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GEOG 375
Final Python Project

Summary

My script was built with the purpose of turning three automatically generated shapefiles that could not be used in these current state into a map. The script will take the three files convert them into feature classes and add them to a Geodatabase specific to that job. From those files a job summary report will be generated, driving route map, and multi-page spay area map. The spray are map will have the spray polygons color coded with the spay quality. This will take the generated files and make them into a useable map that can help to ensure the appropriate amount of pesticide is being sprayed during a job.

Purpose

The purpose for this script is to make it easy for supervisors to see exactly what areas of the roads are being sprayed and the quality of the job. This is important because the trucks that spray the pesticides are mostly controlled by the computer with minimal driver input. Like many computer systems that are occasional glitches that though off the amount being sprayed. Currently the only way to find out if there is a problem is if you have a very vigilant driver who see something wrong or if the weeds growing either do not die or is too many die. With this script if will allow anyone to see the quality of the spray and correct any issues imedialty instead of having to wait to see the results of the spraying a month of two latter.

Process

The script begins with creating the relative paths to the shape files and all of the different variables. All of the files are opened the converted into feature classes win a .gdb that follows the following formula: “m-d-yy STREET (CENTER)”. The driving route shape file is a point file with a point dropped every 10 seconds. We convert that into a line using the “PointsToLine_management” tool. Then we open the summary file and extract the necessary files and fill them into the mxd template that we created. We then export it to a PDF.

Next we open the templet mxd for the multipage map. Create the data driven pages index using “GridIndexFeatures_cartography”. I arrived at the optimum grid scale, polygon width, and polygon height though trial and error. An overview of the driving route is create and will become the second

page of the packet. Next the inset par to the map is filled using the driving route feature class and ESRI's imagery as the background. We then load all of the necessary feature class and base map. Using data driven pages we create the packet and export it to a pdf. I found an issue with the exporting of the PDF and the data driven pages.

Issues

Most of my project was straight forward with me hitting a wall with the data driven pages. I was able to export the summary page and driving overview. I could not get the data driven pages module to work properly. I went thought he ArcPy documentation and just kept trying different features but could not get it to properly create the multi-page document like I could in ArcMap. The code as it stands will create the first to pages and includes the code for the data driven pages. Overall I am happy with my accomplishment and Happy with what I was able to accomplish.