

The background of the slide features a stylized illustration of several wind turbines. The turbines are rendered in a dark purple color and are positioned on a checkered floor that recedes into the distance. The sky is a solid, vibrant blue. The overall aesthetic is clean and modern.

**2013 Esri Europe, Middle East and Africa  
User Conference**

October 23-25, 2013 | Munich, Germany

**GIS for Schools**  
**Location Study of Wind Energy Converters  
in Baden-Wuerttemberg/Germany**

Sarah Böhm

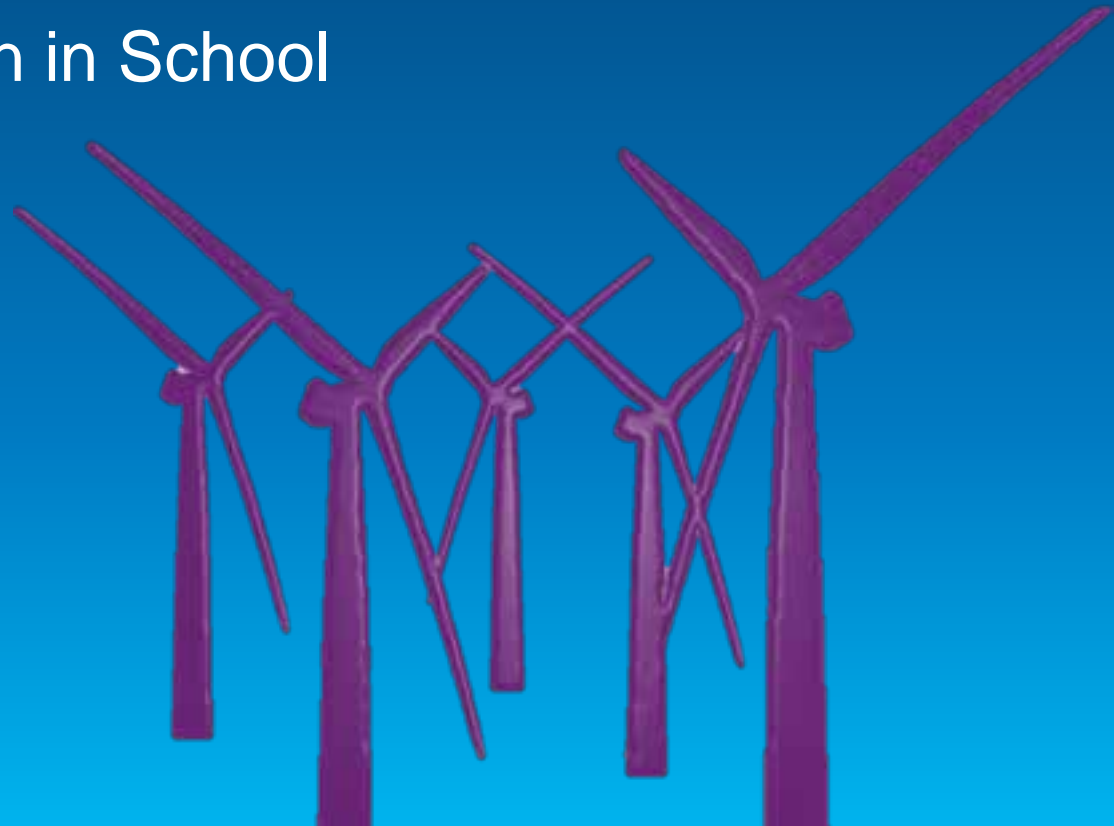
# Presenter

- Sarah Böhm
- University of Education Heidelberg
- Final Paper
  - GIS for Schools - Location Study of Wind Energy Converters in Baden-Wuerttemberg/Germany



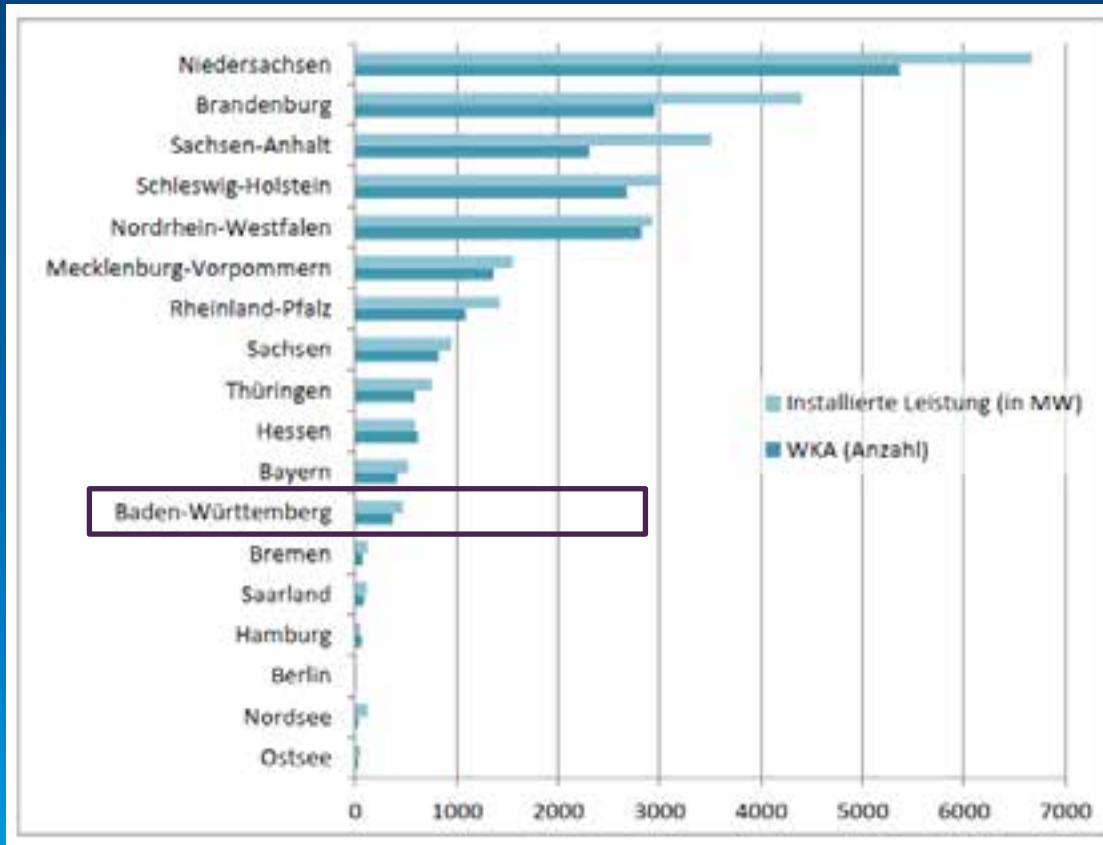
# Lightning Talk

- (1) Basics
- (2) Location Study
- (3) Implementation in School
- (4) Results



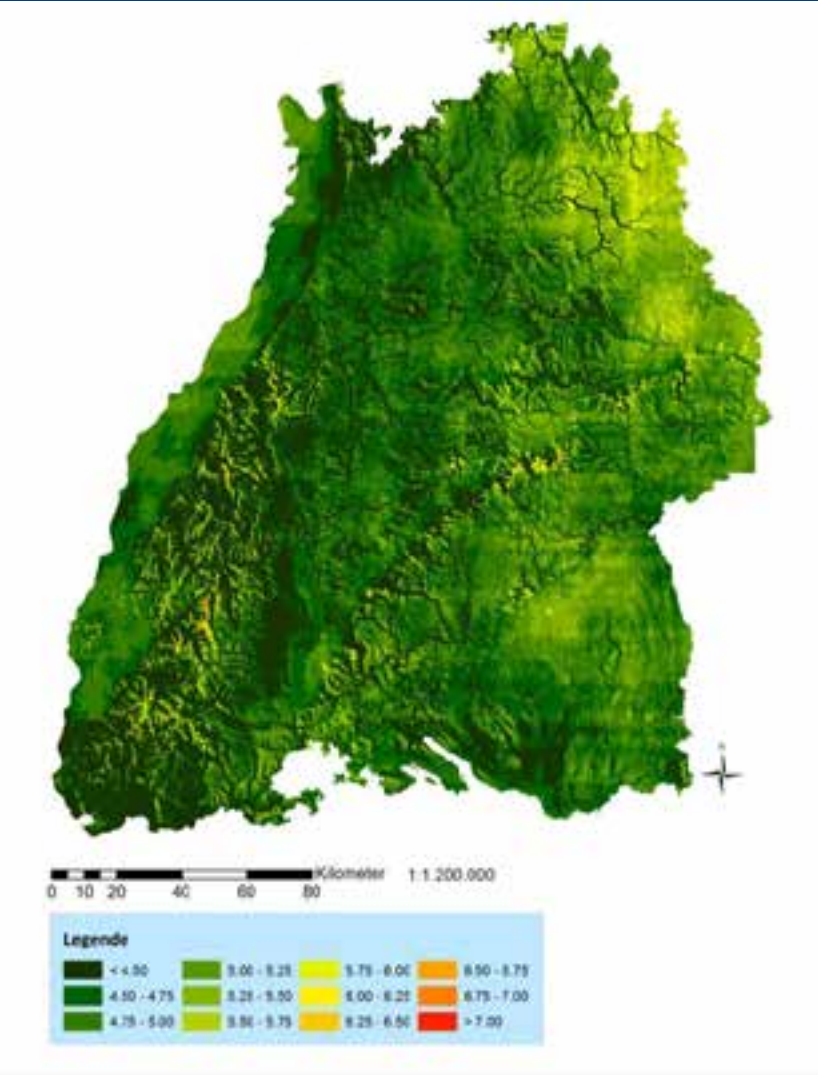
# (1) Basics

## Renewable Energies, Theoretical Basics, Windatlas



# (1) Basics

Renewable Energies, Theoretical Basics, Windatlas



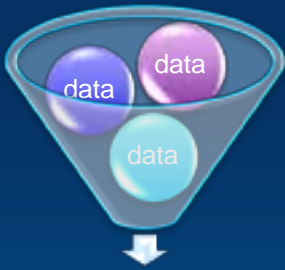
## (2) Location Study

Data, Laws and Decrees, Results

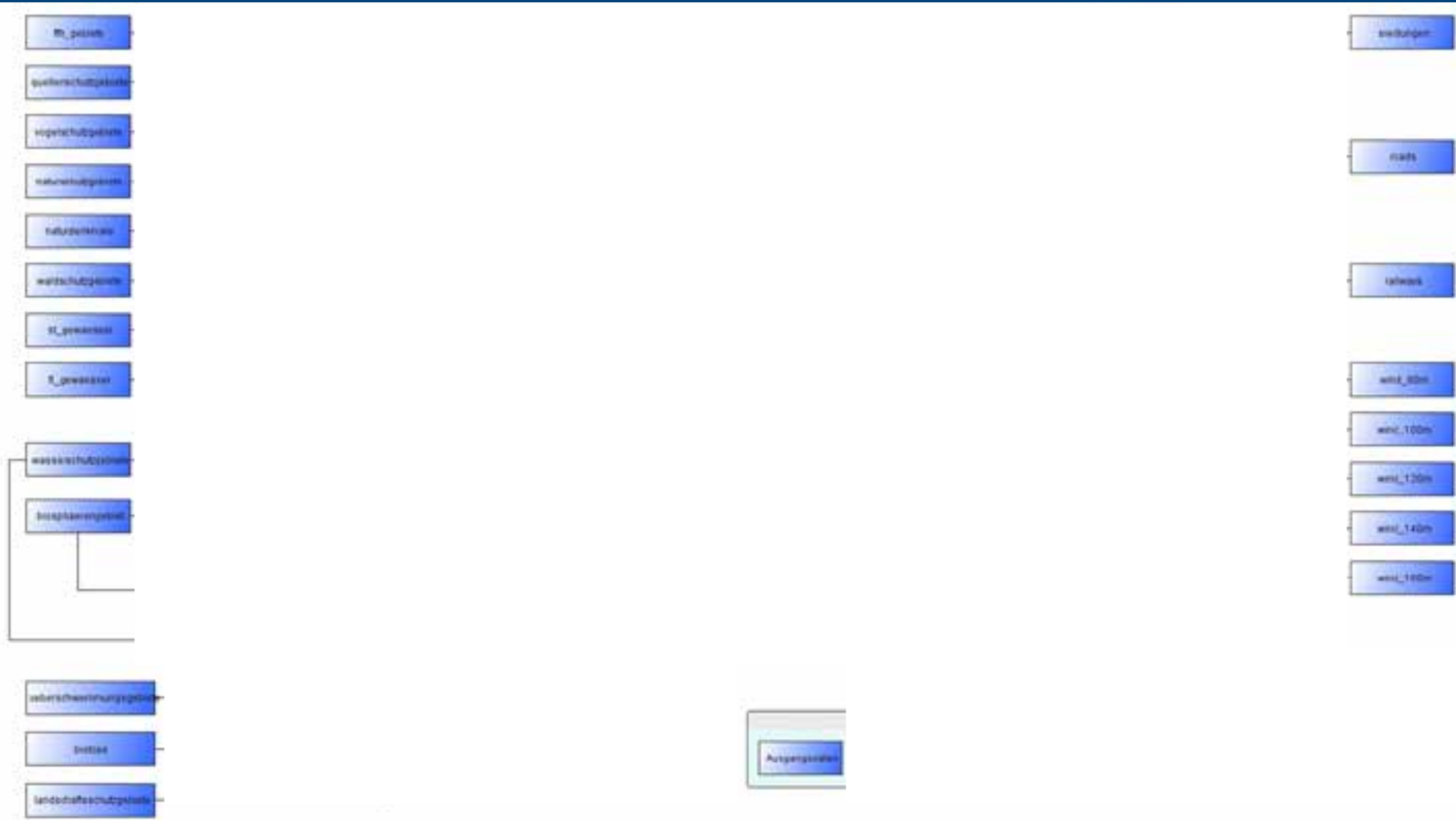
- **data: available free of cost via**
  - “Landesanstalt für Umwelt, Messung und Naturschutz Baden-Württemberg” (≈ “Office for the environment, measurements, and environmental protections Baden-Württemberg”) and the
  - “Geofabrik” (German offerer of cost-free data)
- **it was necessary to have a look at several laws and decrees**



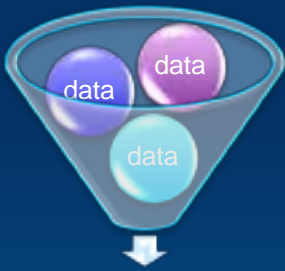
Data	Buffer (meters)
<b>Non-suitable areas with regard to nature and environment</b>	
Water protection areas (inner zone I and II)	-
Bird reserve	700
Protection of ground water sources	-
Nature reserve	200
Biosphere reserve (inner zone)	200
Natural Monuments	200
Flora and fauna habitat	-
Forest reserve	200
Waters	10
<b>Non-suitable areas with regard to human settlement and transport</b>	
Residential, industrial and commercial area	700
Highway	100
Main road and country road	40
District road	30
Railway	100
<b>Areas which required further testing</b>	
Flood area	-
Water protection area (outer zone)	-
Biosphere reserve (outer zone)	-
Landscape conservation area	-
Habitat	-



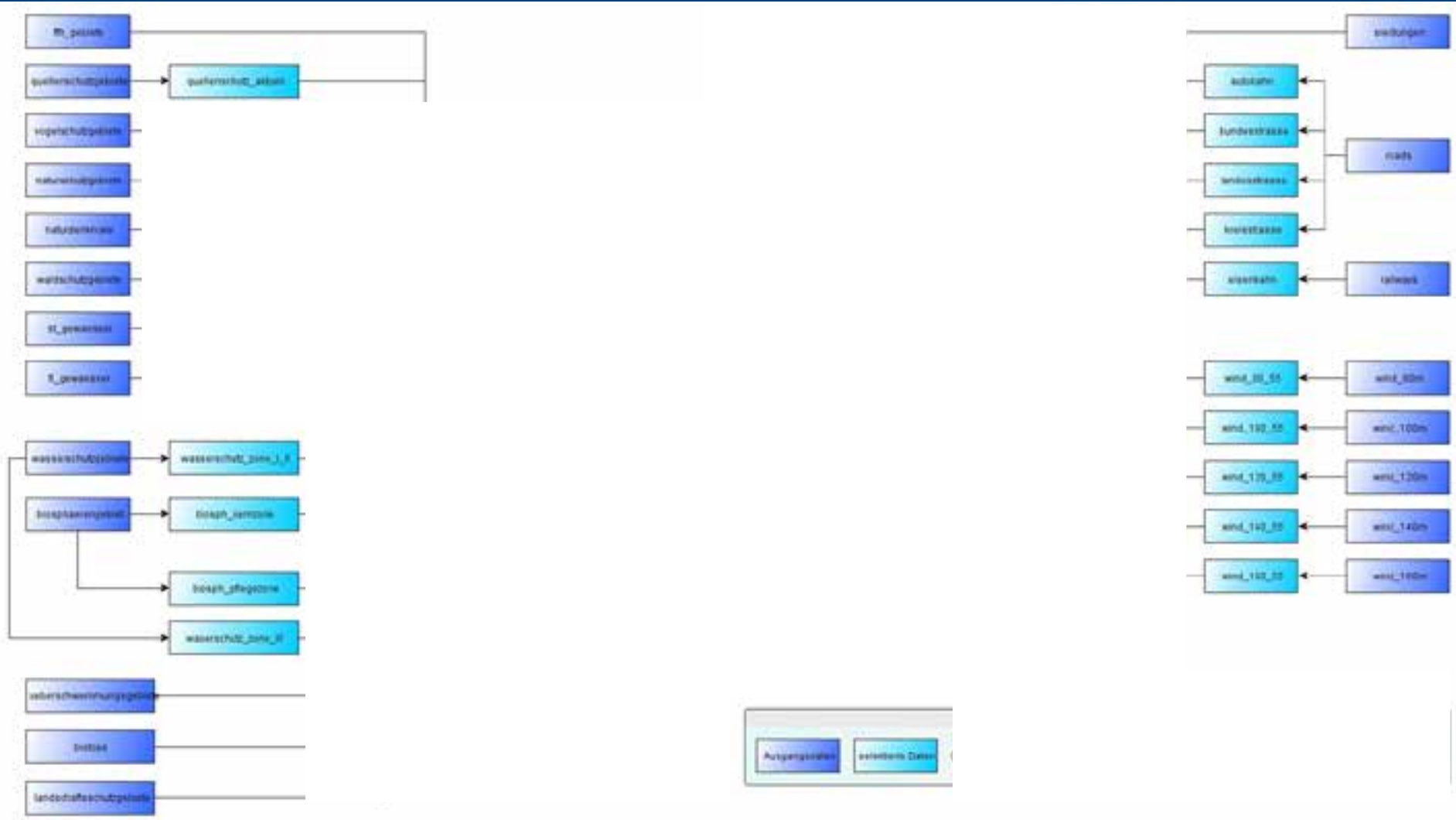
# Location Study Flowchart

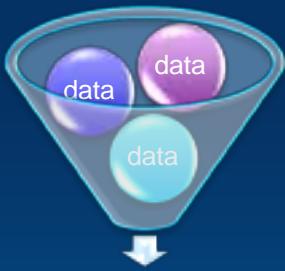




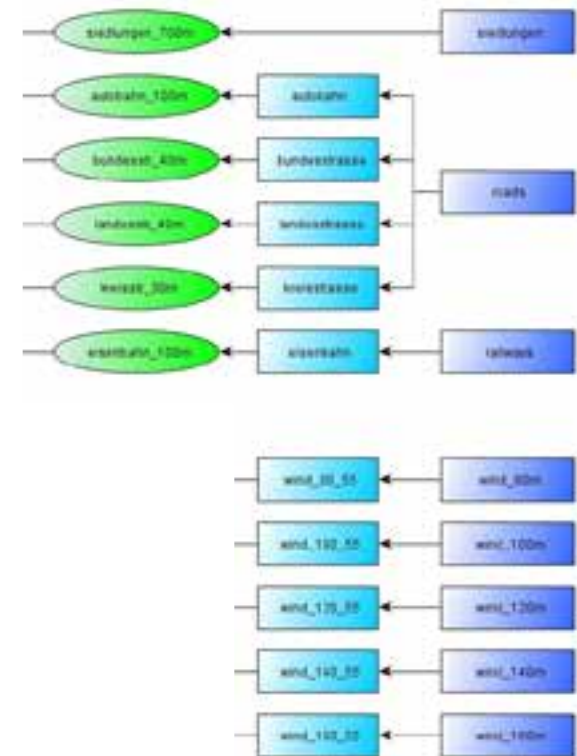
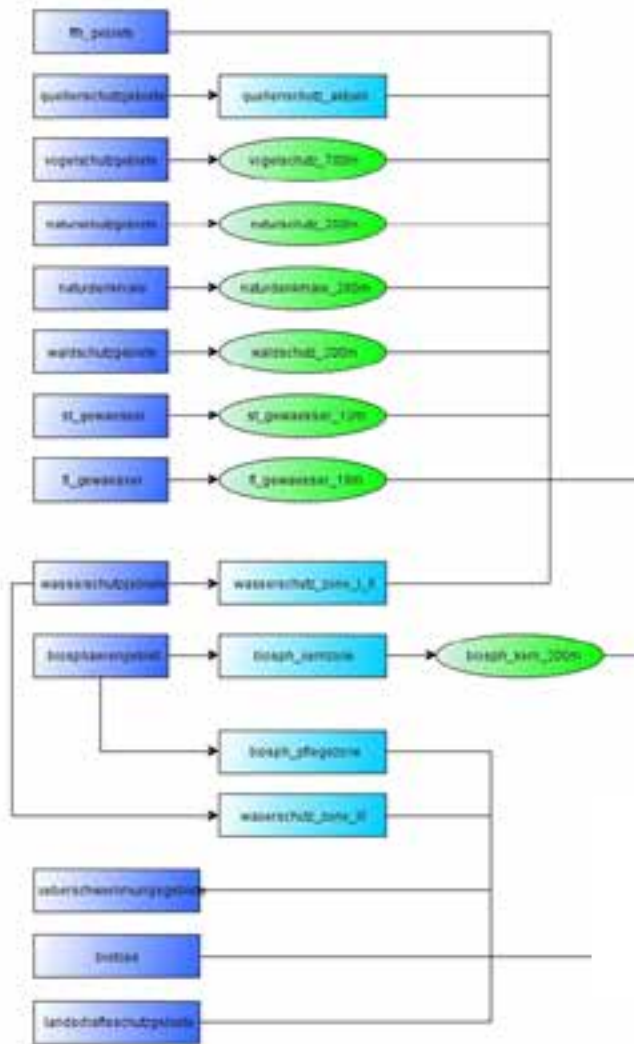


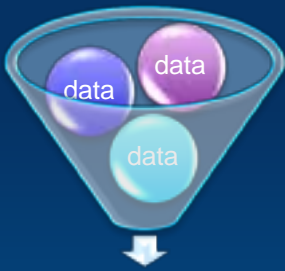
# Location Study Flowchart



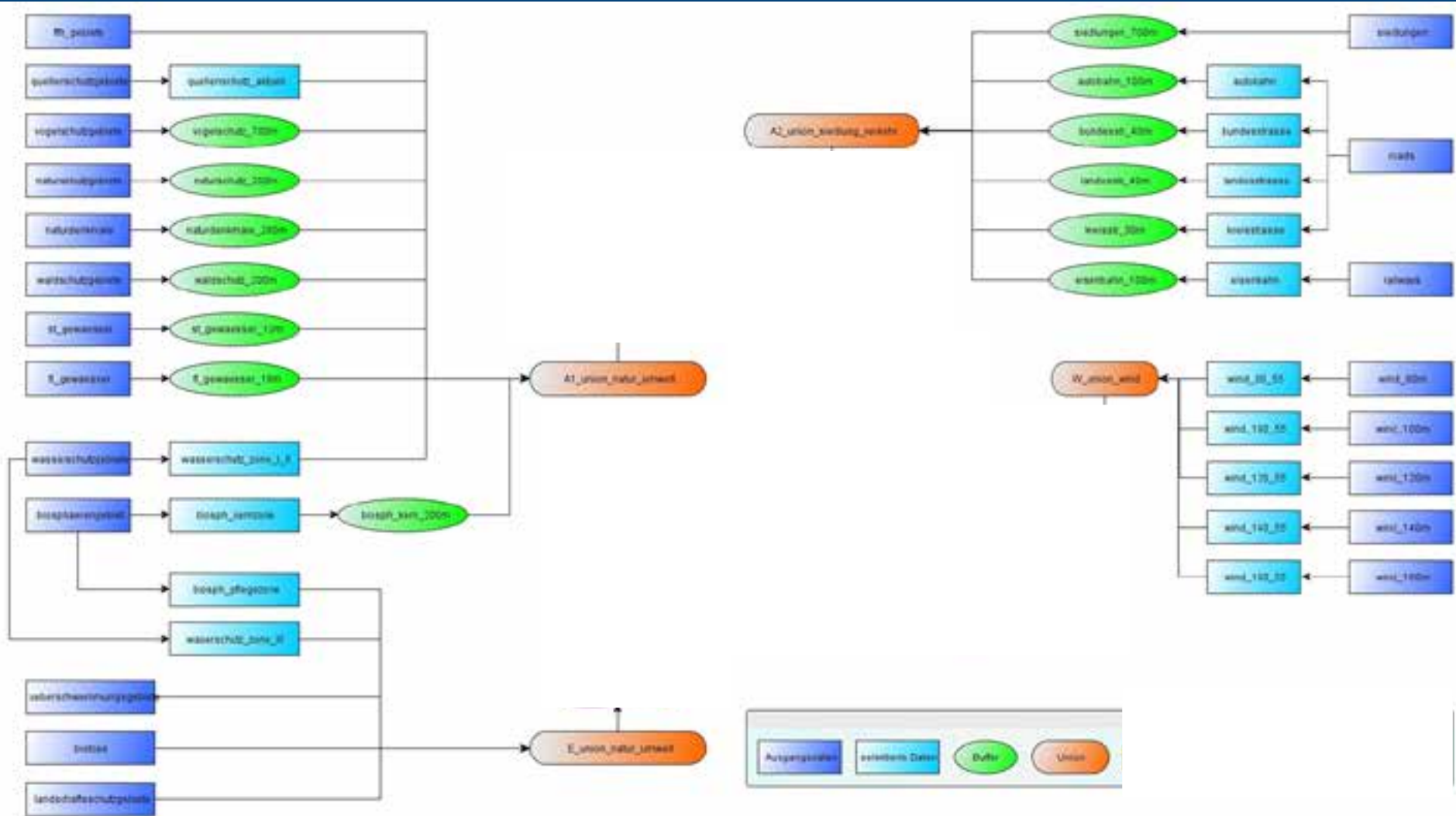


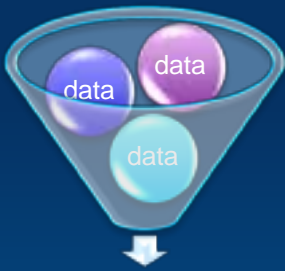
# Location Study Flowchart



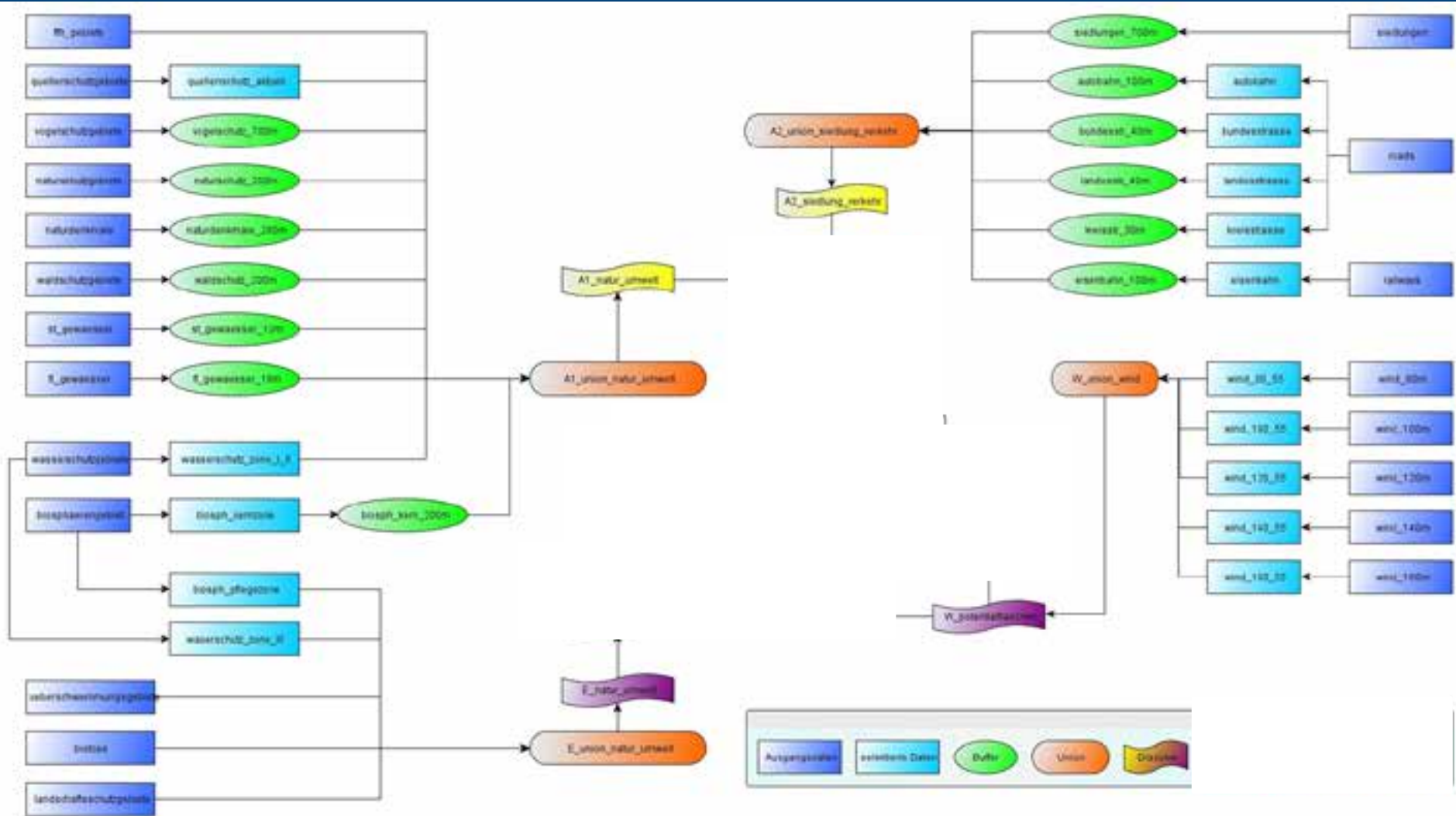


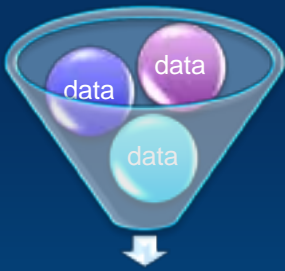
# Location Study Flowchart



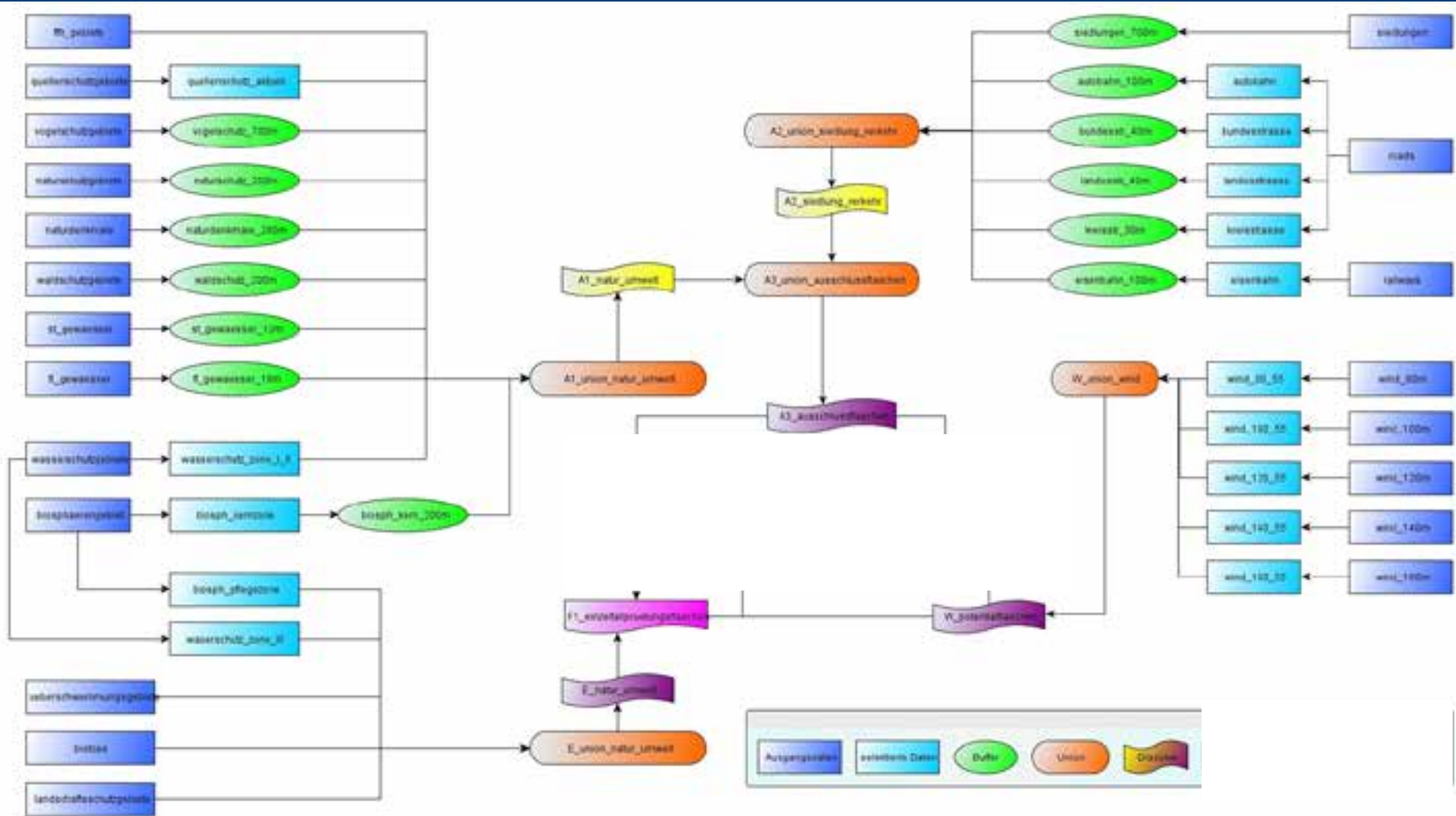


# Location Study Flowchart





# Location Study Flowchart







# (3) Implementation in School

Introduction, Working Part, Final Presentation

Material 1: Frischer Wind für Baden-Württemberg

**BadWü aktuell**  
 Sonntag, 12. August 2017

## Frisher Wind in Baden-W

Die Windallee: So könnte in den nächsten Jahren der Name der Bundesautobahn A 7 lauten. Entlang der Autobahn, welche von der österreichischen Grenze im Süden bis zur dänischen Grenze im Norden verläuft, sollen 300 Windkraftanlagen gebaut werden. Diese Idee hatte Hermann Scheer, SPD-Verdenker in Sachen regenerativer Energien, bereits vor seinem Tod im Jahre 2010 verfolgt. Der

Abschnitt der A 7 soll laut Medienberichten von 333 Anlagen gesäumt werden. Ziel sei eine Versorgung der Anlieger-Gemeinden entlang der Autobahn A 7. Laut Scheers Tochter, Vorsitzende der Hermann-Scheer-Stiftung, bieten die angrenzenden Flächen ein erhebliches Potenzial für die Nutzung von Windkraft. Sie appelliert an die Gemeinden dies zu fordern und sich Investoren zu suchen.

Material 1: Frischer Wind für Baden-Württemberg



\*... dich meinen sie nicht!

Material 3: Aktueller Diskussionsstoff zum Thema Windenergie

# (3) Implementation in School

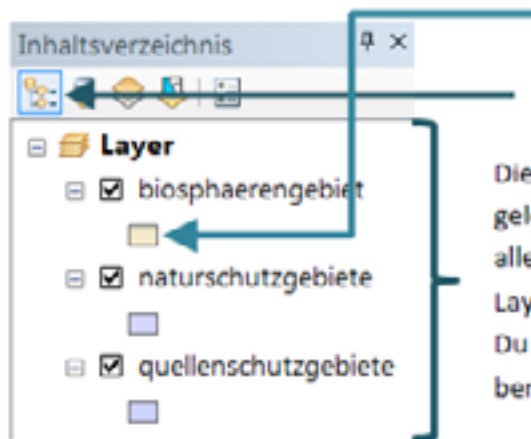
Introduction, Working Part, Final Presentation



6. Starte nun ArcGIS und öffne das Projekt „Windkraft in Baden-Württemberg“.

7. Ordne die Layer zunächst in einer passenden Darstellung an.

Die Anordnung kannst du mithilfe des Inhaltsverzeichnisses festlegen, mit einem Doppelklick auf die farbigen Kästchen lässt sich die Farbe ändern.



Dieser Button muss „aktiviert“ sein.

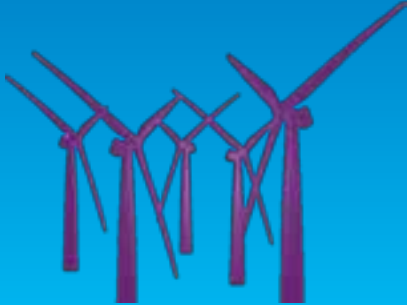
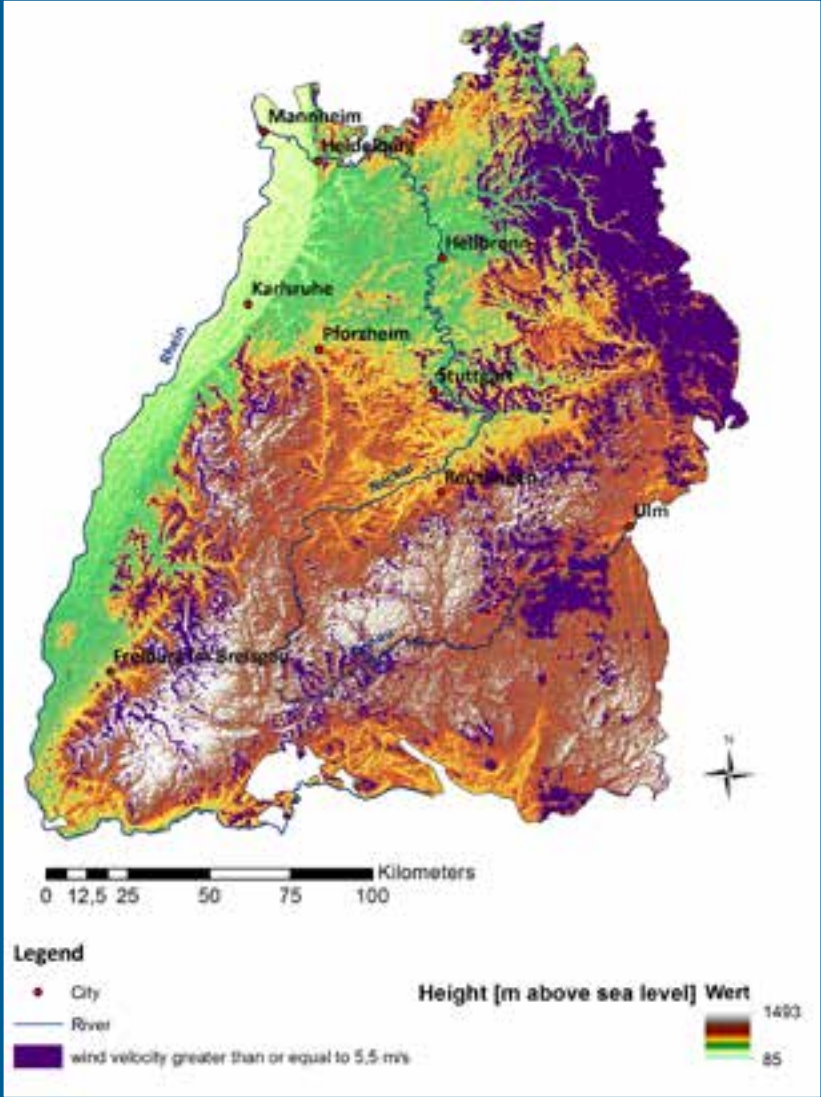
Die Layer werden in der Darstellung übereinander gelegt. Der Layer an oberster Stelle wird zuletzt auf alle anderen Layer gelegt. Somit werden die unteren Layer immer von den darüber liegenden überlagert. Du kannst die Anordnung durch Anklicken und „Schieben“ der Layer verändern.





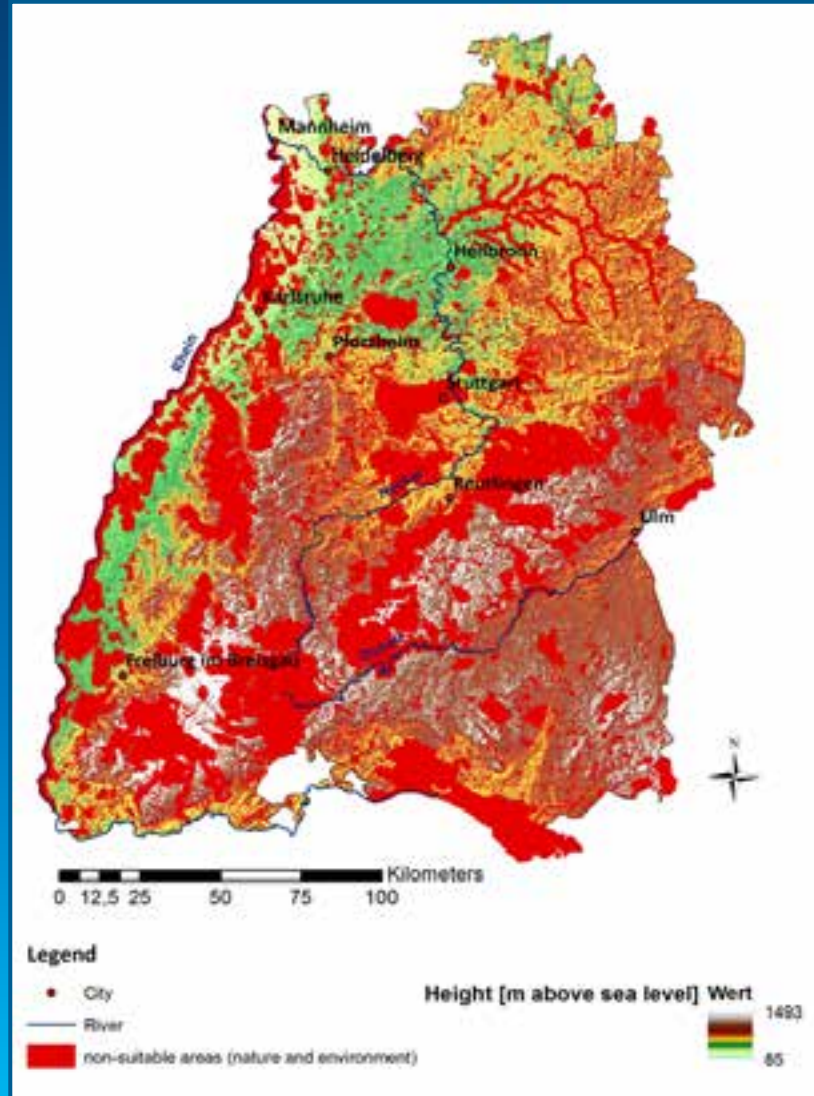
# (4) Results

wind velocity greater than or equal to 5.5 m/s



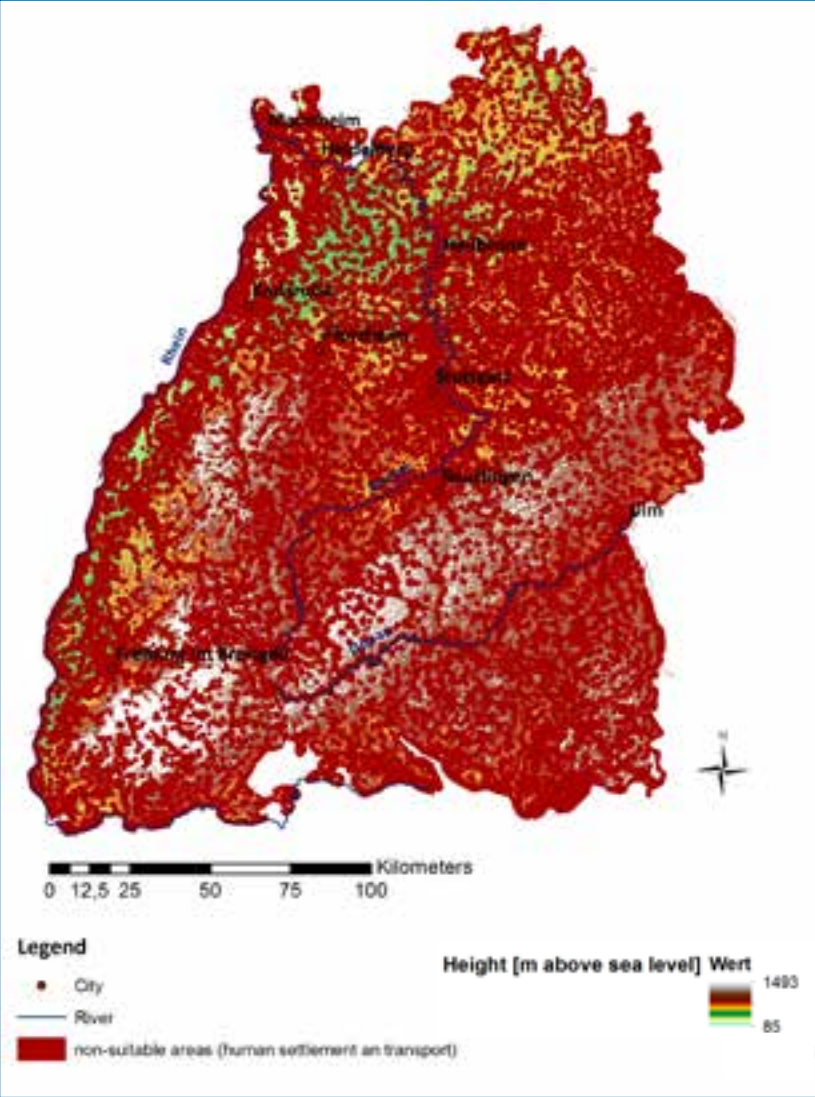
# (4) Results

non-suitable areas with regard to nature and environment



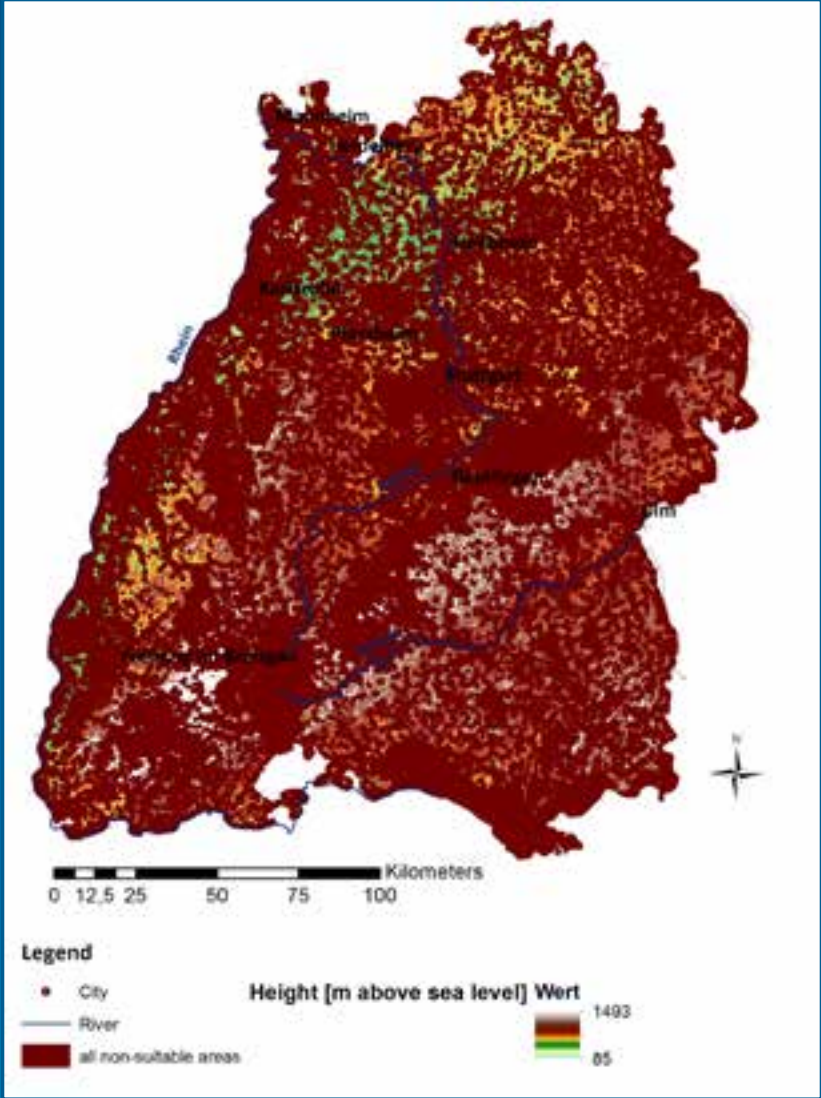
# (4) Results

non-suitable areas with regard to human settlement and transport



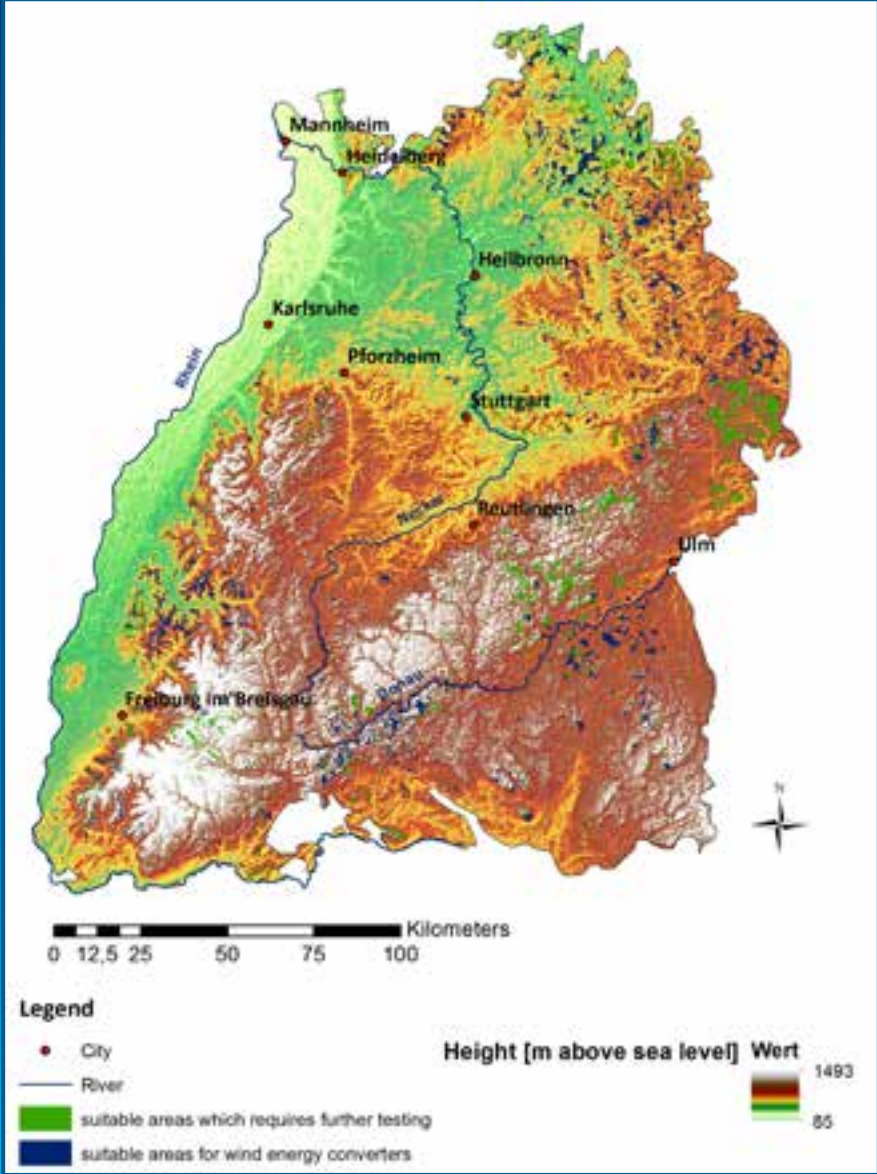
# (4) Results

all non-suitable areas





# (4) Results



# Thank you for listening!

Sarah Böhm

