Houston Pollen Count in 2021

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Background

- A pollen count is the measurement of the number of grains of pollen in a cubic meter of air
- High pollen counts can sometimes lead to increased rates of allergic reaction for those with allergic disorders
- Houston Health Department laboratory measures air samples to provide a daily report and recorded message for the pollen count within the area
- Pollen count in the daily report includes tree pollen, grass pollen, and weed pollen
- Question: which month has high pollen count, and what contributes to the pollen count?

https://www.houstontx.gov/health/Pollen-Mold/pollen-archives.html



HOUSTON HEALTH DEPARTMENT

Pollen Spore Count Archives

2022

- January
- February
- March
- April
- May
- June

2021

- January
- February
- March
- April
- May
- June
- July
- AugustSeptember
- October
- November
- December

Data Acquisition & Processing

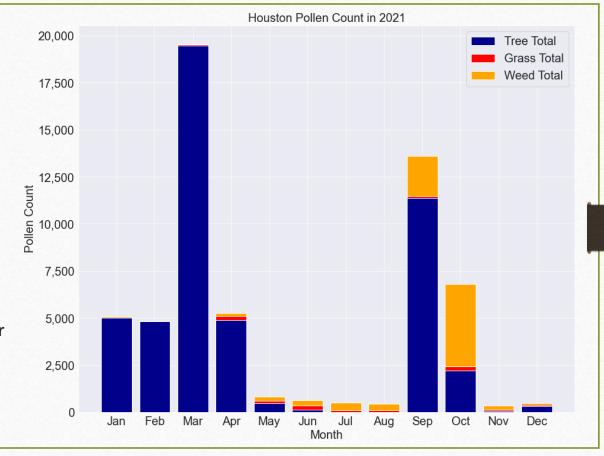
Example Spreadsheet

- Download the 2021 daily pollen count data from Houston Health Department website
 - Spreadsheet data for each month
- Examine the datasets to fix errors
- Analyze and plot monthly pollen count data
 - Identify which contributes the most for the total pollen count

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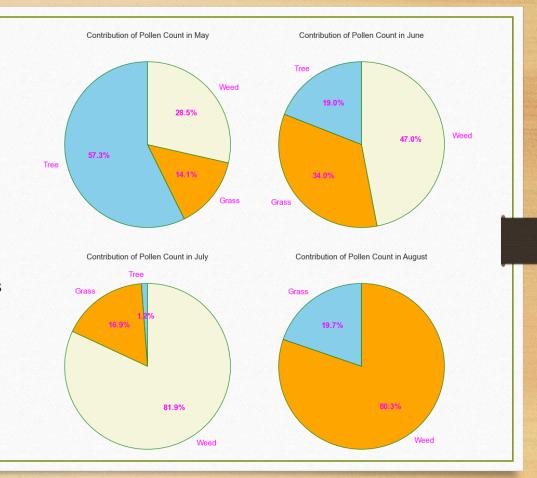
Pollen Count

- March has the highest pollen count among all months, followed by September
- January, February, April, and October also have higher pollen count
- May, June, July, August, November, and December have lower pollen count



Contribution to Pollen Count

- From January to May, tree pollen is the primary contributor to the total pollen count
- From June to August, weed pollen is the primary contributor to the total pollen count, followed by grass pollen



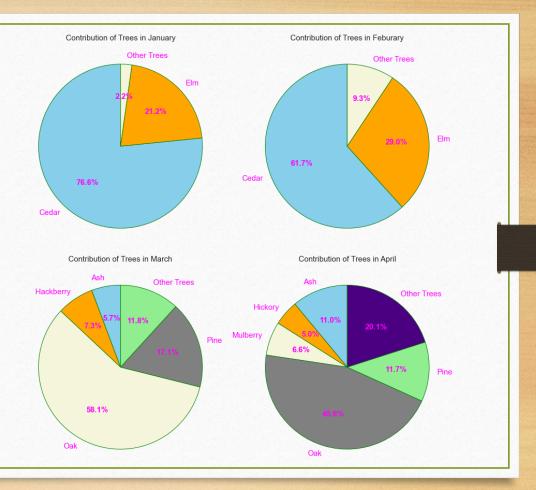
Contribution to Pollen Count

- Tree pollen is the primary contributor to the total pollen count in September and December, followed by weed
- Weed pollen is the primary contributor to the total pollen count in October and November



Contribution to Tree Pollen Count

- Cedar and Elm are the primary contributors to the tree pollen count in January and February
- Oak and pine are the primary contributors to the tree pollen count in March and April



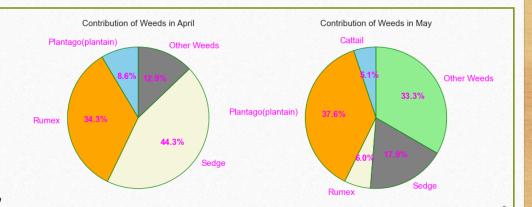
Contribution to Tree Pollen Count

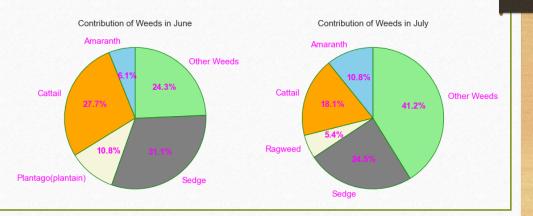
- Hickory is the primary contributor to the tree pollen count in May
- Tree pollen is negligible in June, July, and November
- Elm is the primary contributor to the tree pollen count in September
- Cedar is the primary contributor to the tree pollen count in November and December



Contribution to Weed Pollen Count

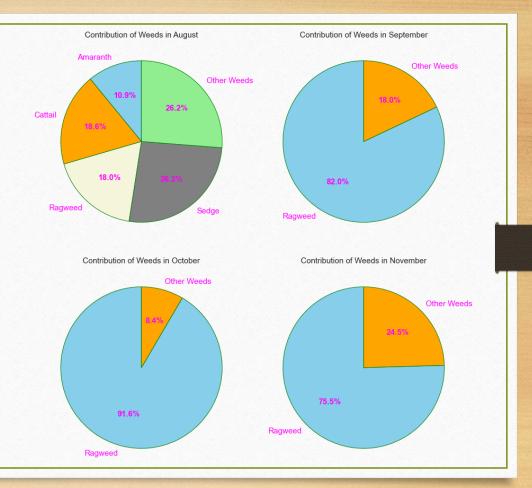
- Weed pollen is negligible in January, February, March, and December
- Sedge and Rumex are the primary contributors to the weed pollen count in April
- Sedge, Cattail, and Plantago are the primary contributors to the weed pollen count in May, June, and July





Contribution to Weed Pollen Count

- Sedge, Cattail, and Plantago are the primary contributors to the weed pollen count in May, June, and July
- Ragweed is the primary contributor to the weed pollen count in September, October, and November



Summary

- Pollen count is higher in late winter, spring and fall and lower in summer
 - March and September have the highest pollen count
 - o January, February, April, and October also have relatively higher pollen count
- Tree pollen is the primary contributor to the total pollen count in late winter & spring, weed pollen is the primary contributor in summer & late fall, and grass pollen provides a small contribution in summer
- Cedar and elm are the primary contributors to the tree pollen in fall & winter, while oak is the primary contributor to the tree pollen in spring
- Ragweed is the primary contributor to the weed pollen count in fall, while Sedge, Cattail, and Plantago are the primary contributors to the weed pollen count in late spring & summer