Resumen

Frequent water stress episodes affecting urban hubs have caused a shift in urban water management towards integrated approaches and motivated a search for alternative water resources. Large-scale rainwater harvesting on the municipal scale can overcome the disadvantages of climate dependence and the volume restrictions associated with small-scale collection facilities. In this paper, two tools based on the urban metabolism concept are used to determine the water self-sufficiency potential of urban systems from urban runoff: a simple water self-sufficiency potential indicator and a socioeconomic water flow accounting scheme, which includes water losses. Both tools are applied to a densely populated coastal area that exemplifies urban centres in the Mediterranean. This approach is useful for regions with restricted data availability on water use and facilitates information dissemination to policy makers. The results indicate a significant water self-sufficiency potential for the area of study, even under projections of reduced precipitation in the area.

Palabras clave

Palabras clave de autor: urban water management; rainwater harvesting; urban metabolism; indicators; climate change; Mediterranean

KeyWords Plus: CLIMATE-CHANGE; FLOW-ANALYSIS; METABOLISM; RAINWATER; CITIES; MANAGEMENT; VARIABILITY; RESOURCES; SCENARIOS; BALANCE

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