement cost-efficient and sustainable operations in waste management.

Research questions

- How to process useful information from extensive site-specific monitoring data
- What are the requirements for processing data, computation and analytics methods
- Possibilities of public sector (open) data e.g. socioeconomic, logistics, building information

Data analytics tasks for waste management and collection

- Classifying waste producers
- Producing comparison information on waste generation, management and impacts
- Identifying exceptional situations in waste generation
- Analysing the efficiency of waste management (e.g. fullness rates)
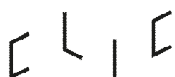- Predicting waste generation for the basis of the operation and planning

Case study

HSY, data from mixed waste collection
- Data includes overall 187 700 pickup events
- Combined with socioeconomic grid data from the HSY region
- Possibilities of data analytics investigated
- Spatial analytics proposed for modelling and analyzing waste generation
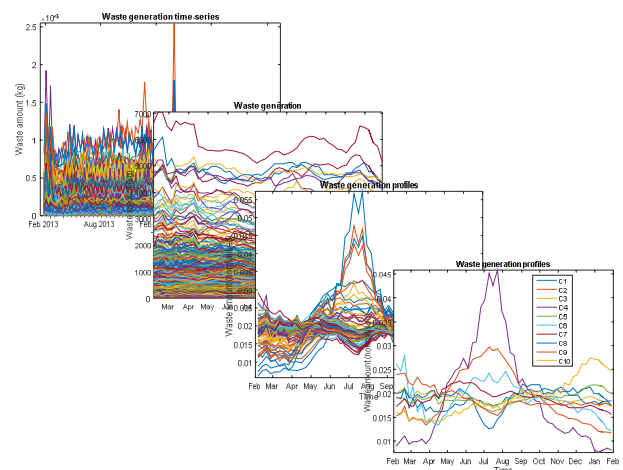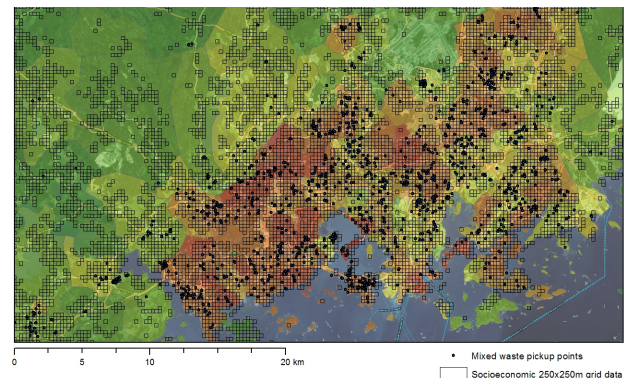
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