

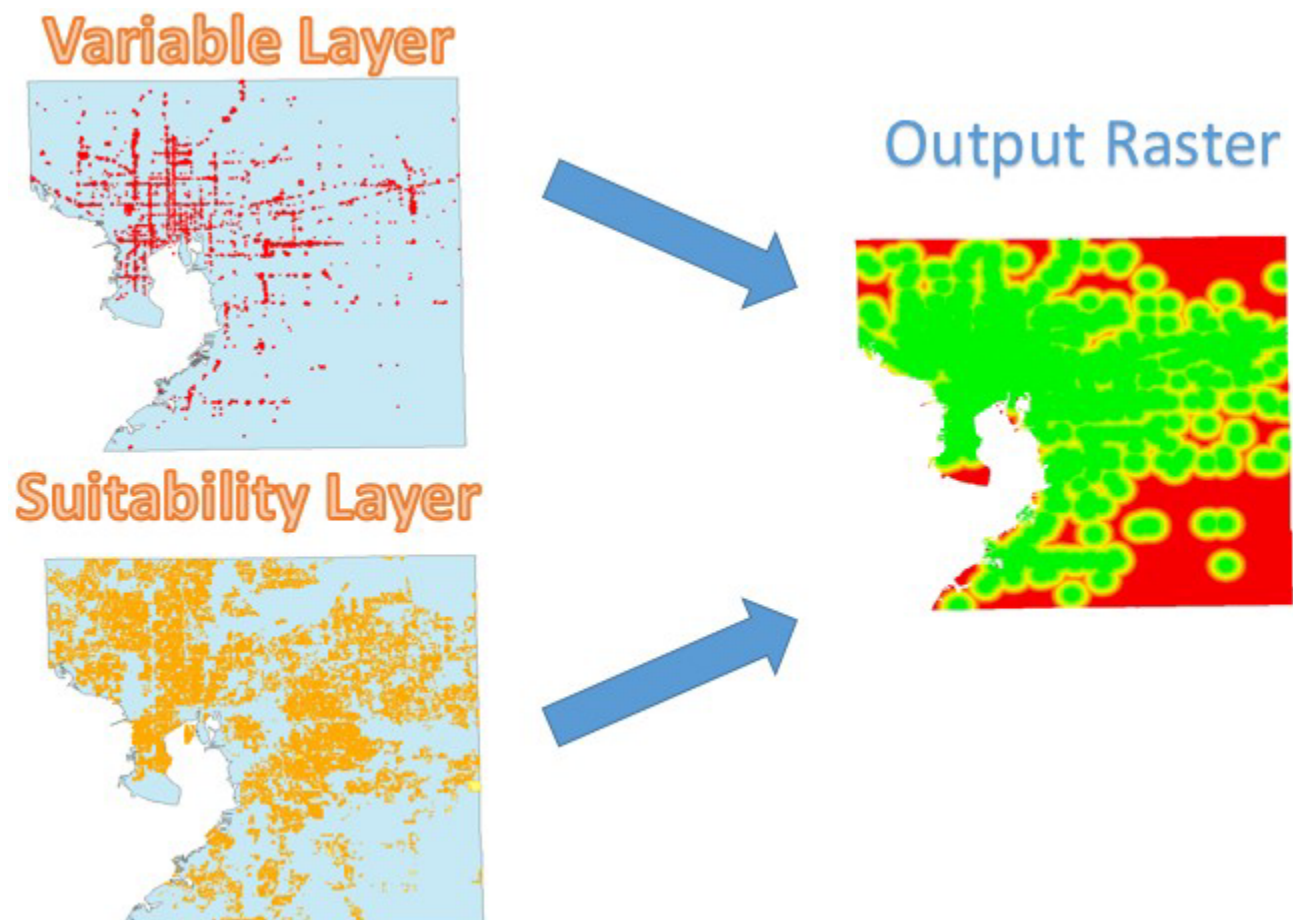
## Data Driven Reclass Tool

### Title Data Driven Reclass Tool

#### Summary

- This tool is designed to aid in the creation of data driven suitability layers. The tool takes a reference layer and a variable layer as inputs. The reference layer represents the features that you want to create suitabilities for ("Single Family Residential"), and the variable layer represents the variable that relates to the reference layer (Parks for Recreation). Based on the average and standard deviation of the distance each object in the reference layer is from the variable layer, a euclidean distance away from the variable layer is reclassified by the following remap table.
  - "RemapRange([[0,Mean,9],[Mean,Mean+(Qrt\_StD),8],[Mean+(Qrt\_StD),Mean+(Qrt\_StD\*2),7],[Mean+(Qrt\_StD\*2),Mean+(Qrt\_StD\*3),6],[Mean+(Qrt\_StD\*3),Mean+(Qrt\_StD\*4),5],[Mean+(Qrt\_StD\*4),Mean+(Qrt\_StD\*5),4],[Mean+(Qrt\_StD\*5),Mean+(Qrt\_StD\*6),3],[Mean+(Qrt\_StD\*6),Mean+(Qrt\_StD\*7),2],[Mean+(Qrt\_StD\*7),(Max\_Ra\_Value+1),1]])."
    - Mean== average of the distances the variable layer is from the suitability layer.
    - Qrt\_StD==1/4 standard deviation of the distances the variable layer is from the suitability layer.
    - Max\_Ra\_Value== equals the highest value of the Euclidean Distance's raster input.
- Before running this tool it is critical you make sure your raster environments are set up correctly, specifically cell size, extent, and the mask you wish you use.

#### Illustration



## Usage

**This tool takes a variable layer as an input and then reclassifies a euclidean distance raster created from it based on the average and standard deviation of the distances the suitability layer is away from variable layer.**

- Tool takes features classes as inputs (points, lines, or polygons).
- Output is based on the raster analysis environments set in ArcMap or Model Builder. It is suggested at the very least the extent, cell size, and mask are chosen based on the project.

## Syntax

ProximitySuitTI (Reference\_Layer, Variable\_Layer, Reclassified\_Suitability, Invert\_Raster)

Parameter	Explanation	Data Type
Reference_Layer	<p><b>Dialog Reference</b></p> <p>This input is what you want a suitability of and serves as the "reference layer" that is used to create the statistics that drive the reclassification based on this layers proximity to the variable layer. For example, in the illustration single family residential parcels are used as this input.</p> <p>There is no python reference for this parameter.</p>	Feature Layer
Variable_Layer	<p><b>Dialog Reference</b></p> <p>This input is the variable that corresponds to the suitability layer, and from this input a Euclidean distance raster will be created and reclassified based on its proximity statistics from to the suitability layer. For example, in the illustration above retail parcels are used to create the output.</p> <p>There is no python reference for this parameter.</p>	Feature Layer
Reclassified_Suitability	<p><b>Dialog Reference</b></p> <p>This is the output destination for the reclassified suitability input raster. Example above shows the reclassified raster going from green to red. This might need to be reclassified again if the variable of interest is not an attractor variable (flipping it). Keep the name under 13 characters.</p> <p>There is no python reference for this parameter.</p>	Raster Dataset
Invert_Raster	<p><b>Dialog Reference</b></p> <p>If checked, the output raster will be inverted so that the max value of 9 is assigned to values further away from the reference layer.</p>	Boolean

### Python Reference

An invert boolean is passed to a function that just inverts the passed values for reclassification 1-9.

### Code Samples

There are no code samples for this tool.

### Side-panel Help Illustration

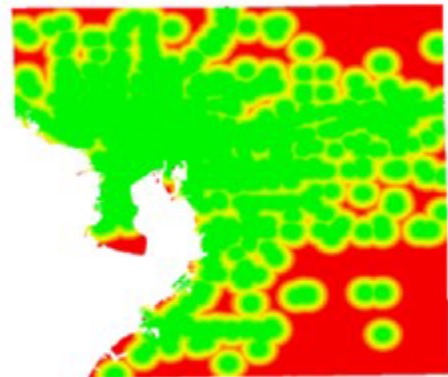
#### Variable Layer



#### Reference Layer



#### Output Raster



### Tags

Suitability, LUCIS, Data Driven, Reclassification, Standard Deviation, Mean

### Credits

Tool Creator- David Wasserman

### Use limitations

- The inputs must be feature classes, but can either be points, lines, polygons.
- All this tool does is use a Euclidean distance from the variable layer and then reclassify it. A custom distance raster (network distance for example) is not yet supported.
- Based on ideas and concepts frameworked in LUCIS and inherits its model limitations. For more information on LUCIS check this [link](#).

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