

# An ecosystemic approach for assessing the urban water self-sufficiency potential: lessons from the Mediterranean

Por: [Fragkou, MC](#) (Fragkou, Maria Christina)<sup>[1]</sup>; [Vicent, T](#) (Vicent, Teresa)<sup>[2]</sup>; [Gabarrell, X](#) (Gabarrell, Xavier)<sup>[3]</sup>

**URBAN WATER JOURNAL**

**Volumen:** 13

**Número:** 7

**Páginas:** 663-675

**DOI:** 10.1080/1573062X.2015.1024686

**Fecha de publicación:** 2016

[Ver información de revista](#)

## 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](#)

## Información del autor

**Dirección para petición de copias:** Fragkou, MC (autor para petición de copias)

+ Univ Chile, Fac Architecture & Urbanism, Dept Geog, Portugal 84, Santiago Ctr, Chile.

## Direcciones:

+ [ 1 ] Univ Chile, Fac Architecture & Urbanism, Dept Geog, Portugal 84, Santiago Ctr, Chile

- + [ 2 ] UAB, Sch Engr ETSE, Dept Chem Engr, Campus UAB, Barcelona, Spain
- + [ 3 ] UAB, Sch Engr ETSE, Inst Environm Sci & Technol ICTA, Dept Chem Engr, Sostenipra ICTA IRTA Inedit, Campus UAB, Barcelona, Spain

**Direcciones de correo electrónico:** [mariac.fragkou@gmail.com](mailto:mariac.fragkou@gmail.com)

## Financiación

Entidad financiadora	Número de concesión
Fondecyt Iniciacion project	11130631
European Union Interreg project	ECOTEC_SUDOE SOE/P2/E377

[Ver texto de financiación](#)

## Editorial

TAYLOR & FRANCIS LTD, 2-4 PARK SQUARE, MILTON PARK, ABINGDON OR14 4RN, OXON, ENGLAND

## Categorías / Clasificación

**Áreas de investigación:**Water Resources

**Categorías de Web of Science:**Water Resources

## Información del documento

**Tipo de documento:**Article

**Idioma:**English

**Número de acceso:** [WOS:000380146700001](#)

**ISSN:** 1573-062X

**eISSN:** 1744-9006

## Información de la revista

- **Impact Factor:** [Journal Citation Reports®](#)

## Otra información

**Número IDS:** DR8KL

**Referencias citadas en la Colección principal de Web of Science:** **82**

**Veces citado en la Colección principal de Web of Science:** **0**