



Unleashing the potential of Geospatial Open Data

A summary of ongoing research presented by Matthias Hinz

Project overview



Project partners:



Objectives:

- Foster the use of Geospatial Open Data in higher education and science
- E-Learning platform with MOOC (primarily in German)
- Best practices specific to the German-speaking community (D-A-CH-LI)
- Teaching, workshops, competitions, corporation ...

Funding period:

May 2017 – April 2020, follow-up activities anticipated

Funded by:



Consortium and contributions



noise mapping
e-mobility



Leibniz Institute of
Ecological Urban and
Regional Development

land use, building stock
traffic infrastructure



Geovisualization of
Copernicus satellite data



Biomass potential



YOUR contribution?

Promoting data literacy and teaching of Geospatial Open Data with Open Educational Resources

The Open Online Course

Open for all (without prior registration):



eLectureScript



eExerciseScript



eLectureTeaser



eExerciseTeaser



eLectureVideo



eExerciseVideo



eThemeVideo



eAdditionalMaterial, ...

Controlled exercise - and exam environment:



eLectureTest



eExercise



eNotePad



eTutorialDummies

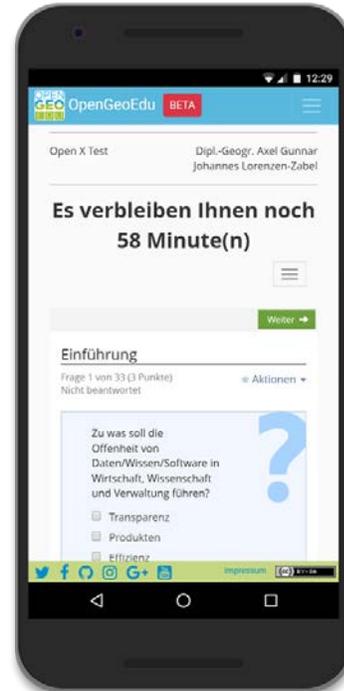
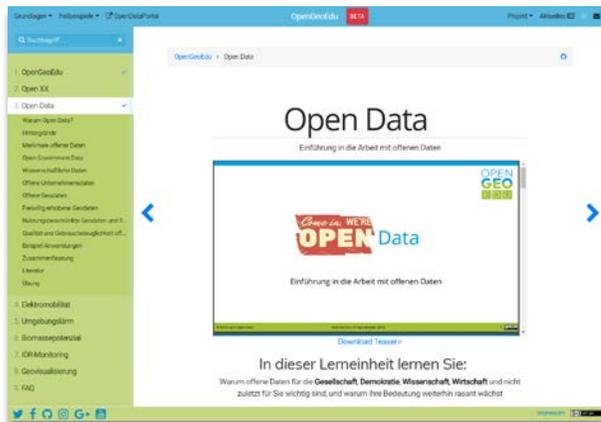


Open Source elearning
software

Multimedial and individual learning

 eLectureScript

 eExerciseScript



eLectureVideo



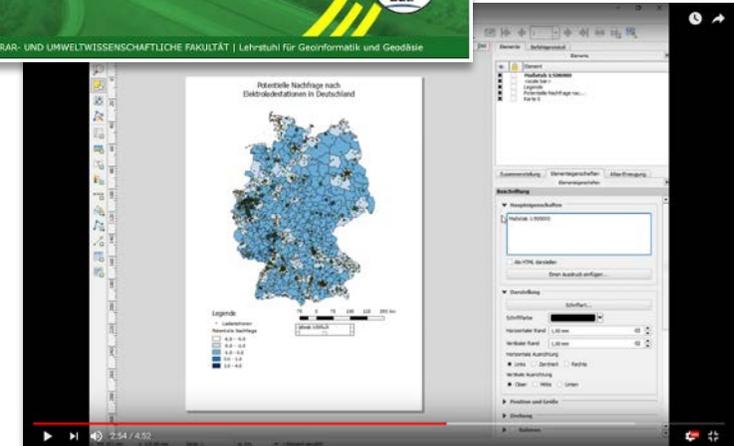
eThemeVideo, ...



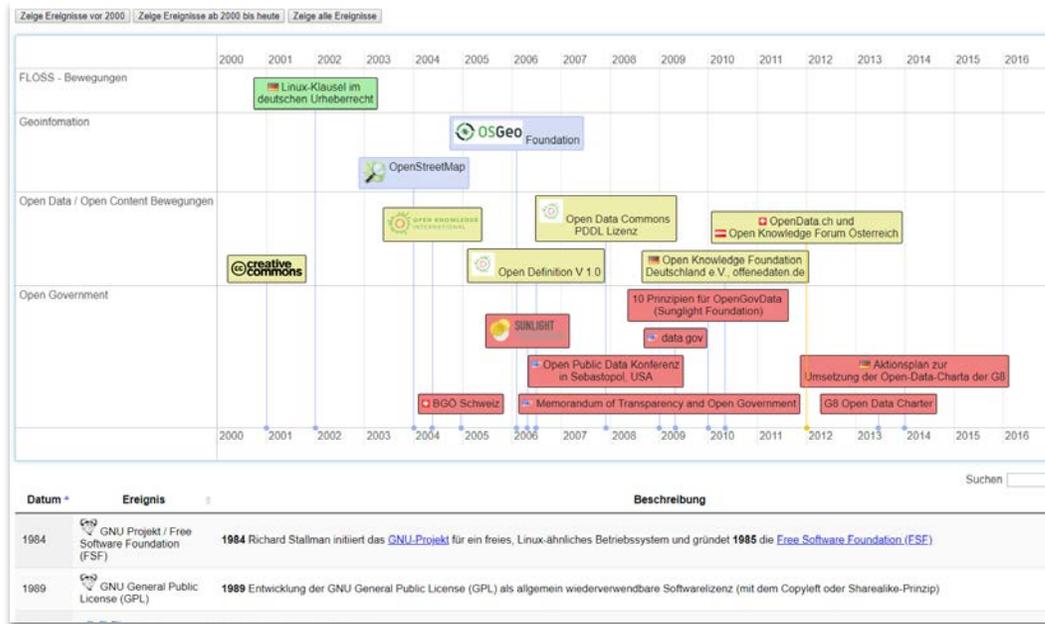
eLectureTest



eExercise

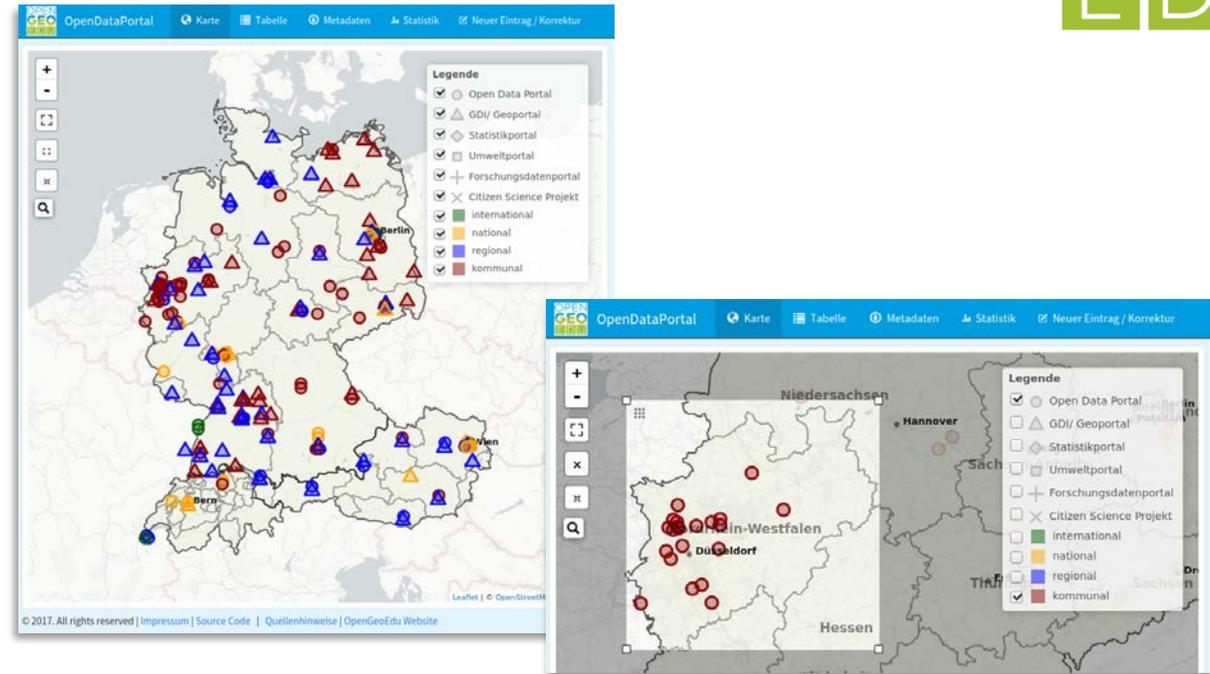


Interactive Applications and Widgets



Open Data Timeline

<https://www.opengeoedu.de/timeline>



Portal of Open Data Portals

@AGILE short paper presentation

Wednesday 14:00, block „Spatial data infrastructure“

<https://portal.opengeoedu.de>

Sharing expert knowledge:

Best practices of Open Data handling
(2 selected examples)



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Case Study: IÖR-Monitoring

- Landuse, Building stock & Transport
Infrastructure



OPEN
GEO
EDU



Objective

Quantitative assessment – e.g. for a future oriented land use (Flächennutzung) and settlement development, ...

Key Question

How to provide small-scale information with the offers of open and spatial data?

Potential topics should be related to:

- Land use monitoring
- Settlement development and urban climate
- Practical planning cases

E-learning contents (Work in Progress)

Tutorial & Exercises

- Indicators of transport infrastructure
- Spatial pattern of public transport (ÖPNV) facilities
- Urban settlement structure (e.g. student residential facilities)

- Urban greenspace (quantify, access)
- Downscaling population density
- Energy-space interaction
- Land use quality of bike paths

eThemeVideo

- IÖR-Monitoring expert interview
 >> 3-4 short questions: Video (2-3m)

Example questions (to the expert)

- What are the major focus in your research questions?
- How can your research get benefits from Open Data? ...

- What biogenic resources are available in a defined region?
Concentration on residues, by-products and wastes
- How are the biomasses currently used?
- Where are the resources located?
- What contribution can biomass make to energy transition (or bioeconomy)?



picture credits (from left to right.):
Thorben Wengert/pixelio.de, Roman Ibeschitz/pixelio.de , nonameman/Fotolia.com, Paulwip /pixelio.de, Britt Schumacher/DBFZ

Biomass potentials: Area-related calculation

- development of methods
- using open data
- system context & interpretation

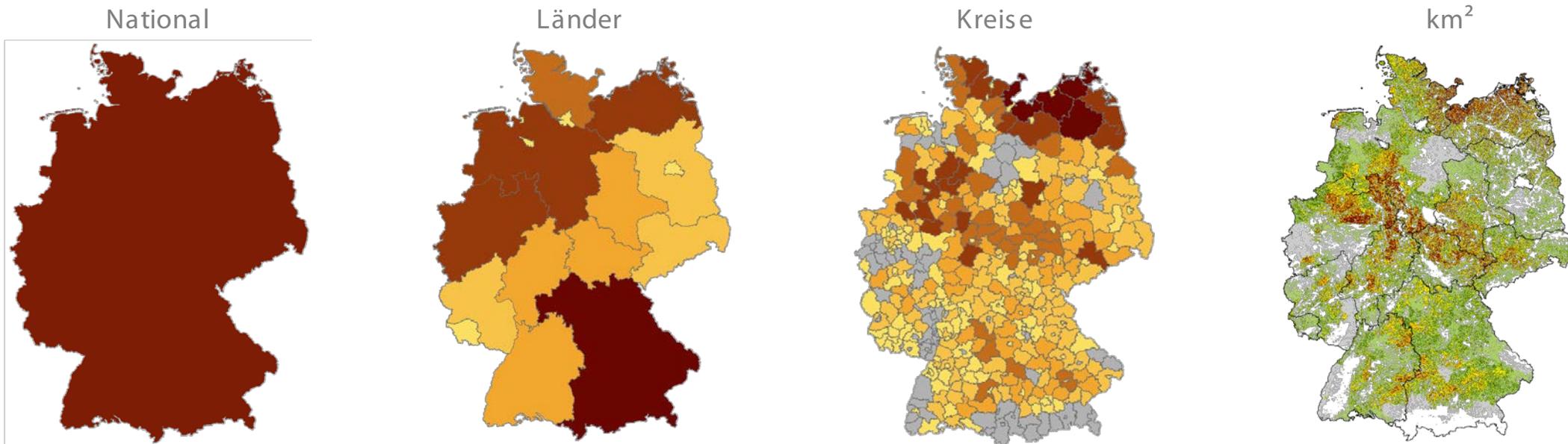
e-learning lessons



Biomass potentials: Area-related calculation

Biogenic resources: uneven spatial distribution

Exampel straw potential: different spatial levels =
different levels for e-learning lessons



Data source: Bioenergy-Atlas (DBFZ 2018), Boundaries: © GeoBasis-DE/BKG 2017

Brosowski, A. (2014)

Conclusions and outlook



- **OpenGeoEdu** promotes the use of Open Data in geo-, earth-, and environmental sciences and technology
- Provides free knowledge and access to data
- Focused on (but not limited to) the German-speaking community of Europe (D-A-CH-LI) and its specifics

July 5th, 2018 (save the date!)

OpenGeoEduworkshop @AGIT symposium in Salzburg, Austria

Thank you very much for your attention!

More information is available on
<https://www.opengeoedu.de>



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OpenGeoEdu

A joint project funded by the Modernity Fund
of the Federal Ministry of Transport and Digital Infrastructure of Germany



Federal Ministry
of Transport and
Digital Infrastructure

Appendix

Web-Links and Resources



OpenGeoEduWebsite: <http://www.opengeoedu.de/>

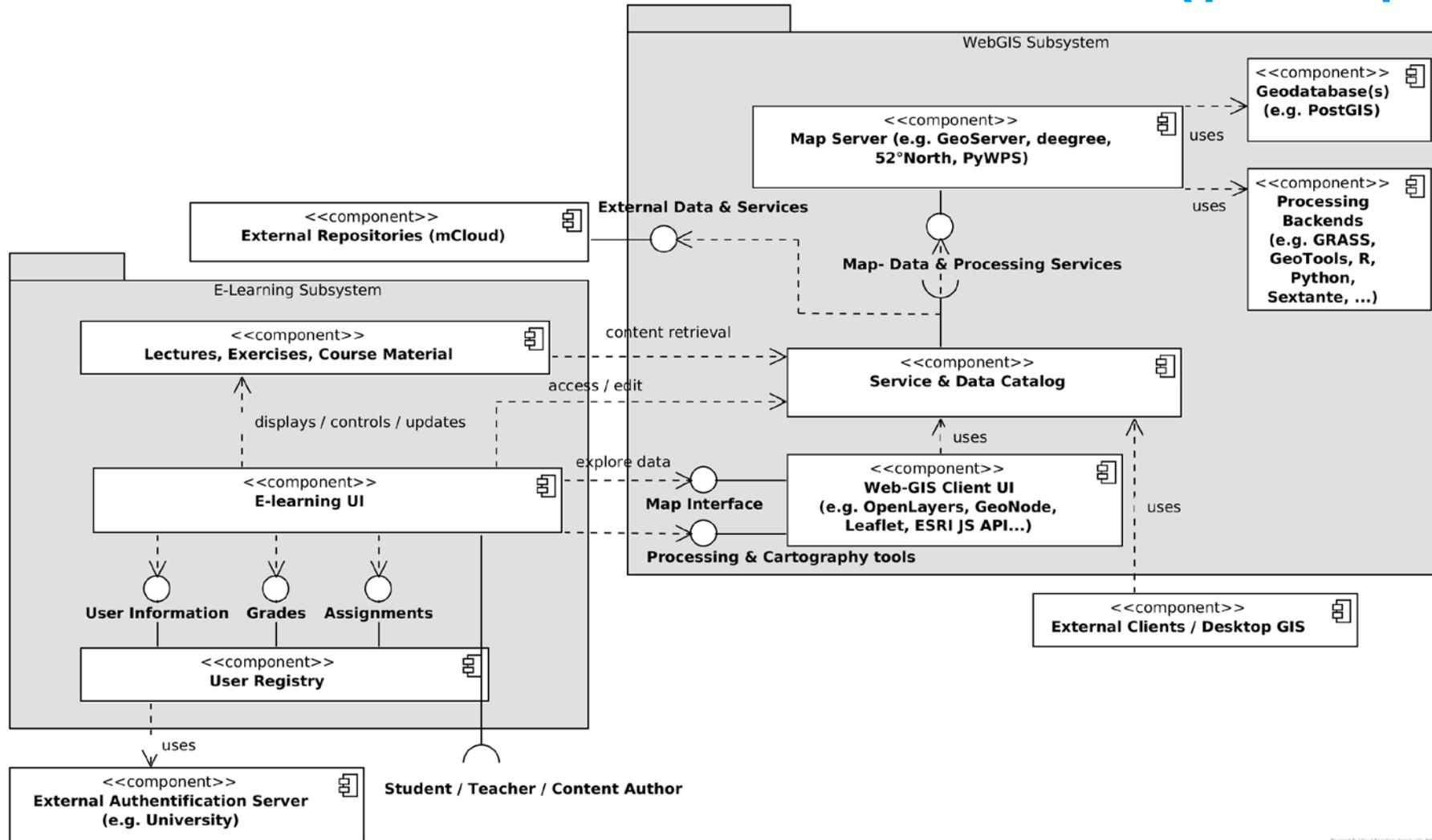
Portal of Open Data portals: <https://portal.opengeoedu.de/>

Social Media

- YouTube: <https://www.youtube.com/channel/UChFyYD9h3ynC1rX-s3tyNdw>
- Facebook: <https://www.facebook.com/OpenGeoEdu/>
- Instagram: <https://www.instagram.com/opengeoedu/>
- Twitter: <https://twitter.com/OpenGeoEdu>
- Google+:
<https://plus.google.com/b/104005783617945697564/104005783617945697564>

GitHub: <https://github.com/opengeoedu>

Learning platform architecture (prospective)



Powered by Virtual Pedagogy Community Edition