



EGLV



Workshop Regional Cooperation on Flood Risk Adaptation

# **FLOOD RISK MANAGEMENT AT REGIONAL LEVEL**

Georg Johann



# The Emscher & Lippe Catchment







EGLV

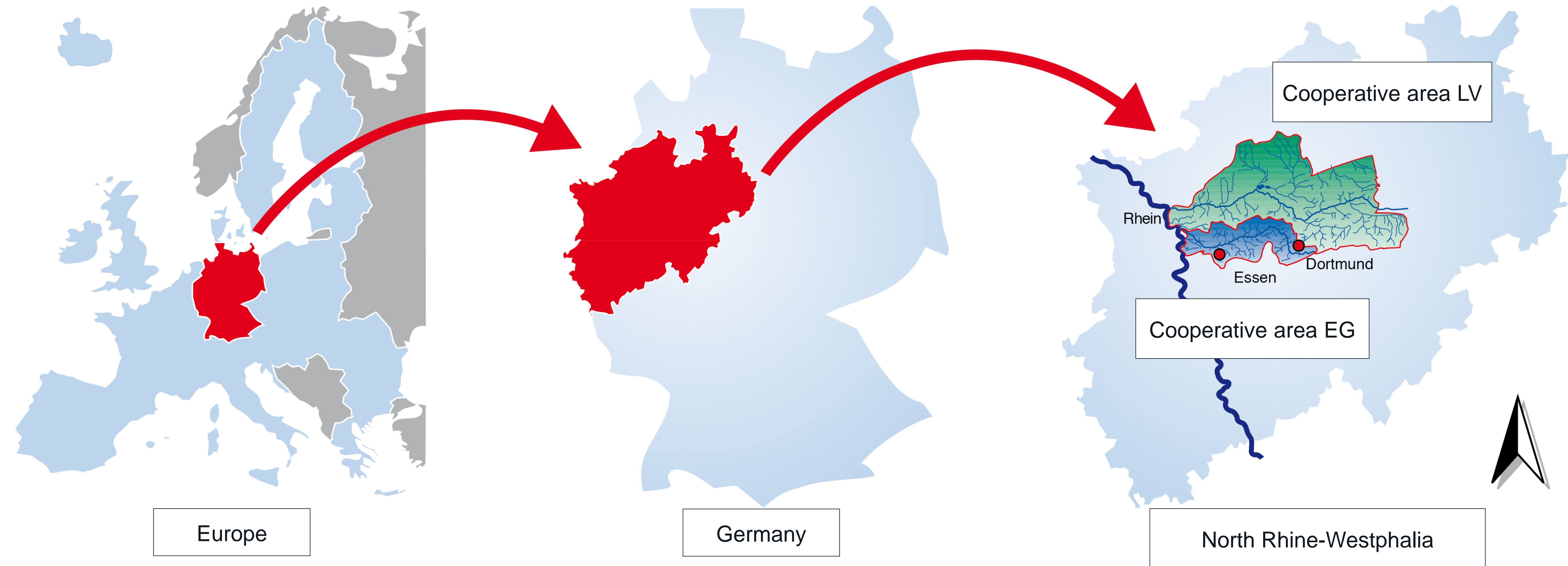
Catchment Characteristic:  
~ 4.000 km<sup>2</sup> catchment  
~ 4 Mio. Inhabitants



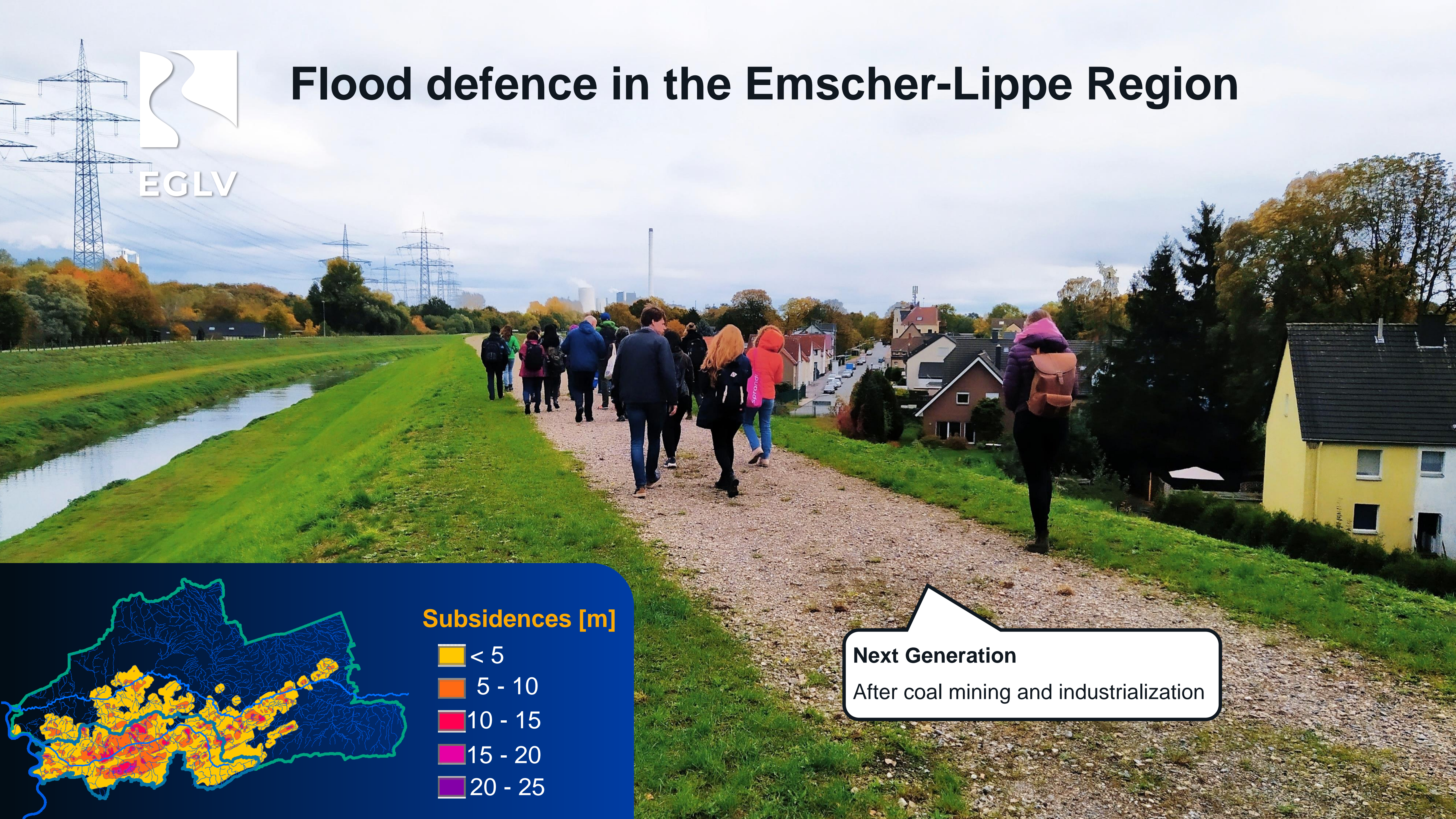


# Emschergenossenschaft and Lippeverband (EGLV)

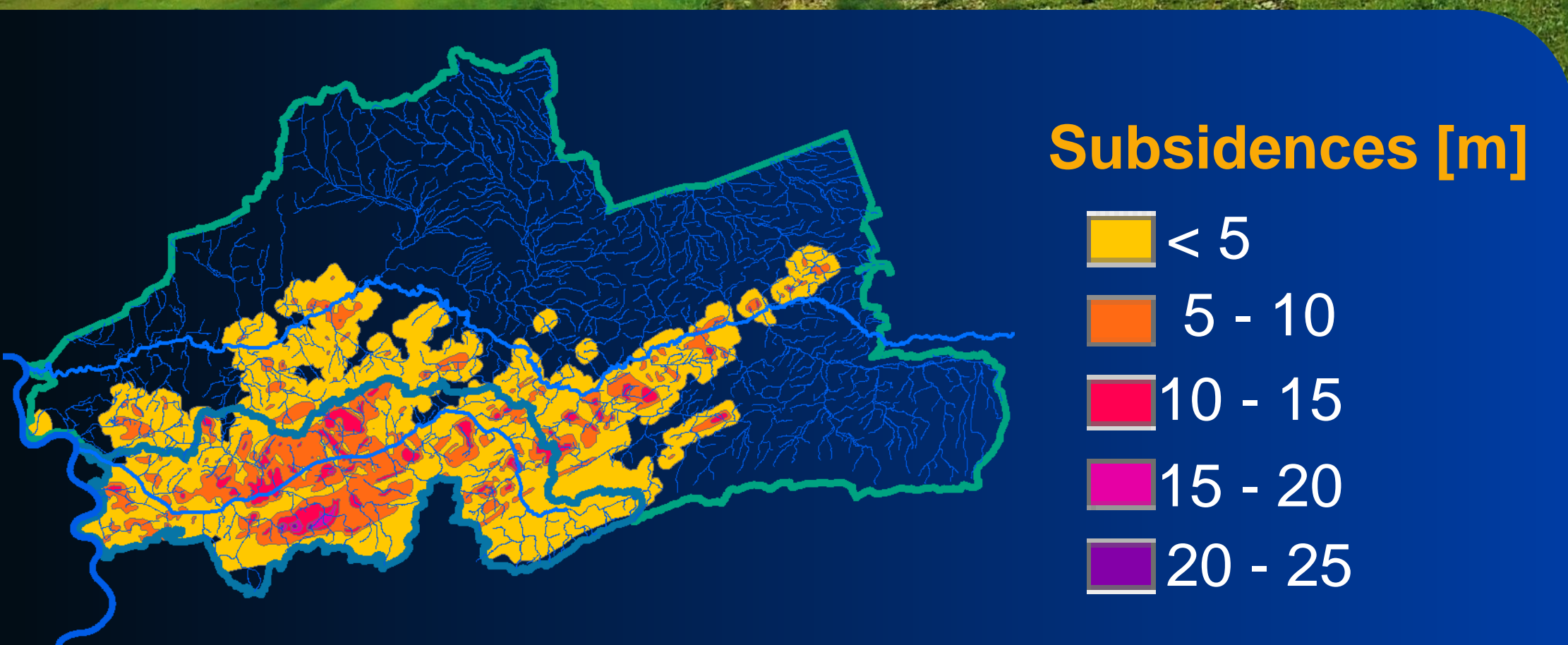
Public water associations for over a 100 years







# Flood defence in the Emscher-Lippe Region



**Next Generation**

After coal mining and industrialization



# Elements of flood risk management

## **technical flood protection:**

- 193 km dikes
- 535 pumping stations
- 5.2 Mio. m<sup>3</sup> retention volume

## **natural water retention measures:**

- ecological river renaturation
- decentral retention measures

## **arise awarnes:**

- Information of stakeholders and citizens





EGLV

# Highest River Dike in Europe: 17 m

Polder areas in the catchment: 852 km<sup>2</sup>

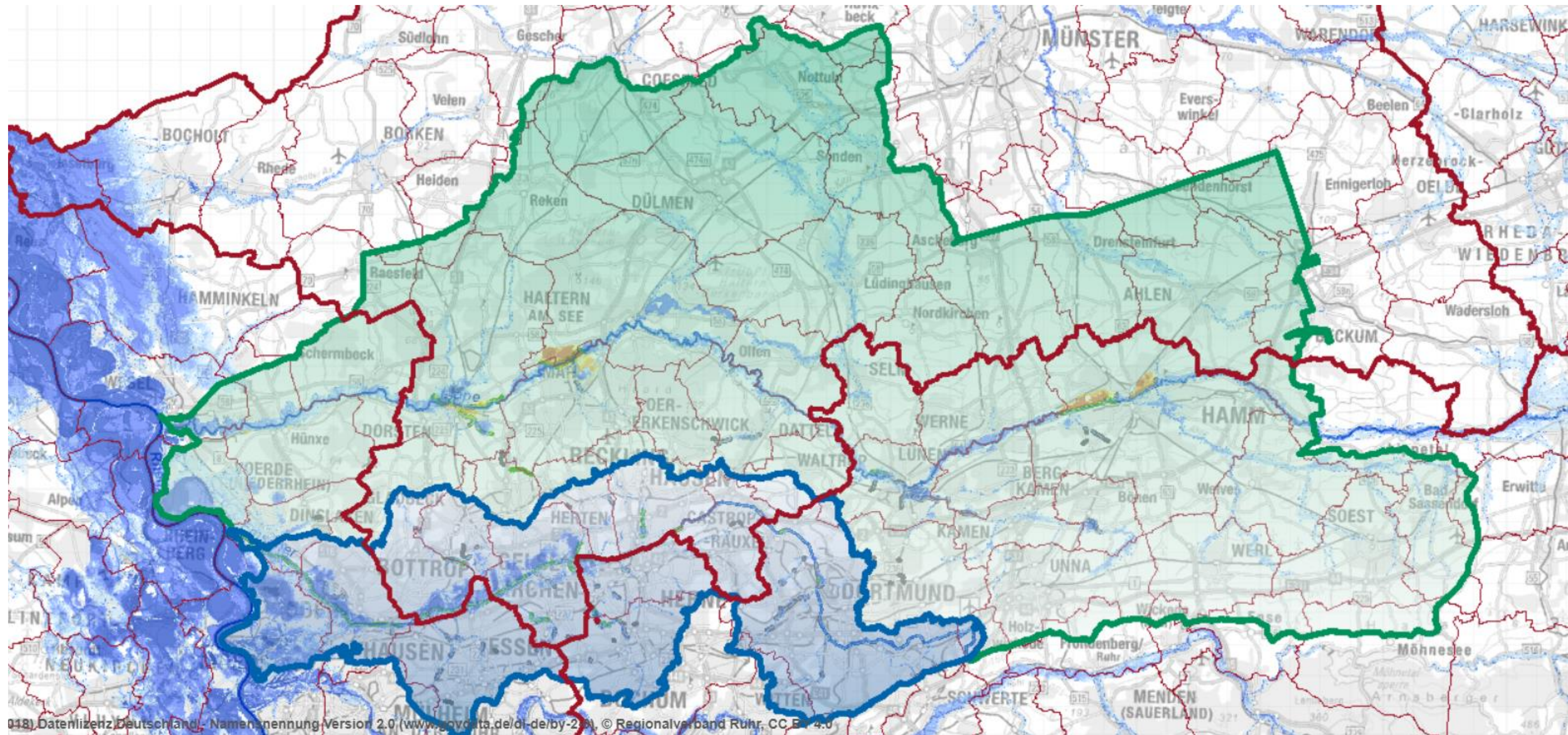






EGLV

# Water association, Districts and Municipalities







EGLV

# Our cooperation members by law

Concurrent operation

Emschergenossenschaft

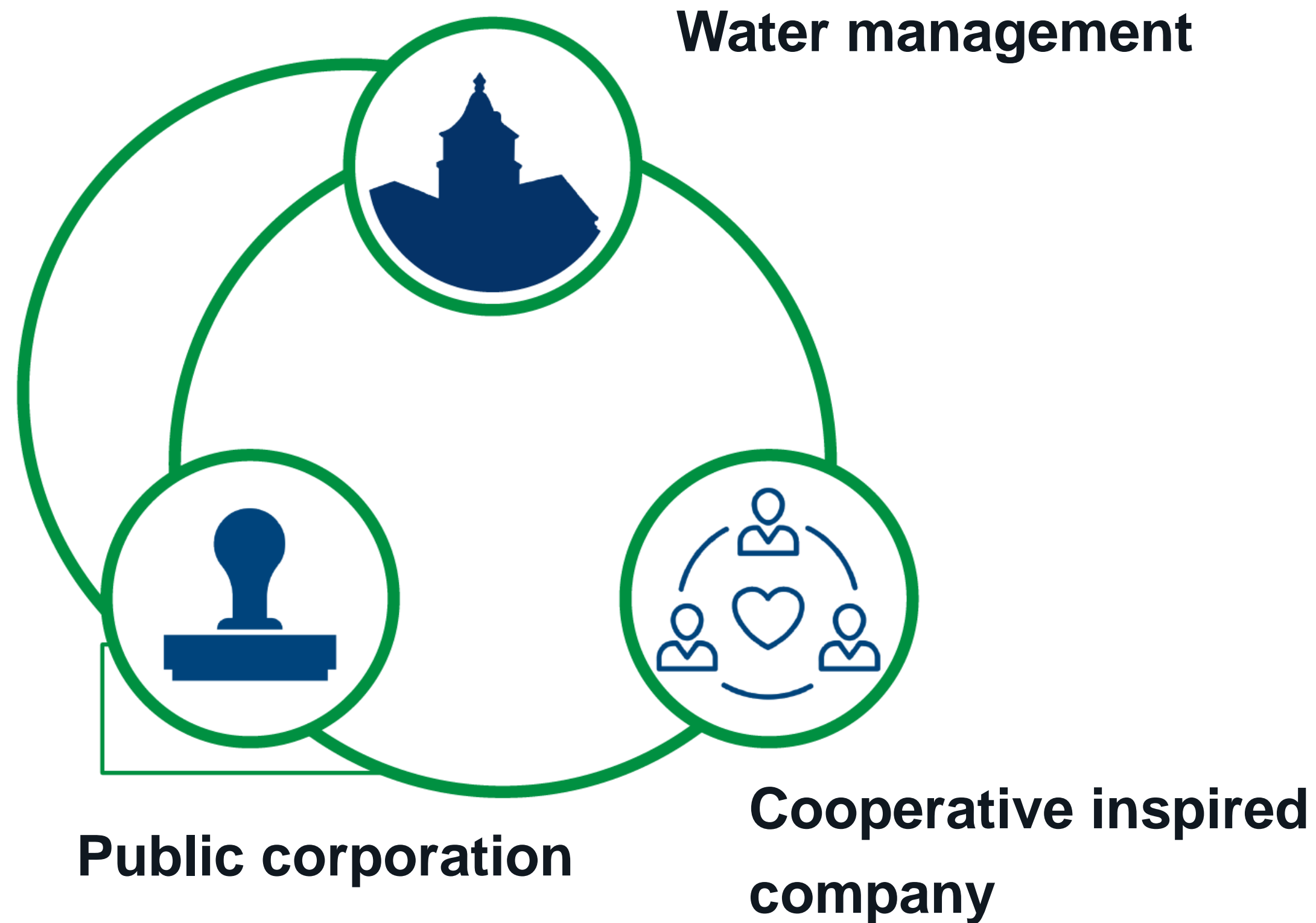
Municipalities

Commercial &  
industrial companies

Mining industry



# Our self-image and our role in the region



## Task development

We promote the cooperative idea as a guiding principle for a public welfare-oriented service.

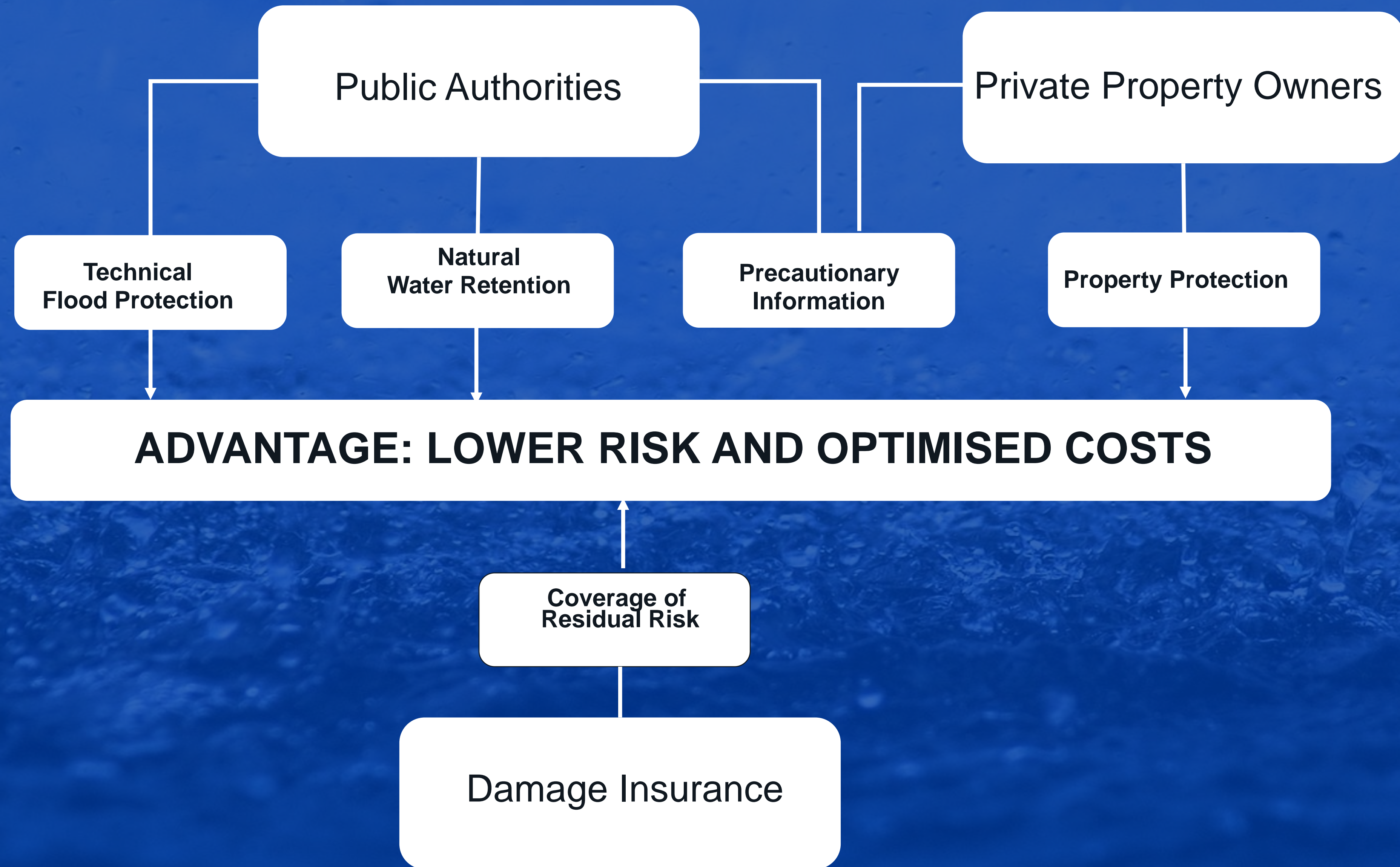


# Reduction of Flood Hazard





# Flood RISK management concept





# **5 Actionsfields of Flood Risk Management**

Measures for designfloods and extreme events

- 1. RETENTION: Creation additional retention areas**
- 2. ADAPTATION: Adaption to extreme events**
- 3. FLOOD-WARNING: Next Level (Impact)**
- 4. COOPERATION: Strengthening the Communication und Cooperation**
- 5. LAWS: Proposals for adaption of the legal framework**





EGLV

Economy

Ecology

Social

# RETENTION

„Ecosystem-Services“  
as a holistic assessment tool, for:

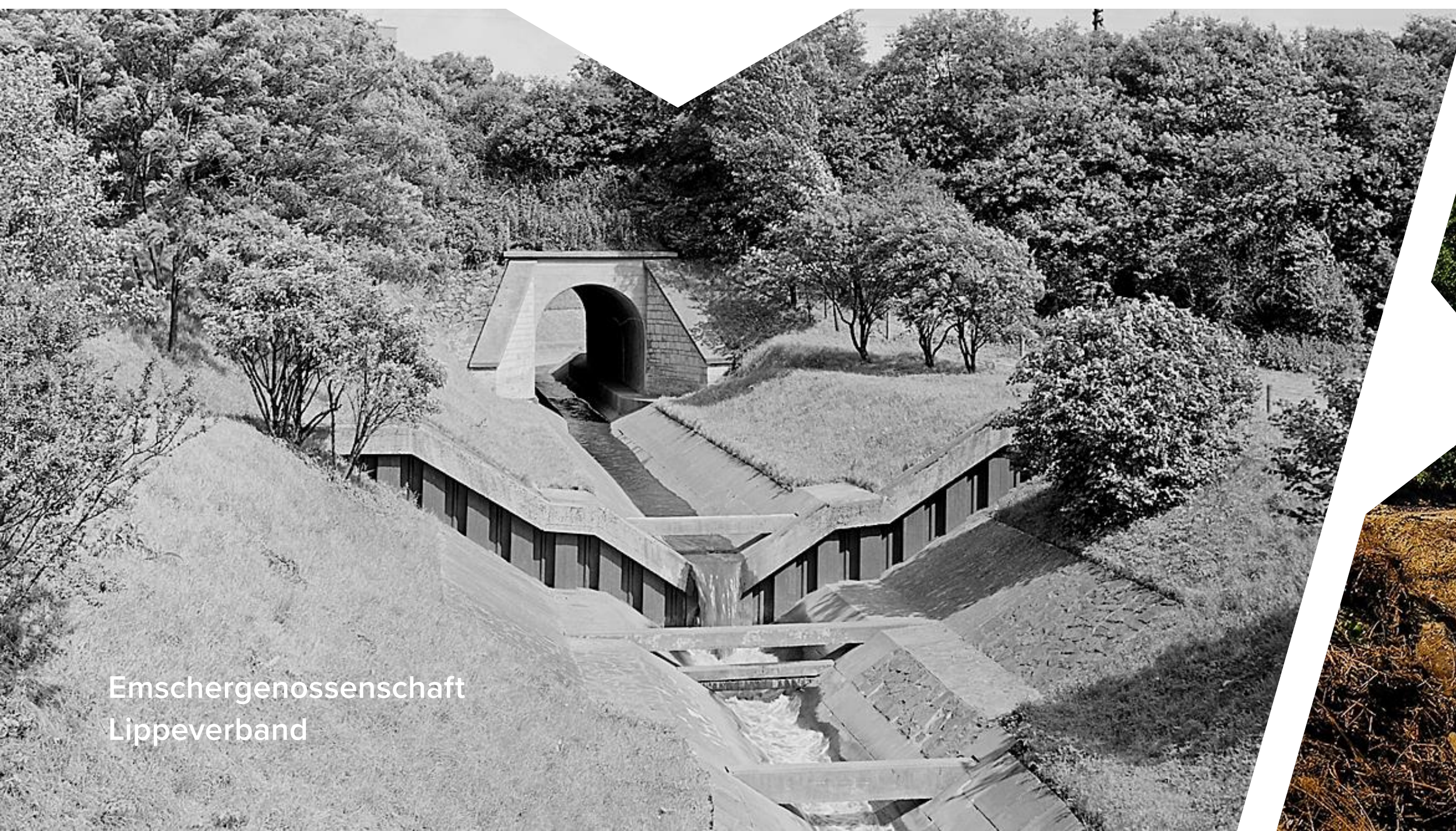
- Detection, description and systematic ordering of the sustainability potentials,
- Quantification or monetization of the same,
- Implementation of holistic cost-benefit analysis or Development of transfer systems.





EGLV

From grey  
to blue-green



Emschergenossenschaft  
Lippeverband







EGLV

Emschergenossenschaft  
Lippeverband

# Adaption: Dikes & Bridges

- climate surcharge on dike height 20 cm
- overflow-proof dikes
- Managing of backwater from bridges



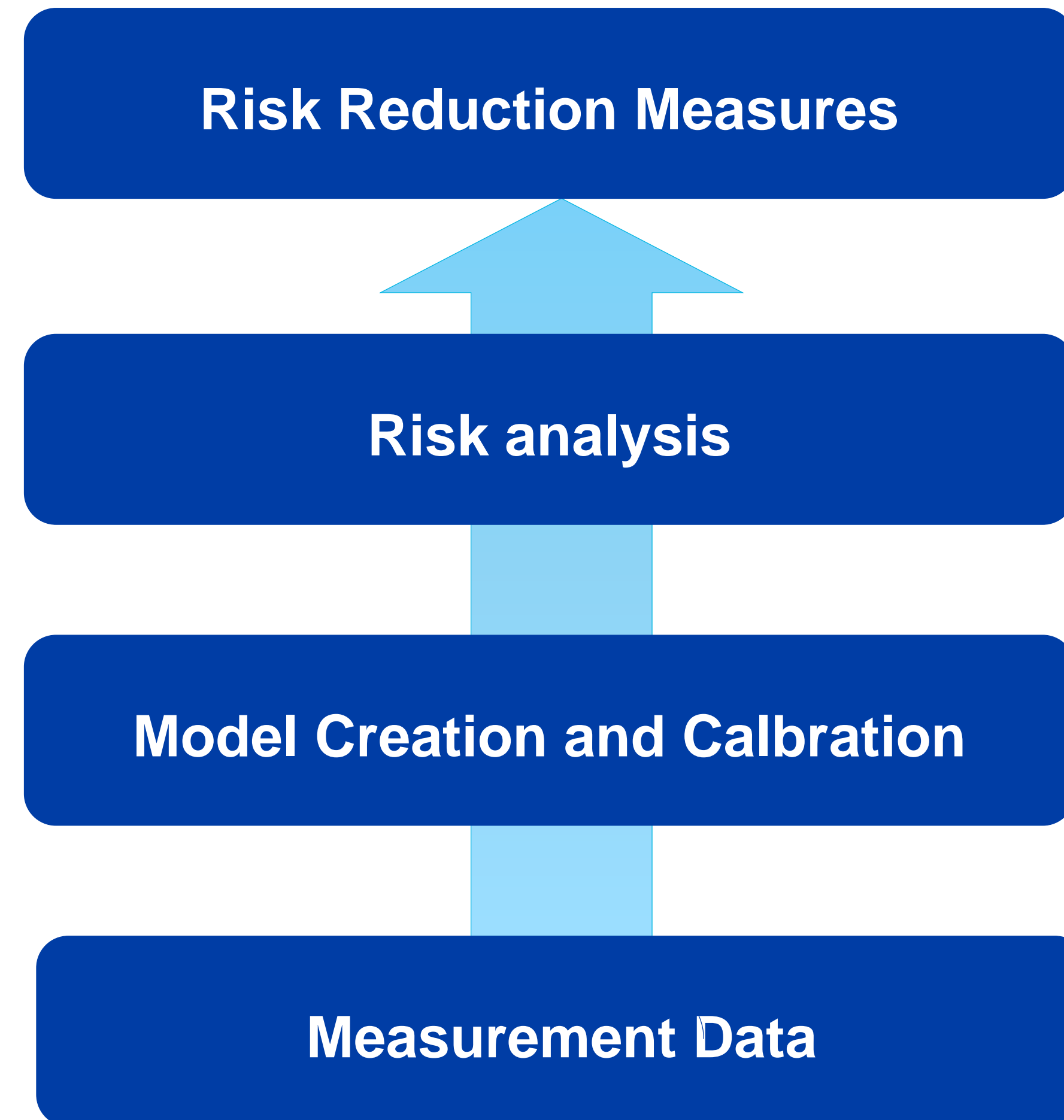


# Flood Forecast Cooperation & Communication Political framework

- Flood warning incl. effect
- Communication platform for alerting municipalities, authorities and civil society
- Polder management concepts for population protection and cascading effects on critical infrastructure with municipalities
- Support for self-preparedness ([floodlabel.com](https://floodlabel.com))



# Working Process







**EGLV**

# Flood Risk Management – Roles & Tasks

Water Association

- **Know-how**
- **Measurement-Data**
- **Catchment-Modells**



# Outlook

FRM in times of increasing extreme events

- **Sharing Data is the necessary basis for taking the right actions to promote the common good.**
- **Communication and preparedness are critical to event management.**





EGLV

THANK YOU VERY MUCH

Emschergenossenschaft  
Lippeverband

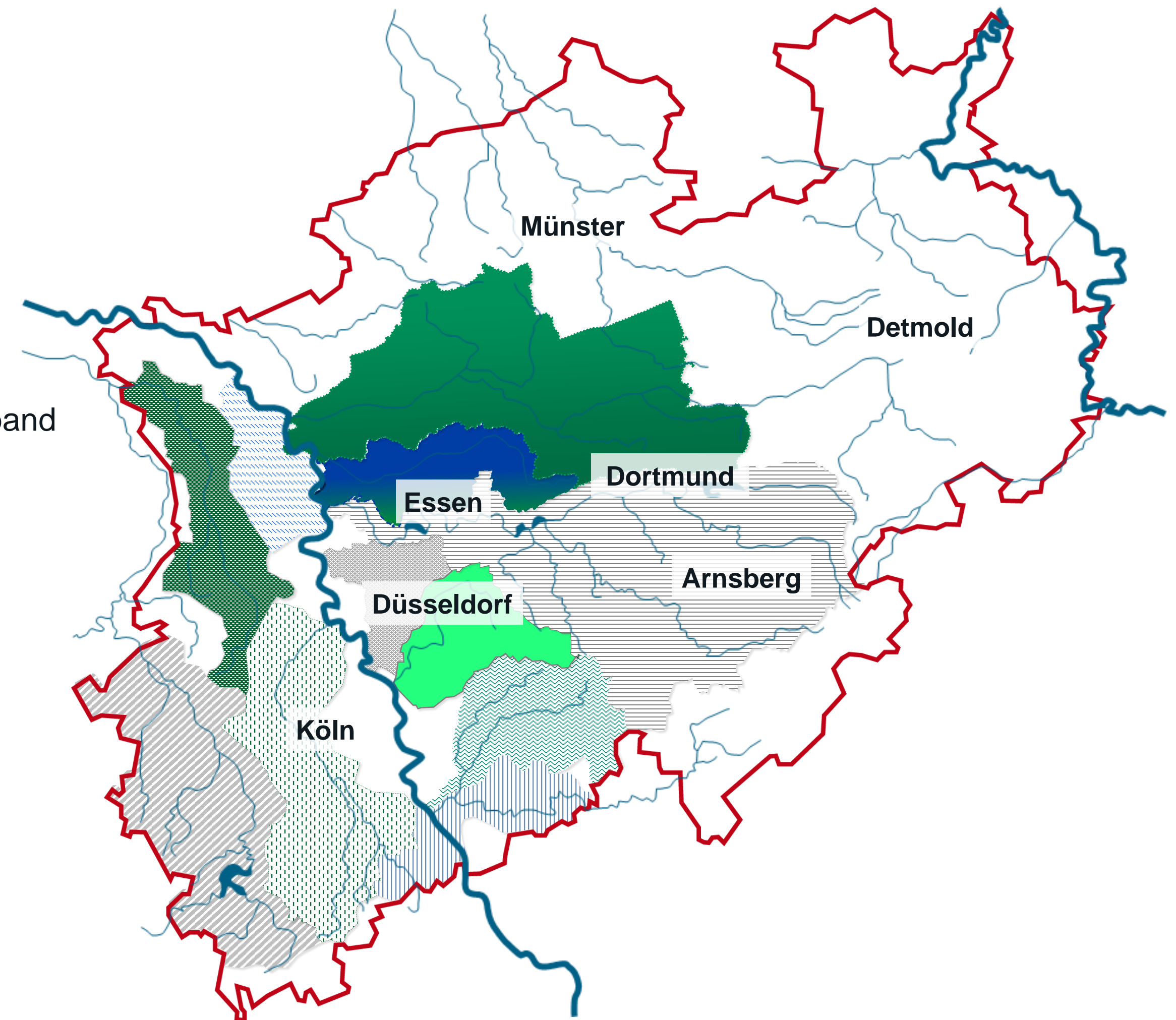
georg.johann@eglv.de





EGLV

# Water Associations in North Rhine-Westphalia



Emschergenossenschaft  
Lippeverband