Welcome to the 2nd Project Day:

(RE)DESIGN SCHOOL GROUNDS



PROGRAMME for the 2nd Project Day

- Group formation & reflection – Day 1 of the project

Our school today

- What is Biodiversity?
- Current state of the school grounds
- Mapping the school grounds

Our school tomorrow

- Heavy rain & green roofs
- Expert role-play
- Planning: Our sustainable, green school grounds

PROGRAMME fot the 3rd Project Day

- Reflection - Day 2 of the project
- Model-making
- Feedback and discussion session

Presentation

- Presenting our results at school

Introduction to the project day

WE'RE GETTING OUR SCHOOL GROUNDS READY FOR THE FUTURE

Why 

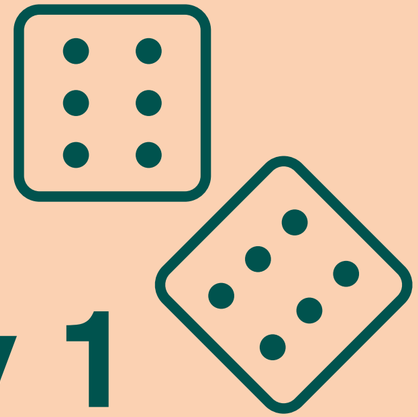
Introduction to the project day

Review

Densification

Heat in the city

Effects of plants



Project Day 1

Review

DENSIFICATION



Infrastructure: Transport networks,
energy supply and
water/wastewater systems

DENSIFICATION

Which things are close together?



Many people live in the city



Many buildings are built close together

Review

DENSIFICATION

PROS

- Good infrastructure
- Social interaction
- Vibrant neighbourhoods
- Community services
- Jobs

CONS

- Air quality
- Environmental pollution
- Noise
- High energy consumption
- Extreme weather
- Lack of green spaces

Review

DENSIFICATION

heat-retaining materials

sealed surfaces

CONS

Heat island effect:

Why do cities get particularly hot compared to the surrounding countryside?

less planted areas

dark surfaces

WE’RE GETTING OUR SCHOOL GROUNDS READY FOR THE FUTURE

Urban green spaces reduce the heat in the city

- shadow effect
- Transpiration + evaporative cooling



WE'RE GETTING OUR SCHOOL GROUNDS READY FOR THE FUTURE

- Impacts of climate change:
  Protection against extreme weather
- Promoting health and wellbeing:
  The school grounds are a lovely place
- Loss of biodiversity:
  Promoting biodiversity



WHAT DOES BIODIVERSITY MEAN?

Pool your ideas in a group discussion.

Write your answers on the poster.

WHAT DOES BIODIVERSITY MEAN?



Diversity of species

Genetic diversity

Ecosystem diversity







WHY IS BIODIVERSITY IMPORTANT?

- The basis of life for us humans
- Biological resource
- Cultural value

WHAT THREATENS OUR BIODIVERSITY?

Habitat destruction

Habitat destruction









Asphalt

Buildings

Agriculture

Soil sealing

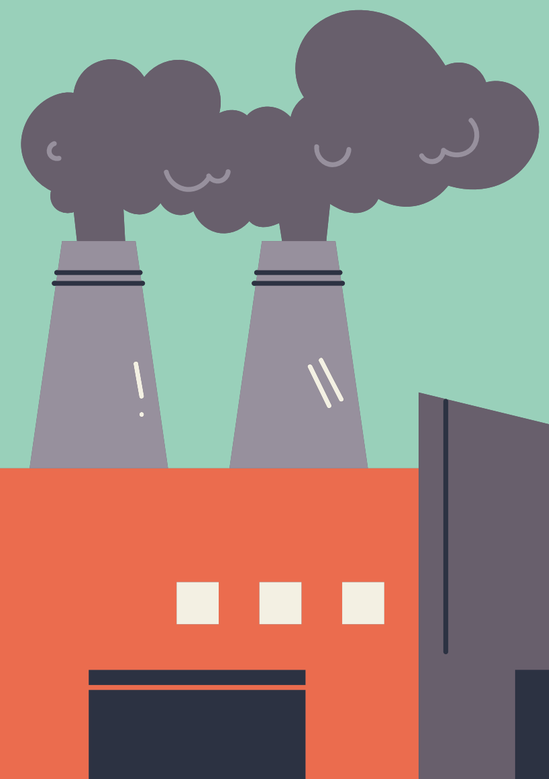
Soil degradation

WHAT THREATENS OUR BIODIVERSITY?

Habitat destruction

Environmental pollution

Environmental Pollution





Exhaust gases



Chemicals



Plastics

WHAT THREATENS OUR BIODIVERSITY?

Habitat destruction

Environmetal pollution

Climate change

Climate Change





Extreme weather



Changes to habitats

Biodivetsity

WHAT CAN WE DO?

- Allow uncontrolled plant growth
- Designing gardens that are close to nature
- Creating a school garden
- Greening of roofs and facades
- Removing surface sealing



INVENTORY

What does the school grounds look like at the moment?

Write your answers on the poster during the plenary session



Inventory

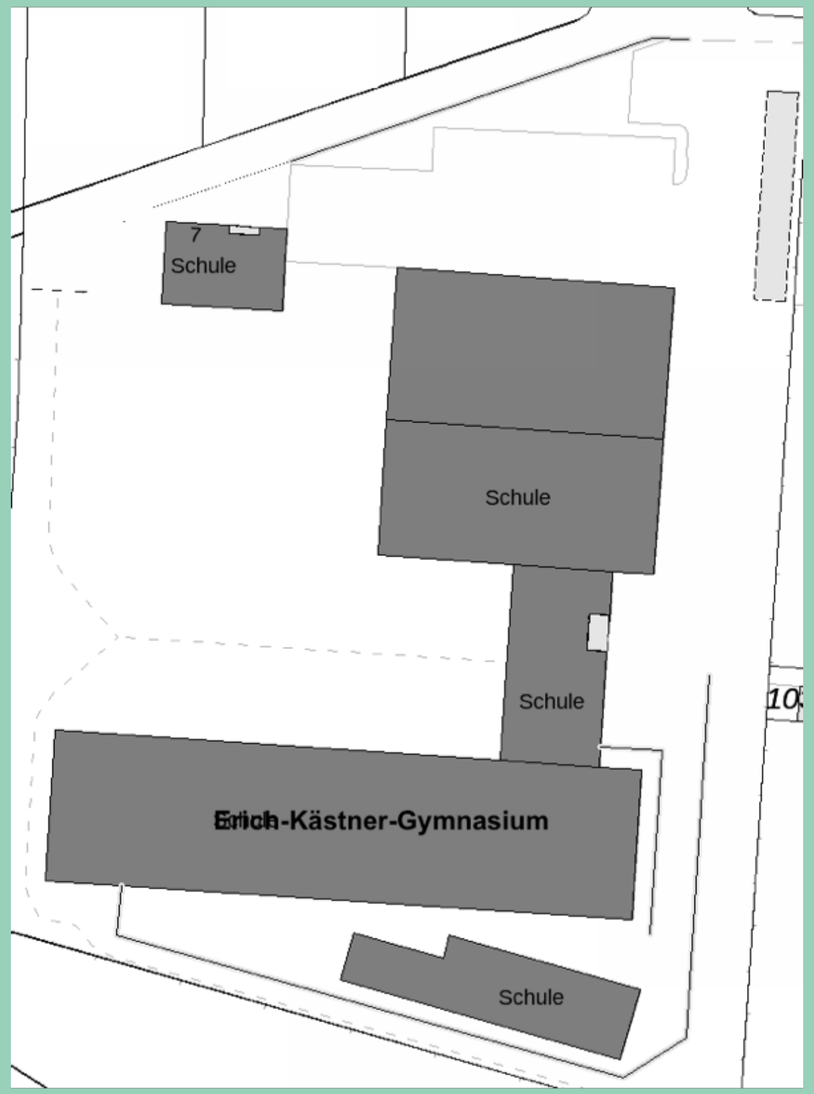
WE ARE MAPPING THE CURRENT STATE OF OUR SCHOOL GROUNDS

We are recording the CURRENT SITUATION
on a site plan

- What’s there, already?
- How are these areas used?

Inventory

Mapping: SCHOOL GROUNDS



Example layout of the
from a school in Cologne

Inventory

Mapping: SCHOOL GROUNDS

Each group maps out the school grounds current situation on the site plan.

1. Exploration
2. Register
3. Legend + Labelling
4. Reflection
5. Time: 25 min

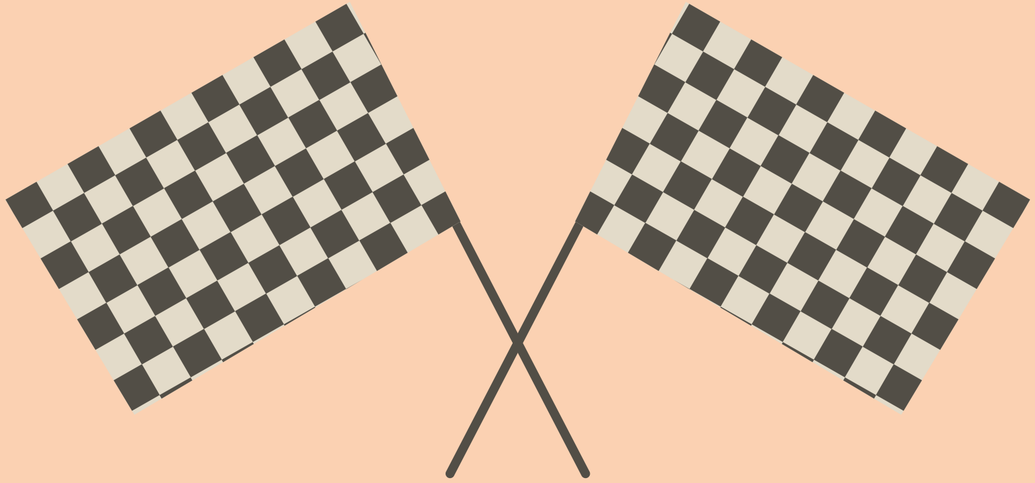
Use the worksheets
WS 1 + WS 2

Inventory

Mapping: SCHOOL GROUNDS

LET'S GO!

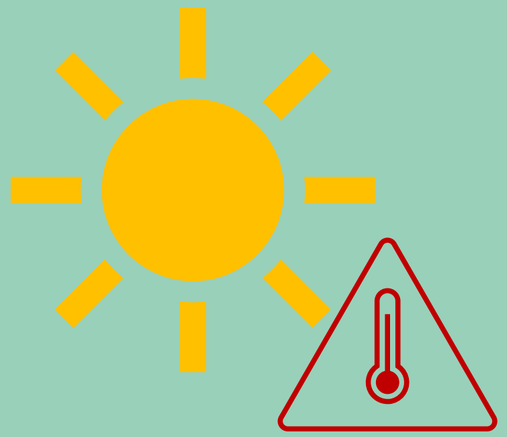
25 Minutes



WELCOME BACK!



THE IMPACTS OF CLIMATE CHANGE



Heat



Heavy rain

Heavy Rain

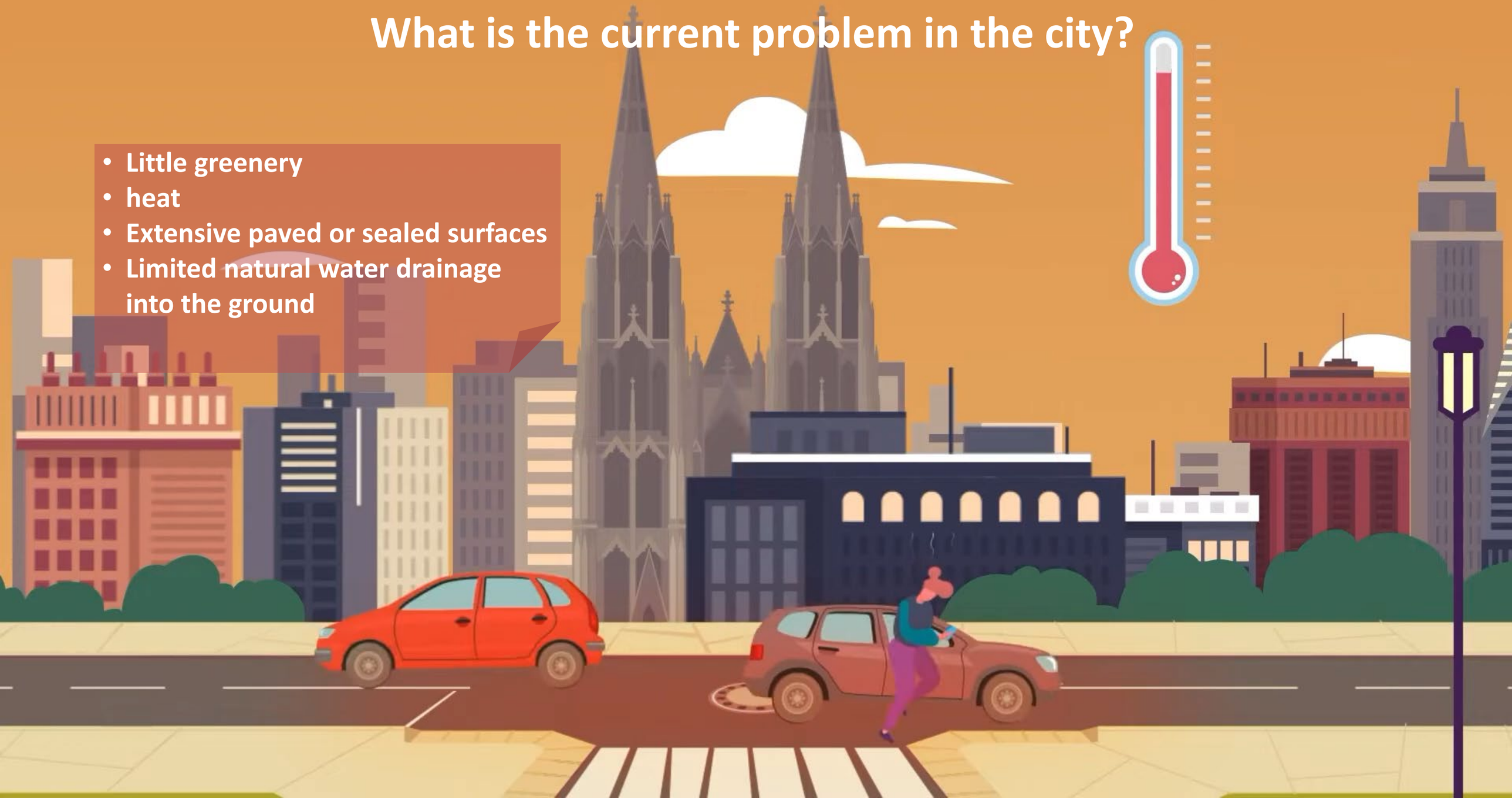
A lot of rain in a short period of time!

- Roads flood quickly
- The drainage system is overloaded
- Basements are flooded

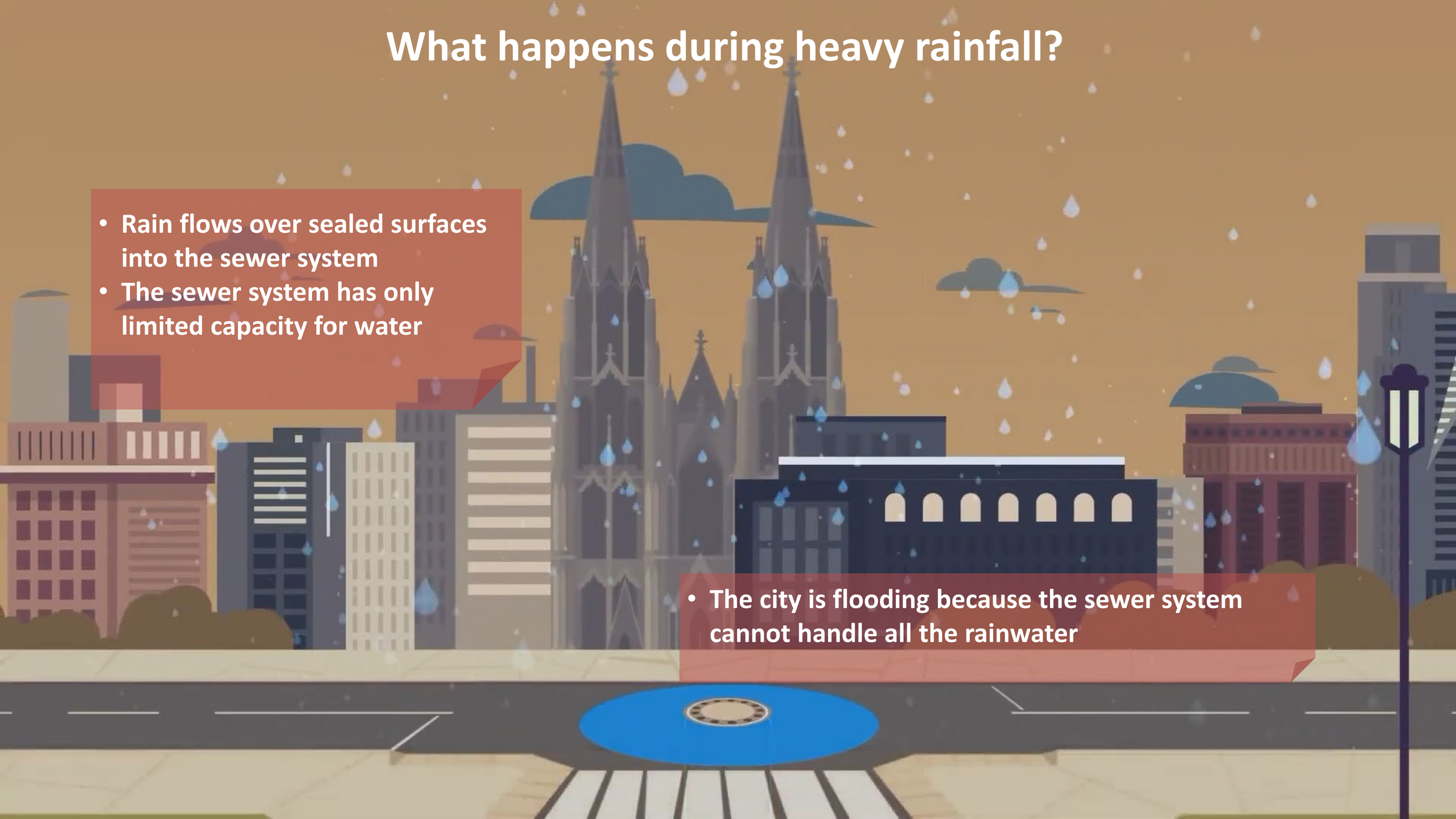


What is the current problem in the city?

- Little greenery
- heat
- Extensive paved or sealed surfaces
- Limited natural water drainage into the ground



What happens during heavy rainfall?



- Rain flows over sealed surfaces into the sewer system
- The sewer system has only limited capacity for water

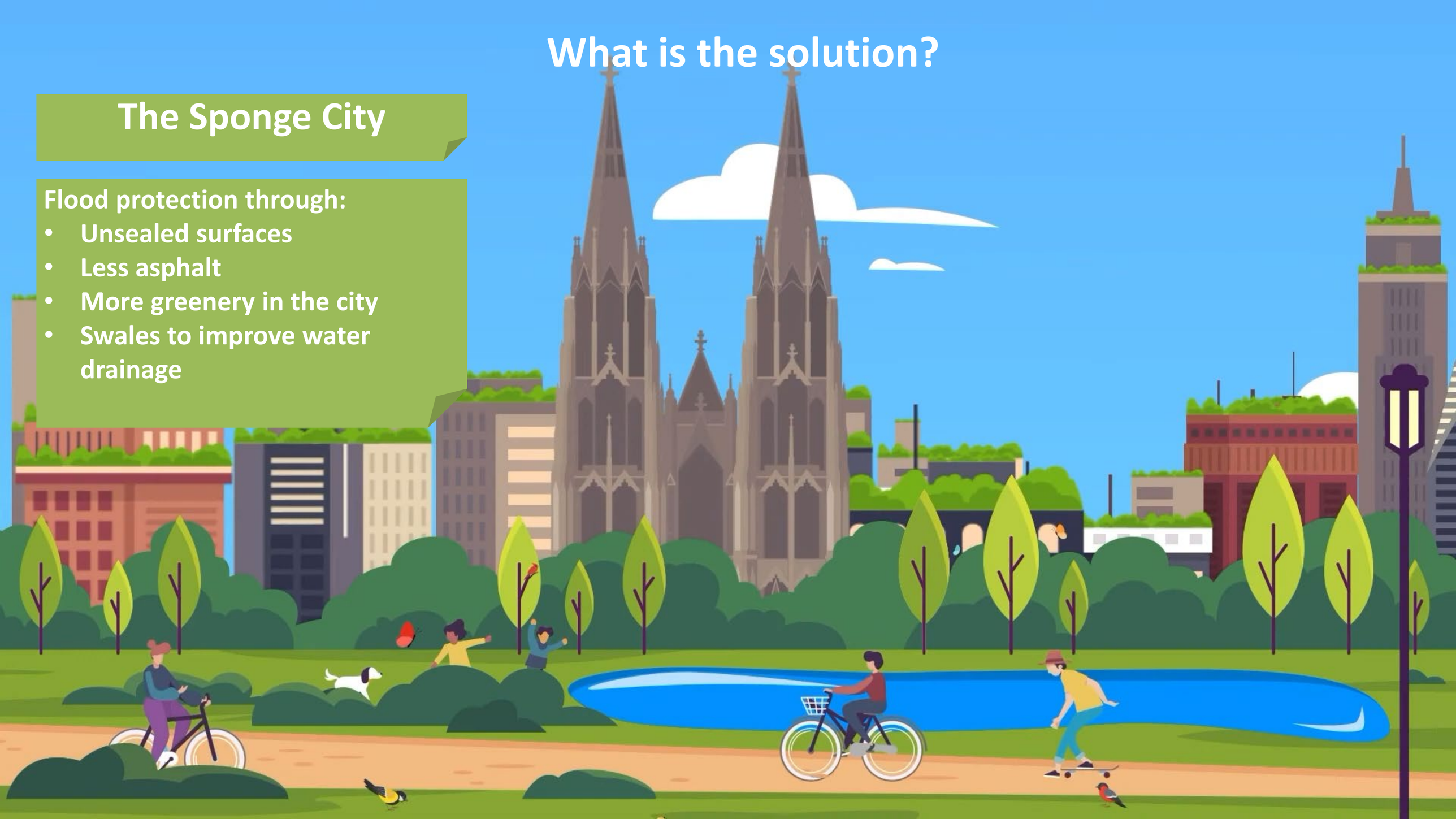
- The city is flooding because the sewer system cannot handle all the rainwater

What is the solution?

The Sponge City

Flood protection through:

- **Unsealed surfaces**
- **Less asphalt**
- **More greenery in the city**
- **Swales to improve water drainage**



Heavy rain





Test your knowledge!

Have a go at the quiz as a group!

Scan me!





Quiz auf englisch

Heavy rain

In summary!

There are dangers caused by heavy rain!

We can protect ourselves!

Using the heavy rain hazard map!



Heavy rain

Where are the areas prone to heavy rain in our school round?

Use the heavy rain hazard map:

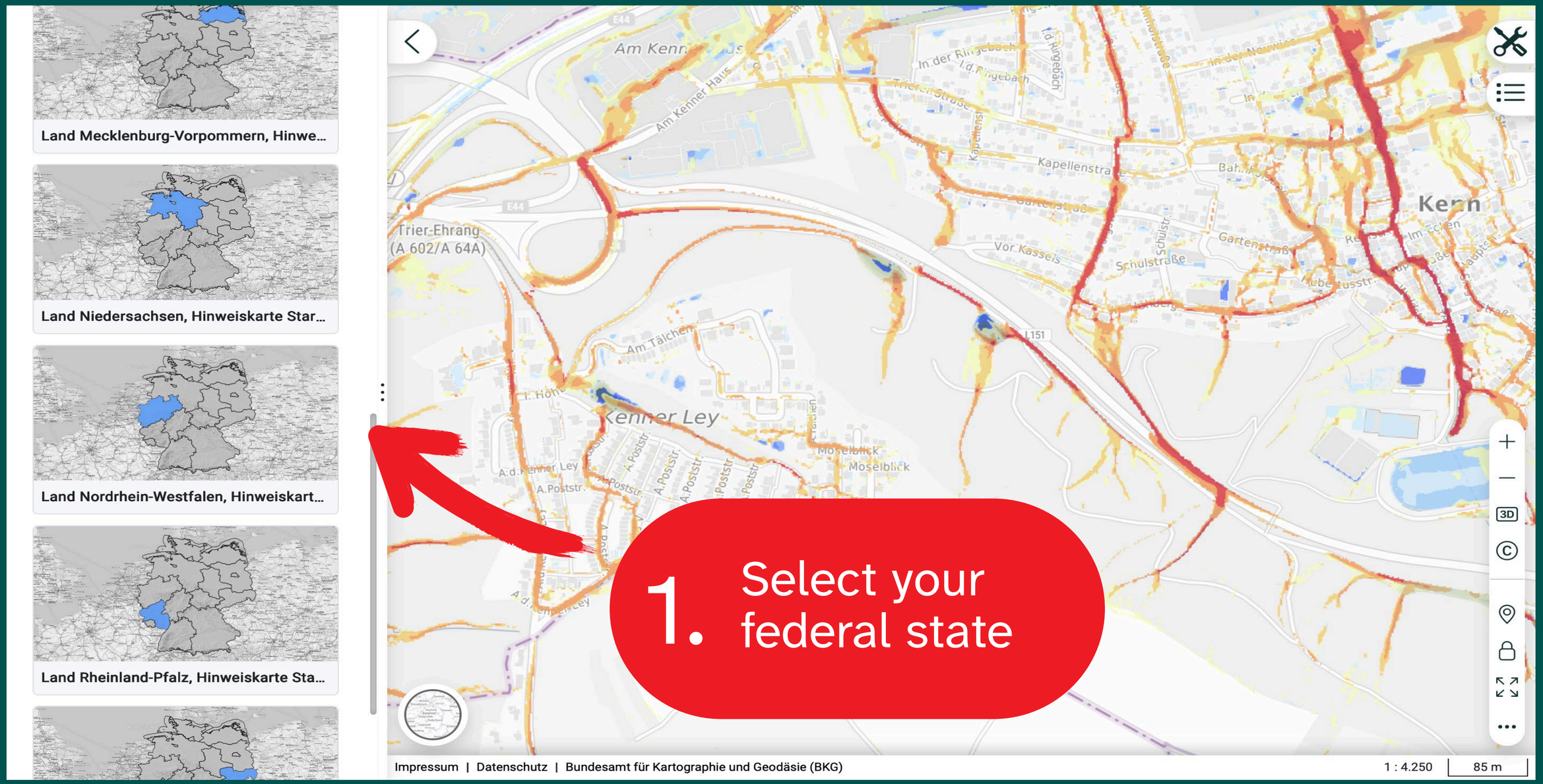
Geoportal.de
suchen. finden. verbinden.



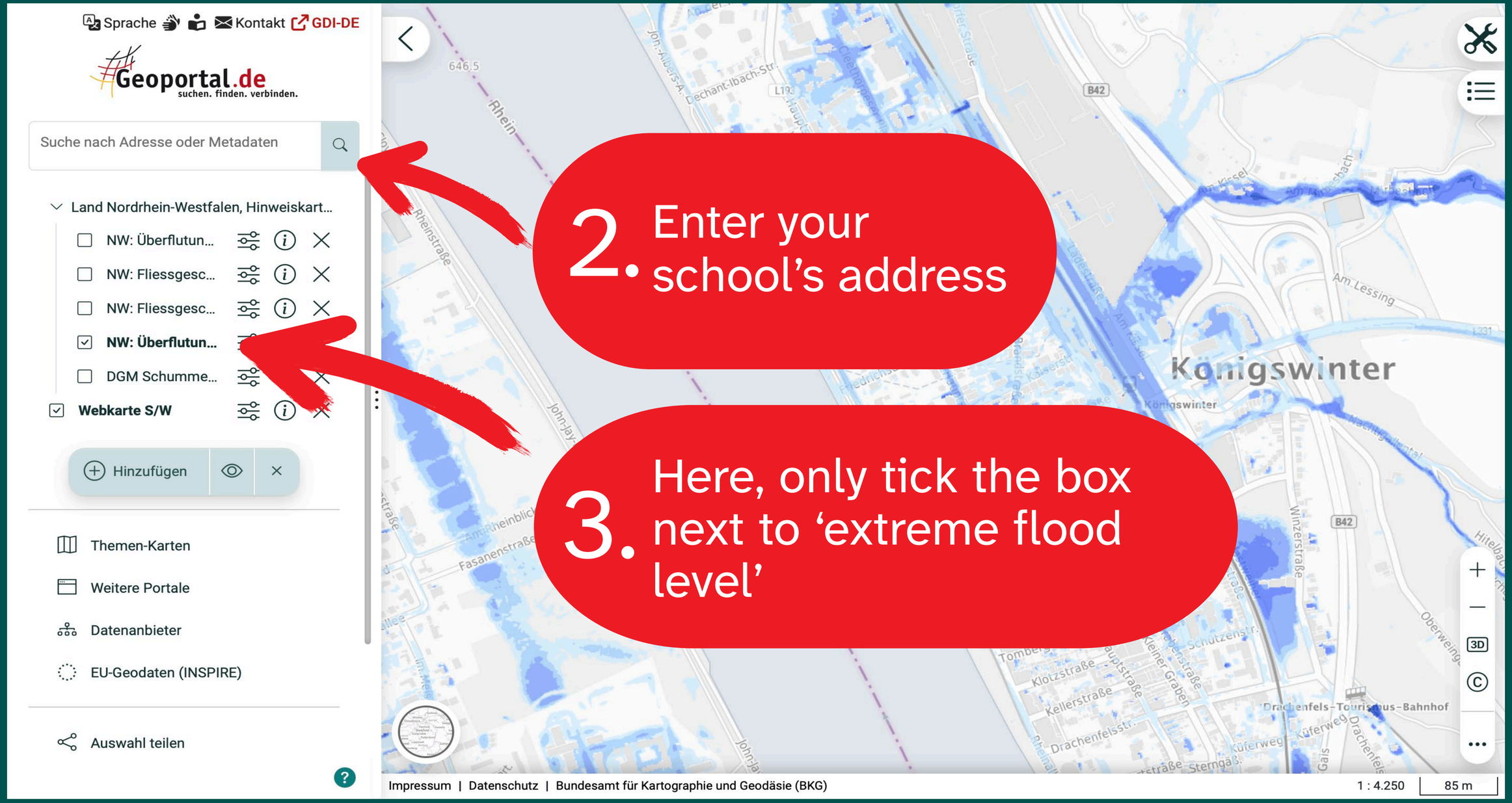
Identifying areas prone to heavy rain



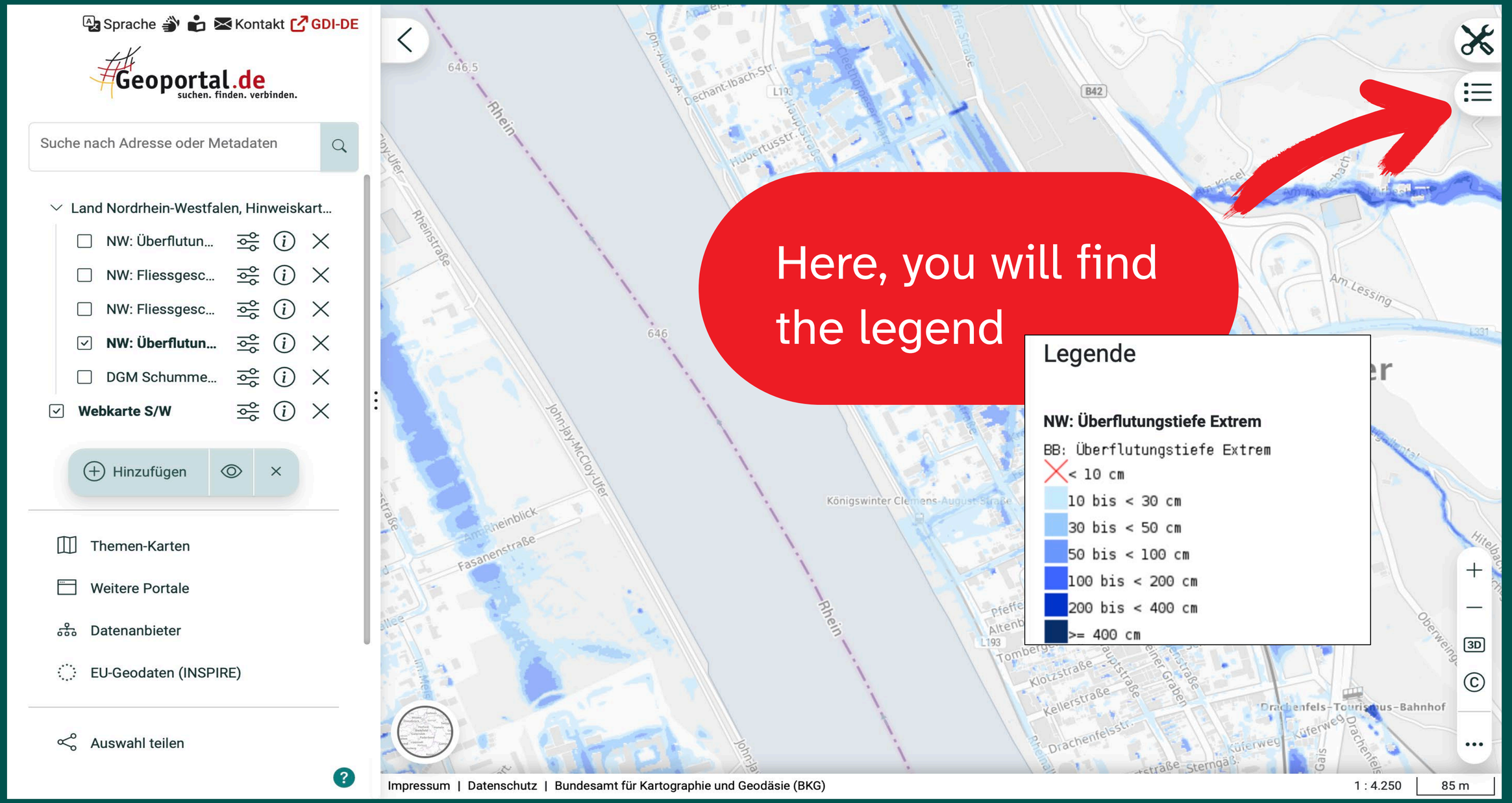
Hazard map: Heavy rain



Hazard map: Heavy rain



Identifying areas of heavy rain

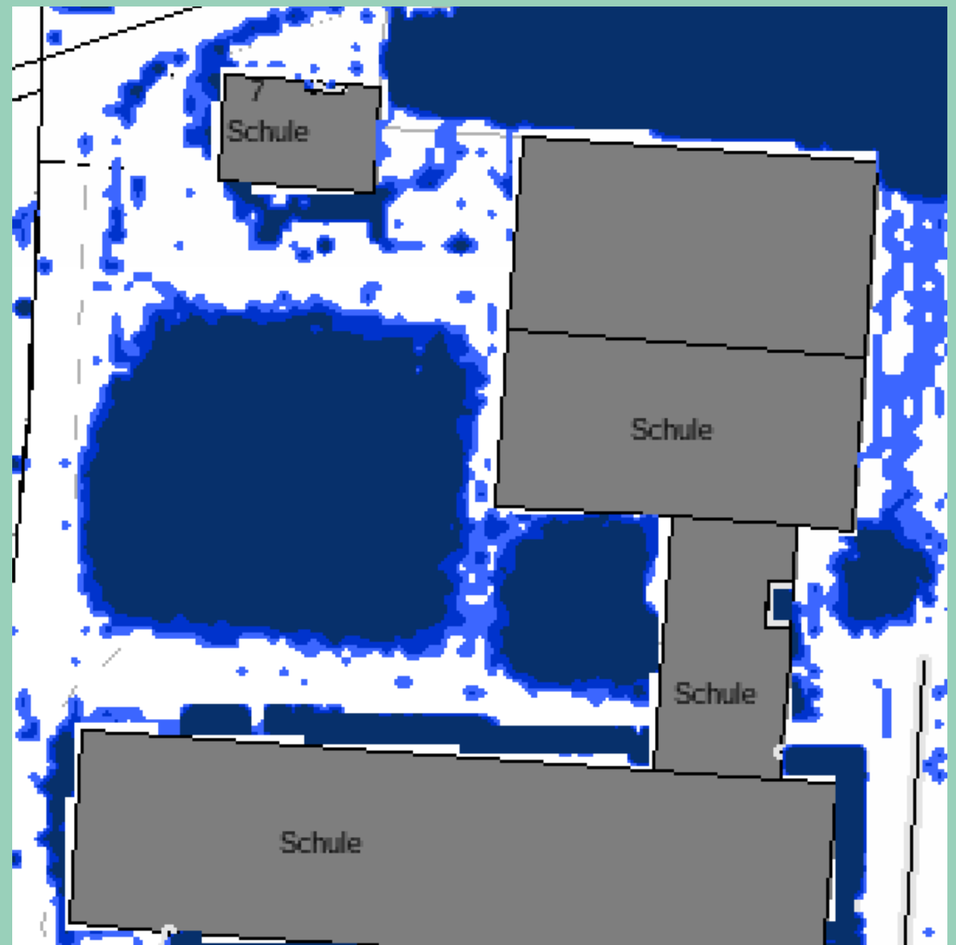


ASSIGNMENT

Identify potential flood-prone areas in your school grounds!

Use a **BLUE** coloured pencil to mark the areas affected by heavy rain on the sheet!

BLUE: Mark the areas prone to flooding



WHY GREEN ROOFS?

- Promoting biodiversity
- Thermal insulation in summer + protection against the cold in winter
- Water storage during heavy rainfall

Where does the water run off to on roofs without greening?

HOW DOES A GREEN ROOF WORK?

Insert a schematic drawing of a green roof

Rain is falling

↓

Water is stored
+ plants use it

↓

Drainage system is relieved

A green roof functions like a sponge on the roof.

ASSIGNMENT

Use Worksheet 3: Mapping

Identify the roofs of the school building that could be greened.

To do this, use the satellite view on Google Maps and check weather your school has flat roofs. Flat roofs can be greened!

GREEN: Mark potential green roofs



GOAL:

OUR SCHOOL GROUNDS OF THE FUTURE

WE ARE PLANNING OUR SCHOOL GROUNDS OF THE FUTURE

Expert role-play



Planning requires a range of specialist knowledge

- Divide up the expert roles within your group
- Filter the information of the expert role text using the table
- Present your role as an expert to the group using the table

WE ARE PLANNING OUR SCHOOL GROUNDS OF THE FUTURE

Planning



Design Process

- Use Worksheet 4: (Re)Designing the School Ground
  - Write your ideas (design elements) for planning on the poster
    - Take a look at the layout of your school: where could you put your ideas into practice?

WE ARE PLANNING OUR SCHOOL GROUNDS OF THE FUTURE

Model-making



Imprint

This material was developed as part of the Erasmus+ project **Green Cool Schools GROW Europe**.

https://www.greencoolschools.eu

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