

Organisers

Centre for Ecology and Hydrology, Wallingford UK

USF – University Osnabrück, Germany

Alterra, Netherlands

IRSA- Rome, Italy

CEMAGREF, Montpellier, France

University of Cranfield, UK

University of Aachen, Germany

University of Hannover, Germany

Department of Economics, University of Reading, UK.

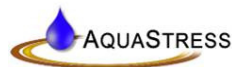
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Conference Location: Radisson SAS Hotel Basel, Switzerland

The hotel is located in the heart of the city but just 8 kilometres from the Euro-Airport Basel-Mulhouse-Freiburg and within walking distance of the SBB Central Station and many city attractions



**Workshop on Indicators
Development.
An Approach of the Aquastress
Project**

**Aquastress/Waterstress
Matrix**

12 November 2007



**Integrated Projekt
in the
6th EU framework programme**



<http://www.aquastress.net>

AquaStress Project

General Information

Water stress is a global problem with far-reaching economic and social implications. The mitigation of water stress at regional scale depends not just on technological innovations, but also on the development of new integrated water management tools and decision-making practices. The AquaStress IP delivers enhanced interdisciplinary methodologies enabling actors at different levels of involvement and at different stages of the planning process to mitigate water stress problems. This IP draws on both academic and practitioner skills to generate knowledge in technological, operational management, policy, socio-economic, and environmental domains. Contributions come from 36 renowned organizations, including SMEs, from 17 Countries. AquaStress will generate scientific innovations to improve the understanding of water stress from an integrated multisectoral perspective to support: - diagnosis and characterisation of sources and causes of water stress; assessment of the effectiveness of water stress management measures and development of new tailored options; development of supporting methods and tools to evaluate different mitigation options and their potential interactions; development and dissemination of guidelines, and policies; development of a participatory process to implement solutions tailored to environmental, cultural, economic and institutional settings; identification of barriers to policy mechanism implementation; continuous involvement of citizens and institutions within a social learning process that promotes new forms of water culture and nurtures long-term change and social adaptivity. The IP adopts a Case Study stakeholder driven approach and is organised in three phases; (i) characterisation of selected reference sites and relative water stress problems, (ii) collaborative identification of preferred solution options, (iii) testing of solutions according to stakeholder interests and expectations. It will make a major contribution to the objectives of

the Global Change and Ecosystems Sub-Priority , addressing Topic, and supporting the Community Directive 2000/60/EC and the EU Water Initiative.

WB 2 Characterization of Water Stress

Objectives

This work-block will provide the base to characterize water stress and investigate the specific situation in different sectors – industry, agriculture, domestic and nature. The level of water stress may be derived from the ratio between water availability and water demand. However, water stress is not experienced in the same way in each sector and in each region but depends on the vulnerability of a sector and a region to water stress and the potential to cope with it. Hence, water stress indicators should be related to **indicators** of vulnerability and the potential of a region/sector to adapt. Furthermore, it is important to contrast the factual analysis of the problem with the framing of the problem of water stress by different stakeholder groups. Different groups may hold different **perceptions** regarding the severity of the problem, its causes and the type of responses to be taken. The implementation of integrated solutions and the management of conflicting interests requires a process to make these differences explicit.

Indicators Development

In this workshop we will provide a detailed overview of the development of an integrated tool for evaluation conditions of water stress, to be referred to as the Aquastress Water Stress Matrix (AWSM). This tool combines a selection of information relevant for water management decision making, and has at its core, a composite index of water stress, here referred to as the Aquastress Water Stress Index (AWSI). In addition to this composite index, the details of this index are presented in ways that can be visualised, as a means of overcoming the problem of providing complex water stress information as a single number. The framework allows including further information for decision makers within this matrix, like mapped and photographic evidence relating to the specific site under examination, as well as guidance, using a traffic light approach, on the urgency of the situation.

The process of application and use of the Aquastress Water Stress Matrix (and its core index) is then presented. This provides some guidance on the procedure to be followed in implementing this tool, and it also suggests roles for both practitioners and stakeholders in this process. Some tentative conclusions and recommendations for next steps are provided.

In the development of the Aquastress Water Stress Matrix (AWSI), therefore, we are aiming to capture the range of issues relevant to the test sites, and from these, create a composite framework which will help to identify the causes of water stress. In order to capture and deliver a broader range of information than can be provided through a mathematically based index, we then combine this index with other, more qualitative issues, in the format of a Matrix, which is designed to provide a useful set of information for management and policy purposes. The criteria for measuring which information is useful for such purposes are determined by what is:

- politically relevant / relevant for decision makers
- scientifically valid and reliable
- easy to explain / to understand

