Geographic Data Science

The (Geo-)Data Revolution

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The (geo-)data revolution

The (geo-)data revolution

Exciting times to be a:

- Geographer
- Map fan
- Data fan

The world is being **“datafied”**…

“Datafication”

Quantification of phenomena through the systematic recording of data, “taking all aspects of life and turning them into data”

(Cukier & Mayer-Schoenberg)

Examples: credit transactions, public transit, tweets, facebook likes, spotify songs, etc.

“Datafication”

Many **implications**:

- **Window** into human **behaviour** (this course)
- Opportunities for optimization of systems (Industrial IoT, planning systems…)
- Issues with **intentionality** and **privacy**
- …

Why now?

Advances in:

- Computing power and storage
- Connectivity
- Geospatial technology

The (geo-)data revolution

The confluence of the three (computing, communication and geospatial) is creating large amounts of data.

Now, **data in itself is not very valuable**:

- Data –> Information –> Knowledge –> Action

Data Science

Methods, tools and techniques to turn data into actionable knowledge

Data Science

Statistics + …

- **Computational tools** –> Programming (hence this course's **tutorials**!)
- **Comunication skills** –> "Story telling" (hence this course's **assignments**)
- **Domain expertise** –> Theories about why the data are the way they are (hence the rest of your **degree**)

Some examples…

Geo-Data Science

Geo-Data Science

- A (very) large portion of all these new data are inherently **geographic** or can be traced back to some location over space.
- Spatial is special.
- Some of the methods require an explicitly spatial treatment –> (Geo-)Data Science

Some examples…