



Future climate change impact, vulnerability and adaptation assessment for the island state of Cyprus

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The main objective of EU LIFE project CYPADAPT (<http://uest.ntua.gr/cypadapt/>) is to strengthen and increase Cyprus adaptive capacity to climate change impacts through the development of a National Adaptation Strategy (NAS).

By taking into consideration (i) the current vulnerability assessment, (ii) the magnitude of the projected future changes in the climatic parameters considered to affect each impact and (iii) other socio-economic projections relative to the impact, the future vulnerability to climate changes in Cyprus is assessed.

For the assessment of sensitivity, exposure and adaptive capacity of each impact, a number of qualitative and quantitative vulnerability indicators were used. The regional climate models (RCM) used for the projection of future climate changes, were also used for the assessment of future vulnerability. In specific, the RCMs were used in order to calculate and plot certain vulnerability indicators which are associated with various climatic parameters. The assessment of overall vulnerability was based on the following qualitative equation:

Vulnerability= impact-adaptive capacity

where impact= sensitivity*exposure

Several policy areas have been examined but we focus here on the following sectors: water resources, energy demand, population health and tourism potential. For each sector we provide an overview of the impacts due to changes from a baseline scenario together with a future vulnerability assessment and adaptation options. As an example, climate change will have direct impacts on human health, including increased mortality due to heat stress and heat waves. An impact model is built to reproduce the excess heat-related deaths, defined as the number of deaths occurring in excess of the number that would have been expected for that population in the absence of stressful weather. Subsequently, regional climate model output is used to project excess heat-related deaths to the future, thus providing a measure of vulnerability for the health sector in Cyprus.