\*Schmitter, P., Goedbloed, A., Galelli, S., & Babovic, V. (2016). Effect of Catchment-Scale Green Roof Deployment on Stormwater Generation and Reuse in a Tropical City. Journal of Water Resources Planning and Management, 142(7), 5016002-. <https://doi.org/10.1061/(ASCE)WR.1943-5452.0000643>

Singapore, 12% peak discharge reduction. 5% runoff volume reduction, For rainfall events.

Average annual volume reductions were 2.4% for 100% GR implementations.

Low performance related to trophical weather and climatic conditions – that is, antecedent dry weather period followed by maximum rainfall intensity.

\*Masseroni, D., & Cislaghi, A. (2016). Green roof benefits for reducing flood risk at the catchment scale. Environmental Earth Sciences, 75(7), 1-11. <https://doi.org/10.1007/s12665-016-5377-z>

Italy, peak runoff reduction 30%, volume reduction, 35%

\*Ercolani, G., Chiaradia, E., Gandolfi, C., Castelli, F., & Masseroni, D. (2018). Evaluating performances of green roofs for stormwater runoff mitigation in a high flood risk urban catchment. Journal of Hydrology, 566, 830-845. <https://doi.org/10.1016/j.jhydrol.2018.09.050>  
Italy, 2-year event, peak flow reduction 10-80%, volume rates from 15-70%.

\*Versini, P., Gires, A., Tchinguirinskaia, I., & Schertzer, D. (2016). Toward an operational tool to simulate green roof hydrological impact at the basin scale: a new version of the distributed rainfall-runoff model Multi-Hydro. Water Science and Technology, 74(8), 1845-1854. <https://doi.org/10.2166/wst.2016.310>  
France, peak discharge reduction 35%, runoff volume reductions 36,

In very few cases, the implementation of the green roof can produce higher peak discharge than the impervious situation (see below under ‘The influence of spatial distribution of precipitation on performances’). In such situations characterized by an event with two rainfall peaks, the fast response of the saturated substrate generated by the ‘second peak’ of the rainfall coincides with the slow response of the green roof produced by the initial portion of the rainfall event (concomitance situation).

As already mentioned above under ‘General performances of green roof’ and ‘The influence of initial condition on green roof performances’, this represents a new example of a concomitance situation. These results are related to both the spatio-temporal distribution of precipitation and the specific configuration of the studied catchment (especially on the catchment geometry and land cover, and the sewage network arrangement). The superposition in space and time of responses from impervious and green roofed areas to a complex rainfall event (composed by several rainfall peaks for example) can generate a peak discharge higher than that produced by the current (impervious) situation.

\*Versini, P., Ramier, D., Berthier, E., & de Gouvello, B. (2015). Assessment of the hydrological impacts of green roof: From building scale to basin scale. Journal of Hydrology, 524(524), 562-575. <https://doi.org/10.1016/j.jhydrol.2015.03.020>

France, peak reduction 17-39%, volume reduction 25%

Palla (2008a) = SWMM

Carter and Jackson (2007) ==

Ercolani et al. (2018) used a distributed hydrologic model (MOBIDIC-U) to assess the impacts of various green roof configurations and rainfall events on flow peaks and volumes in an urban drainage network in northwest Milan, Italy. All of the studies found reductions in flow peaks and volumes at the network outlet that were proportional to the conversion percentage of green roofs throughout the catchment (e.g., 25%, 50%, 75%, 100%).

They found reductions in flow peaks and volumes at the network outlet that were proportional to the conversion percentage of green roofs throughout the network (e.g., 25%, 50%, 75%, 100%), but they also noted nonlinearities in effectiveness at larger implementation percentages and suggest that green roof implementations appear to be more effective for frequent storms of smaller magnitude. XXX used SWMM to simulate the hydrological response of multiple green roof coverage scenarios in the highly urbanized Châtillon basin (near Paris, France) and found a proportional decrease in