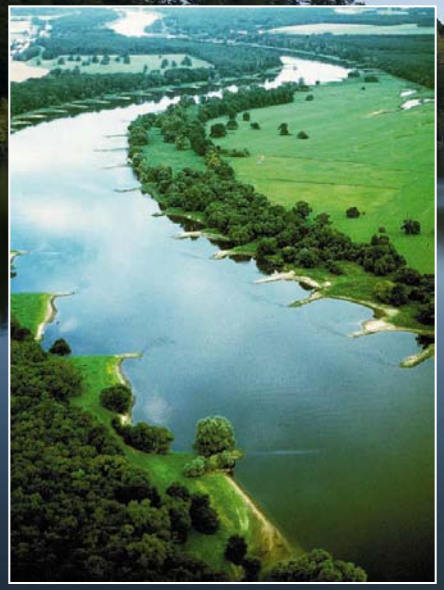
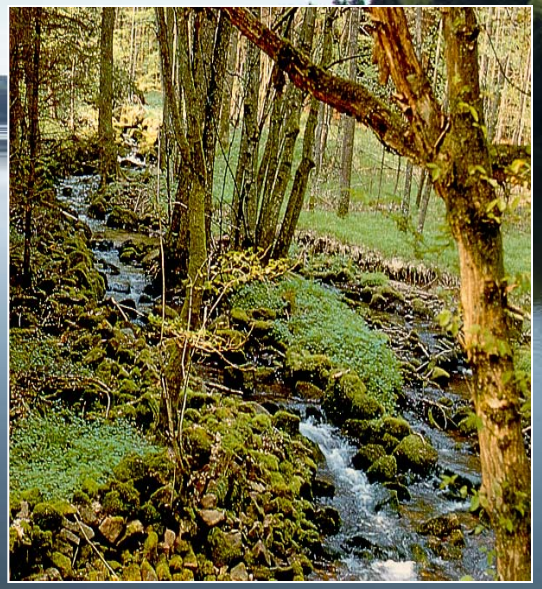




Introduction to Water Science Alliance, White Paper and IWRM Projects

Dietrich Borchardt

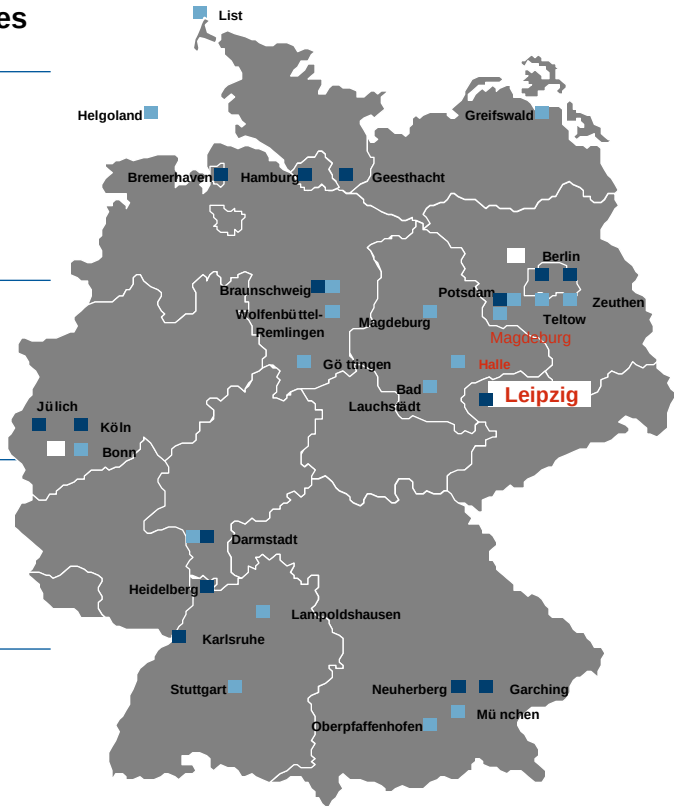
Helmholtz-Centre for Environmental Research – UFZ

„New Initiatives in Water Research 2010“

- Water Science Alliance -

Research organisations in Germany (non-university)

	Budget (in billion €)	Staff	Centres/ Institutes
Helmholtz Association Basic and applied research in strategic programmes	€ 2.4	28,000	16
Max-Planck-Gesellschaft Basic research	€ 1.4	13,000	76
Fraunhofer Gesellschaft Industry oriented research and development	€ 1.4	15,000	57
Leibniz Association Long-term oriented research	€ 1.1	14,000	86



UFZ – Data and Facts


Leipzig


Halle


Magdeburg

Personnel 2010

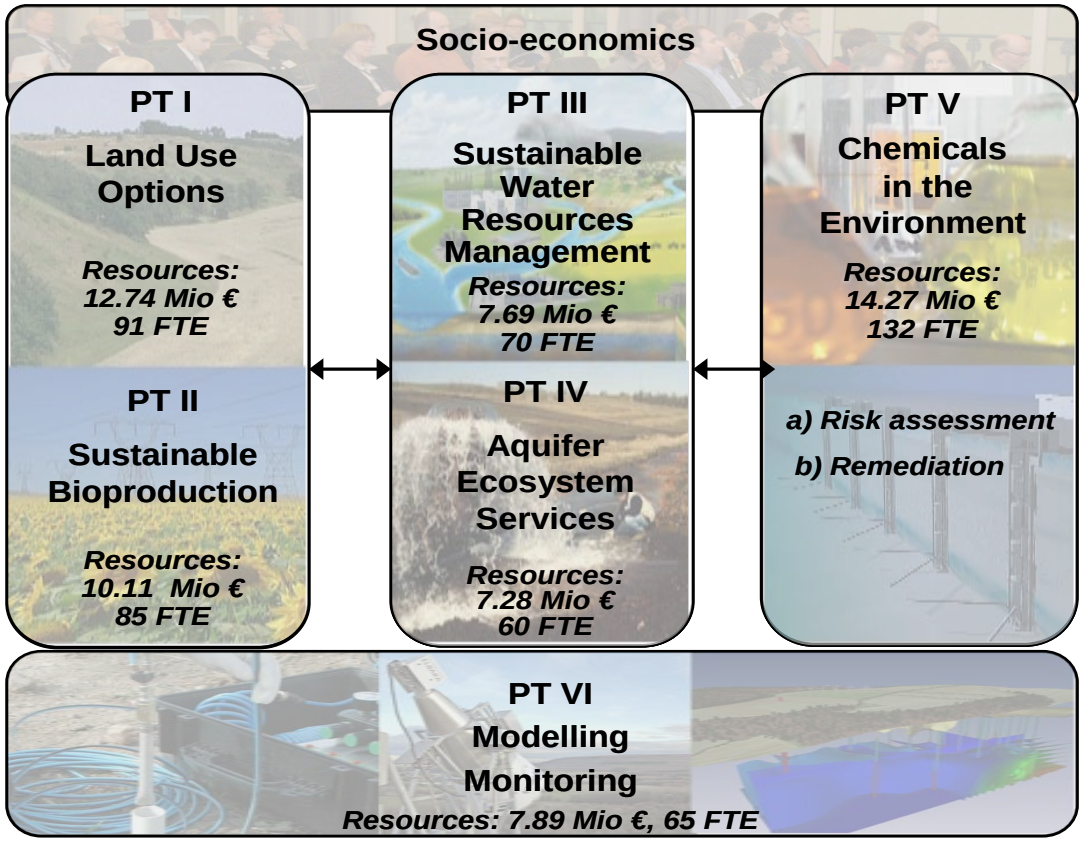
- approx. 970 employees
- 86 % in the scientific-technical domain
- 14 % executive board / staff officers / administration
- > 245 postgraduates and post-docs
- approx. 70 guest scientists
- approx. 55 trainees in eight different fields

Budget 2010

- 53 million EUR (Federal Ministry of Education and Research and Federal States)
- 24 million EUR (third party funding)

HELMHOLTZ ZENTRUM FÜR UMWELTFORSCHUNG UFZ

Programme 4: „Terrestrial Environment: Strategies for a Sustainable Response to Climate and Global Change“



Programme 4: Resources

Total: 62.6 Mio. €/a, 513 FTE
(85 % of UFZ Research)

Contributing centres:

HELMHOLTZ CENTRE FOR ENVIRONMENTAL RESEARCH – UFZ (58 %)

JÜLICH FORSCHUNGSZENTRUM (21 %)

HelmholtzZentrum münchen
Deutsches Forschungszentrum für Gesundheit und Umwelt (21 %)

HELMHOLTZ ZENTRUM FÜR UMWELTFORSCHUNG UFZ

Need for a New Approach

Many **complex challenges related to water** (e.g. water scarcity – food & energy supply – climate change etc.) cannot be solved by a single institution, alone

An interdisciplinary approach with a **joint effort of water research institutions** is required

Current **water research in Germany is NOT adequately structured** for long-term interdisciplinary research

→ UFZ received mandate to develop the concept of a Water Science Alliance in Germany and beyond !

Aims of the Water Science Alliance

- **Synergy** between existing research structures
- **Long-term** framework and **efficient structures** for **integrative** research
- **Critical mass** for work on complex problems
- Promotion of **scientific careers** (PhD and beyond)
- **Technology transfer** (national and global level)
- **Platform for strategic cooperations** with leading institutes beyond the national partners
- **Information and communication platform** for science, industry and society

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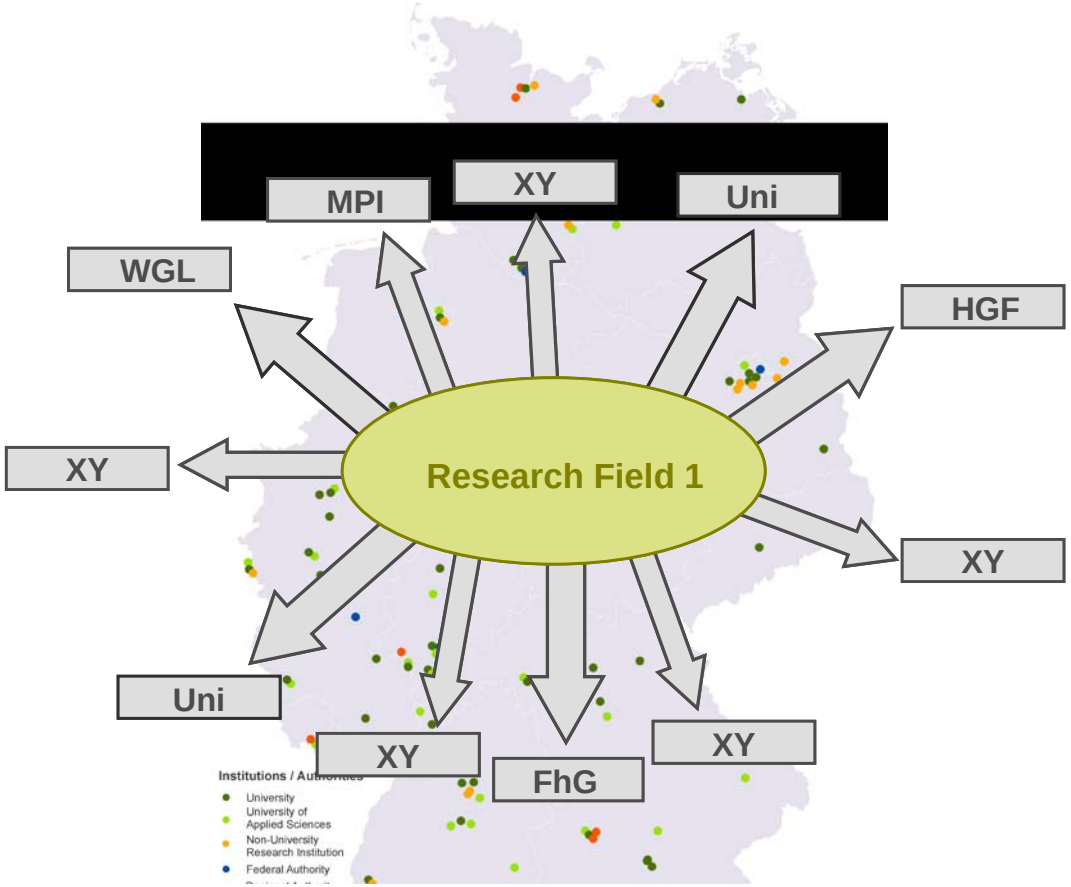
Goal: Establishment of Thematic Clusters

→ several institutions interlinked & contributing scientific input



Establishment of Thematic Clusters with the participation of:

- **Science** (university & non-university institutions)
- **National & Federal Agencies**
- **Industry**

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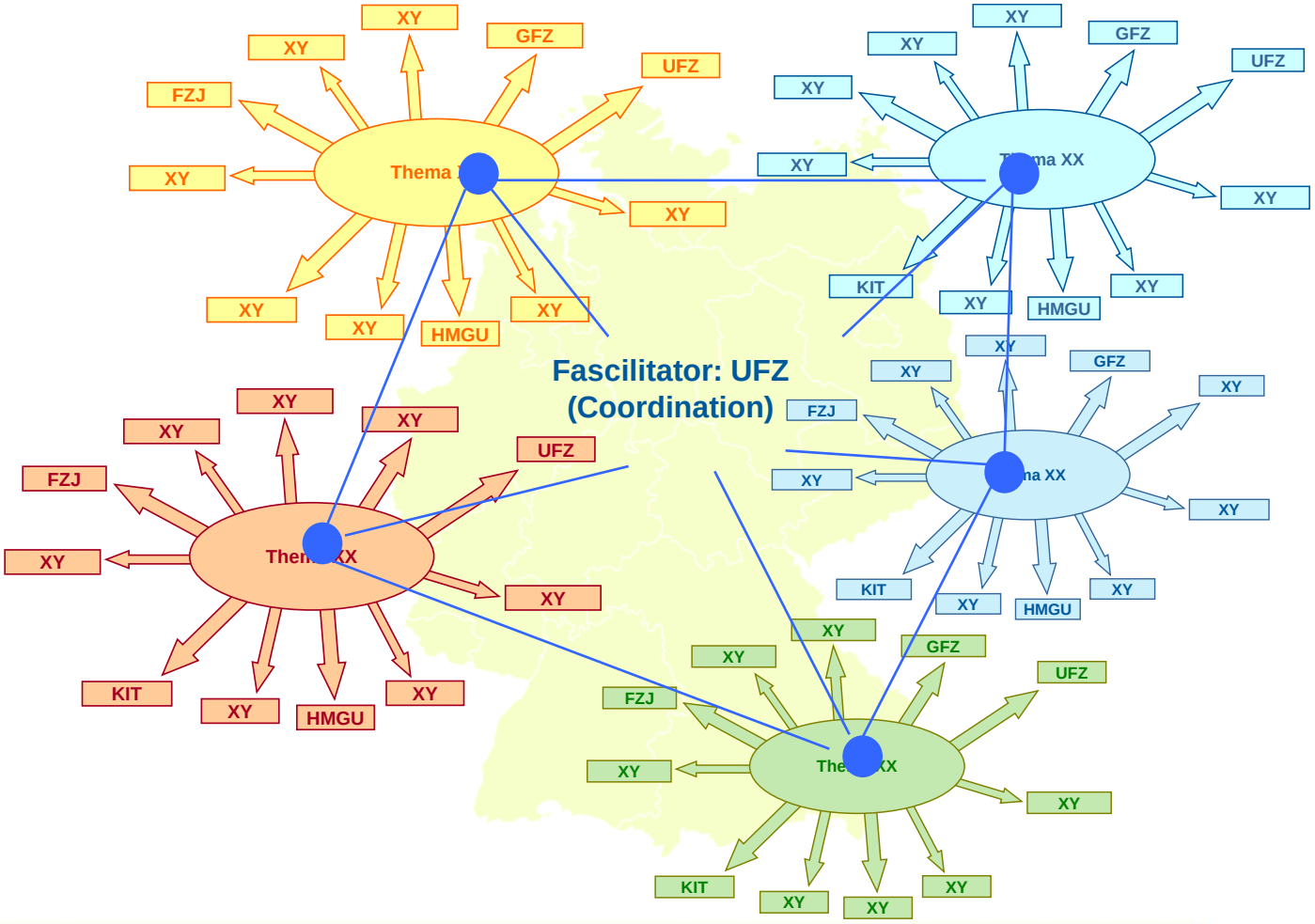
The Water Science Alliance – network of Thematic Clusters



Linking the Thematic Clusters through:

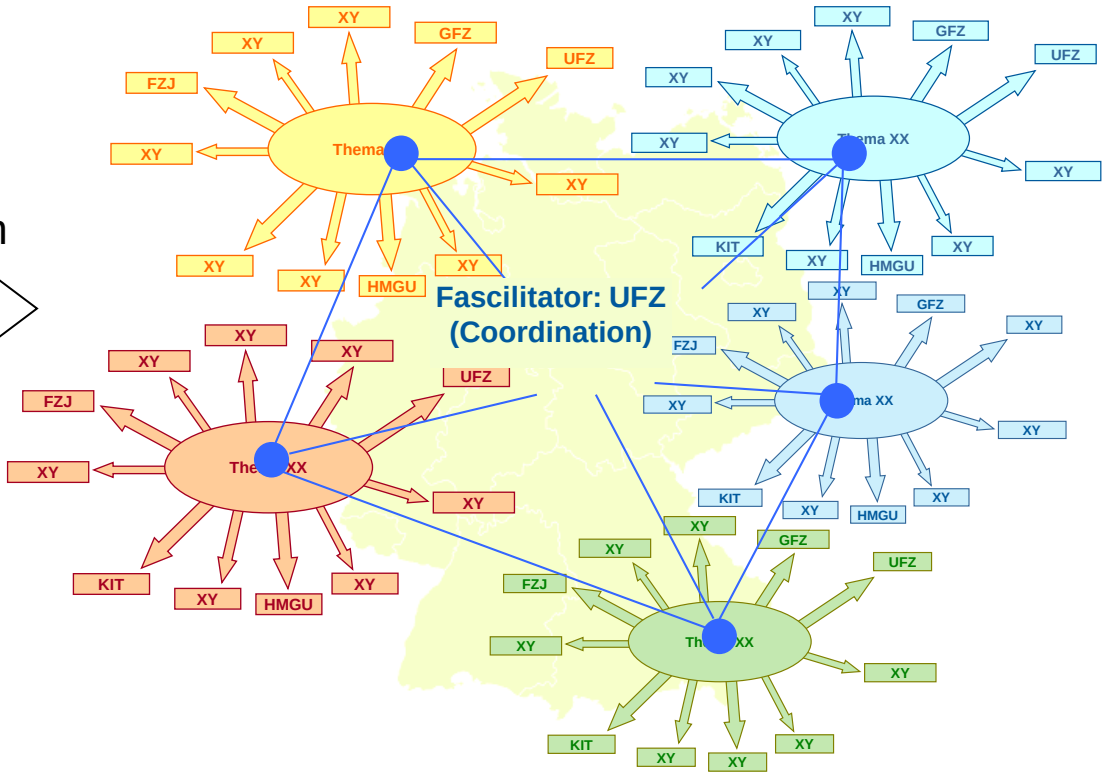
- Common **field sites**
- Common **methods**, e.g. modelling tools
- Aligned **data management & monitoring**
- Encompassing topics in the field of **social sciences**
- Questions of **implementation** (water management)
- Common **graduate schools**
- **Outreach**, communication

The Water Science Alliance – ensuring scientific quality

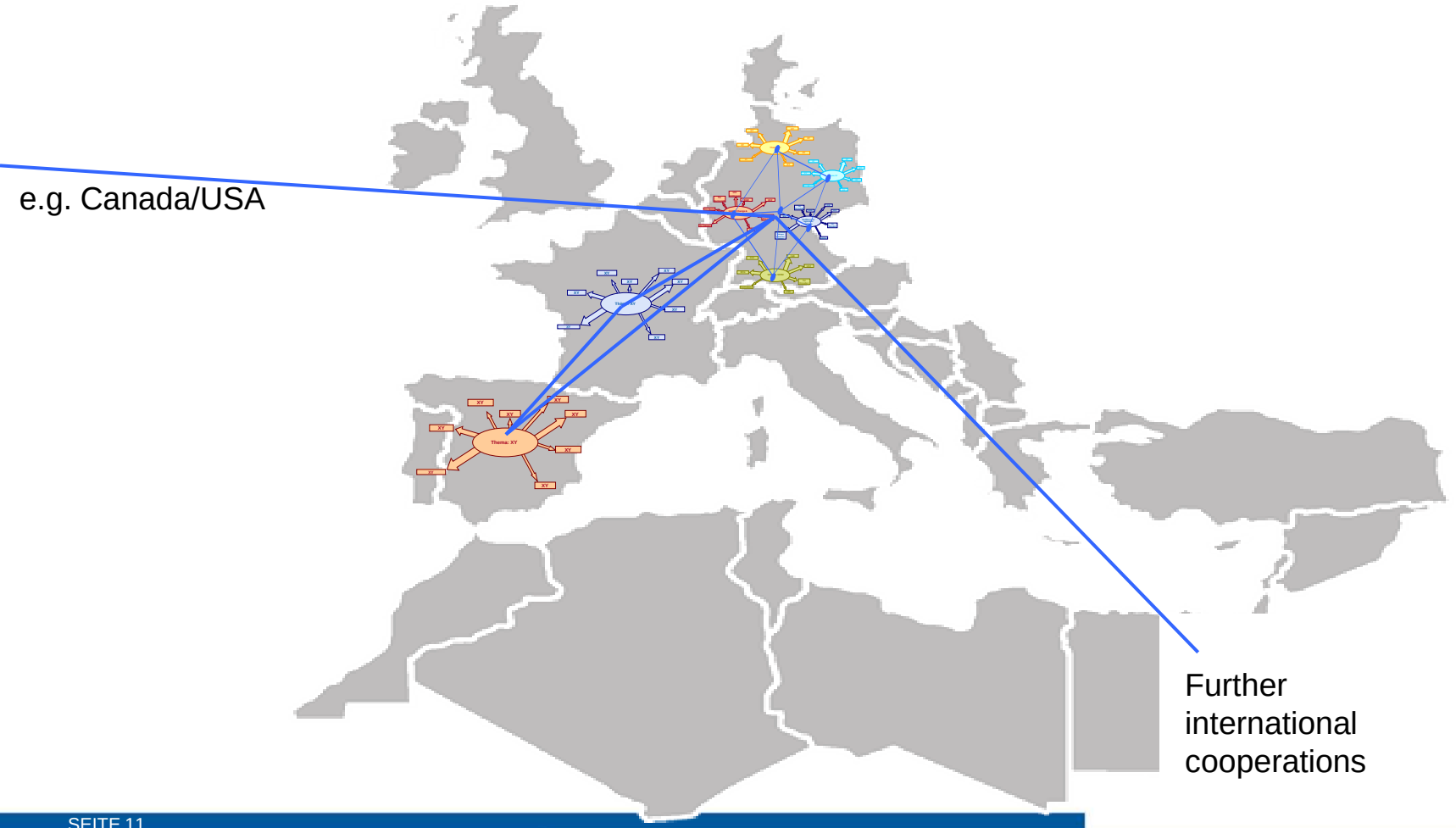
International Scientific Advisory Committee

Evaluation

Advice

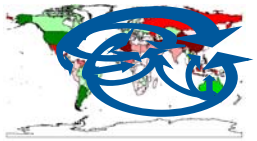


International cooperation: Europe & beyond

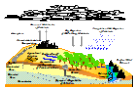


Priority research fields

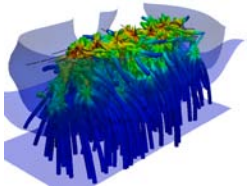
1. **Solutions to generic water problems of global dimension**
   - The impact of global change on water resources (development of scenarios)
   - Innovations for a sustainable water resources management



2. **Strengthening of methodological key competences**
   - Quantification of water and matter fluxes at catchment scale
   - Integrated concepts for observation and exploration
   - Development of complex system models and data integration



3. **Complex water management in a priority region**
   - Management of scarce water resources in the Circum-Mediterranean region



1st Water Horizon Conference Berlin 2010

1st Water Research
Horizon Conference

New Initiatives in Water Research 2010

July 13th-14th, 2010 I Berlin

Program day 1

Tuesday 13th July 2010

10:30-11:15am	Opening of the conference Welcoming: · BMBF · BMU · DFG		
11:15-12:15am	Challenges in Water Research		
12:15am-01:15pm	Lunch		
Sessions			
01:15-02:45pm	Session 1: Solute Fluxes at Catchment Scale (International experts)	Session 2: Model Development & Data Integration (International experts)	Session 3: Global Change/ Food & Water/ Risks/ Megacities (International experts)
02:45-03:15pm	Coffee break		
03:15-05:15pm	Session 1 continued: Solute Fluxes at Catchment Scale (national experts) discussion	Session 2 continued: Model Development & Data Integration (national experts) discussion	Session 3 continued: Global Change/ Food & Water/ Risks/ Megacities (national experts) discussion

Program day 2

Wednesday 14th July 2010

08:30-10:00am	Session 4: Beyond IWRM (International experts)	Session 5: Observation/ Exploration/ Data Assimilation (International experts)	Session 6: Water Scarcity (International experts)
10:00-10:30am	Coffee break		
10:30am-12:15pm	Session 4 continued: Beyond IWRM (national experts) discussion	Session 5 continued: Observation/ Exploration/ Data Assimilation (national experts) discussion	Session 6 continued: Water Scarcity (national experts) discussion
12:15-01:30pm	Plenary session: Synthesis of the conference sessions/ discussion inputs for the revision of the White Papers		
01:30-02:30pm	Lunch		
02:30pm	End of the conference		

HUNG

UFZ

1st Water Horizon Conference Berlin 2010

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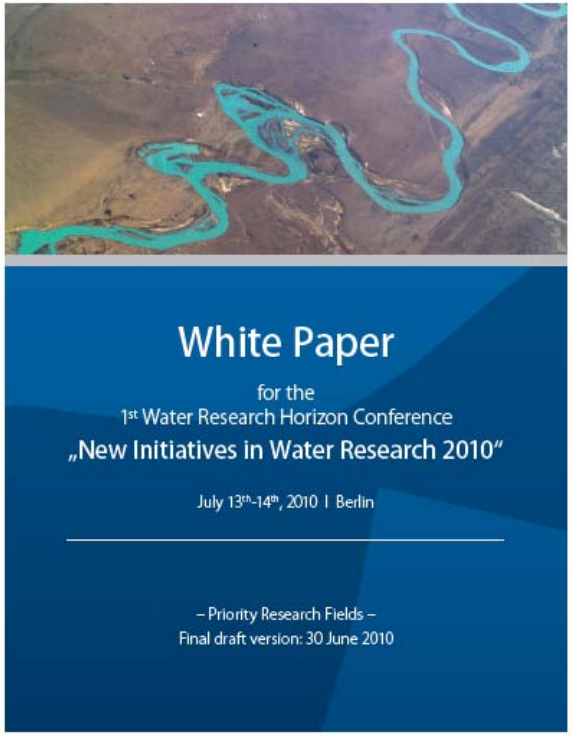
Steffen Zacharias, Helmholtz Centre for Environmental Research - UFZ



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1st Water Horizon Conference Berlin 2010

Research Field 1:
New Challenges Emerging from Global and Climate Change: Food and Water, Mega-Urbanisation, Risk and Vulnerability

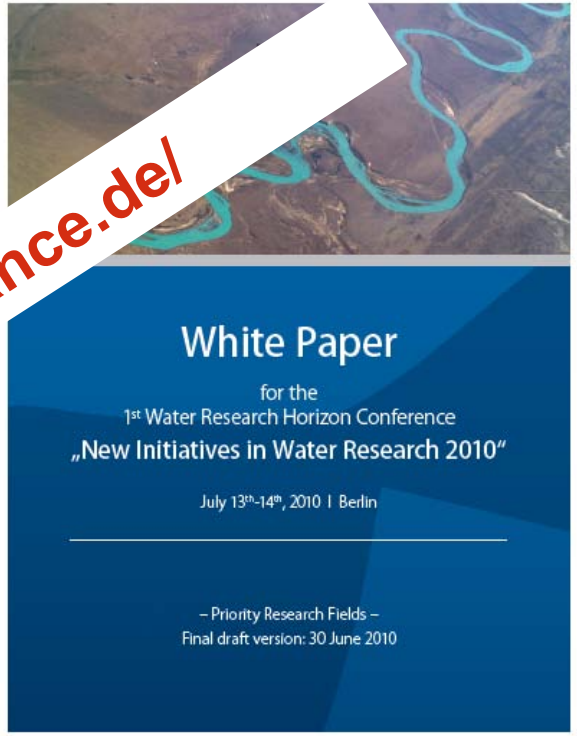
Research Field 2:
Managing Water Beyond IWRM: Target Setting, Instrument Choice and Governance

Research Field 3:
Managing Solute Fluxes at Catchment Scale - Safeguarding Our Health and the Environm

Research Field 4:
New Approaches to Observation ation and Data Assimilation in Water Researc

Research Field 5:
A Community Effor s Model Development and Data Integration r Science

Research Fiel ..
Water Scarcity: New Perspectives for a Circum-Mediterranean Research Initiative



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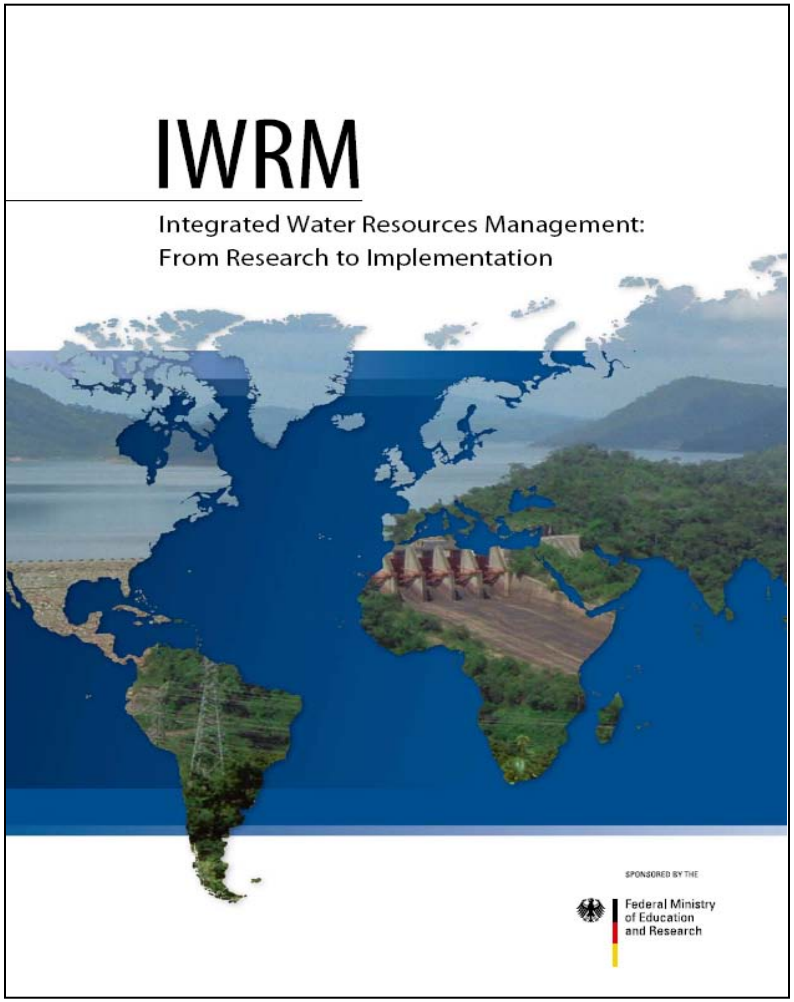
BMBF- Research Programme IWRM (2006 - …)



http://www.wasserressourcenmanagement.de

BMBF aims at:

- **strengthening** the concept of IWRM in developing and emerging countries
- **contributing** to the improvement of human access to clean drinking water and wastewater disposal
- **improving** the positioning of German companies at the global market

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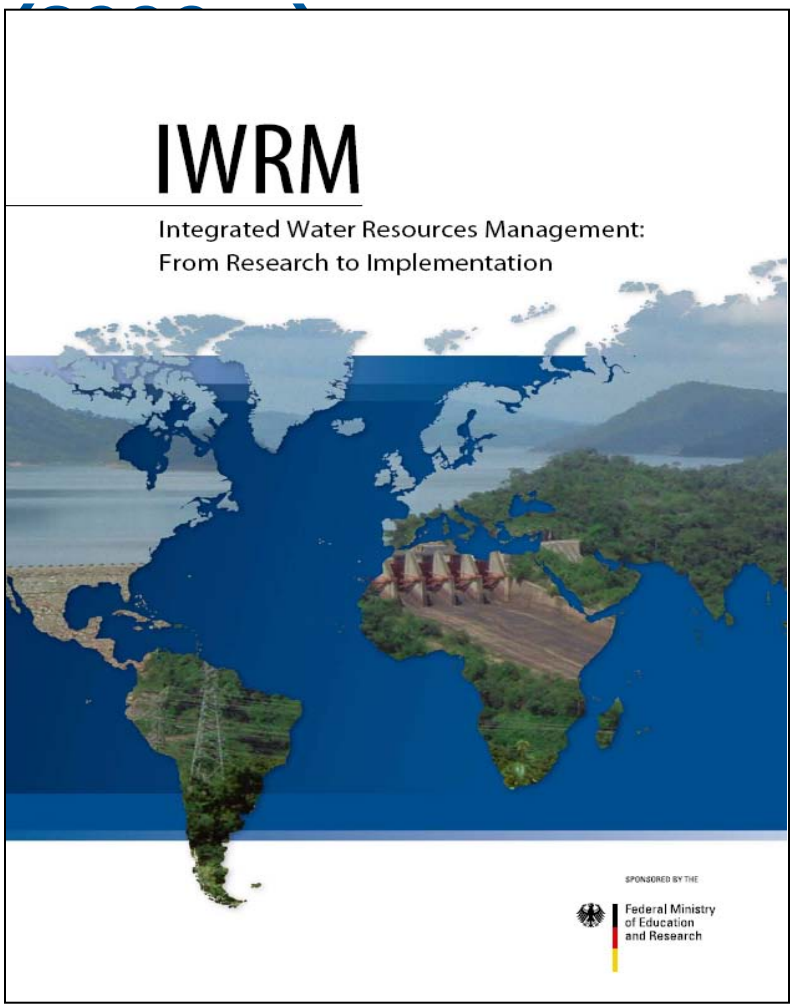
BMBF- Research Programme IWRM



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aims at (continued):

- **supporting** bilateral and multilateral cooperation in the water sector
- **enhancing** multi-disciplinary and international cooperation between science, industry, governance and other stakeholders
- **strengthening** the position of German research, economy and education.

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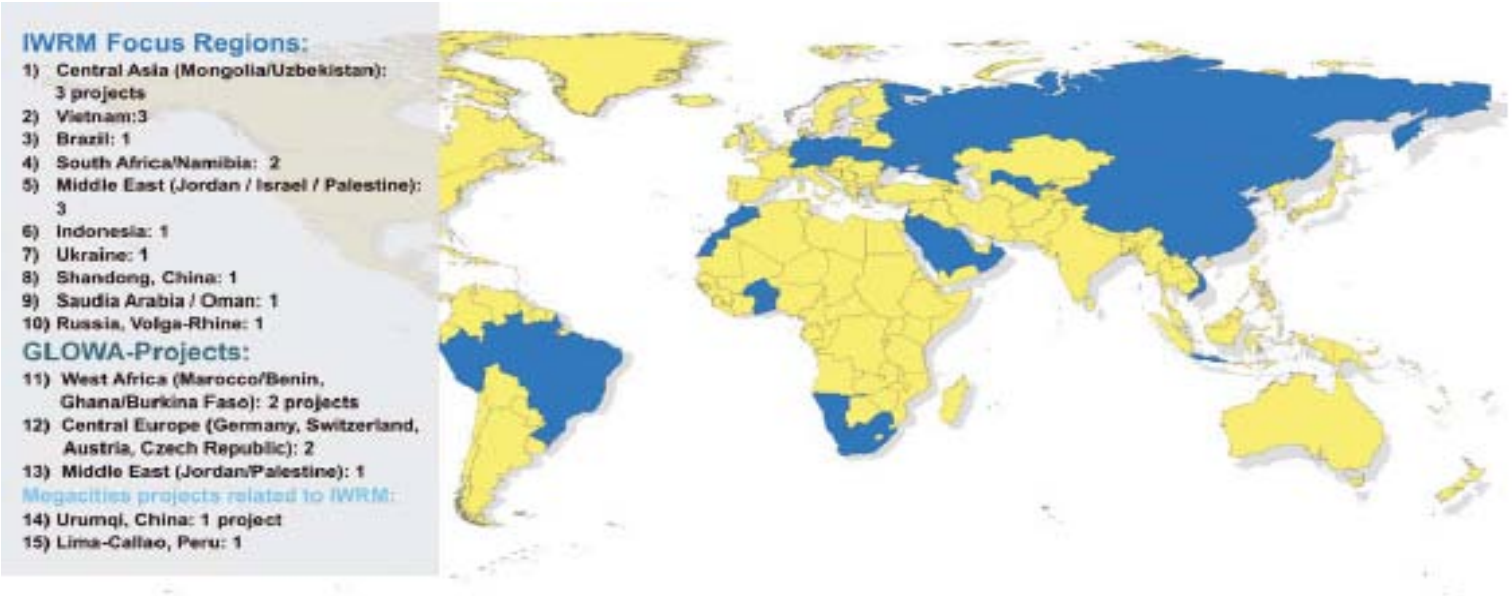
IWRM-focus regions and related projects



Seven joint collaborative IWRM-research projects in developing and emerging nations:

China, Indonesia, Israel-Jordan-Palestine, Mongolia, Namibia, South Africa and Vietnam

http://www.wasserressourcenmanagement.de

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BMBF- IWRM Networking project (2009-2011)

Infobrief IWRM

Juli 2009

Startschuss für neue Impulse in der Gewässerforschung

Statuskonferenz der BMBF Förderaktivität IWRM in Leipzig

Am 10. und 11. November 2008 fand die erste IWRM Statuskonferenz im „Leipziger Kubus" statt. Die Konferenz hatte zum Ziel, den Informationsaustausch zwischen den Akteuren in den vom BMBF geförderten Projekten sowie mit anderen IWRM-relevanten Aktivitäten zu intensivieren.

Die Strategie eines Integrierten Wasserressourcen Managements ist vor allem in Schwellen- und Entwicklungsländern zu fördern, um eine nachhaltige Balance aus Ressourcennutzung und -schutz zu erreichen. In länderspezifischen Kleingruppen – Afrika, Asien, Europa, Naher Osten – diskutierten deshalb über 100 Akteure über mögliche Synergien, Schnittmengen und weiterführende Umsetzungsstrategien des IWRM-Ansatzes.

Das Feedback der Teilnehmer zu dieser Konferenz war äußerst positiv. Zum Konzept der IWRM-Forschung wurden aber auch kritische Fragen und offene Punkte diskutiert:

- Wie können Prinzipien der Armutsorientierung, Nachhaltigkeit, Nachfrageorientierung und Partizipation stärker berücksichtigt werden?
- Wie ist ein wirksames IWRM anzulegen, so dass es nicht nur ein abstraktes Konzept sondern ein konkreter Prozess wird? Welche Aspekte spielen dabei die wesentliche Rolle?
- Welche Unterschiede bestehen zwischen einem IWRM in Mitteleuropa bzw. Deutschland und den Schwellen- und Entwicklungsländern?
- Ist es sinnvoll, in jedem Projekt alle IWRM-Facetten zu bearbeiten bzw. die verschiedenen Konzepte anzugleichen?

Diese und andere Fragen sollen in den nächsten Jahren im Rahmen der BMBF geförderten IWRM-Projekte und im Vernetzungsprojekt beantwortet werden.

Vernetzung der BMBF Förderaktivität IWRM

Das Bundesministerium für Bildung und Forschung fördert seit Beginn des Jahres 2009 ein Vernetzungsprojekt zum Förderschwerpunkt „Integriertes Wasserressourcen-Management (IWRM)". Die wichtigsten Ziele dieses Vernetzungsprojektes sind eine verbesserte Zusammenführung der Einzelprojekte, die Intensivierung des gegenseitigen fachlichen Austauschs, die Identifikation von Synergiepotenzialen und die Erarbeitung von „lessons learned" zum IWRM. Weiterhin soll die Sichtbarkeit des Schwerpunktes im nationalen und internationalen Kontext erhöht werden. Nicht zuletzt auch unter Einbindung deutscher Unternehmen in die Projekte. Das Vernetzungsprojekt wird vom Helmholtz-Zentrum für Umweltforschung – UFZ betreut.

Ansprechpartner:
Helmholtz Zentrum für Umweltforschung (UFZ)
Department Aquatische Ökosystemanalyse und Management
Leiter: Prof. Dr. Dietrich Borchardt
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E-Mail: ralf.ibisch@ufz.de
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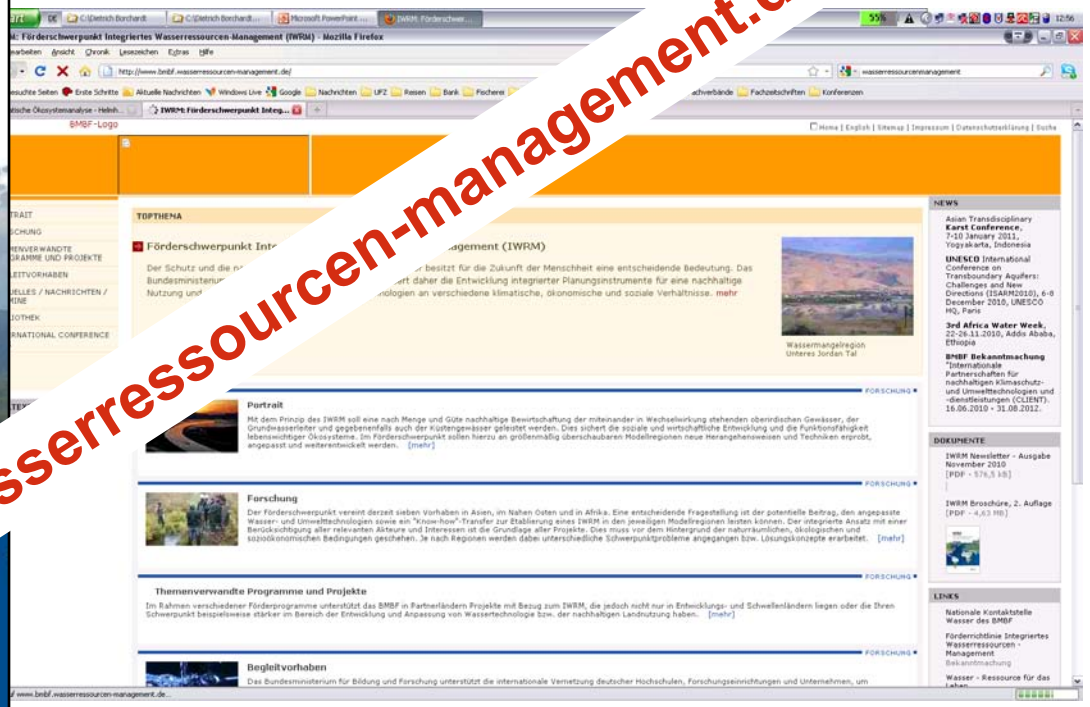
Networking project aims at:

- **supporting** exchange between individual projects
- **organizing** of thematic workshops and state-of-the-art documents
  - IWRM-concepts
  - Data acquisition, assimilation and DSS
  - Governance and institutions
  - Capacity development …
- **planning and organizing** of status seminars and conferences **(WORLD WATER WEEK 2010, IWRM Conference 2011…**)
- …

HELMHOLTZ ZENTRUM FÜR UMWELTFORSCHUNG UFZ

Information…



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HELMHOLTZ
ZENTRUM FÜR
UMWELTFORSCHUNG
UFZ

IWRM Conference 2011

Objectives of the conference

Water is essential for all life forms. It is a fundamental resource necessary for human well-being and ecosystem functioning. At the same time, water is a resource under considerable pressure. Due to increasing water demand, global change and a multitude of use conflicts the sustainable management of water is central for future societal developments.

The concept of Integrated Water Resources Management (IWRM) has gained wide acceptance as the best way to tackle these challenges. The goal is to promote economic and social developments by addressing and balancing diverse use interests, while simultaneously safeguarding water resources. However, current water management practices are far from fulfilling these objectives for different reasons. In some cases, adequate management structures and techniques are not available while in other cases existing management approaches fail in properly addressing the key problems.

In the research funding initiative of the German Ministry of Education and Research (BMBF) on Integrated Water Resources Management results from science are put into practice. Numerous collaborative research projects develop adaptive and transferable water resources management tools for selected model regions in developing and emerging nations. The focus of the conference is to discuss "lessons learnt" from experiences in water resources management at different scales and explore innovative perspectives of IWRM.

Organization

The conference will be organized by the Helmholtz Centre for Environmental Research - UFZ, Magdeburg, Germany. The organizers will be in charge of the general management of the conference. The organizers will be supported by:

F&U confirm
Permoserstraße 15
04318 Leipzig / Germany

Language

The official language of the conference will be English.

Conference schedule

Call for abstracts opens: 15 December 2010
Abstract submission closes: 31 January 2011
Abstract peer review period:
31 January - 31 March 2011
Invitation to submit full papers: May 2011
Full paper submission closes: 31 July 2011
Circulation of 2nd Announcement with Advanced programme: August 2011

Further information

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www.bmbf.wasserressourcen-management.de

IWRM

International Conference

Management of Water in a Changing World: Innovations and Integration of Science and Technology

Maritim Hotel & International Congress Center
12-13 October 2011
Dresden, Germany

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of Educati
and Resea

Sponsor

German Ministry of Education and Research (BMBF)

Supporters

IWA International Water Association
(to be confirmed)

Conference Format

The two-day conference will include a plenary session, panel discussion, technical sessions and poster sessions. Authors are expected to orally present their papers in a technical session or poster session.

Conference Topics

The conference topics will include the following subjects dealing with water resources management:

1. Coupled management of land and water resources
- Water resources assessment in a changing environment
- Landscape functionality and conservation management
- Ecosystem needs and safeguarding aquatic biodiversity
- Water quality and ecosystem services for human health

2. Implementation of IWRM
- Environmental technologies to increase water use efficiencies
- Pathways for sustainable sanitation
- Environmentally sound technologies for wastewater and storm water management
- Economic instruments: water prices for efficiency and equity

3. IWRM processes: indicators and advanced monitoring
- Adapted water resources assessment strategies
- Water management performance indicators at different scales
- Monitoring the efficiency of environmental improvements

4. Information and decision support systems for improved knowledge management
- conceptual and technical decision support systems
- data assimilation and integration

5. Capacity Development for Water and Wastewater Management
- Sustainable concepts for training and education
- Building public awareness
- Institutional development

6. Water governance: markets, networks and regulatory structures
- analyses of institutions, laws and rules
- water governance and comprehensive water policies
- Institutional governance and regulation of water services

International Steering Committee

An international steering committee consisting of representatives from research institutions, universities and professionals will provide guidelines for the selection of papers to be published and give advice on organisation of the conference. Confirmed members of the committee:

- Dr. Peter Koefoed Bjørnsen, UNEP-DHI Centre for Water and Environment, Denmark
- Prof. Dr.-Ing. Dr. h.c. Janos J. Bogardi, Global Water System Project, Bonn, Germany
- Prof. Dr. Dietrich Borchardt, Helmholtz-Centre for Environmental Research UFZ, Germany (Conference Chair)
- Dr. Ines Dombrowsky, German Development Institute, Germany
- Prof. Dr.-Ing. Norbert Jardin, Ruhrverband, Essen, Germany (IWA Board of Directors)
- Prof. em. Dr. Christian Leibundgut, University of Freiburg, Germany
- Prof. Dr. Peter Reichert, Eawag, Duebendorf, Switzerland
- Prof. Dr. Seppo Rekolainen, SYKE, Finnish Environment Institute, Helsinki, Finland
- Prof. Dr. Dr. Karl-Ulrich Rudolph, University Witterylierlocke, Germany
- Prof. David L. Rudolph, University of Waterloo, Ontario, Canada