18. Workshop

Arbeitskreis Umweltinformationssysteme

26./27.05.2011 in Elsfleth

- Vorstellung Jade Universität -

Zahlen, Daten, Fakten

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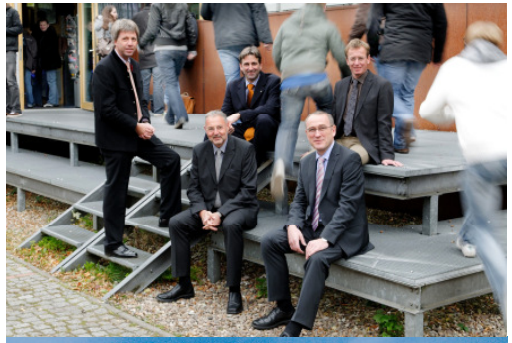
Wilhelmshaven Oldenburg Elsfleth



2009	Gründungsjahr (1. 9. 2009)
3	Studienorte
6	Fachbereiche
6350	Studierende
38	Studienangebote
502	Personal, davon:
	183 Professorinnen und Professoren
90	Internationale Partneruniversitäten

6 Fachbereiche

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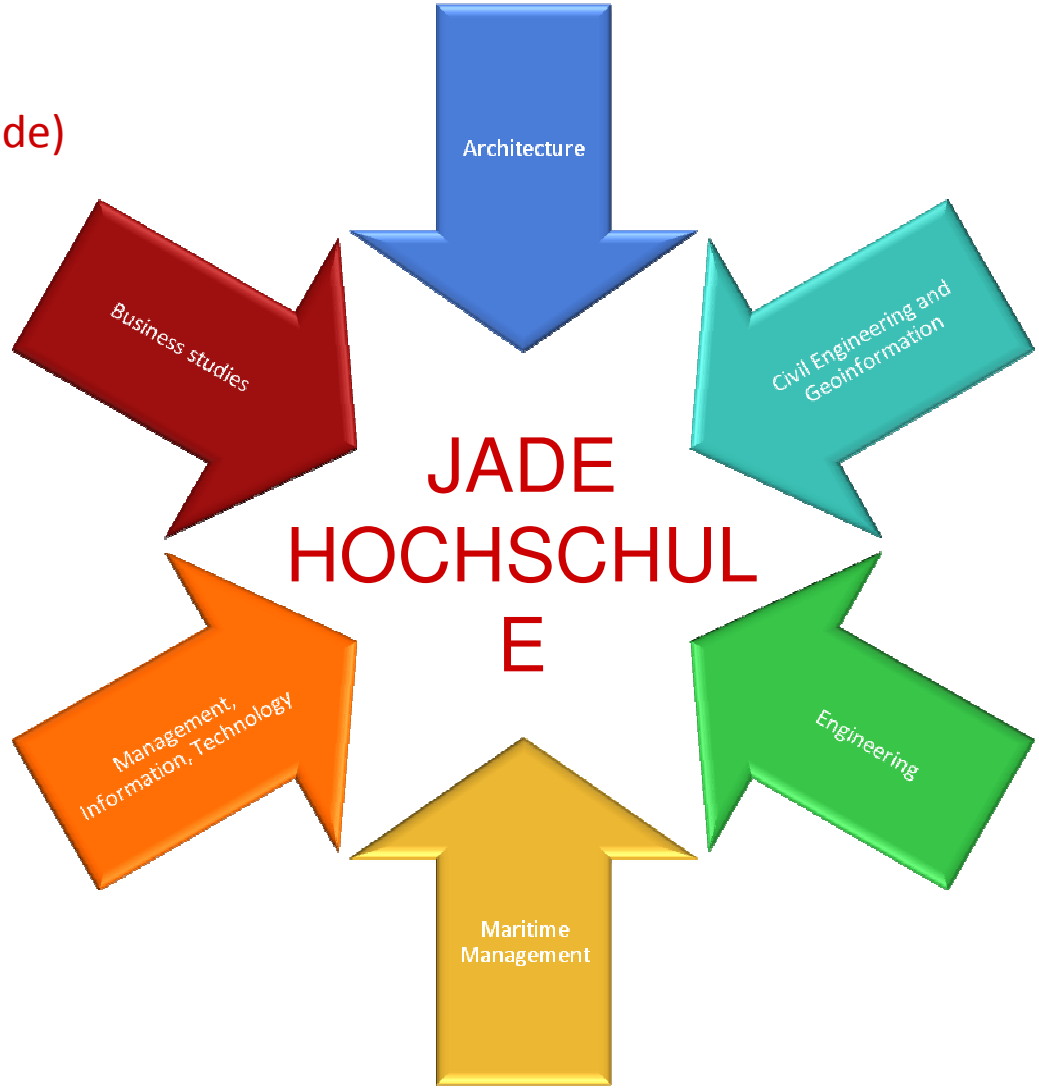
Wilhelmshaven Oldenburg Elsfleth

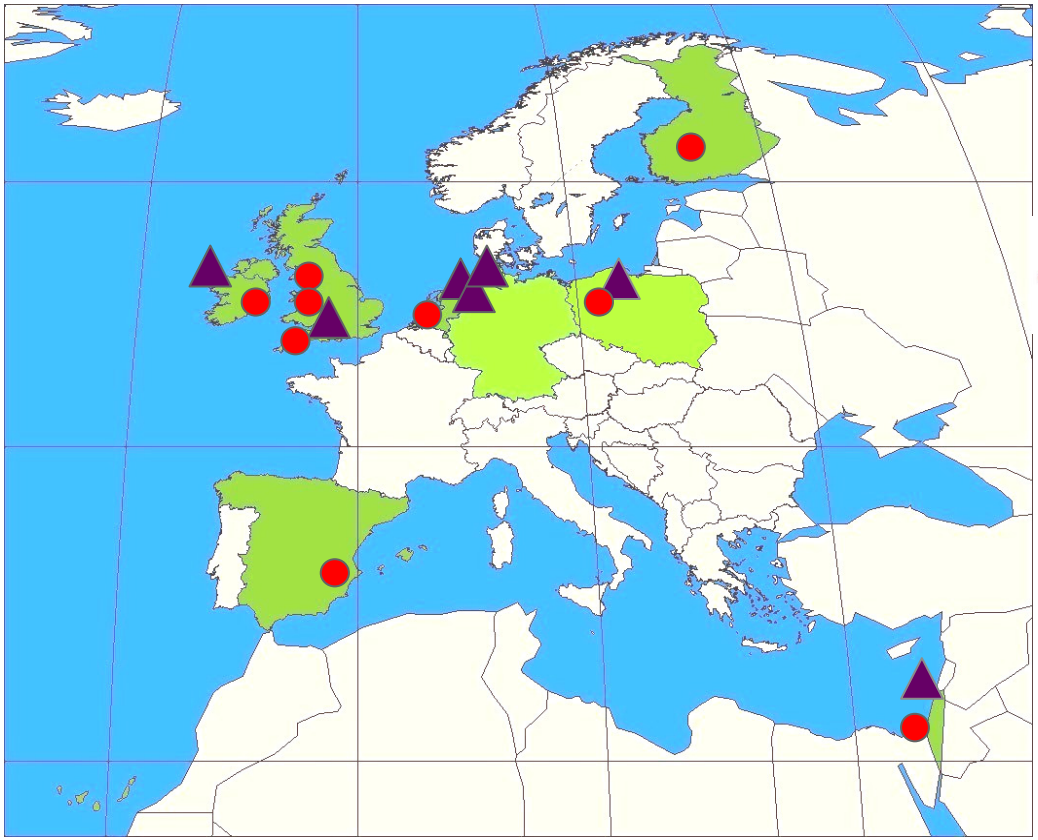
Oldenburg
(1850 Studierende)

Wilhelmshaven
(3850)

Elsfleth
(650)



Internationale Projekte



● Partner Universitäten

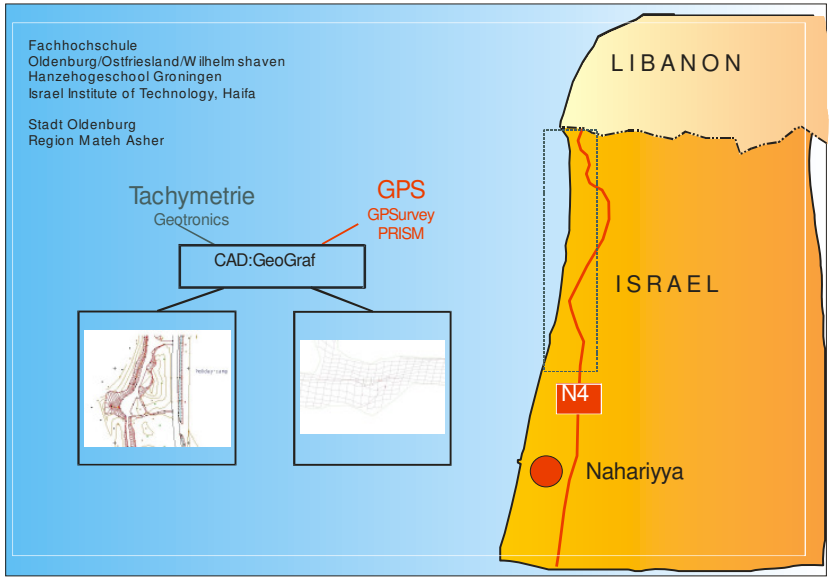
▲ Intensivprojekte

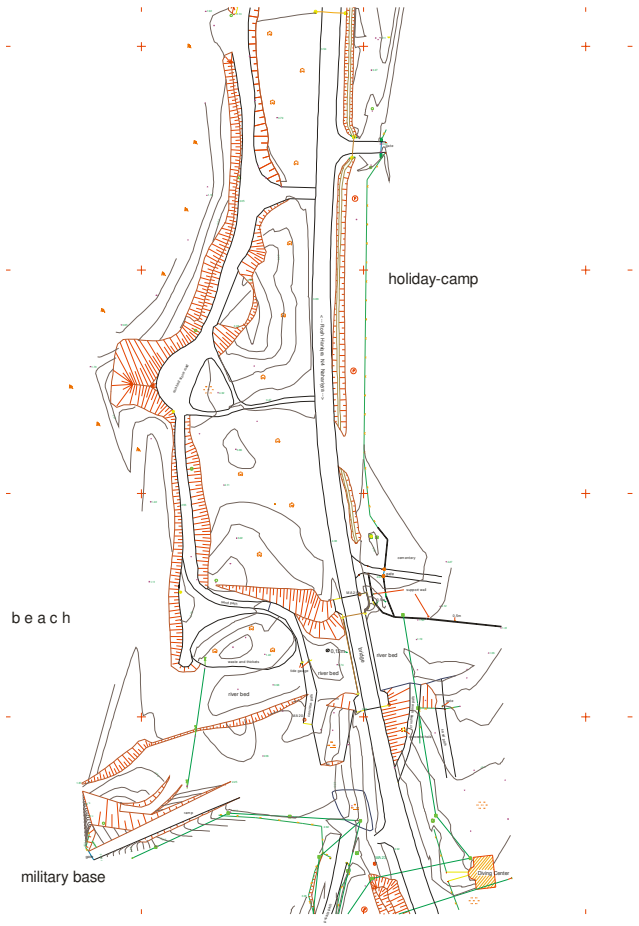
Israel Institute of Technology

Kooperationsprojekt mit dem Technion / Haifa in Nahariya / Israel

Cooperation

- Research and Development
- Student Mobility
- Teacher Mobility
- Intensive Projects
- ....





Vermessungsgebiet

Aufbau der Basisstation

Tachymetergruppe

RTK-Messungen

Field-Office

Hanzehogeschool Groningen
University of Applied Sciences

Kenniscentrum
Gebiedsontwikkeling NoorderRuimte

Climate (Ex)Change

Klimaatbewuste kustverdediging en natuurontwikkeling Eems-Dollard estuarium.

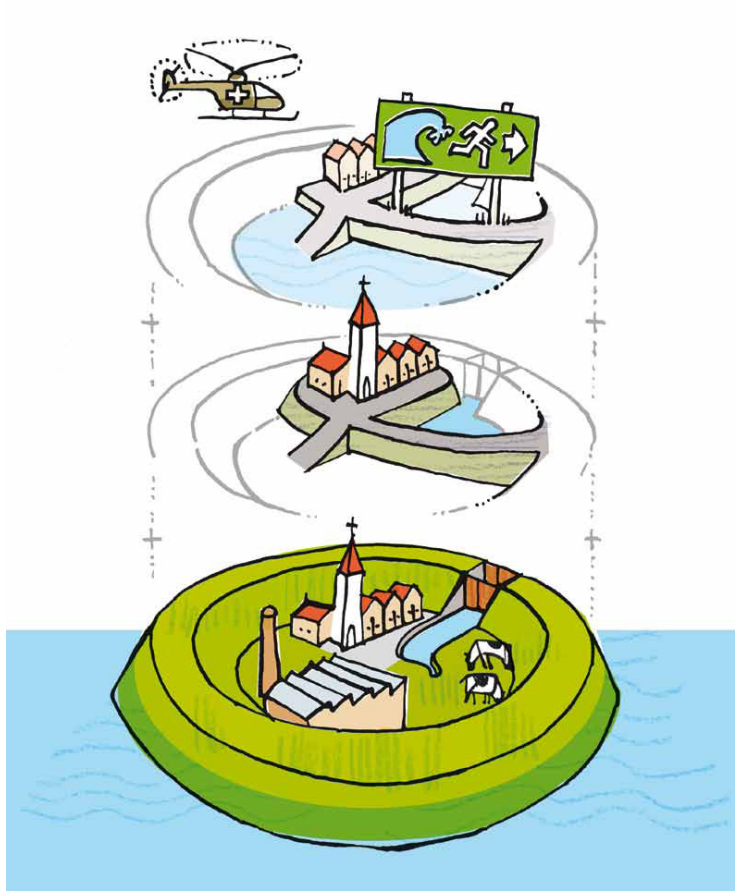
Climate(Ex)Change

Hanzehogeschool Groningen
University of Applied Sciences

Kenniscentrum
Gebiedsontwikkeling NoorderRuimte

De onderzoeksvraag die in dit project centraal staat is:

Met welke technisch-ruimtelijke concepten, ingrepen, materialen en dimensionering kunnen wij in een zeer waardevol internationaal wetland area de waterveiligheid garanderen en ook bijdragen aan doelen en ambities voor natuurontwikkeling en recreatie.



Climate(Ex)Change

Hanzehogeschool Groningen
University of Applied Sciences

Kenniscentrum
Gebiedsontwikkeling NoorderRuimte

Project activities

- start up meeting for all parties involved
- research projects by students, tutored by lecturers and professionals
- project meetings to present the results to all people involved
- setup learning workplace as a meeting point for all people involved
- field trips with professionals, lecturers and students
- publications of results
- a closing conference

Interreg NSR Projects

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NORTH SEA

SUSTAINABLE

ENERGY

PLANNING

ECLIC

European Collaborative Innovation Centres for broadband media services

The Interreg IVB North Sea Region Programme

SmartCities

EUROPEAN UNION
European Regional
Development Fund

The initial idea …

The idea of a transnational toolbox

for sustainable energy planning!

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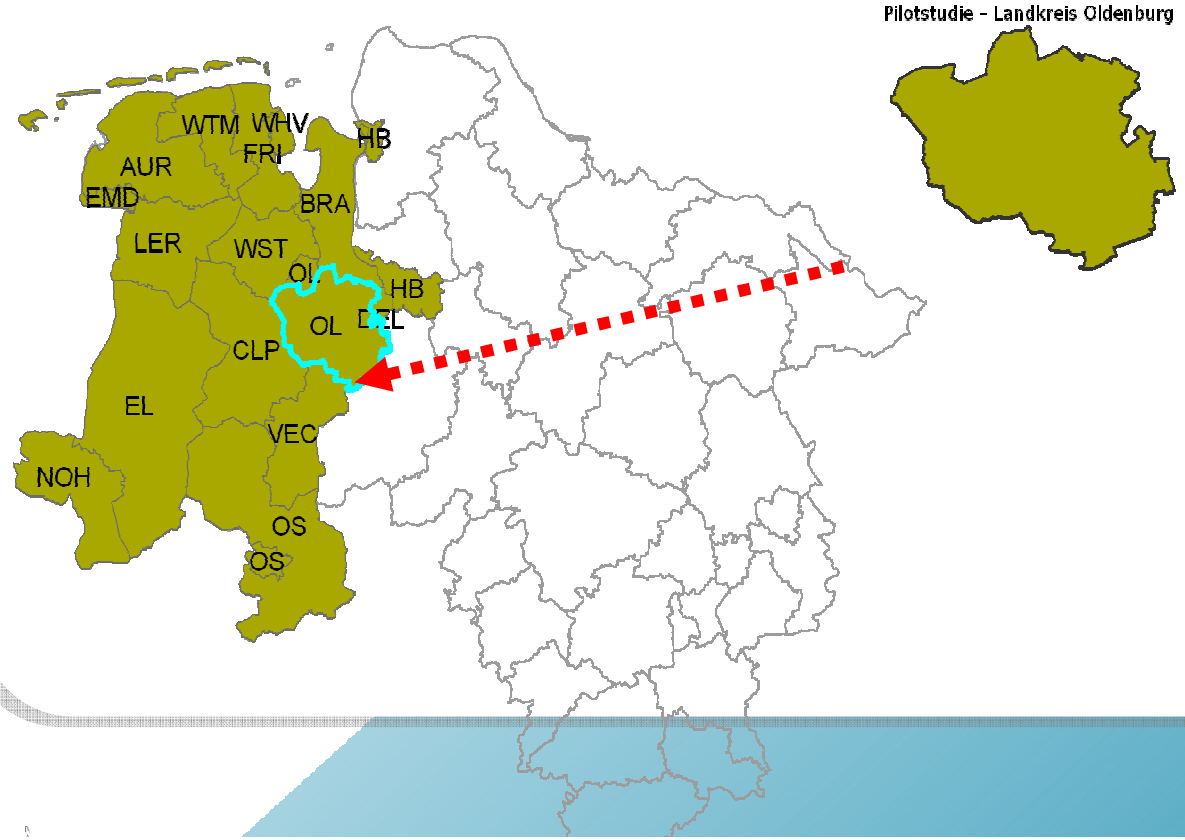
Wilhelmshaven Oldenburg Elsfleth

atene KOM

GIS Instruments

Sustainable energy planning is to be supported by GIS-Tools which integrate relevant data and technical and economic models into decision making processes.



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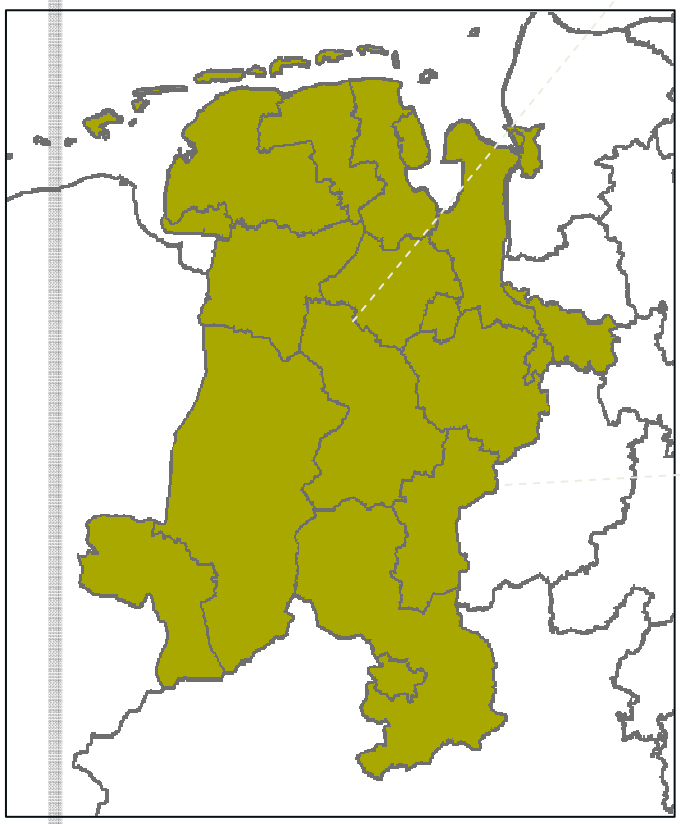
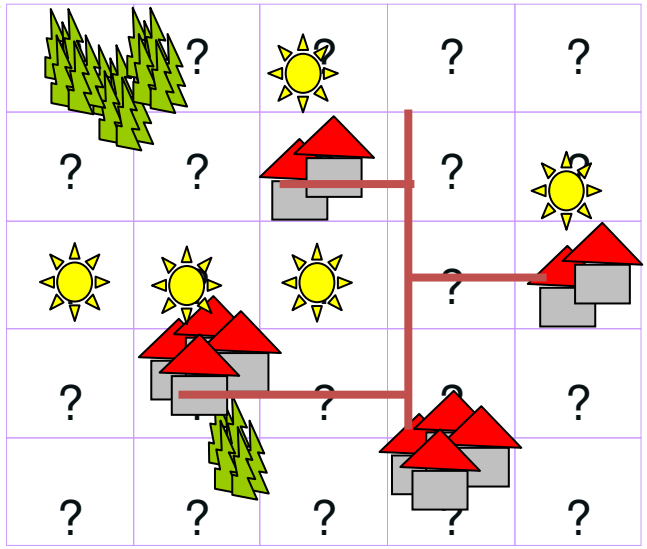
GIS Instruments





For each raster cell the individual demand as well as the ressources of renewables are displayed.

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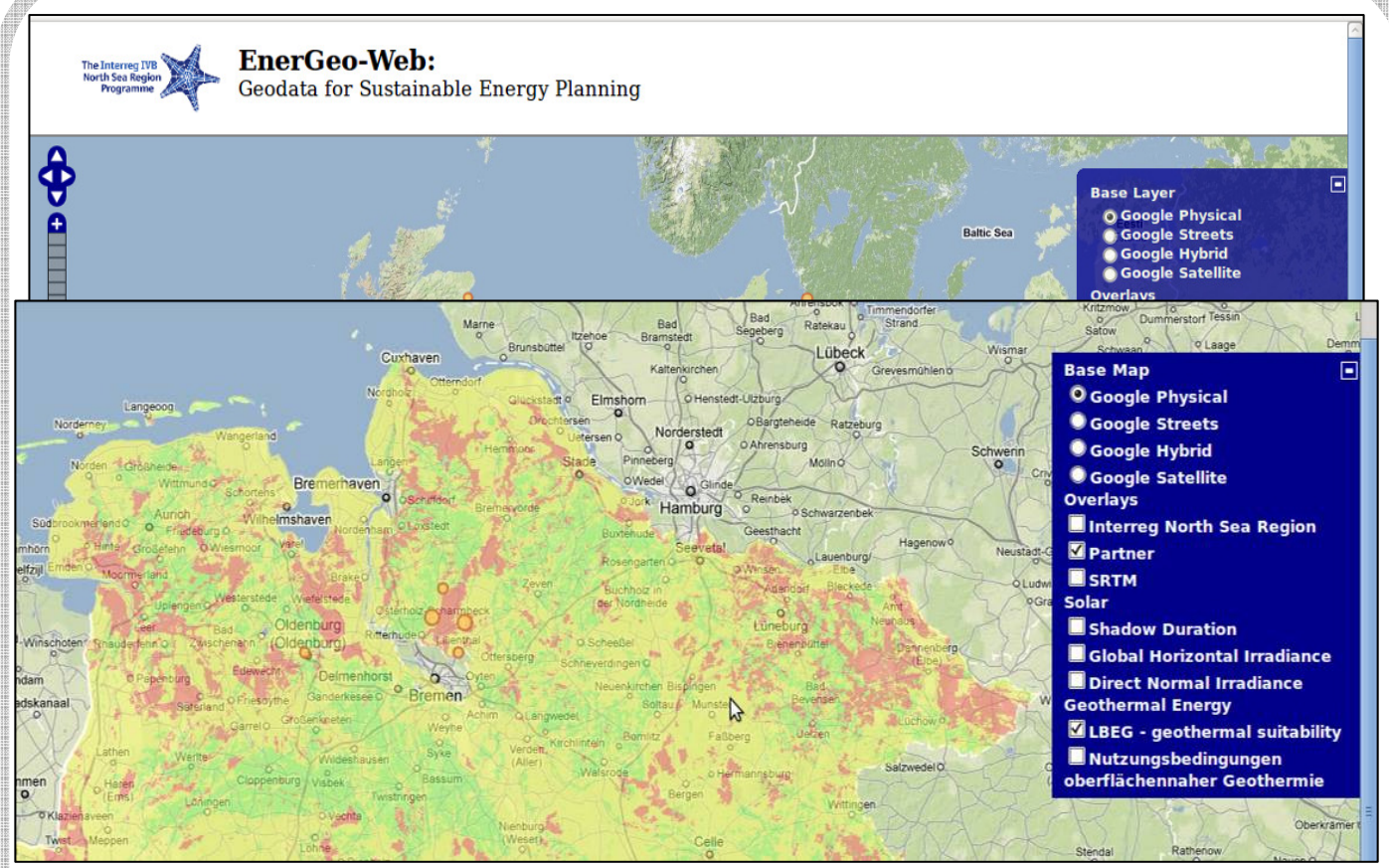
GIS Instruments



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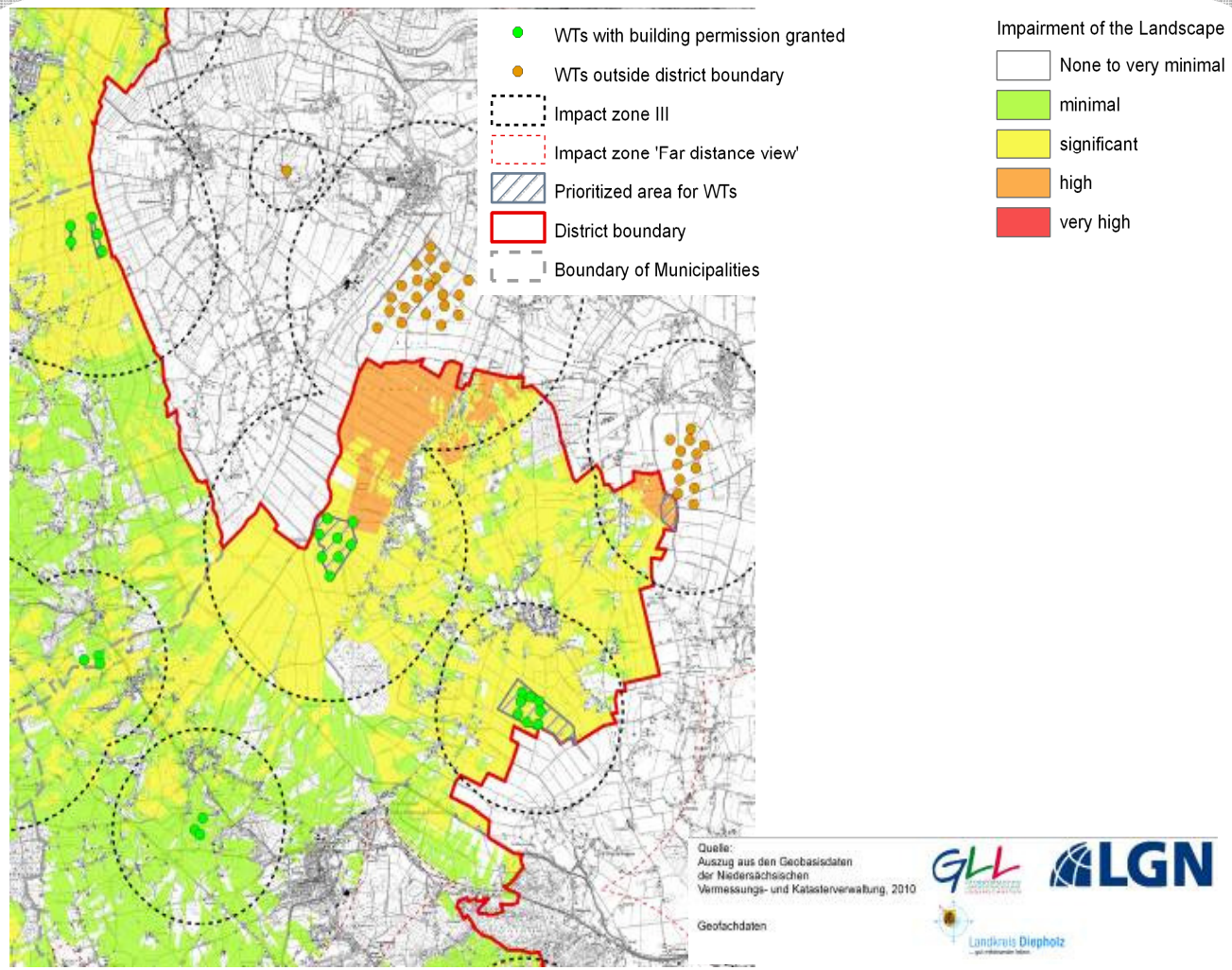
Analysis of visibility



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Heat exchanging systems in sewer systems

Institut für Rohrleitungsbau an der Jade Hochschule

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Heat exchanging systems in sewer systems

Sandwichliner

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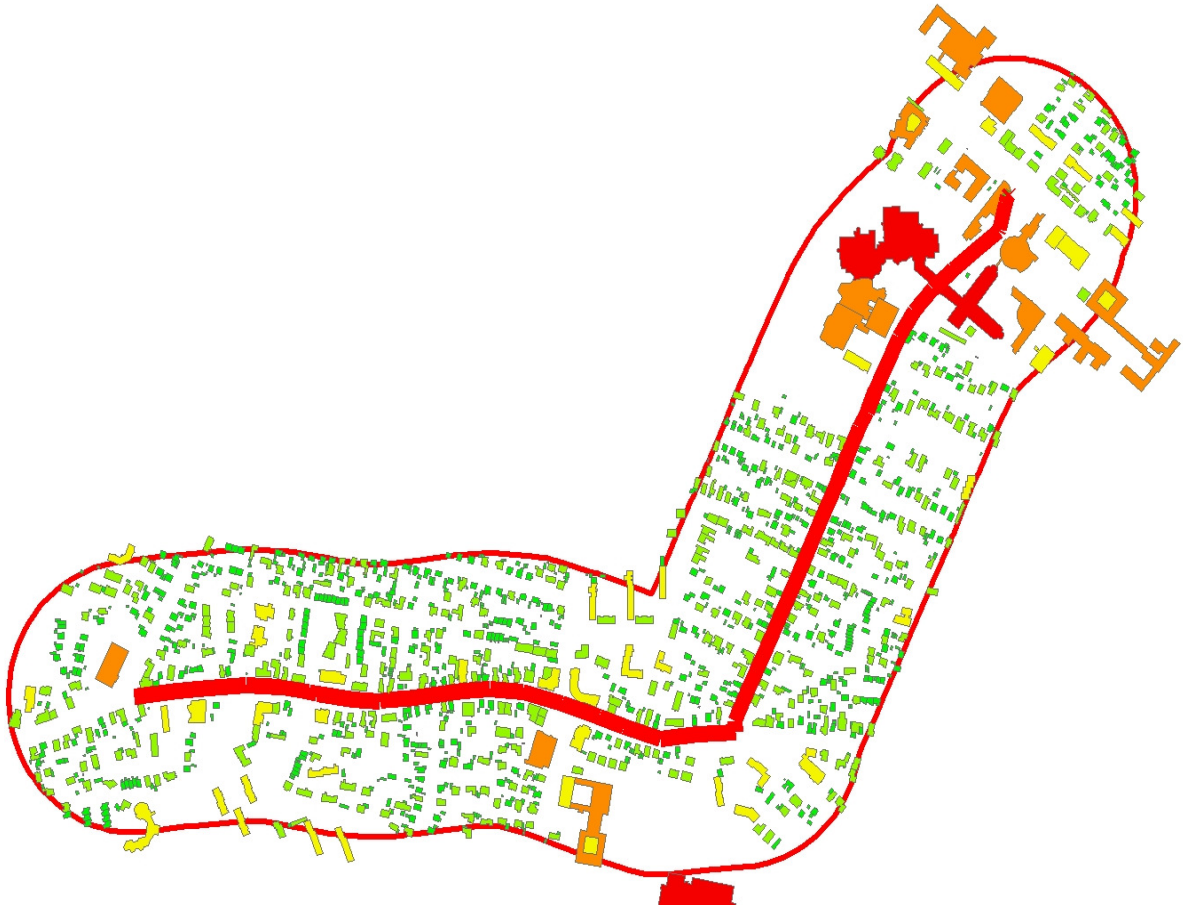
GIS analysis in sewer systems



Quelle: Auszug aus den Geobasisdaten der Niedersächsischen Vermessungs- und Katasterverwaltung,
© 2011 Landesamt für Geoinformation und Landentwicklung Niedersachsen (LGLN)

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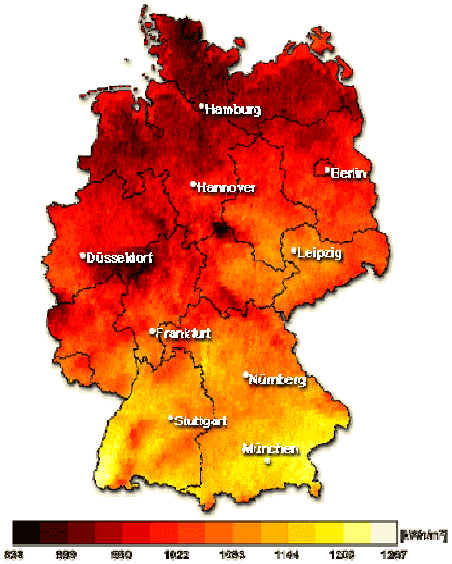
Solar Power

Prof. Dr. Thomas Luhmann

Dipl. Geogr. Hans-Peter Ratzke



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Solar Power

What is the potential for PV or Solar thermal systems?

Inhabitants: appr. 12.000
Area: appr. 2 km²

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Solar Power

983 roofs

372 optimal applicable
528 limited applicable
83 not applicable

Power: 6 kWp

Investment: appr. 25.000,- €

= **9.300.000,- €**

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Solar Power

Grasberg (Deutschland)

Tynaarlo
(Niederlande)

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Solar Power

	Grasberg (GER)		Tynaarlo (NL)	
		%		%
house numbers	2462		2135	
investigated objects	6095		2530	
applicable	2687	44,1	1185	46,8
limited applicable	3213	52,7	245	9,7
not applicable	178	2,9	1066	42,1
not investigated	17	0,3	34	1,3

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Research Studios Austria
Forschungsgesellschaft mbH

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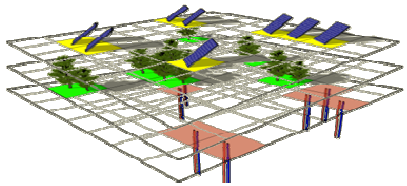
Pilotstudie
Energieregion Landkreis Oldenburg
Zwischenstand

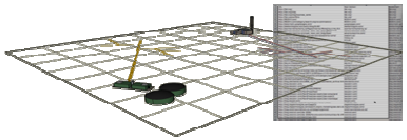
Modellkonzept

Grafische Darstellung

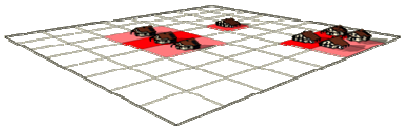
Potentials



Infrastructure Technologies



Demand



Dynamic Demand Fulfillment Model

- costs
- emissions

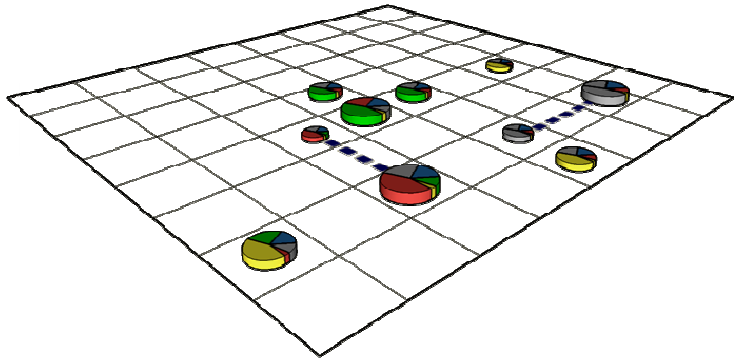
RESULTS

Cell:

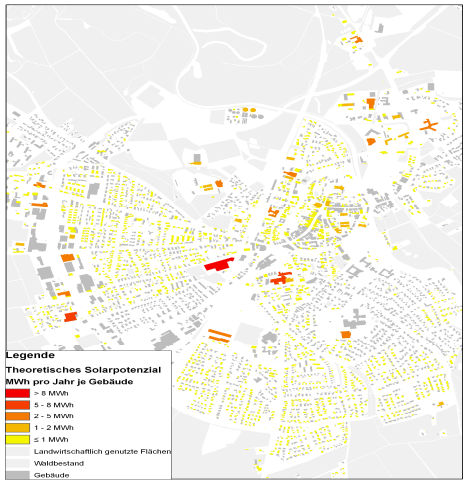
- optimum infrastructure
- optimum mix of energy sources to fulfill demand (for each cell)

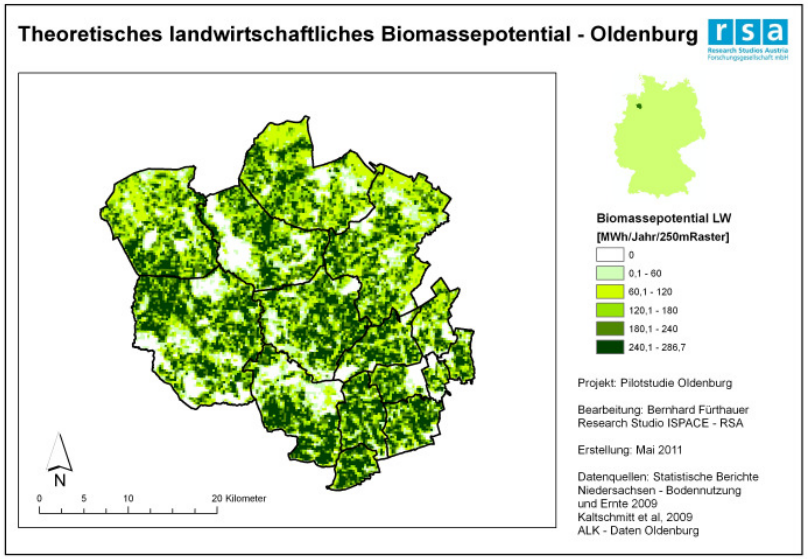
Region:

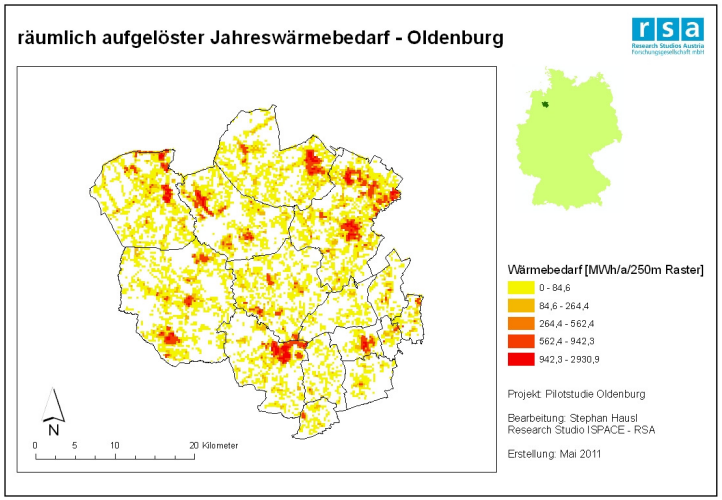
- explicit costs for each scenario
- emissions



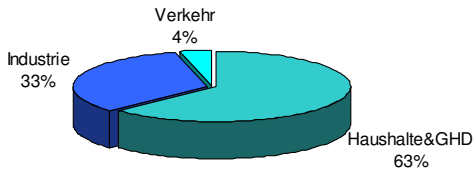
Energieregion Landkreis Oldenburg



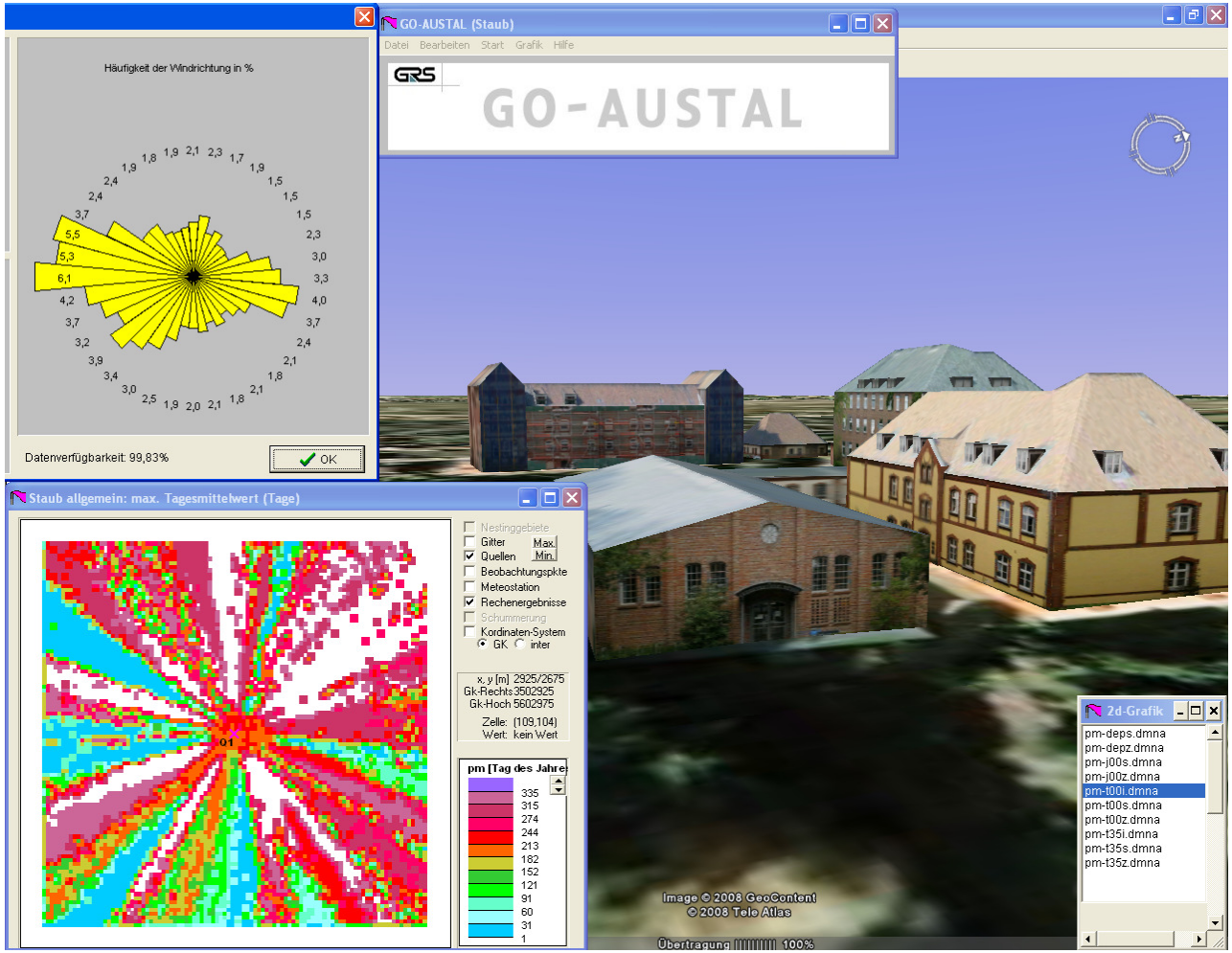




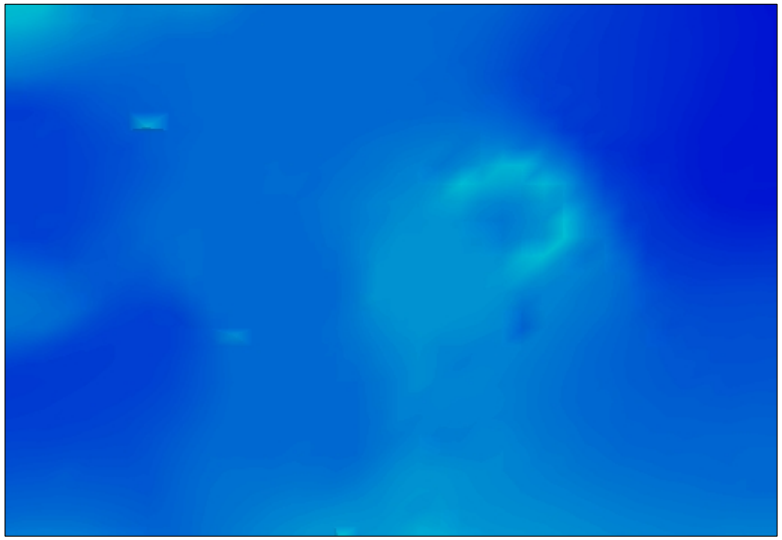
Strombedarf Ldkr. Oldenburg: 648 GWh/a



Simulation von Feinstaub-Ausbreitung

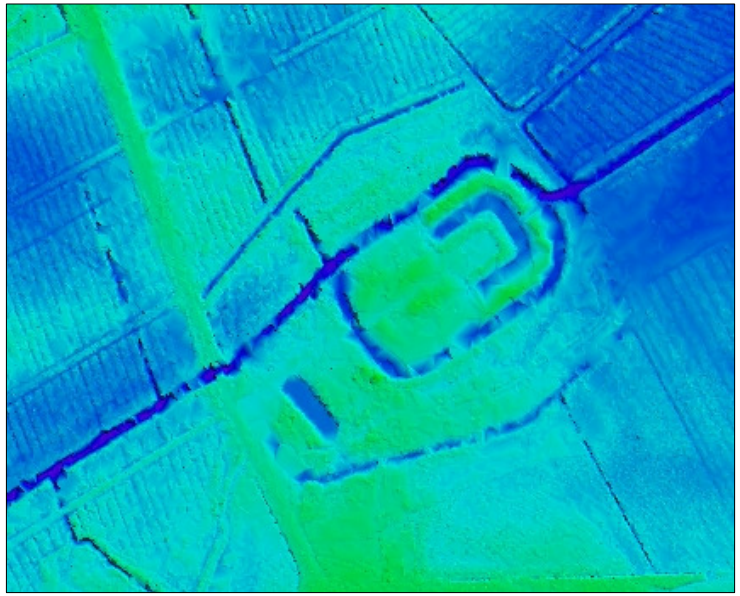


Anwendungen hochpräziser DGM



DGM 5 auf der Basis der Deutschen Grundkarte 1:5000

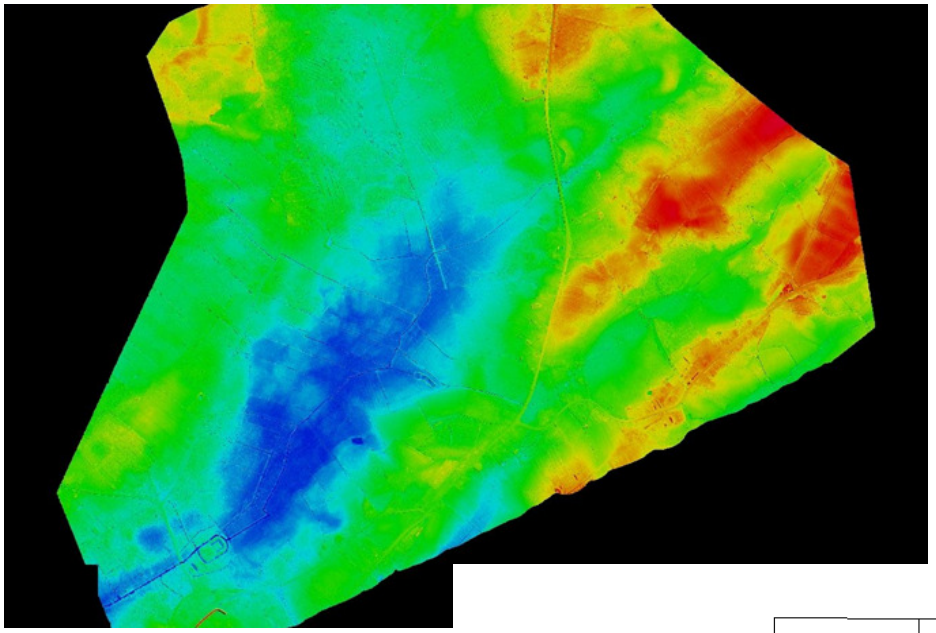
1 Messpunkt / 156 m²

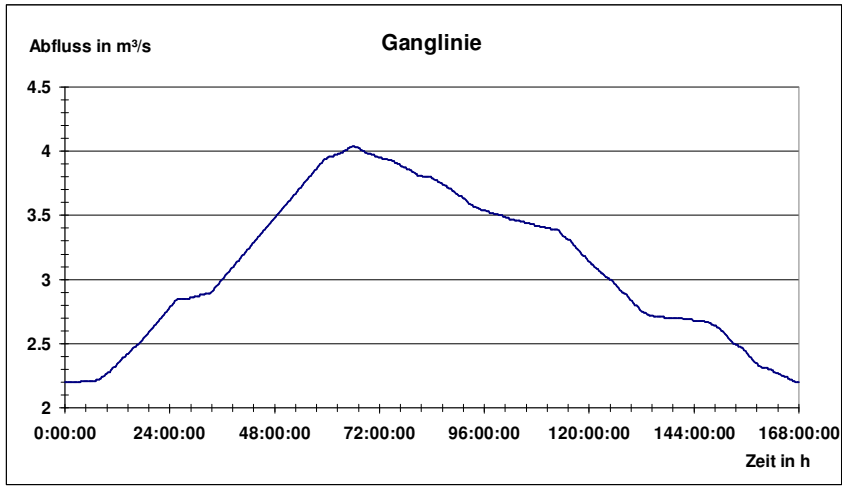


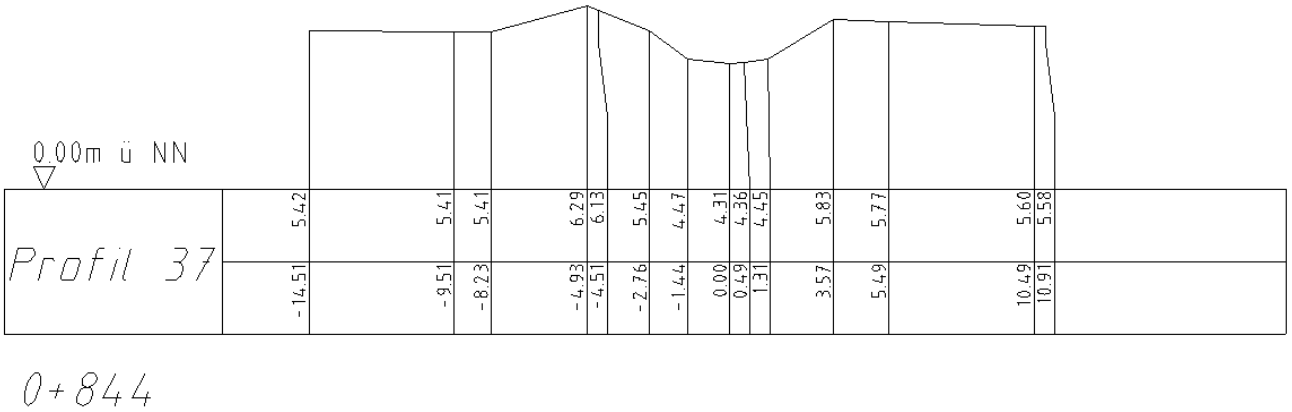
Hochpräzises Digitales Geländemodell auf der Basis von Airborne Laserscanning

4 Messpunkte / 1 m²

Anwendungen hochpräziser DGM







Anwendungen hochpräziser DGM

Ressort Forschung und Transfer – Unser Team

Förderberatung
Antragsunterstützung
Patentwesen, Gründerbox
Messen & Veranstaltungen
Öffentlichkeitsarbeit

Technologietransfer Wilhelmshaven
Peter Berger

Technologietransfer Oldenburg
Christina Müller

Internes Forschungs-management
Projektentwicklung
Projektmanagement
Berichtswesen

Hans-Peter Ratzke

Konzeptionierung Schlaues Haus

Projekte Ideen-EXPO, …)

Tim Grzabka