



# ROOM FOR THE RIVER

## Preventive flood management by trans-border spatial planning in European river catchments

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Environmental and Territorial Planning

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## River Rhein Köln 1784



Engraving of Johann Baptist Bergmüller

## River Rhein Köln 1983



Bundesarchiv, B 427, Bild-0088  
Foto: Sers, Günter 7. April 1983

File:Bundesarchiv

## River Oder 1997



Breslau: Mit ein paar Habseligkeiten auf Flucht vor dem Wasser. In der polnischen Stadt ist die Lage weiter kritisch. Foto: dpa

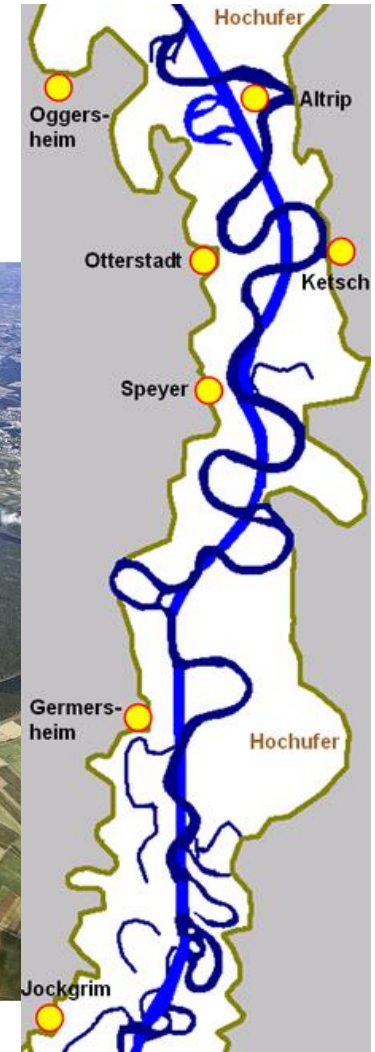
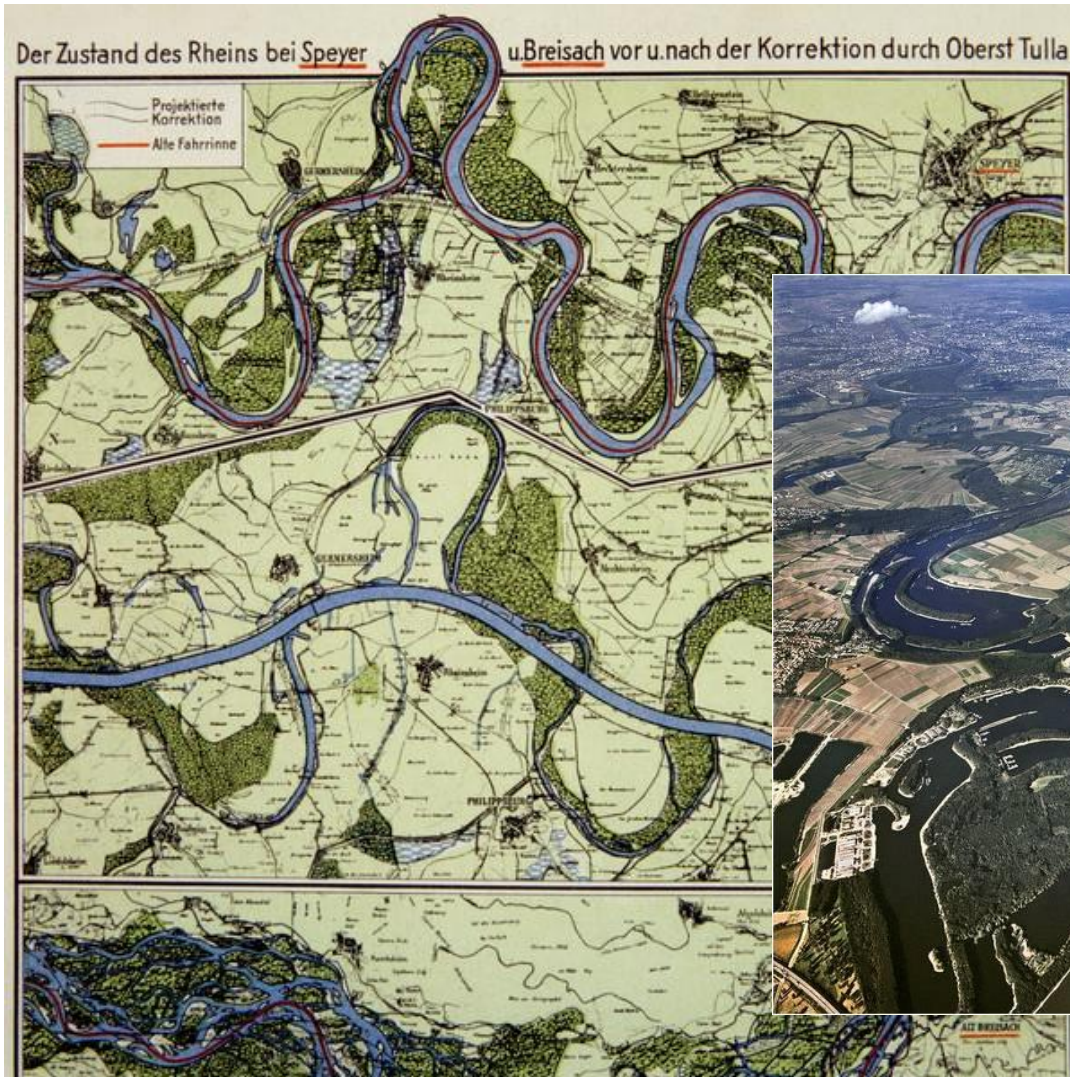
## River Elbe 2002 – Dresdner Zwinger and Opera House „Static Floods“



## River Elbe 2002 „Dynamic Flood“



# Straightening of the Rhein 1817 - 1876





# **Straightening of the Rhein - impacts**

## **Initial objectives**

Improvement of flood protection and reclamation of areas for agriculture and settlements by

- drainage of the swamps and
- cut of the meanders

## **Results**

the Straightening has

- shortened River Rhein between Basel and Bingen by 81 km
- Improved flood protection partly,
- shifted the problem to the Lower and Middle Rhein
- effected a serious interventions in nature

**To avoid severe floods River Rhein needs more room again and by this a partial restoration of the natural landscape**

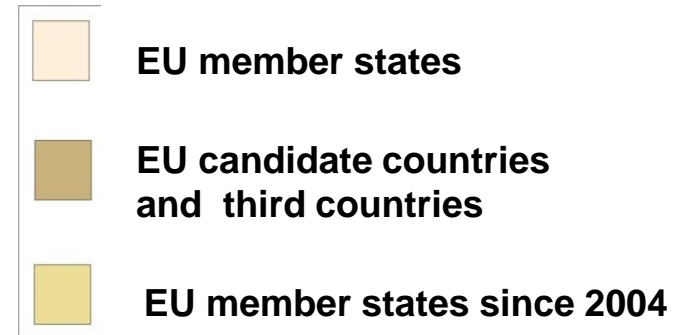
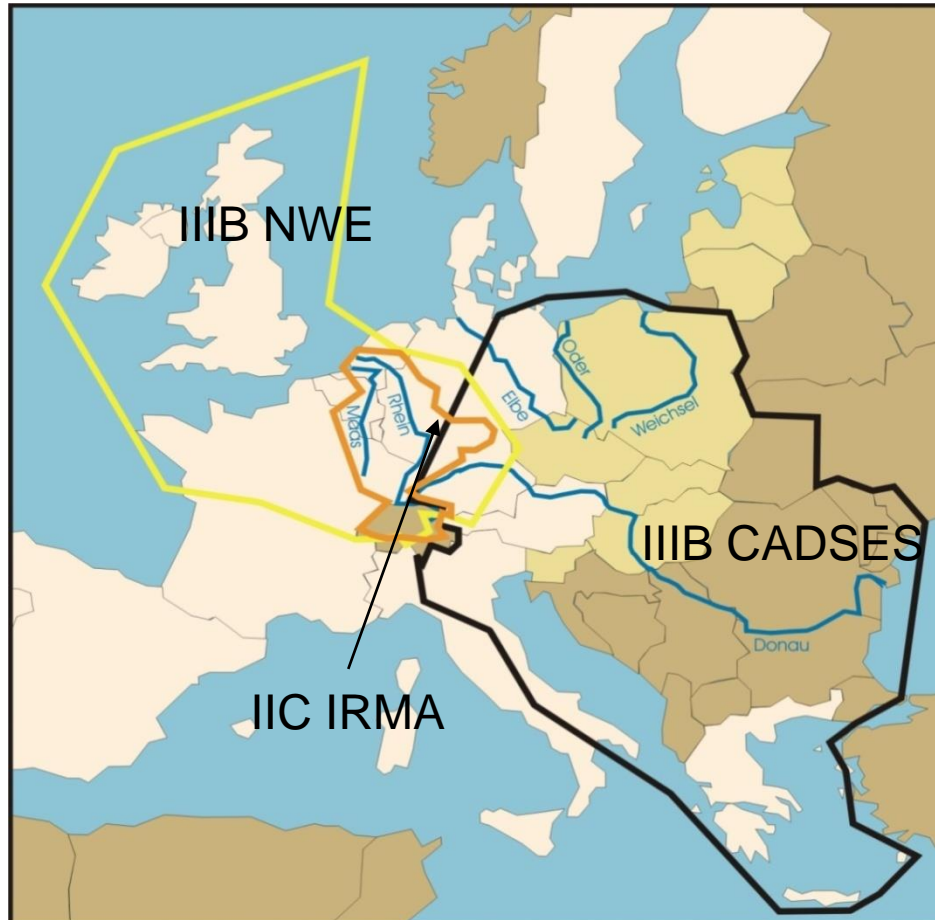
## **Community initiatives INTERREG a transnational European programme**

Development of an integrated multisectoral approach with emphasis on a spatial dimension

an important element on the way

- to an integrated spatial development in Europe and
- to the implementation of the European Spatial Development Perspective (ESDP/EUREK)

## Community initiatives INTERREG IIC and IIIB co-operation areas - and flood management



### Key areas of activity

IIC	IRMA
IIC / IIIB	ODERREGIO
IIIB	ELLA



## **IRMA - Rhine-Meuse Activities**

1998-2001 EU-INTERREG IIC IRMA

### **Objectives**

Reduce high-water in the Rhine and Meuse  
Contribute to spatial planning in Europe  
Support of transnational cooperation

### **Principles**

Retain water  
Give space to water  
Raising the awareness of high water



## IRMA - Financial means

**Programme volume 419 Mio. €**

**EU-Funds 141 Mio. €**

**In flood prone areas along the Rhein annual values of expected losses: > one billion € (IKSR 1998).**

**Efficient utilization of the financial means:**

- **In case of reduction of the damage potential by some percent**

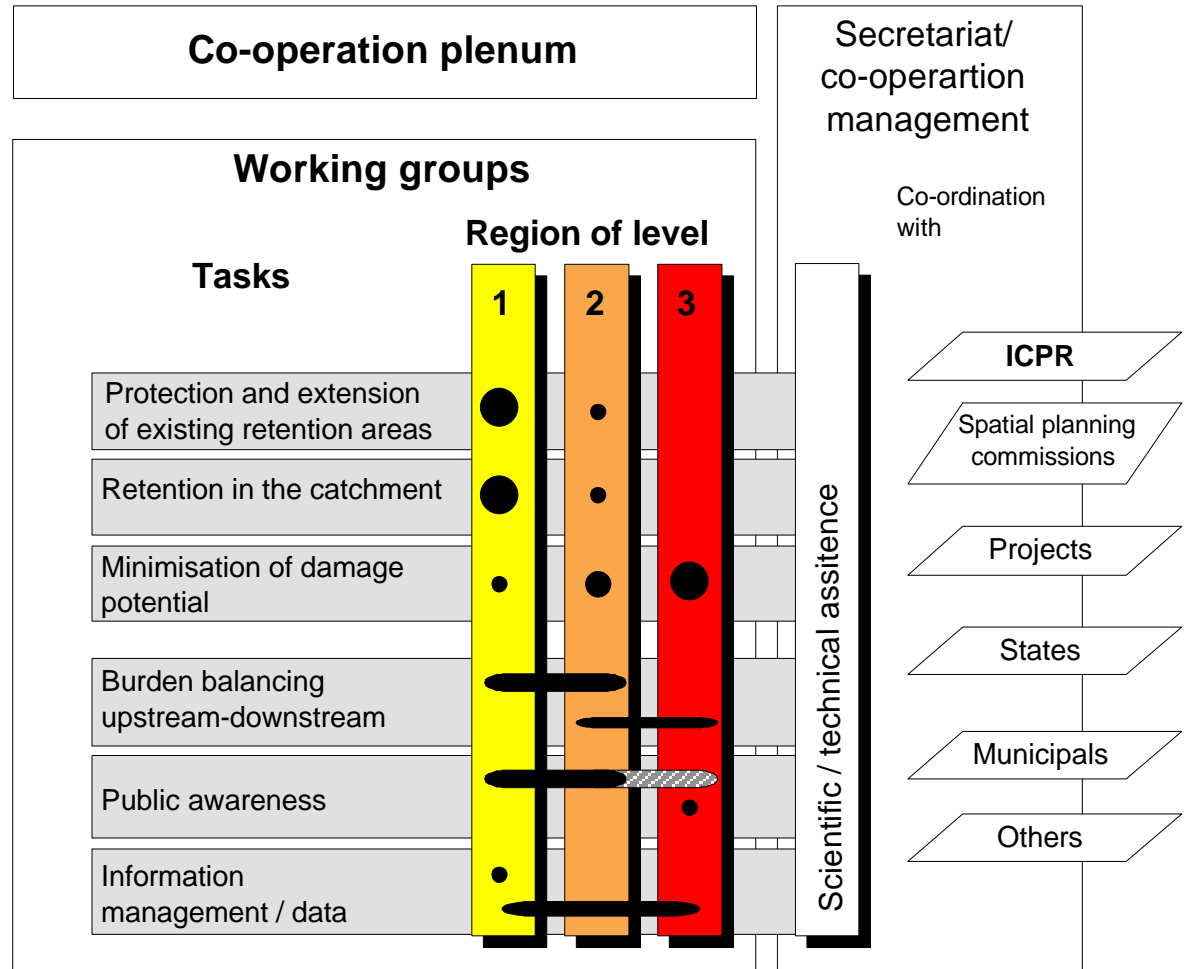
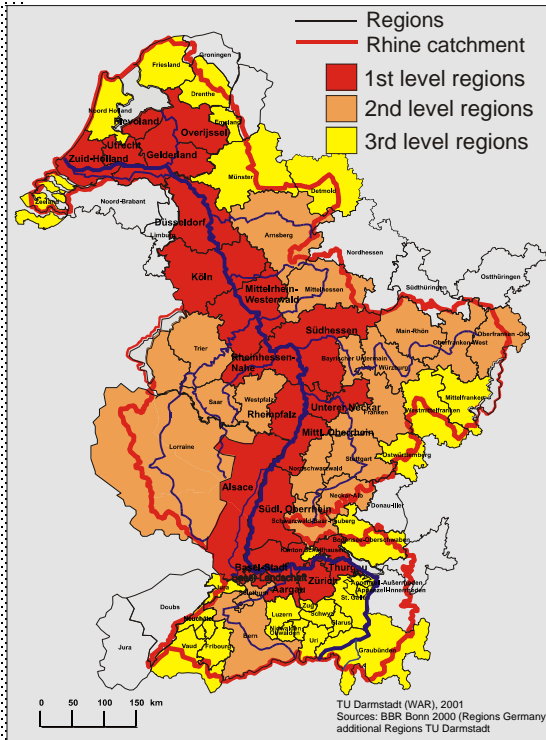


## IRMA - Projects

1. DEFLOOD – flood reduction measures and reference floods.
2. Integrated management strategies for Rhine and Meuse.
3. FRHYMAP – flood risk and hydrological mapping.
4. DSS-LARGE RIVERS – a tool for assessing measures.
5. Improving spatial planning instruments for flood risk management.
6. Guidelines for the implementation of ecological measures along rivers.
7. Cyclic rejuvenation of floodplains.
8. The added value of wetlands – flood reduction and water quality.
9. INTERMEUSE – integrated spatial planning for the river Meuse.
10. Living with floods – resilience strategies for flood risk management.
11. BIOSAFE – a tool for assessing impacts of measure on biodiversity.
12. FloRIJN – improvement of the Rhine flood forecasting system.
13. STORM – a role-play for transboundary river management.



# IRMA – Area, Structure





## **IRMA-SPONGE - Scientific Programme On GEnerating sustainable flood control**

13 Projects interlinked

Lead Partner: The Netherlands Centre for River Studies (NCR)

Participating Institutions (38) u.a.:

Bundesanstalt für Gewässerkunde (D)

Centre d'Etudes et de Recherches Ecogéographiques (F)

Centre de Recherche Public (LUX)

École Polytechnique Fédéral de Lausanne (CH)

Potsdam Institut für Klimafolgenforschung (D)

Technische Universität Darmstadt (D)

Vrije Universiteit Brussel (B)

International Scientific Advisory Committee (ISAC)





## IRMA-SPONGE

**Project no. 5: „Spatial Planning and Supporting Instruments for Flood Management“\***

1998-2001 EU-INTERREG IIC IRMA

Program partners:

Netherlands Centre for River Studies – NCR, NL, Lead Partner

Ministerie van Verkeer en Waterstaat – Rijkswaterstaat, NL

WL / Delft Hydraulics, NL

Bundesanstalt für Gewässerkunde, DE

Potsdam Institute for Climate Impact Change, DE

German Aerospace Centre, DE

Technische Universität Darmstadt, DE

Centre d’Etudes et de Recherches Ecogeographiques, F

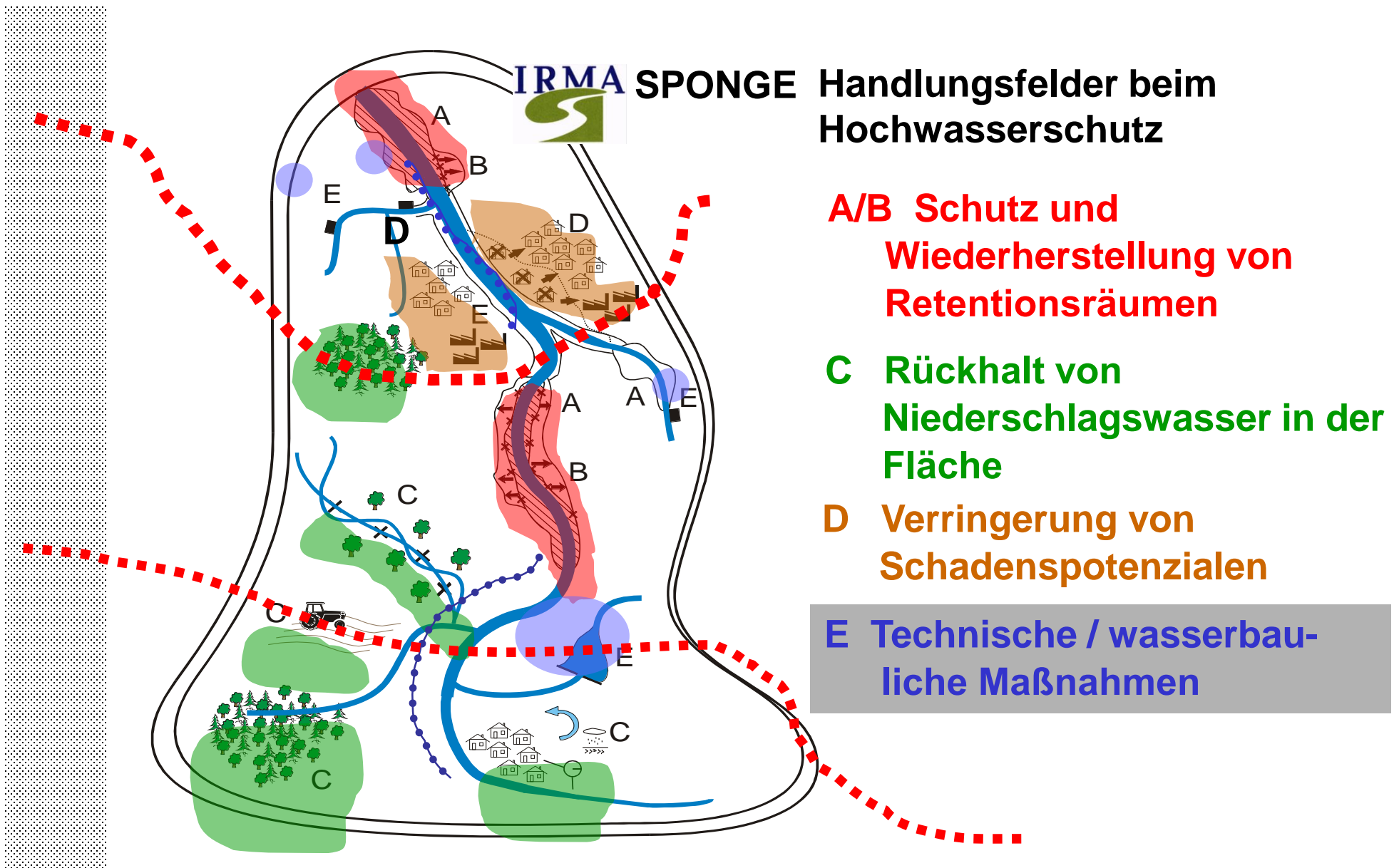
Instituut voor Natuurbehoud, B

Centre de Recherche Public – Gabriel Lippmann, L

Ecole Polytechnique Federal de Lausanne, CH, et al.

Project partner:

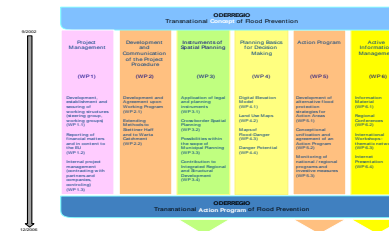
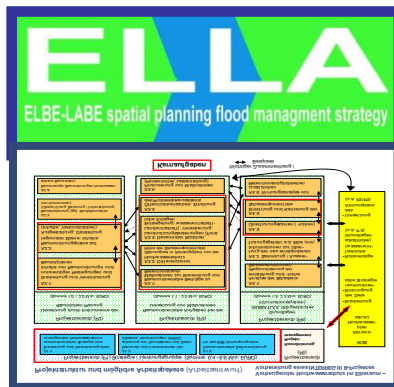
Universität Bern, CH





The Transfer of good results and experience to other river basins already started, e.g.

- catchment wide transnational co-operation
- Flood management strategies for spatial planning
- long term improvement of networks
- Implementation of flood management measures  
 → Reduction of flood risk





## **Conception and Action Program for Flood Management Measures by Transnational Spatial Planning in the Catchment Area of the Oder– ODERREGIO I und II**

1999 – 2006 EU-INTERREG IIC / IIIB CADSES

### Partners:

Gemeinsame Landesplanungsabteilung Berlin-Brandenburg, DE, Lead  
Bundesministerium für Verkehr, Bau und Stadtentwicklung, DE  
Sächsisches Staatsministerium des Innern, DE  
Ministerstwo Infrastruktury, Warszawa, PL  
Ministersvo pro mistni rozvoj, Praha, CZ  
Rzadu Pelnomocnik ds. Programu dla Odry 2006, PL  
Investitionsbank Brandenburg, DE  
Wroclaw Regional Development Agency, P

# ODERREGIO

## Catchment

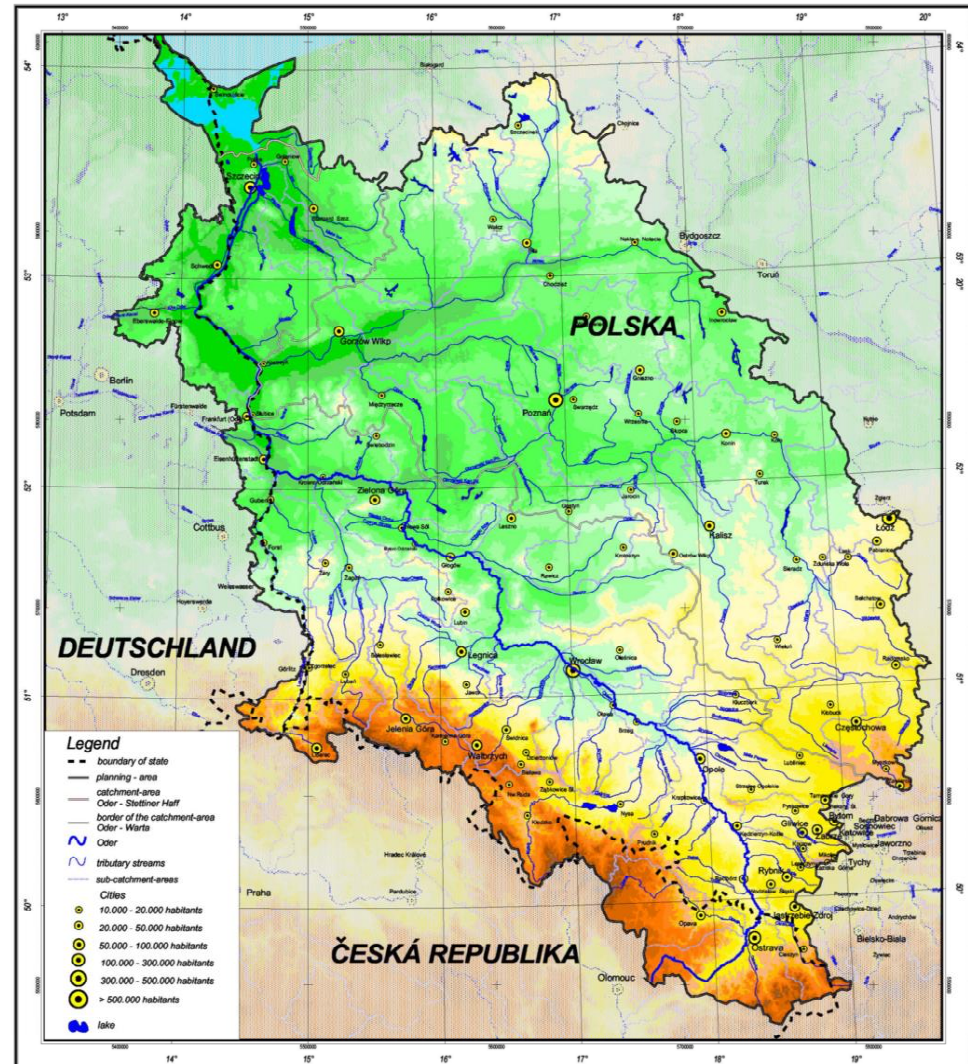
Length Oder: 854 km

Catchment: 118.861 km<sup>2</sup>

Poland 89 %

Czech Republic 6 %

Germany 5%



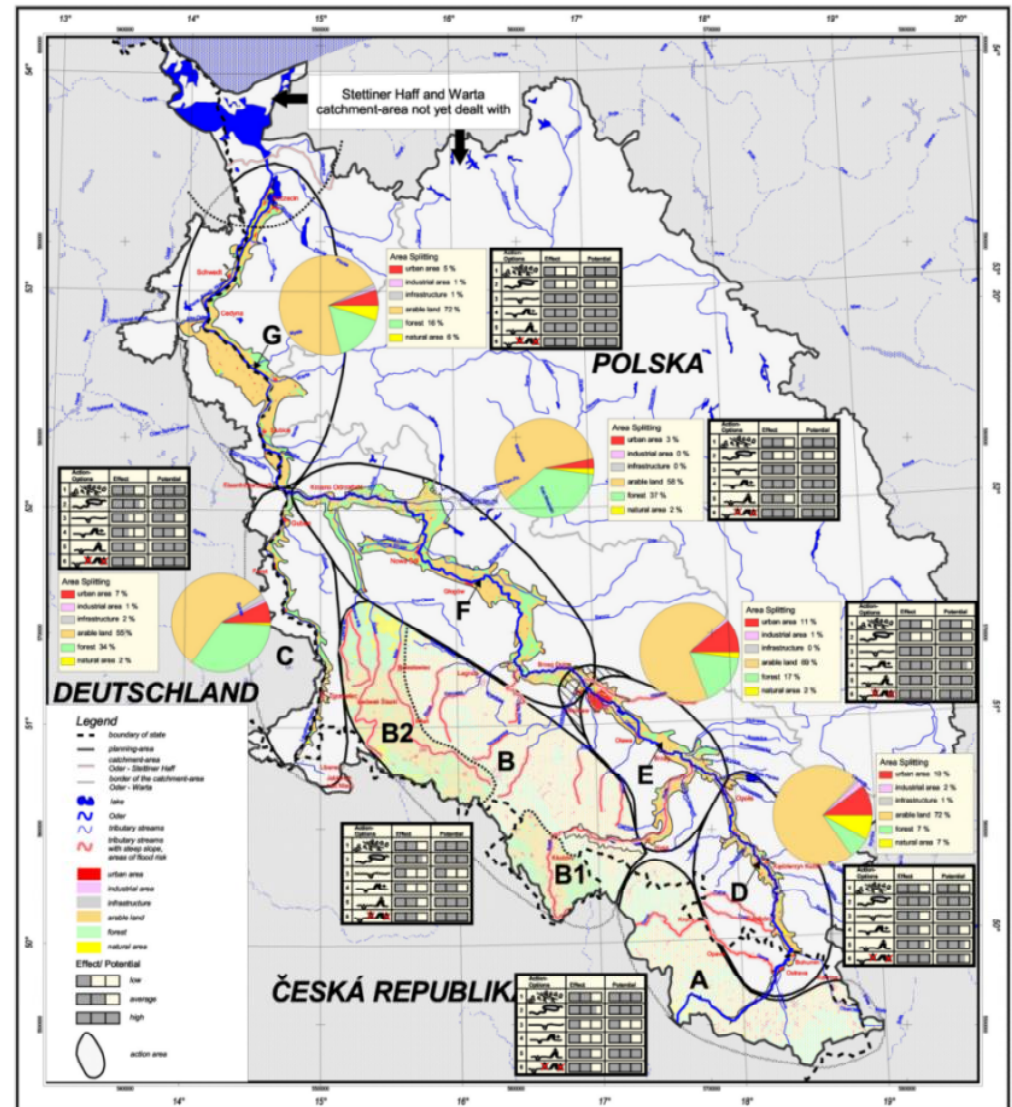
# ODERREGIO

## Action Areas (A – G):

- Land Use

## Action Fields (1 - 6):

- Potentials
- Effects





## Preventive Flood Management Measures by Transnational Spatial Planning for the Elbe–Labe

Length 1.091 km

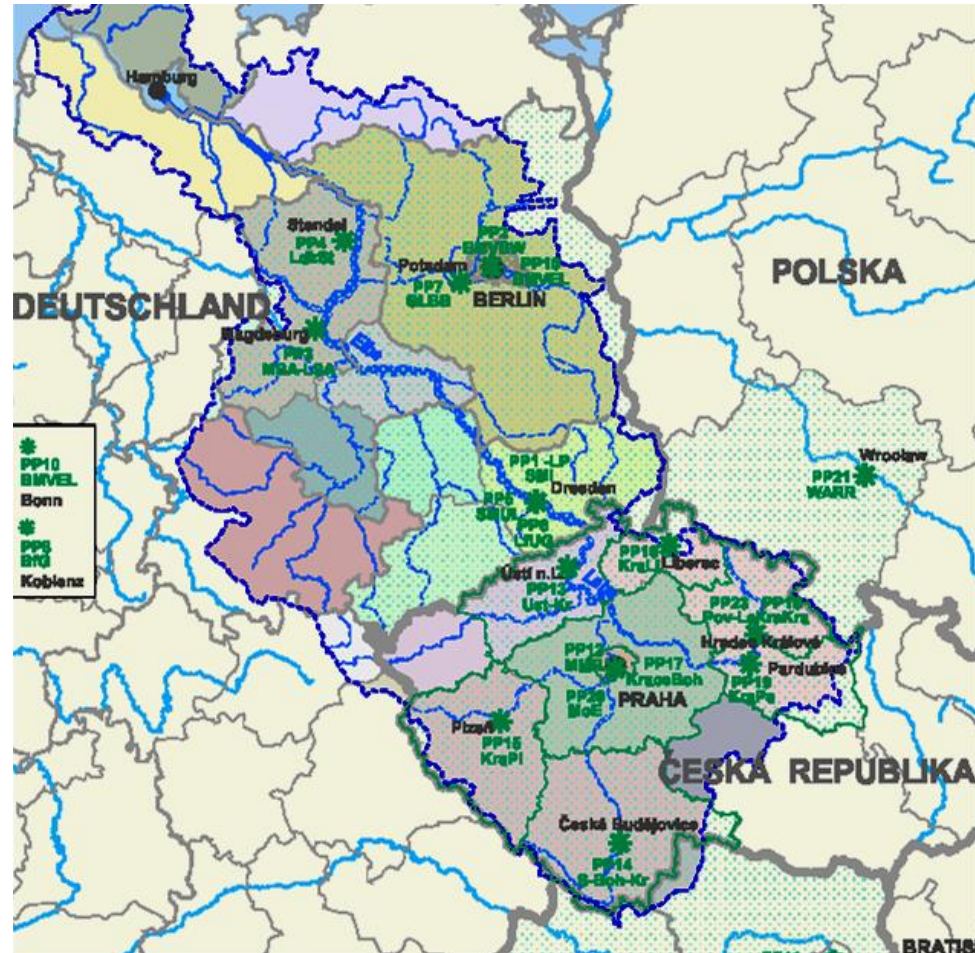
Area: 148.268 km<sup>2</sup>

65,4 % DE

33,8 % CZ

0,6 % AUT

0,2 % PL





## Partners:

- **Sächsisches Staatsministerium des Innern, DE, Lead Partner**
- **Bundesministerium für Verkehr, Bau und Stadtentwicklung, DE**
- **Ministerium für Bau und Verkehr des Landes Sachsen-Anhalt, DE**
- **Gemeinsame Landesplanungsabteilung Berlin-Brandenburg, DE**
- **Bundesministerium für Ernährung, Landwirtschaft und Verbraucherschutz, DE**
- **Bundesministerium für Land- und Forstwirtschaft, Umwelt u. Wasserwirtschaft, Wien, AT**
- **Ministersvo pro mistni rozvoj, Praha, CZ**
- **Ministerstvo zivotniho prostredi, Praha, CZ**
- **Regions (Kraj), CZ**
- **Wroclaw Regional Development Agency, PL**
- **Middle-Tisza Water Authority, Szolnok, HU**





## Structure of the project, work packages

exchange with  
the activities  
of the IKSE

WP 1:  
**Transnationale co-operation /  
strategy**

WP 4:  
project-  
management,  
coordination

WP 2:  
**regionalization of  
the strategies and  
the territorial plans  
ierung**

**pilote projects:**

**exchange,  
merger of the  
contents**

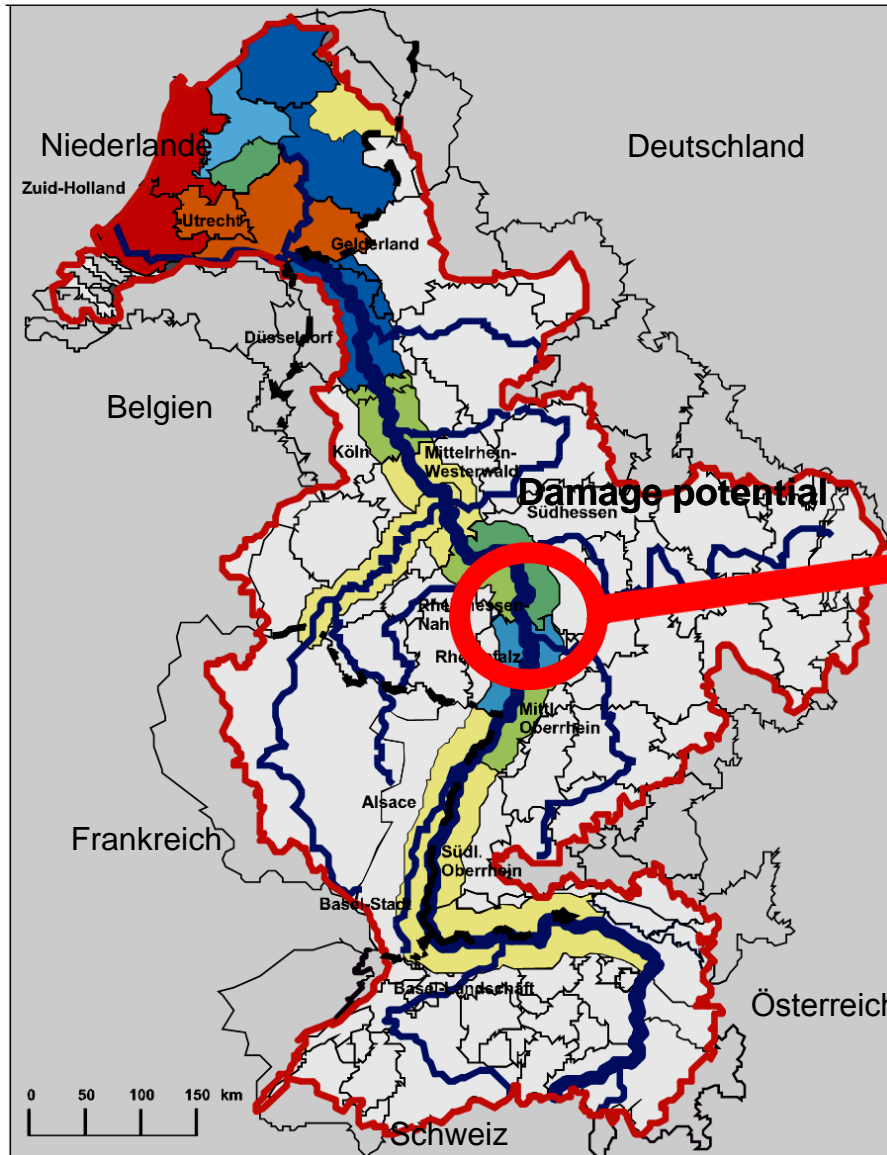
WP 3:  
**basis-data,  
informations for  
sectoral planning**



## „Freude am Fluss“ and the joint planning approach 2003 – 2008 EU-INTERREG IIIB NWE

### Partners:

- Radboud Universiteit Nijmegen, NL, Lead Partner
- Equipe Pluridisciplinaire plan Loire grandeur nature, F
- Ministerie van Verkeer en Waterstaat – Rijkswaterstaat, NL
- Institute for Landscape Ecology and Nature Conservation, DE
- Agence de l'Eau Loire-Bretagne, F
- Erasmus Universiteit Rotterdam, NL
- Technische Universität Darmstadt, Institute WAR, Chair of Environmental and Spatial Planning DE
- Habiforum, Gouda, NL
- Region Starkenburg, DE
- Delphiro B.V., NL
- Research and Marketing B.V. (RandM), NL
- WL | Delft Hydraulics, NL



Damage potentials  
 along the Rhein  
 (in billion EURO)

	0 - 3
	3 - 8
	8 - 15
	15 - 25
	25 - 35
	35 - 100
	100 - 200
	200 - 800

— Regionen  
 Rheinein-  
 zugsgebiet





## Shared responsibility for flood prevention

Pilot project of the transnational INTERREG-project „Freude am Fluss“\*  
2003 – 2006 EU-INTERREG IIIB NWE

### Region Starkenburg

#### Partners:

Wissenschaftsstadt Darmstadt  
Kreis Bergstraße  
Landkreis Darmstadt-Dieburg  
Landkreis Offenbach  
Landkreis Groß-Gerau  
Odenwaldkreis  
all DE





## Shared responsibility for flood prevention

### Objective

to develop expertise for assistance of NWE decision-makers, engineers and local communities in

**joint planning** and

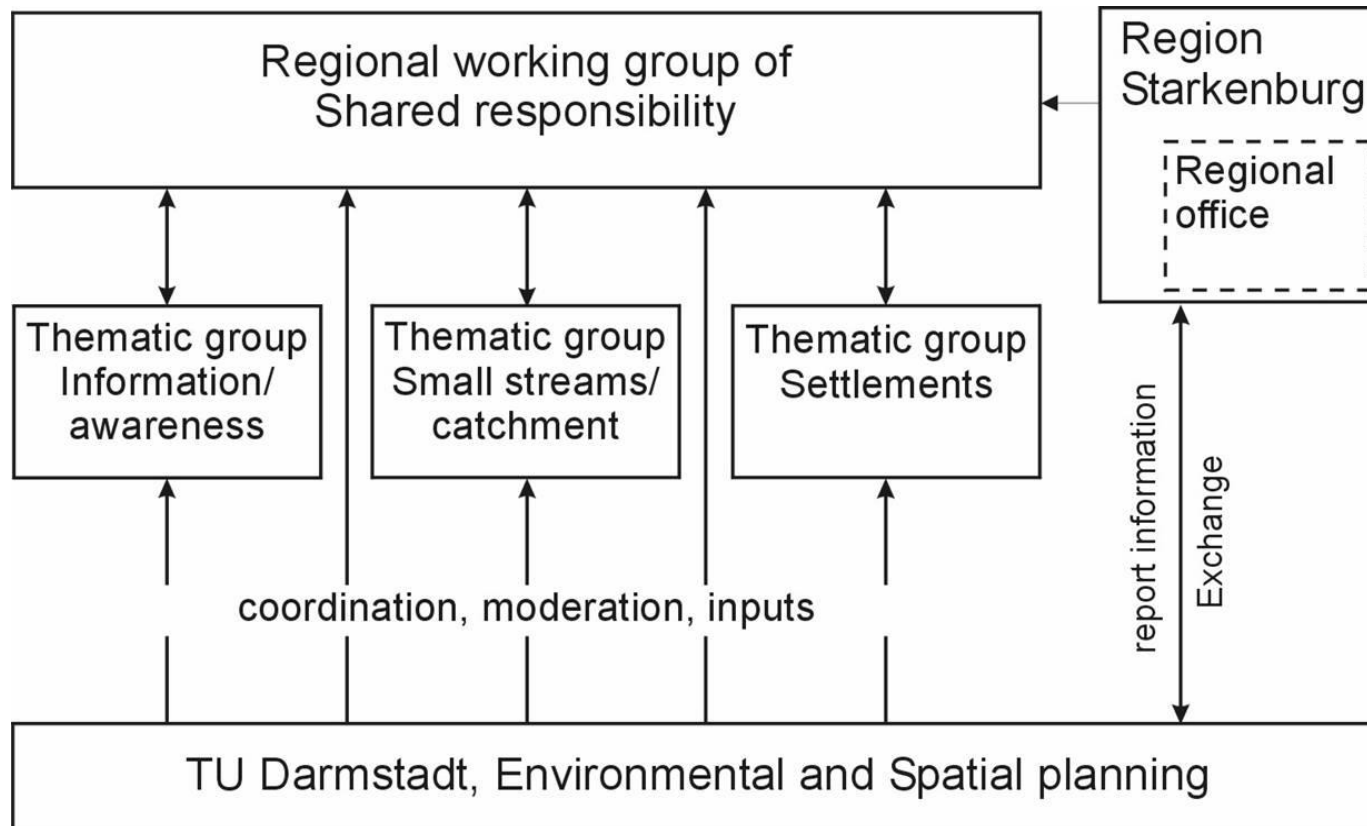
design of **room-for river packages** and

to apply the method in the **implementations of local measures and/or regulations**

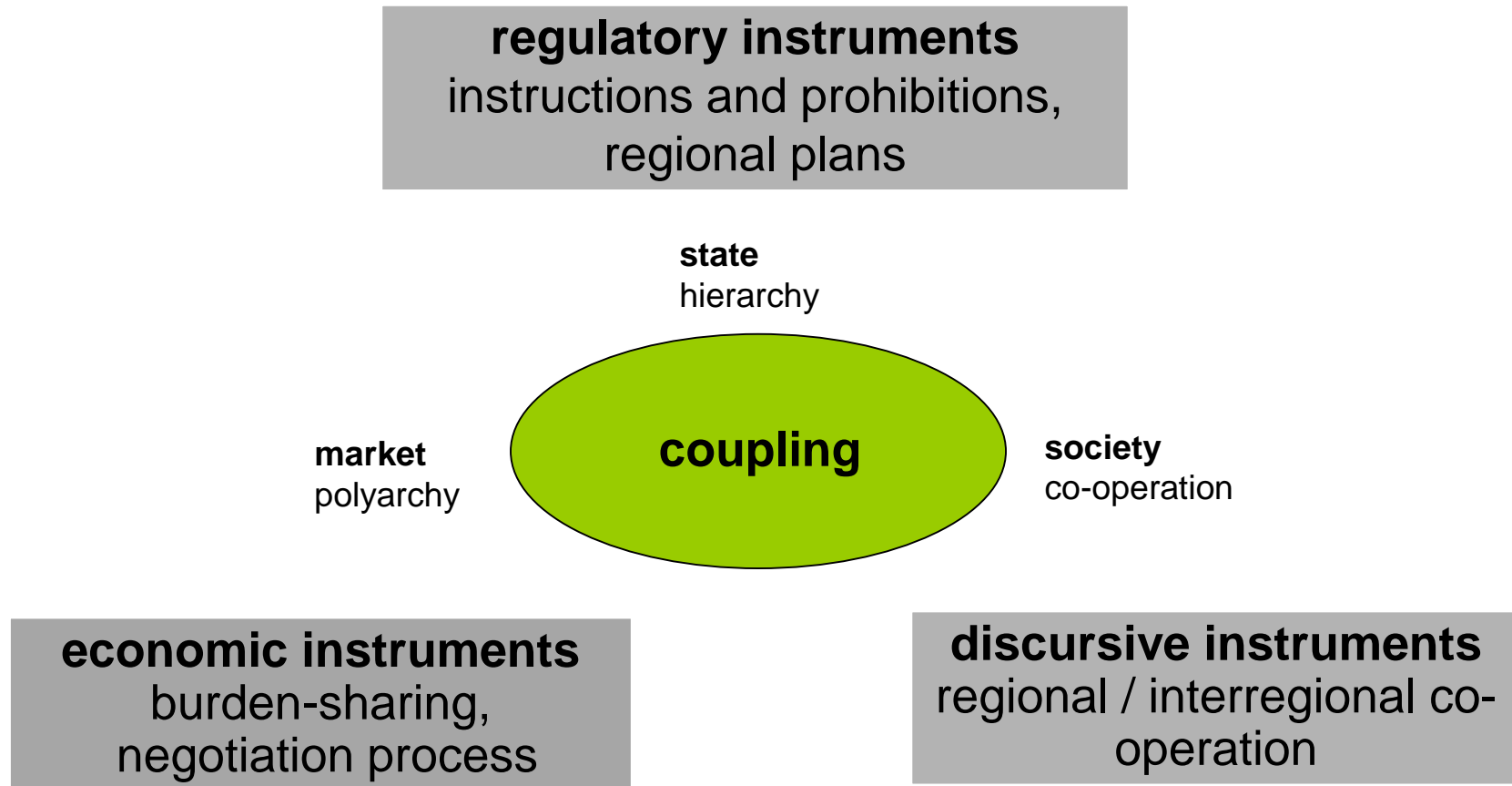
with emphasis on the **impact of the climate change**, dynamic floods e.g.



## Shared responsibility for flood prevention



## Conclusions - Instruments of spatial planning - types





**Thank you very much**

