



## Climate Change Impacts on Hydrology and Water Resources

By

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Climate change is already present around the globe. Human-related activities seem to have affected the climate, as a result of increased emissions of GHGs (including CO<sub>2</sub>). Using climate modeling and emission scenarios for future world development we may explore the climate change impacts on hydrology and water resources at various scales. The current presentation focuses on the projected impacts of climate change on hydrometeorology (temperature and precipitation), the hydrological cycle and extreme events over the Globe, Europe, Mediterranean and Greece. The European continent is expected to undergo climate change with a projected increase in temperature of 2 - 5 °C in the year 2100. Southern Europe is becoming drier, while the northern areas are receiving more rain. The extreme hydrological events (droughts, floods) are expected to deteriorate. The impacts on the water resources (reservoir risk, power generation shortage, failure of hydraulic works etc.), which are already under pressure in many regions, will be severe. Greece follows the European climate change trends: increases in temperature and evapotranspiration, reductions in precipitation and runoff, and a prolongation of dry summer periods. Decisive political response is required to mitigate and adapt.

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