Data Models and Query Languages for Linked Geospatial Data

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TELEIOS

Tutorial Organization

14:30 – 14:45 Introduction

14:45 – 15:15 Background in geospatial data modeling

15:15 – 16:00 Geospatial data in RDF - stSPARQL

16:00 – 16:30 Coffee break

16:30 – 16:45 Geospatial data in RDF - GeoSPARQL

16:45 – 17:00 Implemented RDF Stores with geospatial support

17:00 – 17:50 Geospatial information with description logics, OWL and rules

17:50 – 18:00 Conclusions, questions, discussion

Introduction

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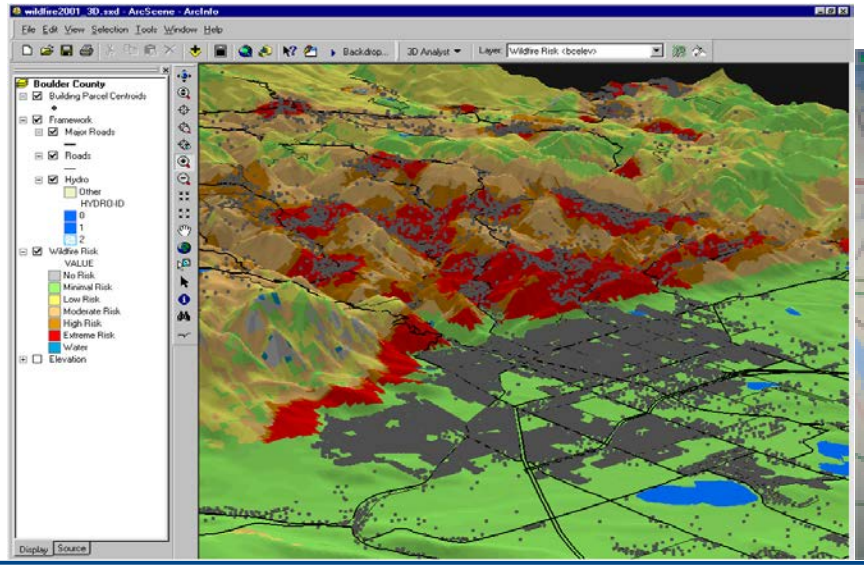
Outline

- Why should you be interested in geospatial information?
- Why should you attend this tutorial?

Why Geospatial Information?

- **Geospatial,** and in general **geographical,** information is very important in reality: everything that happens, happens somewhere (**location**).

- **Decision making can be substantially improved** if we know where things take place.



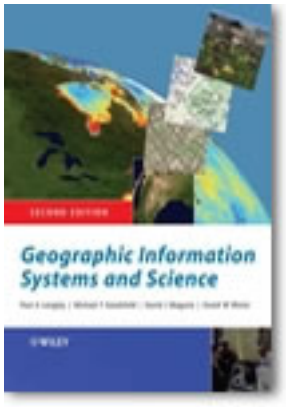
Geography

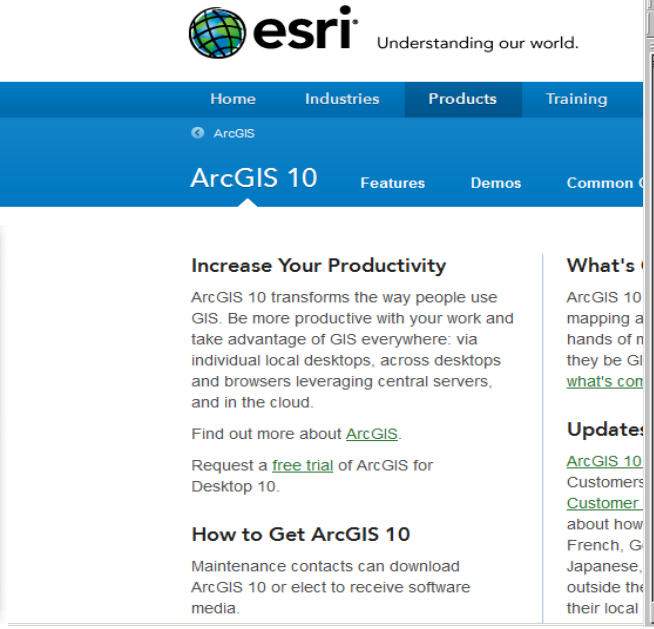
- From http://en.wikipedia.org/wiki/Geography
  - **Geography** is the science that studies the lands, the features, the inhabitants and the phenomena of the Earth.
  - From the Greek word **γεωγραφία (geographia)** which means “describing the Earth”.

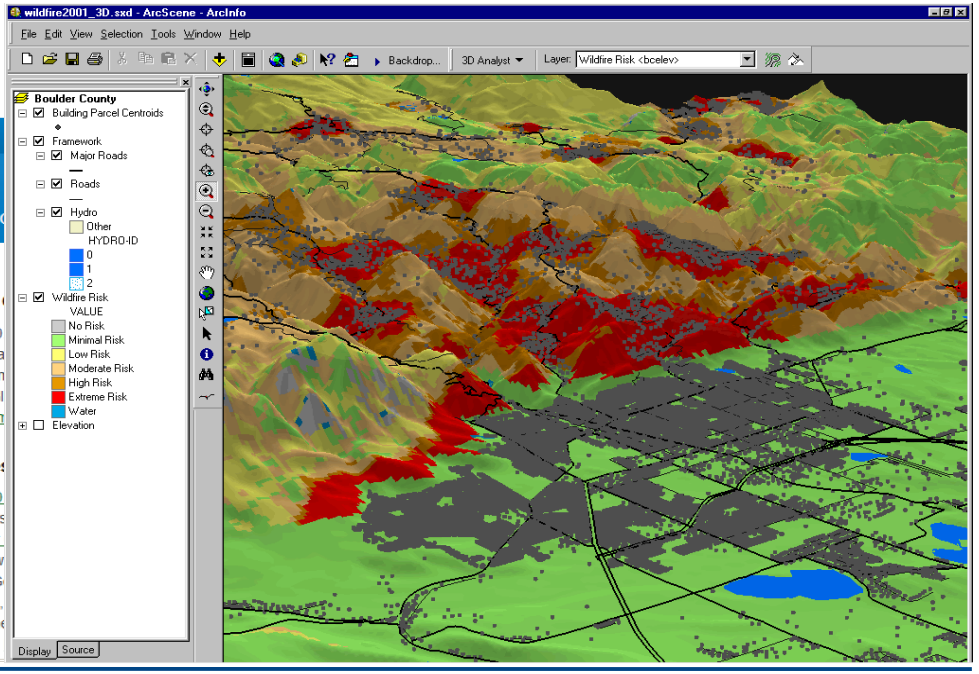
Geographical Information Systems and Science

- A **geographical information system (GIS)** is a system designed to capture, store, manipulate, analyze, manage, and present all types of geographical data.

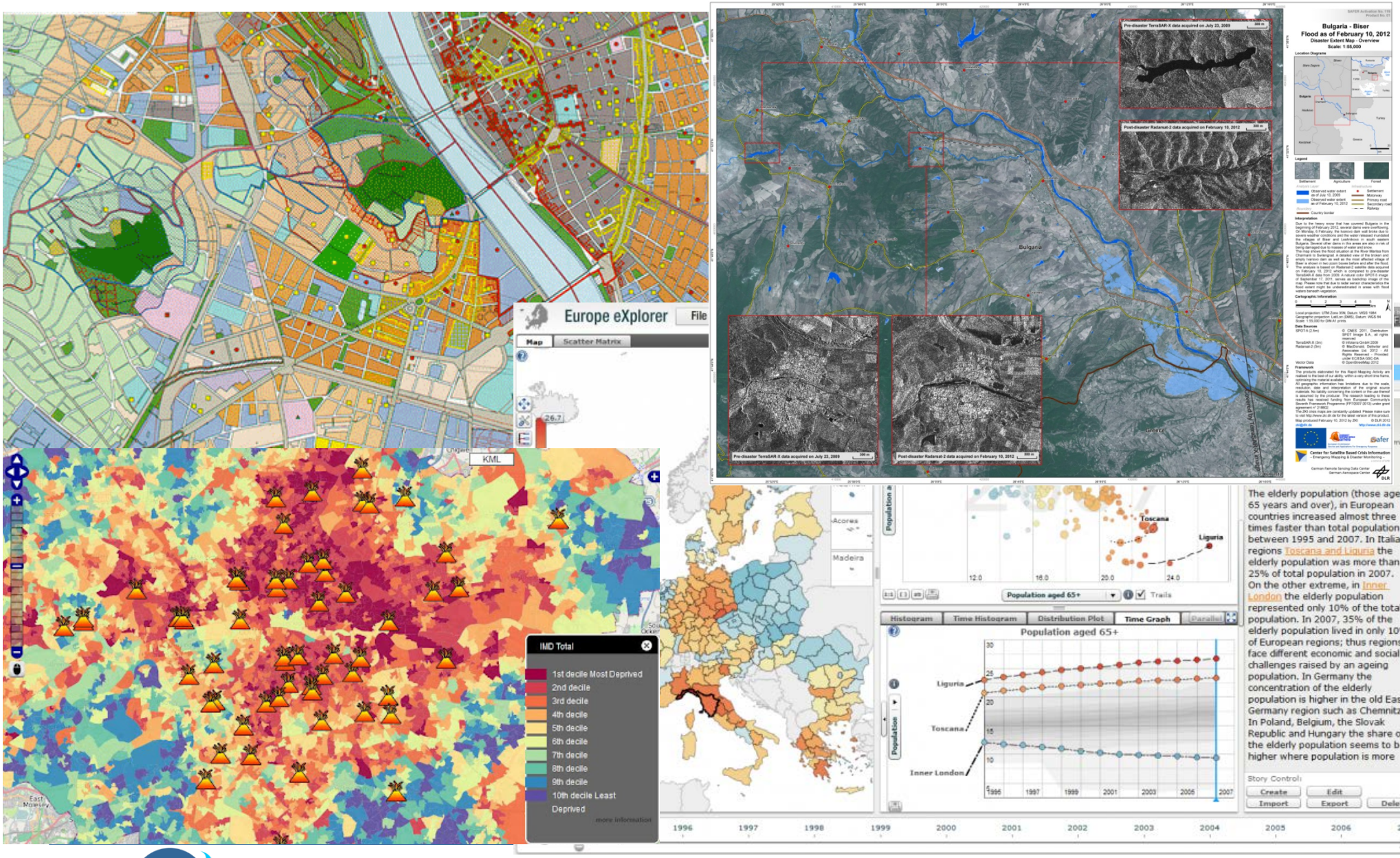
- **GIS science** is the field of study for developing and using GIS.







Combining GIS Data for Decision Making

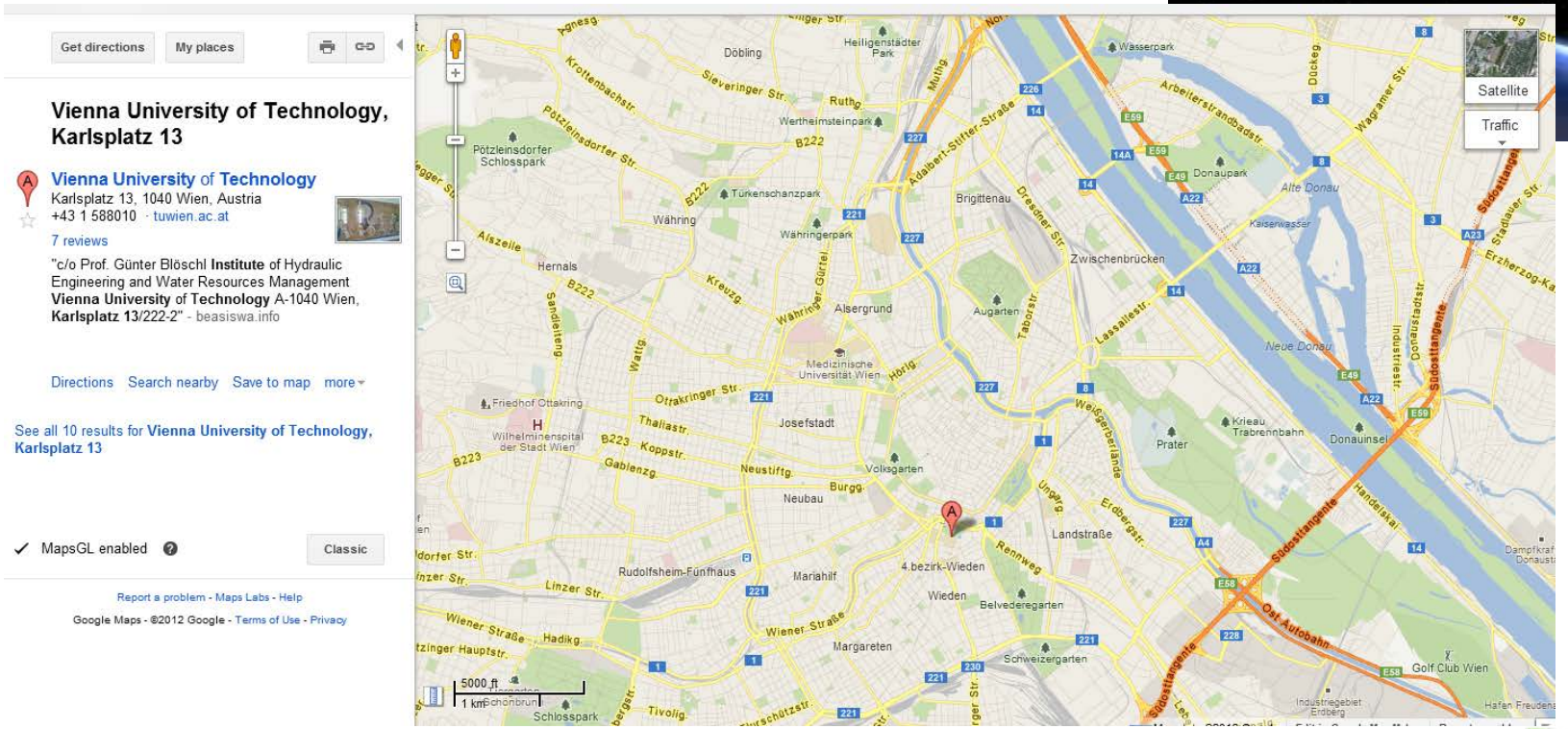


Why this tutorial?

- Lots of **geospatial data is available on the Web** today.
- Lots of **public data** coming out of open government initiatives is **geospatial**.
- Lots of the above data is quickly being **transformed into linked data!**
- People have started building **applications** utilizing linked data.

Geospatial data on the Web

Google Maps



Google earth

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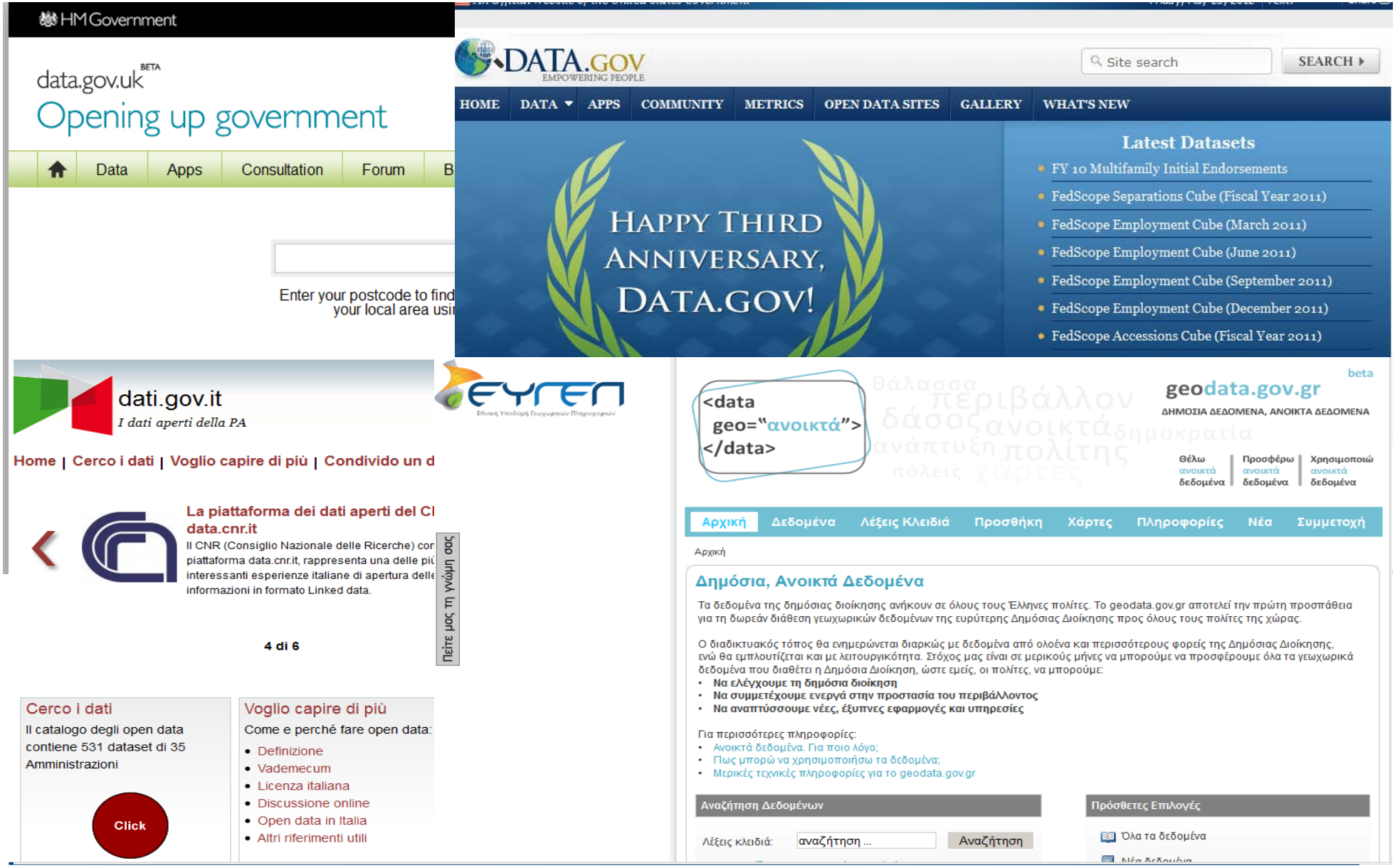
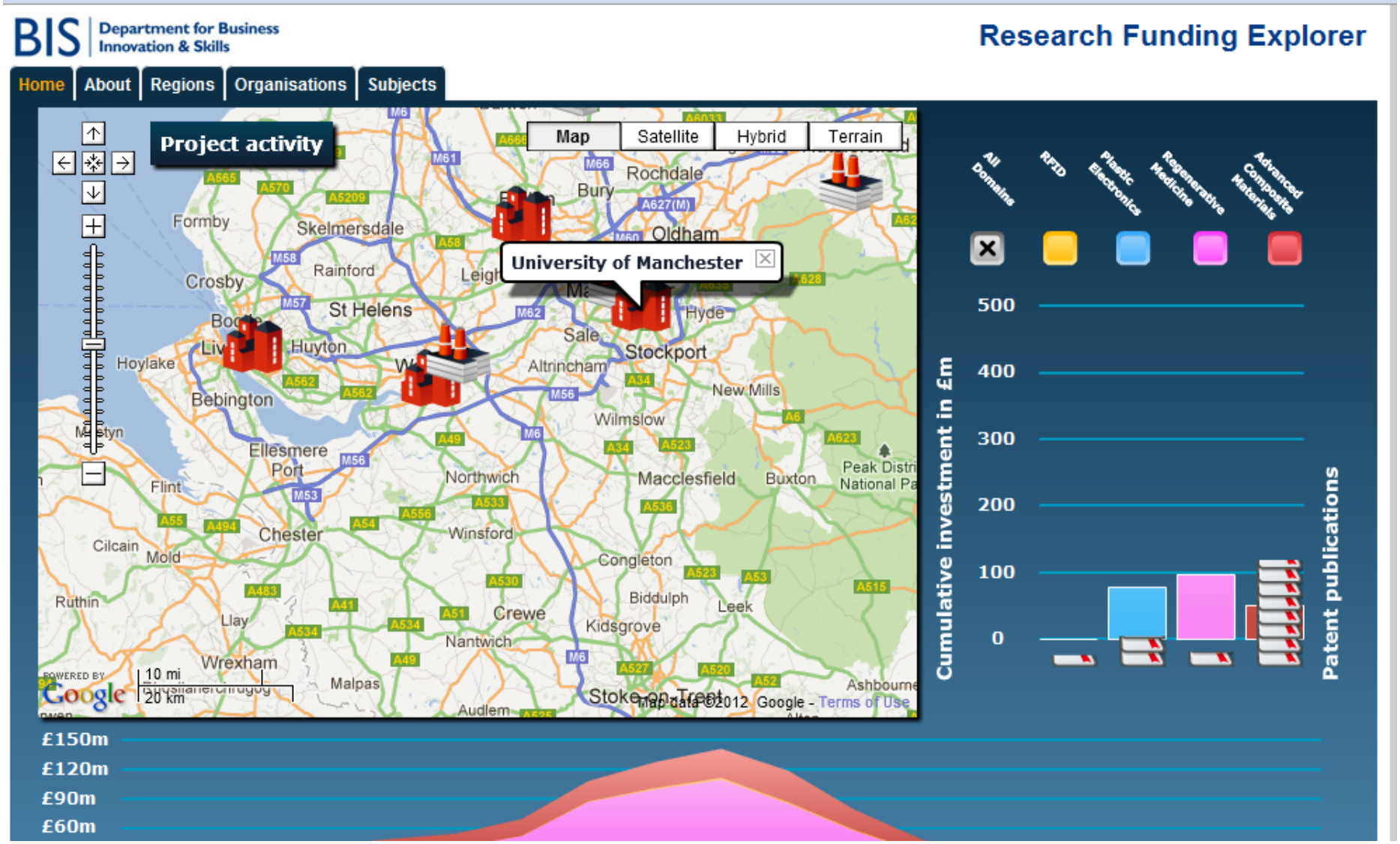
Open Government Data



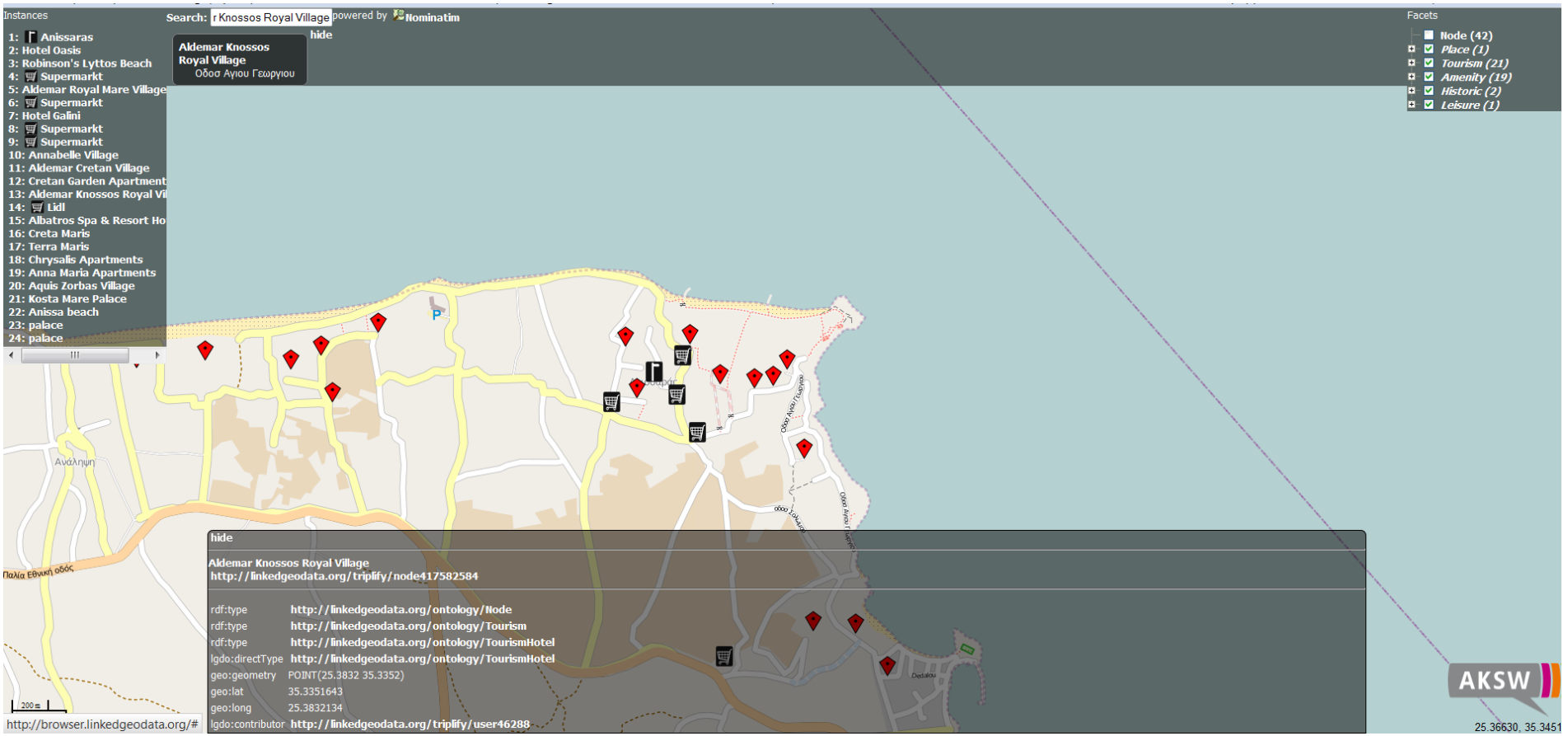
Linked geospatial data – Ordnance Survey

Linked geospatial data – Research Funding Explorer



Linked geospatial data – Spain

Linked geospatial data – Open Street Map



Conclusions

- **Introduction**
  - Why should you be interested in geospatial information?
  - Why should you attend this tutorial?

- **Next topic:** Background in geospatial data modeling