# Lab 4: MODELING URBAN FORESTS VERSUS INCOME

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| **Name:** | **Javier Jesus Macossay Hernandez** |
| **Lab Session:** | **Monday 4-6pm** |

## Answer the questions in the space provided.

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| QUESTION 1: Please state the outcome of the hypothesis test for first pair of hypotheses. Should we accept or reject the null hypothesis? If we reject the null hypothesis, is this the same thing as proving that social and/or economic dynamics in high-income neighborhoods cause increases in urban tree canopy? Why/why not? |
| In the case of the null hypothesis, we should reject it because there is a relationship between the number of canopies and the median household income. Furthermore, thanks to our observations the alternative hypothesis can be accepted. Yes, rejecting the null hypothesis is the same thing as proving that social and/or economic dynamics in high-income neighborhoods cause increases in urban tree canopy because it is the opposite of “not having a relationship,” which is stated by the hypothesis. |
| QUESTION 2: Please state the outcome of the hypothesis test for the second pair of hypotheses. Should we accept or reject the null hypothesis? |
| Answer:  We should reject the null hypothesis and we should accept the alternative hypothesis. The smaller the population, more trees are going to be found in a specific area. They are inversely proportional. |
| QUESTION 3: Name one other control variable that is measurable at the neighborhood level (NOT climate related) that you imagine might be important to look at if we continued with this work. Briefly explain why you think this might be an important control variable to consider. (You might consider whether you noticed anything else when coding UTC in your study areas that you think should be taken into account.) |
| Answer:  The amount of concrete should be inversely proportional to the amount of trees available. Furthermore, if there are greener areas, then it is more possible to have more trees. These are important control variables to consider because they should be considered before the construction (in the planning phase) of a neighborhood to determine the quality of life. |
| QUESTION 4: The i-Tree tool accounts for a number of benefits of increased UTC. Name one of these benefits and briefly explain why it is related to urban sustainability. You may need to reference back to Step 12 for a list of benefits in iTrees. |
| Answer:  Carbon Monoxide is removed annually. The removal rate is 0.902 (lbs/acre/year). This benefit is related and important to urban sustainability because it improves the quality of air and, as a result, the quality of life of the local population. The better quality of air, the less breathing diseases the population will have. Therefore, less money is going to be spent on medicine and visiting the doctor. |