

CLIMB - CLIMATE INDUCED CHANGES ON THE HYDROLOGY OF MEDITERRANEAN BASINS – REDUCING UNCERTAINTY AND QUANTIFYING RISK

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In its 4-year design, the EU-project CLIMB (FP7-ENV-2009-1, www.climb-fp7.eu), a network of excellence comprising 19 partners from 9 countries (Germany, Egypt, Tunisia, Turkey, France, Italy, Austria, Palest. Adm. Areas, Canada), analyzes ongoing and future climate induced changes in hydrological budgets and extremes across the Mediterranean and neighboring regions. Study sites are located in Sardinia and the Trentino (Italy), the Thau Lagoon (France), Izmit Bay (Turkey), Chiba (Tunisia), the Nile Delta (Egypt) and the Gaza strip (Palest. Adm. Area). The work plan is targeted to selected river or aquifer catchments, where the consortium employs a combination of novel field monitoring and remote sensing concepts, data assimilation, integrated hydrologic modeling and socioeconomic factor analyses to reduce existing uncertainties in climate change impact analysis. Advanced climate scenario analysis is utilized and available ensembles of regional climate model simulations are audited and down-scaled. This process provides the drivers for an ensemble of hydrological models with different degrees of complexity in terms of process description and level of integration. The results of hydrological modeling and socio-economic factor analysis are applied for the development of a GIS-based Vulnerability and Risk Assessment Tool, serving as a platform for dissemination of project results, including communication and planning for local and regional stakeholders. An important output of the research in the individual study sites will be the development of recommendations for an improved monitoring and modeling strategy for climate change impact assessment. The presentation will highlight the CLIMB strategy, first results and impacts and its contribution to EU's research cluster CLIWASEC (CLimate change Impacts on WAtER and SECurity, www.cliwasec.eu), to better assess the manifold consequences and uncertainties in climate impact on man-environment systems and water security in Southern Europe and neighboring regions.