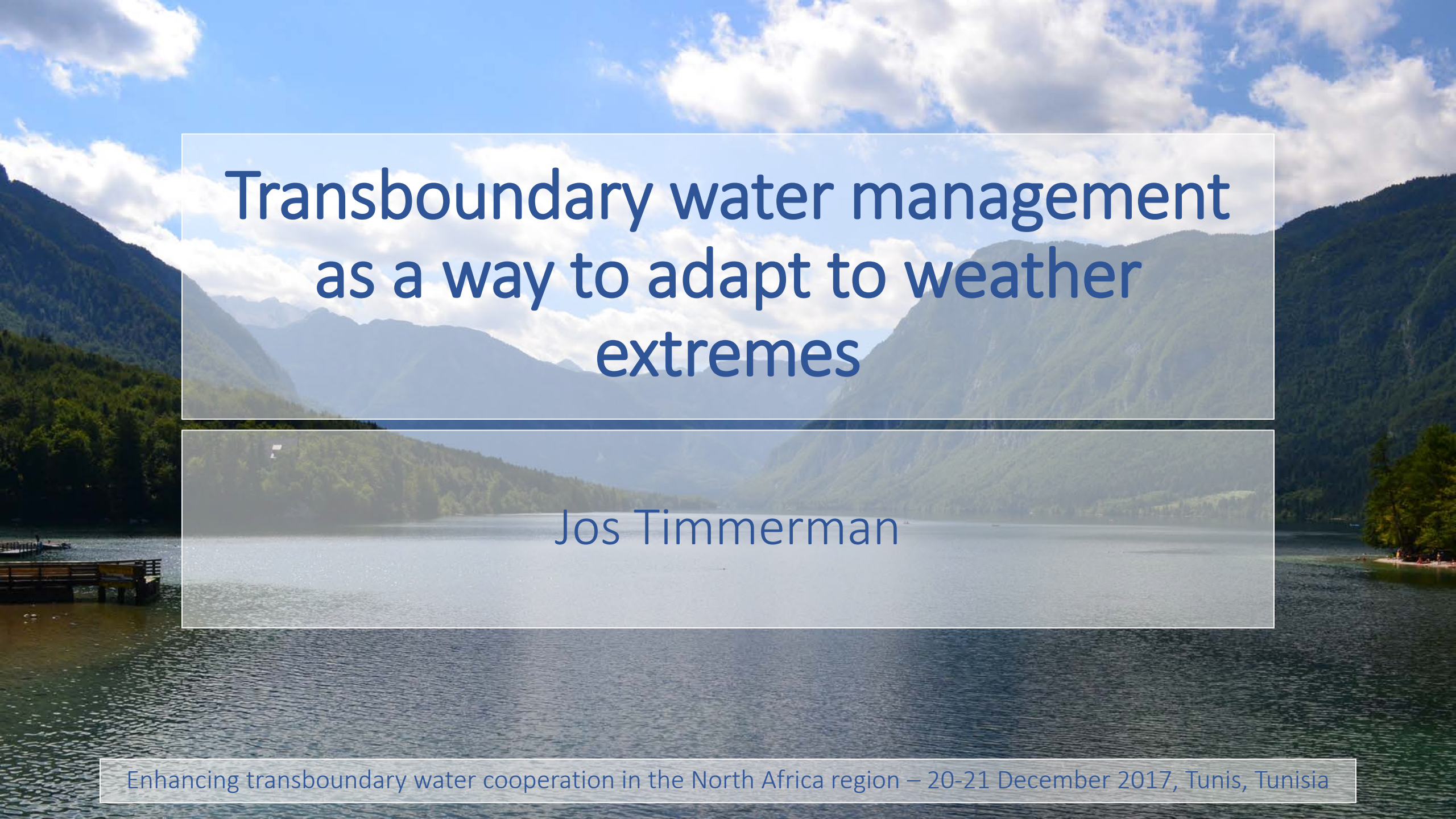
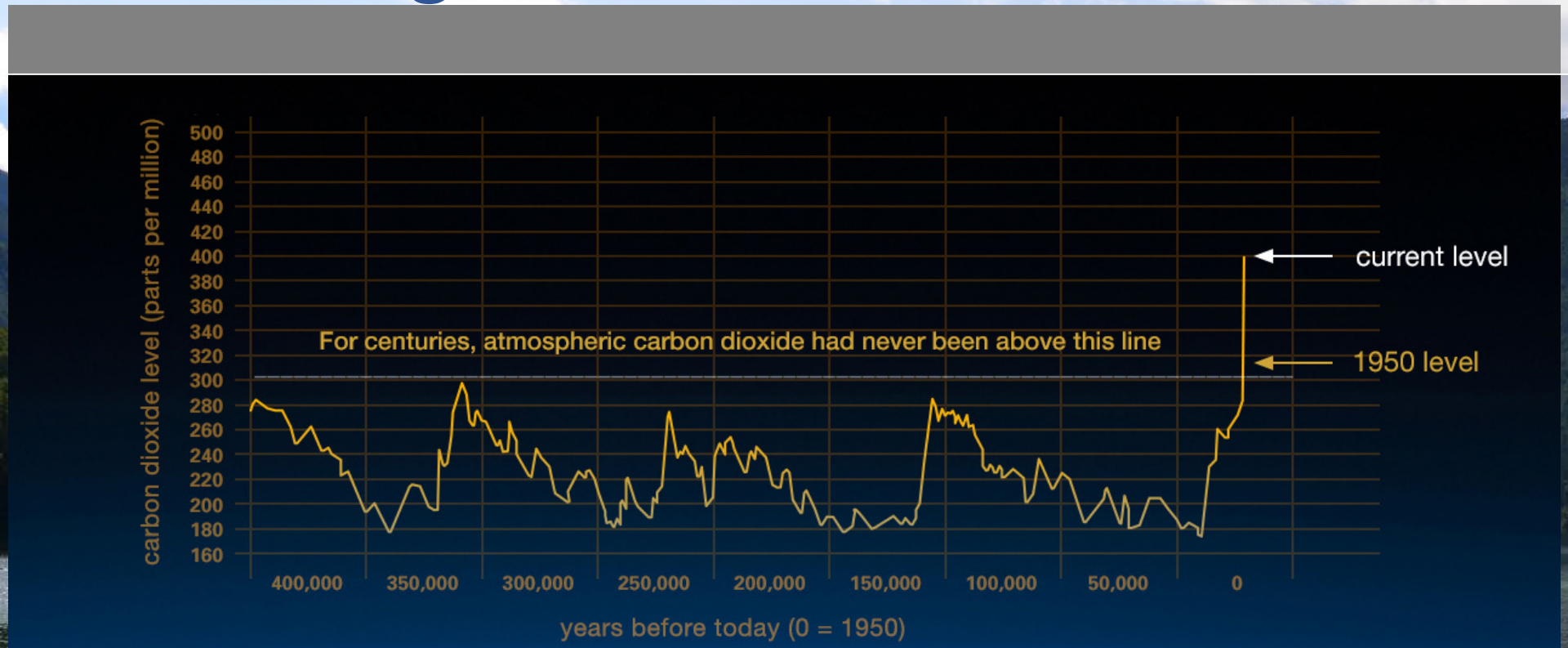


Transboundary water management as a way to adapt to weather extremes

Jos Timmerman

Enhancing transboundary water cooperation in the North Africa region – 20-21 December 2017, Tunis, Tunisia

Climate change - Carbon dioxide levels



Scientific evidence for warming of the climate system is unequivocal -
Intergovernmental Panel on Climate Change

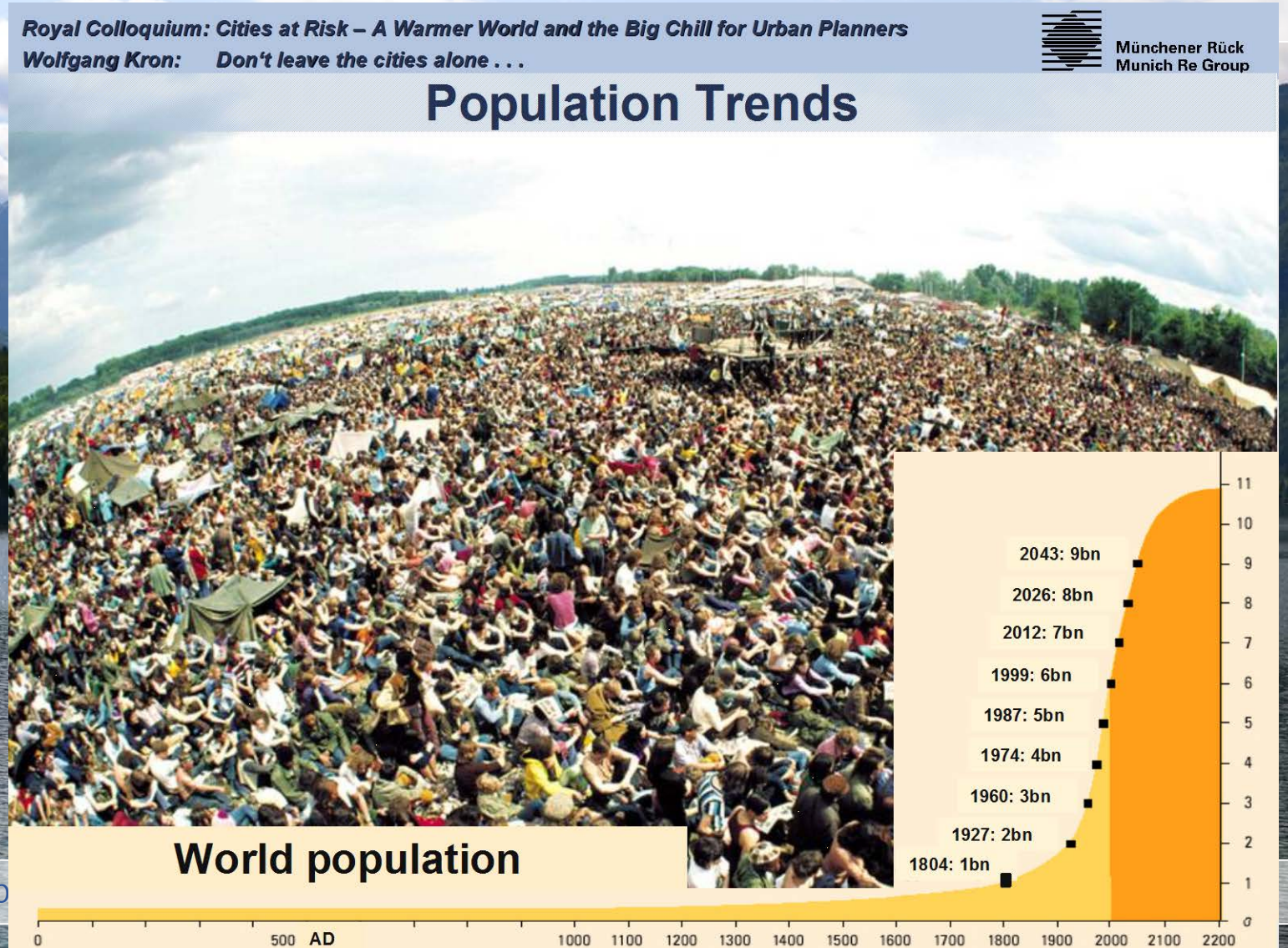
Source: https://climate.nasa.gov/evidence/

Floods

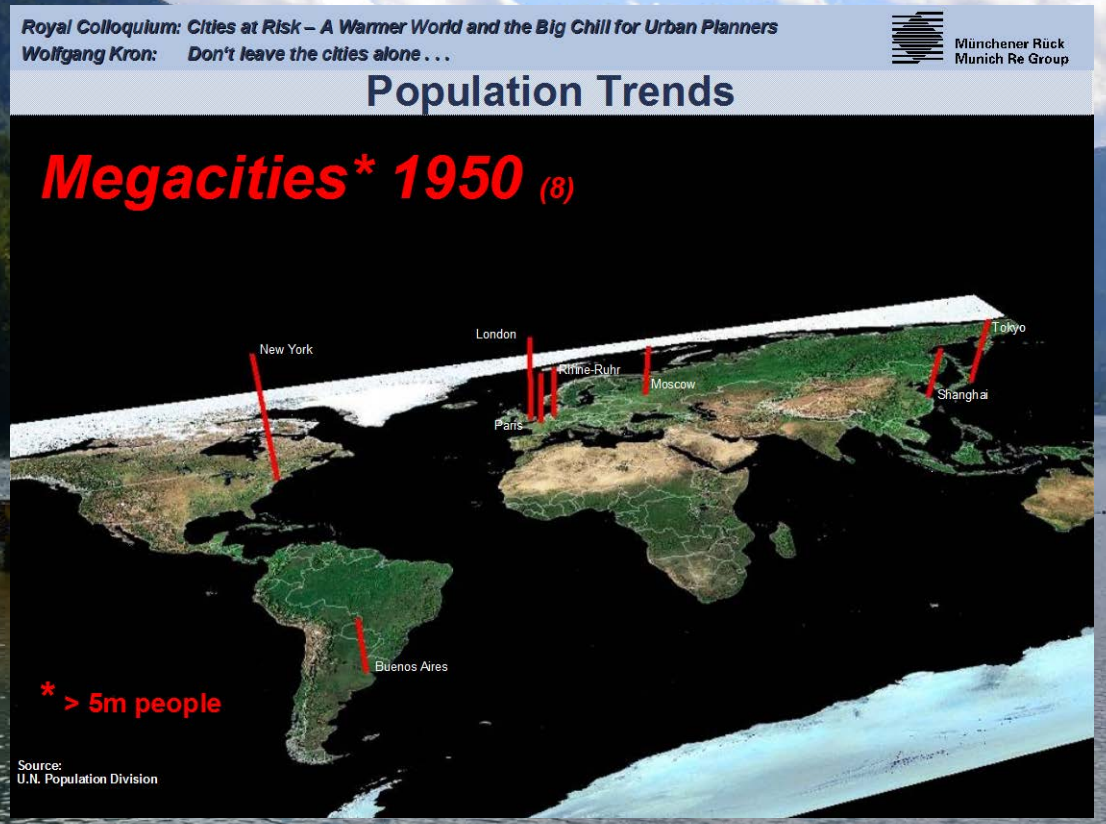
Droughts

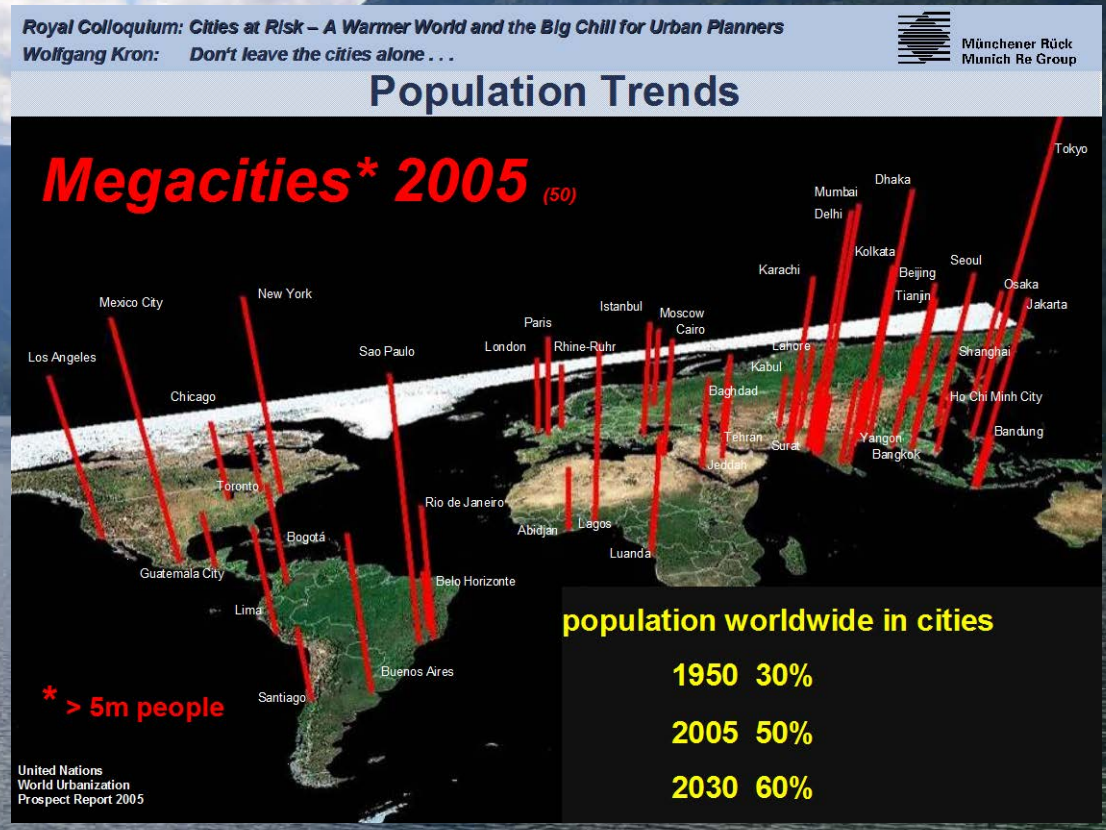
- Slowly developing disasters
- May lead to collapse of social structures
- May lead to migration with possible regional impacts

Population growth



Urbanization

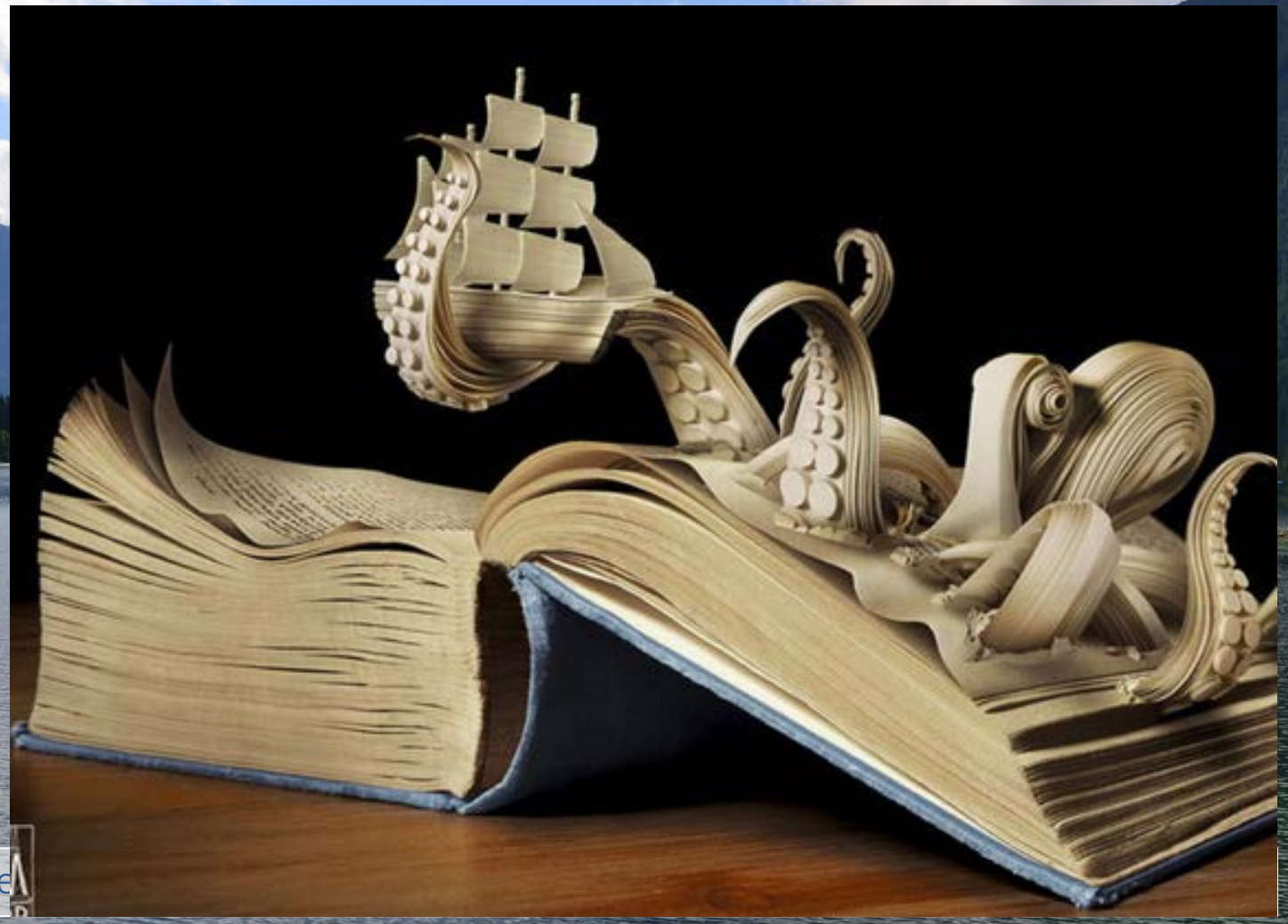




Integrated Water Resources Management (IWRM)

A process which promotes the coordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems (GWP)

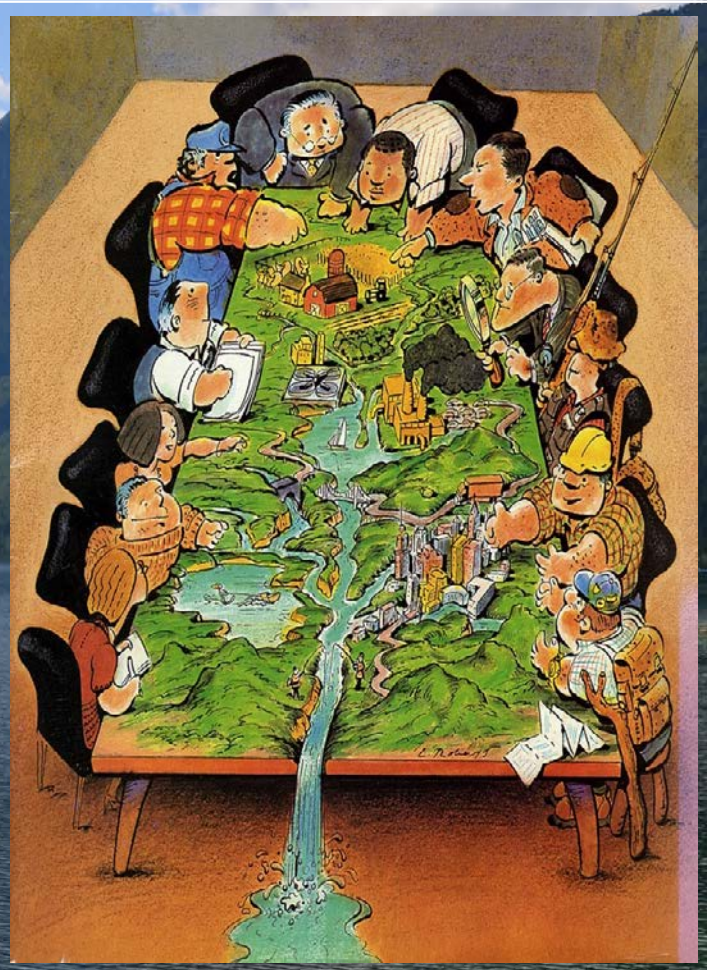
Information



Citizen participation

- Awareness raising
- Using local knowledge
- Multi-level governance

➡ Increase adaptive capacity

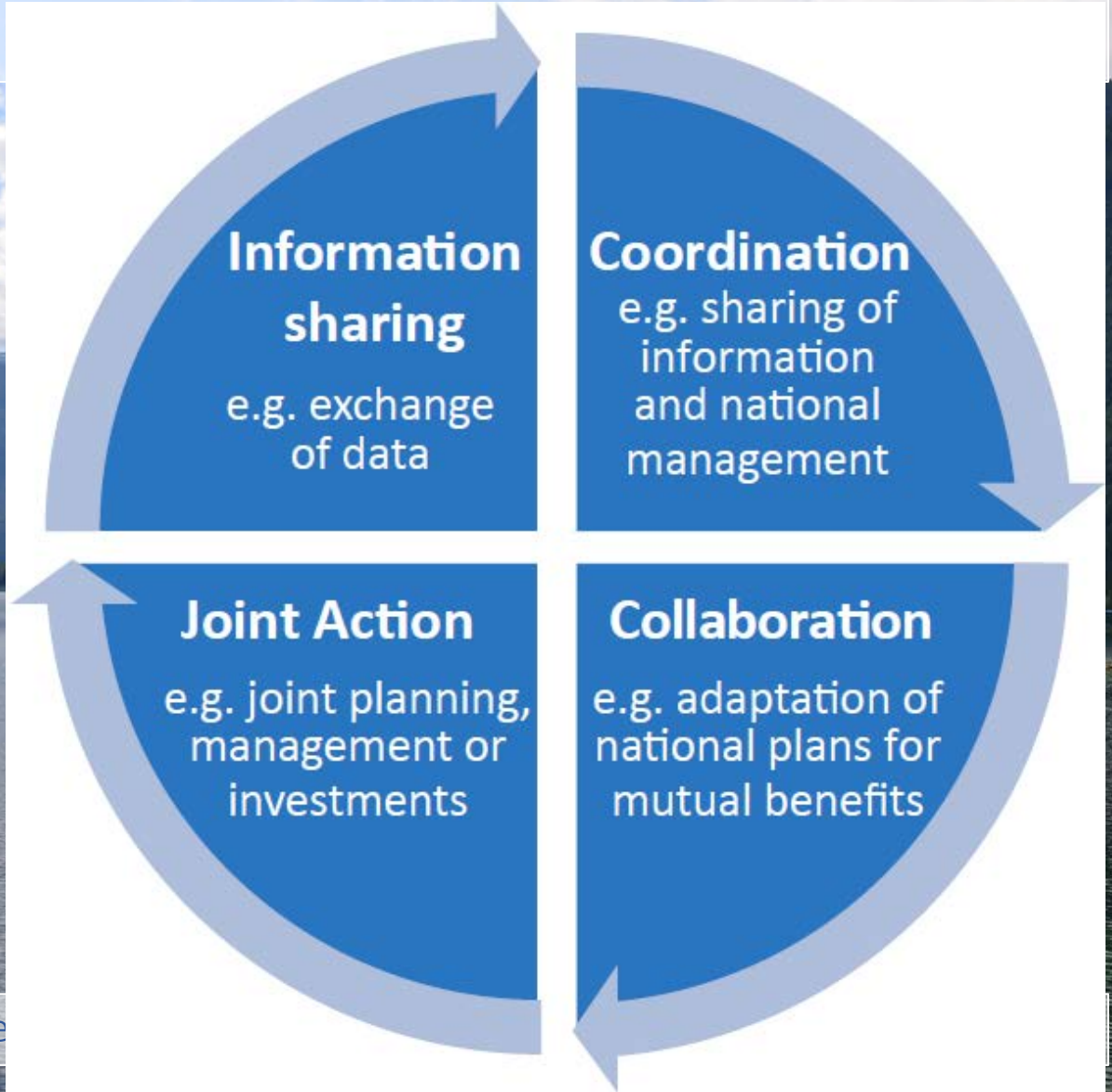


Disaster risk prevention

- Cost-effective in terms of avoided damage and reduction in loss of life
- Reduction of social inequity – vulnerable social groups are often hit hardest by disasters
- Provides investment opportunities – investments run little chance of being destroyed

➡ Prevention promotes a social and economic sustainable development

Transboundary cooperation



Transboundary cooperation

- Enlarge decision space
  - Enhance drought and flood management
  - More efficient water storage and distribution
- Stimulate resource mobilization
- Consider shared risks and opportunities
- Avert costs by reducing tensions and disputes between neighbors
- Paves the way for cooperation in other domains of politics, economics, environment and culture.
- Cooperation across political borders is essential for the conservation of healthy ecosystems, their functions and services

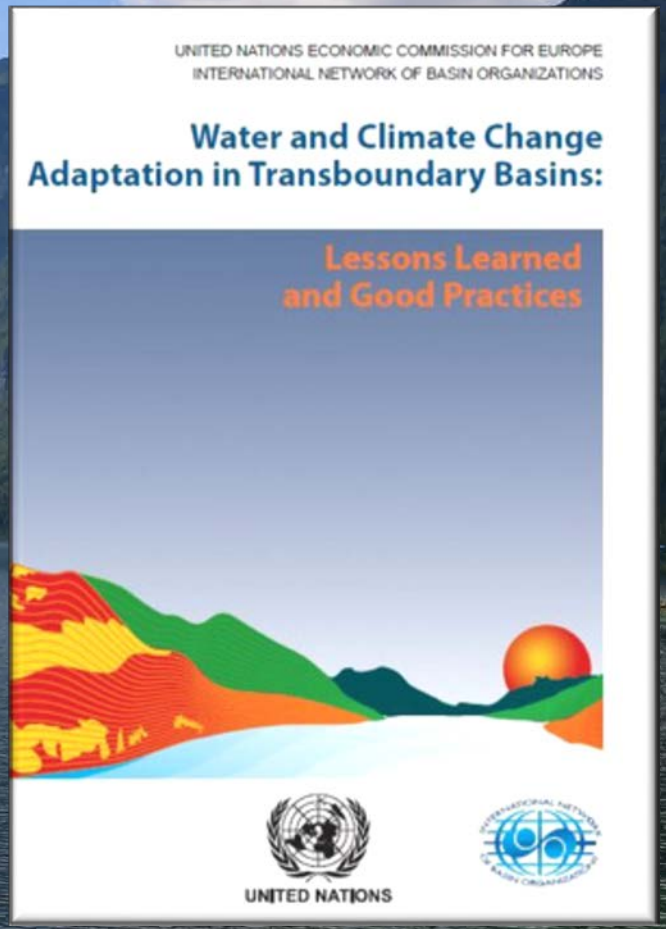
Origin of benefits	*Benefits for economic activities*	*Benefits beyond economic activities*
Improved water management	**Economic benefits** Expanded activity and productivity in economic sectors (aquaculture, irrigated agriculture, mining, energy generation, industrial production, nature-based tourism) Reduced cost of carrying out productive activities Reduced economic impacts of water-related hazards (floods, droughts) Increased value of property	**Social and environmental benefits** Health impacts from improved water quality and reduced risk of water-related disasters. Employment and reduced poverty impacts of the economic benefits Improved access to services (such as electricity and water supply) Improved satisfaction due to preservation of cultural resources or access to recreational opportunities. Increased ecological integrity and reduced habitat degradation and biodiversity loss Strengthened scientific knowledge on water status
Enhanced trust	**Regional economic cooperation benefits** Development of regional markets for goods, services and labour Increase in cross-border investments Development of transnational infrastructure networks	**Peace and security benefits** Strengthening of international law Increased geopolitical stability and strengthened diplomatic relations New opportunities from increased trust (joint initiatives and investments) Reduced risk and avoided cost of conflict and savings from reduced military spending Creation of a shared basin identity

Hindrances to good cooperation

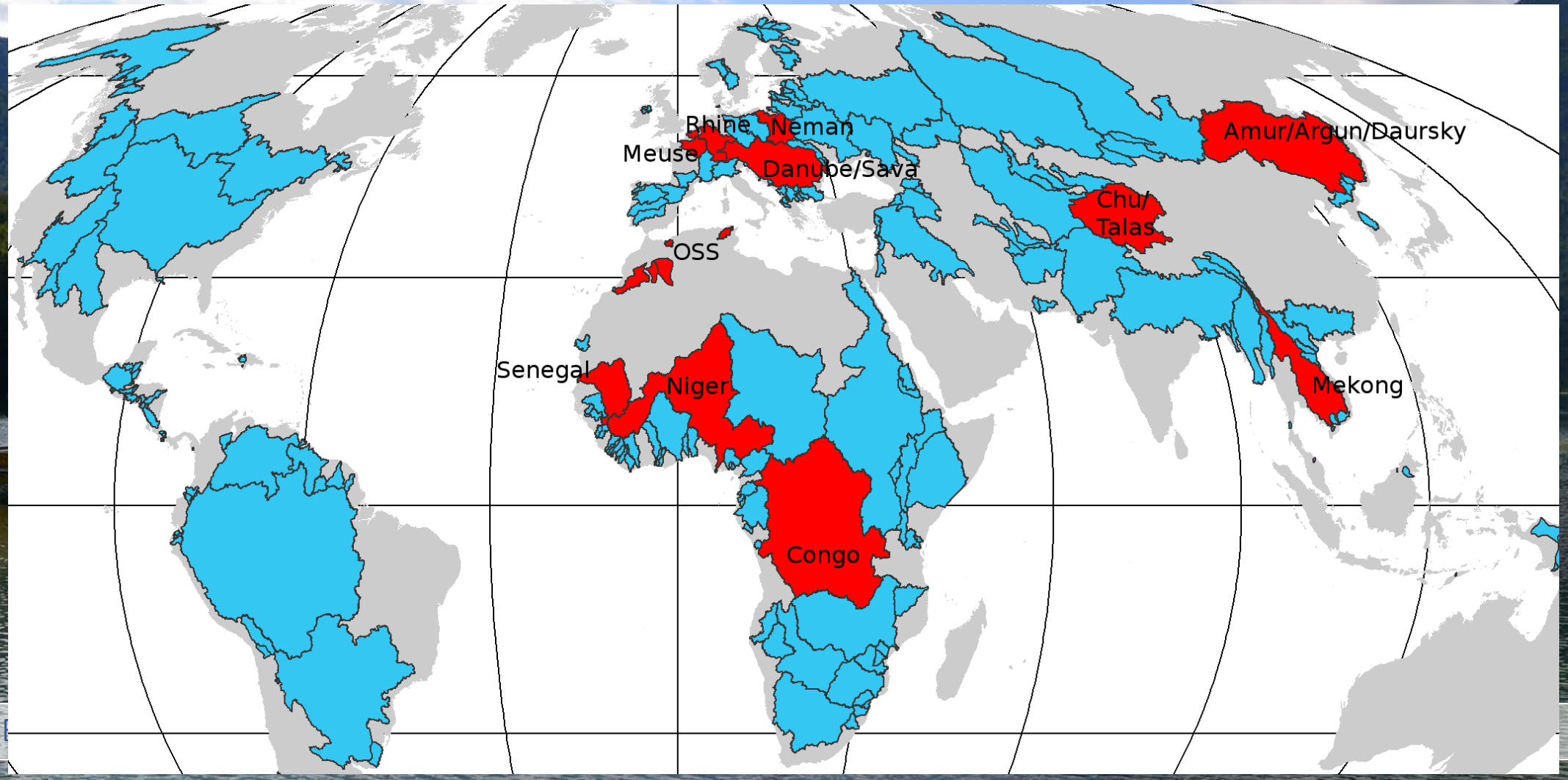
- Weak social and institutional capacity
- Poor legal and policy frameworks
- Bad management practices

Lessons for transboundary water cooperation

- Partnership with INBO, AGWA, WMO, GWP, OECD, IUCN and others
- 63 Lessons learned
- 58 Case studies
- Contributions from 80 experts worldwide



Background: Pilot projects and network of basins



The principle

Lessons learned

- Advice on how to develop one critical element of the planning process
- Current state of the art, state of know-how of the process resulting from experience

Case studies

- Give example(s) about one or more lesson learned
- Guaranty that lesson learned is linked to actual practice
- Providing information on the practical application

Examples (I)

- Lesson 4. Integrate climate change within river basin management planning
  - Case study 2.2 Developing a strategy for climate change adaptation in the Danube Basin
- Lesson 8. Use ecosystem-based adaptation as a cost effective alternative to « grey » infrastructure
  - Case study 2.6 Ecosystem-based approach and green infrastructure in Denmark
  - Case study 2.7 Making the case for an ecosystem adaptation strategy in the great lakes Basin

Examples (II)

- Lesson 13. Design new transboundary agreements to be flexible
  - Case study 2.13 Cooperation between Mexico and United States
- Lesson 22. Ensure stakeholder participation in all steps of the development and implementation of adaptation strategies and measures
  - Case study 2.21 Climate change stakeholder consultations in the transboundary Bugesera Basin shared by Rwanda and Burundi

Examples (III)

- Lesson 28. Facilitate the exchange of insights and experience between stakeholders on adaptation activities to learn and build capacities
  - Case study 2.26 Exchanges between basin organizations on climate change: First Rhine – Mekong symposium

Examples (IV)

- Lesson 33. Tailor messages to your audience, based on its characteristics and needs
- Lesson 37. Use targeted approaches to raise awareness on the need of adaptation
  - Case study 2.30 « Colours of the Dniestr » : how to engage children in climate change adaptation

"Colours of the Dniestr" competition, Kutelmah Yaryna, 10 years old, Ukraine

"Colours of the Dniestr" competition, Kubitka Alina, 17 years old, Moldova

"Colours of the Dniestr" competition, Teslyuk Evelina,10 years old, Ukraine

Examples (V)

- Lesson 38. Identify information needs and processes for assessing, gathering, compiling and exchanging information
  - Case study 3.1 Development of geoportal for Dniestr Basin
  - Case study 3.2 Prediction of water levels of Ubangui River
  - Case study 3.3 Joint database for the Neman River Basin

Examples (VI)

- Lesson 48. Develop a mix of structural and non-structural measures
  - Case study 4.1 Structural interventions in the Senegal River Basin

5 main attention areas for transboundary IWRM

- Strengthen collaborative governance in water management
- Paradigm shift from water supply management to water demand management
- More attention for non-structural measures and ecosystem-based approaches
  - Mix of structural and non-structural, regulatory and economic instruments, and education and awareness-raising measures
- Water management is a continuous exercise and not a ‘one-off’ set of measures
- Sustainable financing of measures

Transboundary cooperation

- Water Courses Convention (New York, 1997)
- Water Convention (Helsinki 1992)

- Policy Guidance Note on the Benefits of Transboundary Water Cooperation: Identification, Assessment and Communication
- Water and Climate Change Adaptation in Transboundary Basins: Lessons Learned and Good Practices
- Guidance on Water Supply and Sanitation in Extreme Weather Events
- Seco
- Tran
- Guid
- Stra

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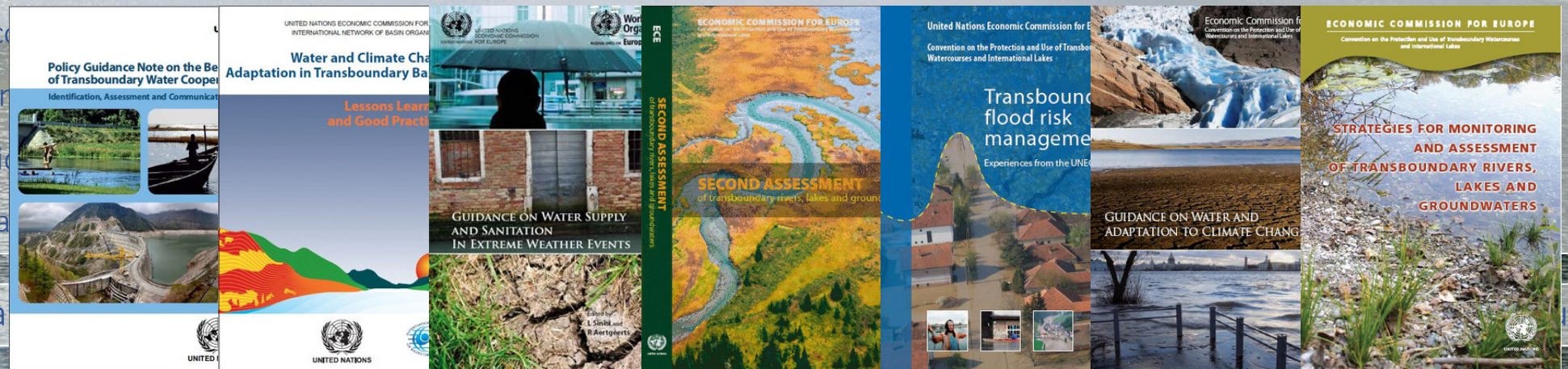
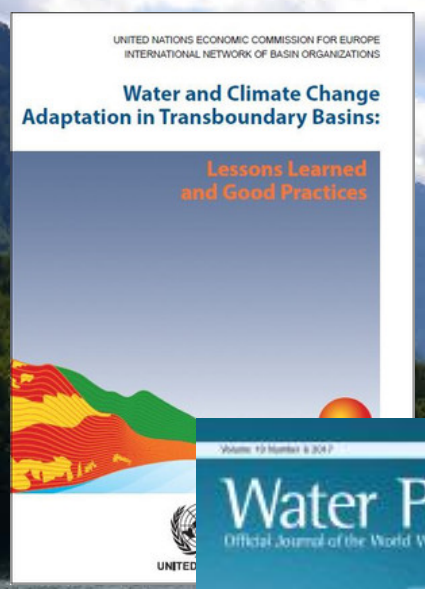
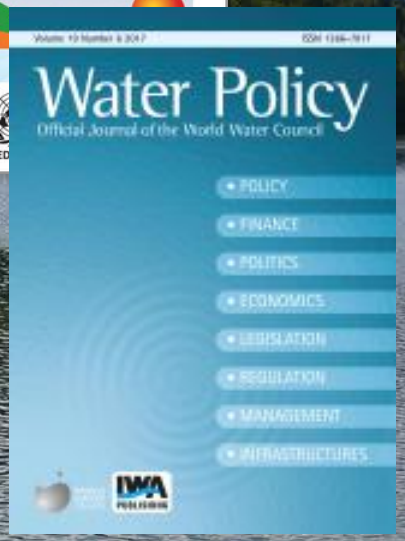


Thank you for your attention
Merci pour votre attention





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