



The Project is co-ordinated by VITUKI (P1, H) and the Co-ordinator is Prof. Dr. Géza Jolánkai. The 10 partners are: P2 UNIDEB (H); P3 CNR-IRSA (I); P4 (USF, D); P5 GeoEcoMar (Ro); P6 Geonardo (H); P7 UVIEN (A); P8 UNILEI (UK); P9 SHMU (SK); P10 SOGREA (F) and P11 MRA (Malta). This is a condensed version of the extended publishable summary of the mid-term progress report of Project ClimateWater and the reader is kindly requested to see the homepage (<http://www.climatewater.org>) for the full report.

The Project ClimateWater's objectives are: The analysis and synthesis of data and information on the likely water related impacts of climate change; the identification of adaptation strategies; the identification of research needs. The final objective is the identification of gaps that would hinder the implementation of the EU water policy in combating climate change impacts on water. By the mid-term of the project we have completed work for the "Analysis and synthesis of water related climate change impacts" by reviewing several hundred projects and documents. Only very few of the most critical impacts revealed by this project can be mentioned in this summary: One of the major water related impacts is flooding. Here it should be stressed that at the time of writing this report nearly whole Europe is subject to the most devastating floods ever experienced, causing loss of life and serious health risk. Another major impact area is drought and water scarcity, the severity of which is also likely increasing in over roughly the entire southern half of Europe. Water supply will be seriously handicapped in many regions. Water quality will very likely deteriorate as a consequence of climate change. Deterioration in terms of priority pollutants (e.g. heavy metals) and also pathogens are expected with the flash-floods and storm-runoff. Impacts on agriculture may also very severe with very high economic, environmental and social impacts. Major water related/dependent industries such as navigation, hydropower and nuclear power generation will be strongly impacted. Impacts on nature and within this on aquatic ecosystems, terrestrial ecosystems, terrestrial/aquatic ecotones were all identified in details. Selecting one single major finding we state that at global scale the evapotranspiration of forests is responsible for the majority of the world's freshwater budget. Therefore climate change impact on forests and other terrestrial ecosystems could be the main driver of all water related problems.

In the work on adaptation measures some very important strategies have already been identified. They concern firstly the strategies to combat the extreme hydrological consequences of climate change, floods and drought. A fairly new concern is the extreme flooding of small streams even of creeks and rivulets. Strategies to fight storm induced sea surges and rising sea water level were also reviewed. Strategies reviewed for adapting navigation to the impacts of climate changes also cover a wide range. Strategies to combat climate change induced water pollution pointed to the rising importance of the control of high-runoff induced non-point sources of pollution.

The work on the identification of research needs, is just reaching the stage of intensification. We have recognized that there would be a need for strengthening research also beyond the need for identifying gaps in water related policies. This concerned floods, the related impacts of mud-avalanches, land-slides, etc., especially in the light of the Europe (and world)-wide series of catastrophes of May-June 2010.

The bulk of the work with "identifying and bridging gaps in water related European policies" has just started. Nevertheless some important gaps have already been identified during the processing of project and literature documents simultaneously for all work packages. For indication only one of the most important ones is mentioned here: To cope with the ever increasing impacts of drought, water pollution and flooding an enforceable legal EU-wide regulation and science based planning of the equitable use of the quantity and quality of water resources will be needed.