CAWR: Two forces in a cutting-edge cluster

The Center for Advanced Water Research (CAWR) brings together the water competences of the UFZ and the TUD: more than 500 highly qualified scientifists will jointly tackle the key challenges in the water sector in a breadth of research topics that is unique in Germany and at the same time with a profound disciplinary expertise.

Facing the challenges

In many global challenges, such as food or energy security, human health and ecosystems, flood defence and droughts or the provision of drinking water and sanitation systems, water is becoming a very critical element for a sustainable society in Germany, in Europe and worldwide. For this reason the CAWR is working hand in hand with the most important partners on the issue of water and sustainable development.

This integrative partnership uses the synergies of interdisciplinary and cross-institutional collaboration, resulting in advanced top level research on key challenges related to water resources. This serves as a basis for providing policy advice and for putting the developed solutions and instruments into practice together with decision-makers and partners from industry.

Center for Advanced Water Research – CAWR

The CAWR is a cooperation between the UFZ and the TUD. The CAWR was founded on October 8th, 2013. As a joint center between a university and a non-university research institute with a focus on inter- and transdisciplinary water research, the CAWR supports the goals of the Water Science Alliance – the platform of the German water research community (more information www.watersciencealliance.de).

Furthermore CAWR contributes to the research of the Helmholtz Water Network (www.helmholtz-wassernetzwerk.de).

CAWR
Center for Advanced Water Research

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Center for Advanced Water Research

Integrated Water Resources Management in the Context of Global Change

A strategic cooperation between the Helmholtz Centre for Environmental Research - UFZ and the TU Dresden (TUD)

HELMHOLTZ CENTRE FOR ENVIRONMENTAL RESEARCH – UFZ

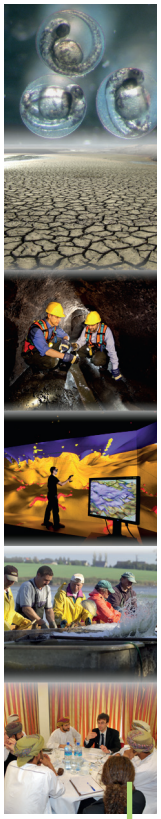
CAWR Center for Advanced Water Research

TECHNISCHE UNIVERSITÄT DRESDEN

Research

The focus of CAWR is set to a comprehensive assessment of the water system with all of its interactions in the complex environment. Research work extends from fundamental to applied research and covers the fields of the natural, engineering, social and economic sciences.
The thematic profile is based on six thematic areas:

1) **Quality and dynamics of the water cycle** - Understanding processes: water cycle and water quality
2) **Water scarcity in the regional context** - Sustainable resources management in particular in water scarce catchments
3) **Urban Water Resources Management** - Processes and dynamics of matter fluxes in the urban system
4) **Methods of data collection and information processing** - Monitoring, modelling of processes and data
5) **Societal and climate change** - Regional transformation strategies and scenarios
6) **Water governance** - Management targets, obstacles, strategies and instruments



Education & Training

Research-oriented education and training is indispensable for the development of innovative new strategies and methods in relation to the grand challenges in the water sector. The CAWR is based on the following programs/ activities, which will also be expanded and complemented in the coming years:

- **Masters programmes**: Hydro-Science and Engineering, Water Management, Hydrology, Hydrobiology, Waste Treatment and Contaminated Site Management, Geodesy, Geography, GIS technologies, Spatial Development and Natural Resources Management, and Forest Sciences

- The **graduate school HIGRADE** with its wide range of topics encourages interdisciplinary thinking and research among students, provides them with excellent research facilities and supports them in publishing their research and implementing their inter- und transdisciplinary know-how.

- The **Centre for International Postgraduate Studies of Environmental Management (CIPSEM)** is responsible for holding post-graduate courses for experts from developing and emerging countries in collaboration with UNEP, UNESCO, BMU and UBA.

- **UNU-FLORES:** The institute for „Integrated Management of Material Fluxes and Resources“ was founded in Dresden in 2012. Due to close cooperation between the TUD, UFZ and UNU there is a close link to the activities of the UNU-system.

- **Capacity Development (CD):** The concept developed within the framework of the joint research project IWAS provides the framework for CD from the individual, through the institutional level to the regulatory system.

- **IWRM E-learning** (together with IHP): Open access systems complement traditional training.

Transfer

The thematic focus of the Center for Advanced Water Research in research and education provides a range of application fields, both in Germany as well as internationally.
On the one hand, transfer at CAWR stands for converting research findings and know-how into flexible instruments and concepts that can form the basis for solutions adapted to other projects and sites.
On the other hand, transfer also means cooperating with stakeholders from industry and facilitating the flow of scientific results into political decisions and guidelines or their conversion into technological measures.
Both the TUD and the UFZ have excellent contacts that enable a transfer and implementation of research work: cooperation and contacts with the GIZ and the KfW (German Development Bank) and hence also with the TZ-EZ (Technological and development work through the BMZ), with international training institutions (e.g UNU-FLORES, CIPSEM-UNEP, IHP), with stakeholders such as the German Water Partnership (GWP), but also direct contacts with federal, national and international ministries