ArcGIS Pro: XY Data to Points

Welcome to the Essential GIS Task Sheet Series. This series supplements the Iowa State University Extension and Outreach Geospatial Technology Training Program's workshops and short courses by providing quick and easy instructions for performing a variety of mapping, data science, analysis and data visualization tasks.

XY data saved in several different formats can be brought into ArcGIS Pro. Some of these include: Excel (.xlsx), Excel 97-2003 (.xls), comma-seperated values (.csv), or text (.txt). In this tasksheet you will turn a CSV file containing UTM coordinates into points on the map. The Universal Transverse Mercator (UTM) Coordinate System is used in this example because of its detailed accuracy, no negative values, and values are measured in meters. UTM divides Earth into 60 zones where Iowa is located in Zone 15N, you will be using NAD 1983 UTM zone 15N to locate your points on the map.

1. Downloading the Data and Getting Started

- To download the data used in this task sheet, navigate to https:// a. isueogtp.github.io/GISTaskSheets/TaskSheetData/GISTP0005.zip.
- b. When the download is complete extract the files and open the Excel file Avoca_Urban_Trees.xlsx. Look for the two columns titled **X** and **Y**. Here are your UTM coordinate values.
- ArcGIS Pro cannot edit .xls or .xlsx files. For this reason, save the C. spreadsheet as a CSV file named Avoca_Urban_Trees.csv and close Excel.
- d. Open ArcGIS Pro. Create a new project by clicking **Map** under the **New - Blank Templates** column in the start page.
- Save the project as **Avoca Urban Trees**. From the ribbon, click e. **Project** and select **Save As**. Choose an appropriate location to save the project file on your computer and click **OK**.

2. XY Table to Point Tool

- To add the data to the map, click the **Map** tab, click the **Add Data** a. drop-down, and click XY Point Data. The XY Table to Point geoprocessing tool opens to the right.
- b. In the **XY Table to Point** window, set the **Input Table** as the Avoca_Urban_Trees.csv file. You can shorten the name of the Output Feature Class to Avoca_Urban_Tree_Points. The file will automatically be saved in the default project geodatabase unless you use the folder icon to save it to a different location.
- For **Coordinate System**, click the globe icon and locate **NAD** C. **1983 UTM Zone 15N**, by either typing in the search bar or expanding: Projected Coordinate System -> UTM -> NAD1983

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-> NAD 1983 UTM Zone 15N. Click OK. This is the same coordinate system used in the CSV file. Click Run. Note: the coordinate system used for collecting your XY data must match the coordinate system selected when running the geoprocessing tool.

d. Now your data should be displayed as a new layer with points representing the urban trees in Avoca, Iowa.

3. Exporting a Shapefile

- a. The new layer added to the map is saved in your project **File Geodatabase** (.gdb). While the feature class layer may be smaller and faster to process with less limitations, shapefiles have greater cross-platform capabilities and thus may be more useful for sharing with others.
- b. Within the Contents pane, right-click on the newly created layer Avoca_Urban_Trees_Points, select Data and choose Export Features. The geoprocessing tool will open.
- c. Set the Input Features to the Avoca_Urban_Tree_Points layer and name the Output Folder to your computer's Downloads folder for easy access. Set the Output Name to Avoca_Urban_Trees.shp. Click Run.
- d. Using Windows File Explorer, locate the new shapefile in your **Downloads**. Notice that several files are created with the same name, but different file extensions. When sharing a shapefile, ALL ASSOCIATED FILES MUST BE INCLUDED. It is recommended to compress those files into a zipped folder before sharing.
- e. Highlight all the associaetd files to select them, then right-click and select **Send to** and choose **Compressed** (zipped) folder. Keep the default name fore the new folder. *Note: Now you may send & share the zipped folder with friends or colleagues. They will need to extract the files from the folder before opening in ArcGIS Pro.*



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