

11.205 – Intro to Spatial Analysis – Fall 2019

Exercise 3 – Raster Data and Decision Making

Due: Before midnight, Thursday of week 2

The Bronx River Watershed Alliance is interested in creating an environmental education center near a school *AND* near the Bronx River Greenway. This way, they can ensure the greenway is used as a learning environment and strengthen their relationships with local community resources.

The Alliance wants to identify existing vacant lots. They will then research each one of these sites further to determine the possibility of purchase based on the parcel's suitability for the intended use. We will start by helping them narrow down the possible sites. The Bronx River Alliance can perform a further analysis of the sites once we narrow down some of the possibilities.

The deliverables for Exercise 3 build on the work we did in the in class lab!

For Exercise 3, please provide the following:

Q1: Create a map that shows the vacant parcels that have a decision value greater than 4.5 using the decision_>4.5 file created during lab. It may be hard to see all of the parcels on one map – you can make them more visible by altering the width of the outline. You can also make one large map and then create insets to show where specific areas with suitable parcels are located. Remember to include the basic map elements.

Q2: Of the parcels that you identified in Q1, on which **single parcel** do you think is the most suitable location for an environmental education center? Please explain why. In your explanation, make sure that you include a map that helps us understand where the site is located. You may want to use information from the vacant parcel map's attribute table to get a better idea of ownership. You could also look at the surrounding land uses. Please limit your explanation to no more than 2 paragraphs.

Q3: Could we have used other decision criteria to identify suitable parcels? If so, what criteria might be useful? *Your response does not need to be limited to the data provided.* What other methods would you use in GIS to create this map? Please list the methods and create a workflow map, similar to what you saw in your in-class exercise, to explain how you would implement the additional criteria.

Q4: What methods (list at least 2) could you have used to determine appropriate weights for the decision layers? We have discussed weighting in several case studies throughout the class. Please explain!

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