

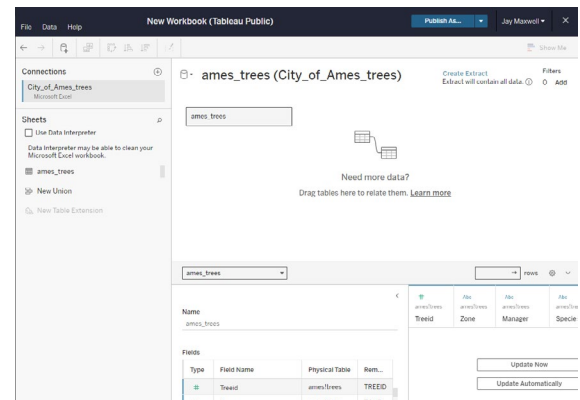
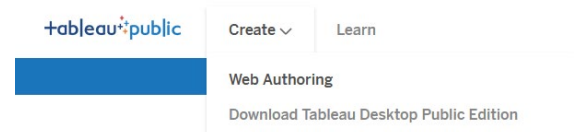
Visualizing Ames Tree Data in Tableau

Tableau Public is a free platform that allows users to explore, create, and share interactive data visualizations online. It is designed for anyone who wants to turn data into visually appealing and insightful stories without needing extensive technical skills.

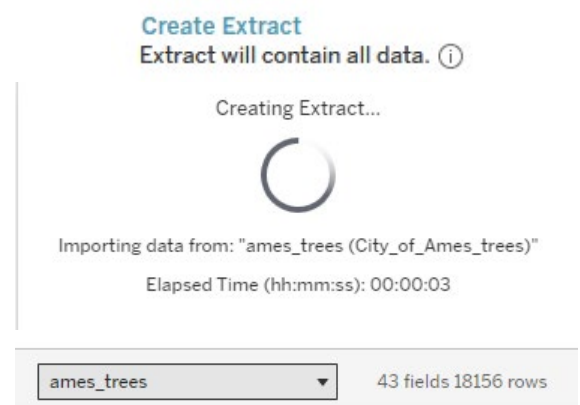
In this tutorial, we'll guide you through the process of using Tableau Public to analyze the city of Ames' tree inventory data. We'll start by importing the local data and adding a filter to focus on specific aspects of the dataset. Next, we'll create an extract to improve performance, and finally, we'll build a visualization that displays the count of different tree species, color-coded by land use type. By the end of this tutorial, you'll have a solid understanding of how to use Tableau Public to transform raw data into compelling visual stories. Let's get started!

1. Add, Filter, and Create an Extract of the Data Set

- Log into Tableau Public and select **Web Authoring** from the **Create** menu.
- A **Connect to Data** window will appear. Click on **Upload from Computer** and add the file **City_of_Ames_trees.xlsx**. When the file has been uploaded, the **Data Source** window will open. The **Data Source** page displays details about connected data sets, allows you to create relationships between data tables, and more. We will create a filter to decrease the number of items in our data.
- Click **Add**, underneath of **Filters**, on the right edge of the Data Source page. The **Edit Data Source Filters** window appears. Click the **Add Filters** drop down and select **Trees Removed**, choose **No** from the **Filter** window and click **OK**. This will keep all records that contain "No" in the Tree Removed field in the data set.
- The **Edit Data Source Filters** window will now show an entry for "Trees Removed" that "keeps No." Click **OK** to close the **Edit Data Source Filters** window and return to the **Data Source** page.
- A data extract is a subset of information saved separately from the original data set. In this case, the extract will be our filtered data set. Click on **Create Extract**, found near the **Filters** button.
- When the extract has been made, you will see a count of fields and rows in the right hand pane. Depending on your monitor size, you may also see the first few rows of data in the lower right **Data Source** pane.

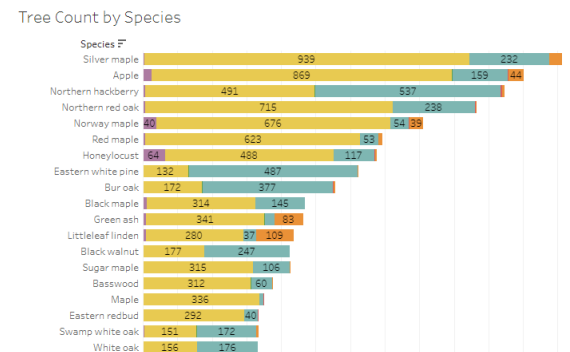
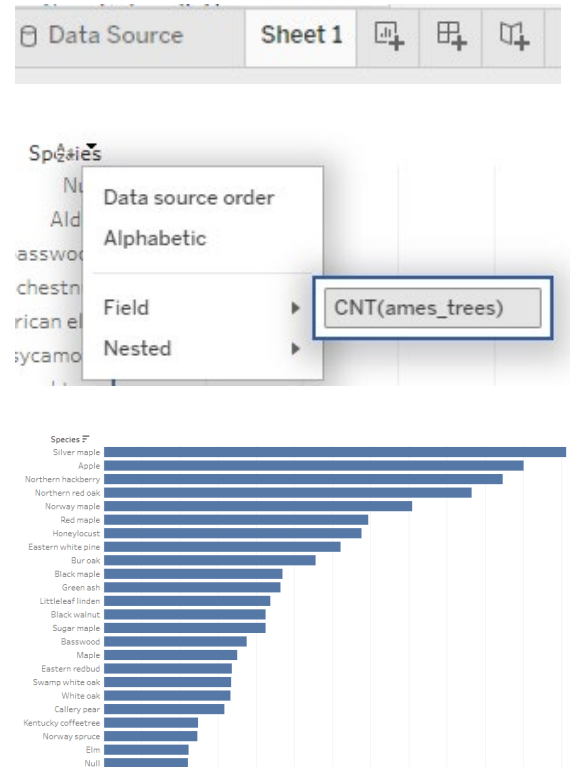


Filter	Details
Tree Removed	keeps No



2. Create a Visualization

- a. Now that we have some data it is time to create a visualization, often called a “viz” for short. Click on **Sheet 1** in the lower left pane.
- a. The **Data** pane on the left side of the Viz window shows all of the fields in your data set. Find **Species** and drag it to the **Rows** field above the viz canvas. It will be colored blue because it is a dimension. A table of tree species will appear on the canvas.
- a. Next, find **ames_trees(Count)** from the bottom of the **Data** pane. It will be green because it is a measure. Drag it to the **Columns** field above the viz canvas. This action will produce a horizontal bar chart.
- a. The ordering is currently the same order as the data records. To base the sorting order on the number of trees for each species, hover over the **Species** label in your plot, choose the small black arrow that appears, locate the **Field** option and choose **CNT(ames_trees)**. The plot will redraw in the new order. Which species of tree is the most common in Ames? How many Ash trees are there?
- a. Now, find **Land Use** in the **Data** pane and drag it into the **Marks** box labeled **Color**. This will color portions of the bar based on the Land Use field.
- a. Next, click on the **Label** box in the **Marks** section and check the box labeled **Show Mark Labels**. This will add the counts to each colored section of the bar. Which type of land has more White Oak trees, Single Family Residential land or Park/Vacant/Other land?



3. Save and Publish the Workbook

- a. Click on the blue **Publish As...** button at the top of the window. Give your workbook an appropriate name and click the **Publish** button.
- b. Any time you make changes to your workbook, you must publish again. In Tableau Public saving your work and publishing your work are equivalent.

Publish Workbook

Name

Trees of Ames, Iowa

Show sheets as tabs

Embed password for data source

Workbook Optimizer

Cancel Publish

Contact: Extension GIS Specialist Bailey Hanson, GISP bahanson@iastate.edu, 515-520-1436 or Professor Christopher J. Seeger, ASLA, GISP cjseeger@iastate.edu, 515-509-0651. Additional task sheets and information about the Geospatial Technology and Spatial Data Science Programs are available at www.extension.iastate.edu/communities/gis.

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