

# Accepted Manuscript

Research papers

Evaluating performances of green roofs for stormwater runoff mitigation in a high flood risk urban catchment

Giulia Ercolani, Enrico Antonio Chiaradia, Claudio Gandolfi, Fabio Castelli, Daniele Masseroni

PII: S0022-1694(18)30744-3  
DOI: <https://doi.org/10.1016/j.jhydrol.2018.09.050>  
Reference: HYDROL 23147

To appear in: *Journal of Hydrology*

Received Date: 4 June 2018  
Revised Date: 20 September 2018  
Accepted Date: 22 September 2018

Please cite this article as: Ercolani, G., Chiaradia, E.A., Gandolfi, C., Castelli, F., Masseroni, D., Evaluating performances of green roofs for stormwater runoff mitigation in a high flood risk urban catchment, *Journal of Hydrology* (2018), doi: <https://doi.org/10.1016/j.jhydrol.2018.09.050>

This is a PDF file of an unedited manuscript that has been accepted for publication. As a service to our customers we are providing this early version of the manuscript. The manuscript will undergo copyediting, typesetting, and review of the resulting proof before it is published in its final form. Please note that during the production process errors may be discovered which could affect the content, and all legal disclaimers that apply to the journal pertain.



**Title**

Evaluating performances of green roofs for stormwater runoff mitigation in a high flood risk urban catchment

**Authors**

Giulia Ercolani<sup>1</sup>, Enrico Antonio Chiaradia<sup>2</sup>, Claudio Gandolfi<sup>2</sup>, Fabio Castelli<sup>1</sup>, Daniele Masseroni<sup>2</sup>

**Affiliation**

<sup>1</sup> Department of Civil and Environmental Engineering, University of Florence, Via S. Marta 3, 50139 Florence, Italy

<sup>2</sup> Department of Agricultural and Environmental Sciences, University of Milan, Via Celoria 2, 20133 Milan, Italy.

**Corresponding author**

Giulia Ercolani

Department of Civil and Environmental Engineering, University of Florence, Via S. Marta 3, 50139 Florence, Italy

Phone: +39 055 2758811

Fax: +39 055 2758812

Mail: giulia.ercolani@dicea.unifi.it

**Abstract**

Urbanization modifies the hydrologic cycle, resulting in increased runoff rates, volumes, and peak flows in the drainage network. In this paper, the implementation of green roofs as source control solutions for mitigating the impacts of urbanization is analysed at the urban catchment scale. The hydrologic-hydraulic response of a 2 km<sup>2</sup> urban basin is investigated under various implementation scenarios and rainfall characteristics. In particular, a distributed hydrologic model is employed to

Download English Version:

<https://daneshyari.com/en/article/11024774>

Download Persian Version:

<https://daneshyari.com/article/11024774>

[Daneshyari.com](https://daneshyari.com)