## Teaching Notes

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**Context for Use**

Department: **Natural Sciences**

Audience Level: **Undergraduate**

Undergraduates: **Majors**

Instructional Setting: **Lecture**

Number of Students: **15**

Activity Length: Activity presented as three separate assignments

**Resource Learning Goals:**

In this module, you will explore green roofs as a potential solution to the environmental impacts of increased precipitation brought on by climate change. You will evaluate data collected from studies on 15 green roofs from different areas of the US and other countries, as well as historical precipitation data from Central Park in NY to illustrate how precipitation patterns are changing and to determine if we need to use green infrastructure, such as green roofs, to combat  
the symptoms of climate change. You will also use Model My Watershed1, a watershed-modeling web app, to analyze real land use data, model stormwater runoff and water-quality impacts using professional-grade models, and compare how different conservation or development scenarios could modify runoff and

**Changes Made (If any)**

No changes made

**Teaching Notes**

Some suggestions for this section (not all required, and extras always welcome):

* The activity went well and students were surprised on how much variation there was in runoff and suspended solids based on the groundcover. There were some challenges for students especially in the first two activities. Most of the challenges came from students struggling with using the functions of Excel, not knowing how to paste data to Excel, or using functions like sorting, or other simple operations. The second challenge came from some students not understanding the meaning of trends, the use of R^2 values, or the equation of a line.
* To create a baseline before starting the module implementation, I am planning to create a couple of activities for using Excel functions, and creation of plots. The second activity will be geared towards examples using statistics, understanding trends, relationships between variables, R^2, etc. Although there was not much preparation time involved since I implemented the module as is, in the future I intend to add a new component of comparison between two watersheds (urban vs forested).