

PHENIX

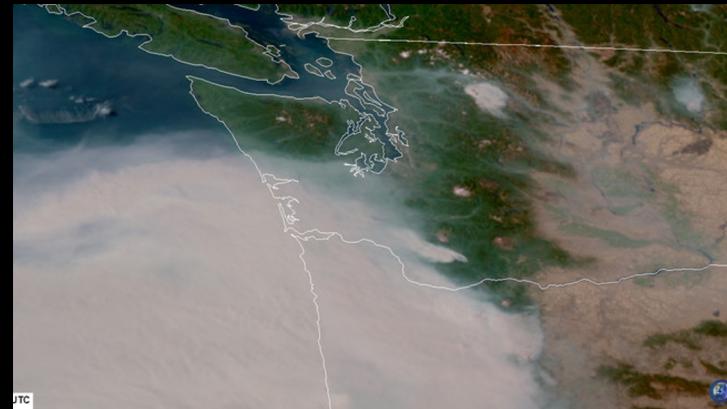


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Introduction

- Wildfires
 - Climate Change is projected to increase the size and frequency of wildfires in the PNW
 - Localized impact of fire is severe, but smoke impact on air quality is geographically extensive
- Avian Ecology
 - Birds are highly susceptible to air contamination - are likely to develop damaged lung tissue and respiratory infections when exposed
 - Many species are highly mobile
 - Species' movements are well studied using citizen science (eBird)



Oregon wildfire smoke, Sept. 10, 2020



Users & Use Cases



Birder

- Prior experience with graphical user interfaces
- Know locale & species

Use Case

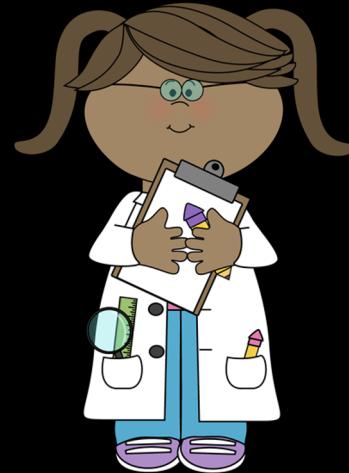
- Visualize interactions between AQ & birds through time

Researcher

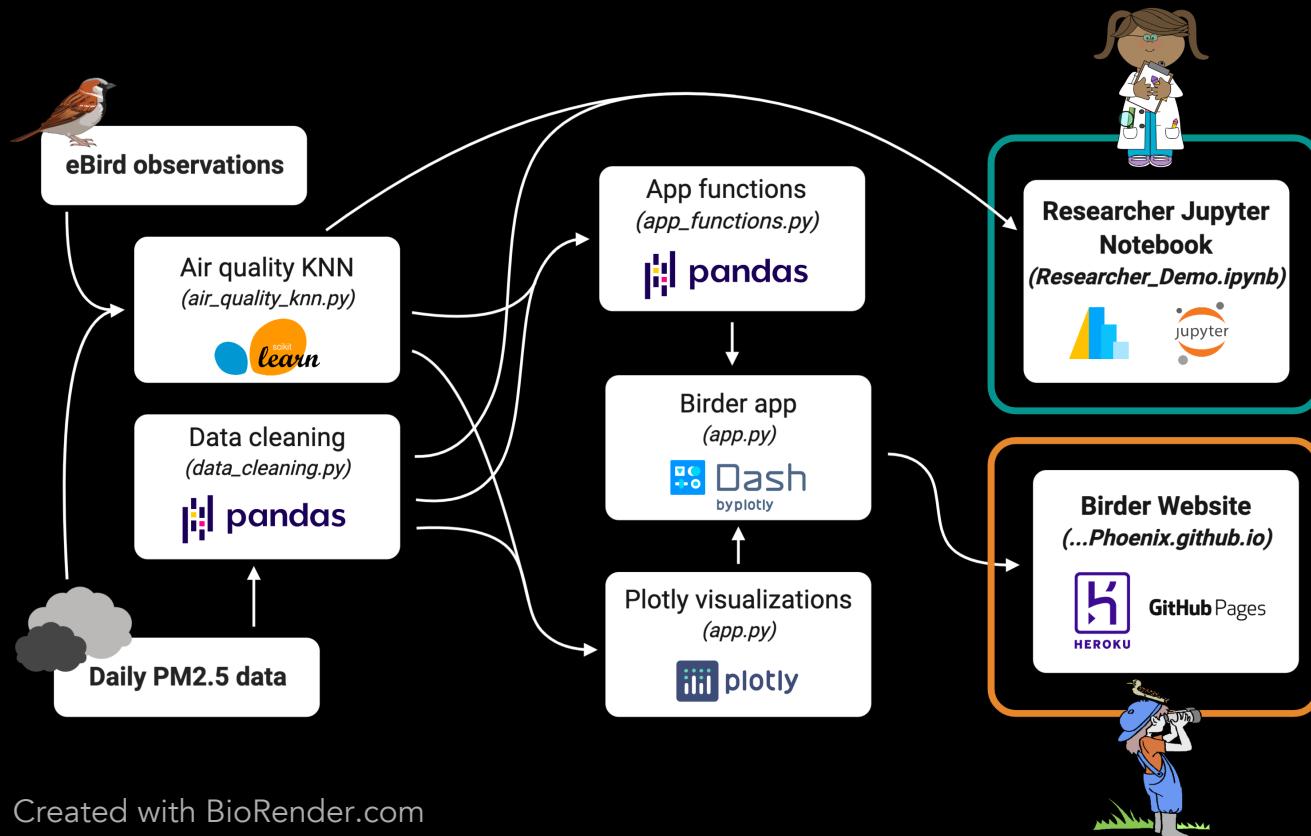
- Background in statistical analysis (mostly in R)
- Know bird behavior

Use Case

- Statistical significance & visualization of species density by AQ category



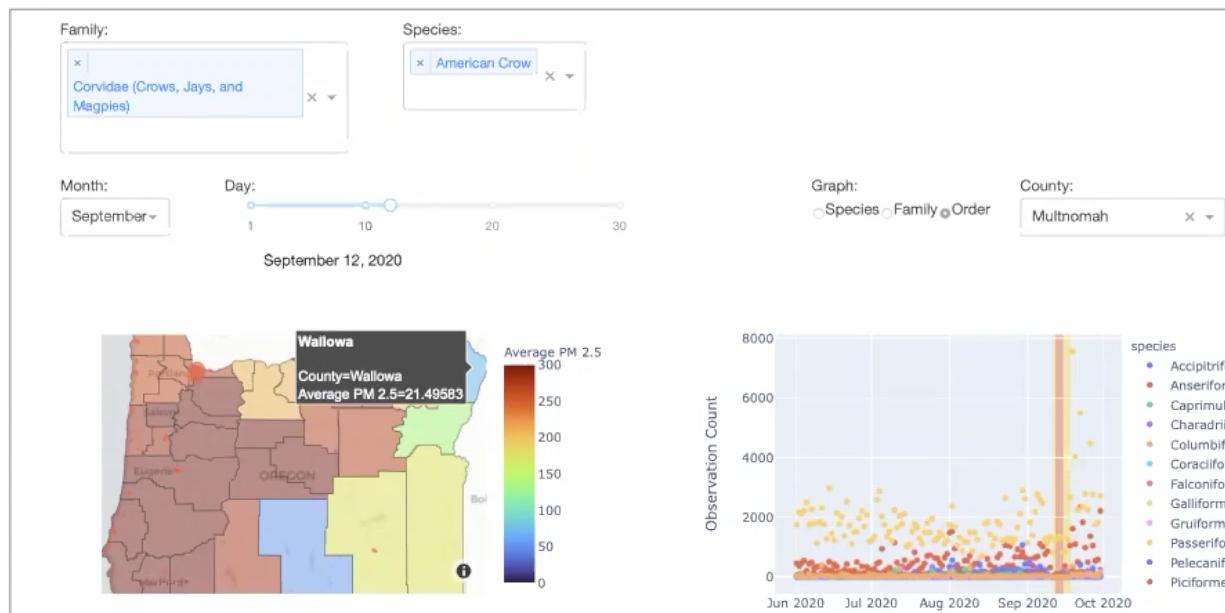
Component Specification





Map of bird sightings and PM 2.5 readings in Oregon

Use the dropdown menus and slider above to specify the family and species you are interested in and the month and day you want to look at. The map will automatically update to display this information (though it may take a few moments to load). The size of the circles represents the relative number of birds seen in that location. Hover over these circles to find the exact sighting location and number of birds that were seen.



https://github.com/emilysellinger/Phoenix.github.io

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 rmfricke	Fixed flake8 errors in test_data_cleaning.py	✗ 577c964 3 hours ago	246 commits
 docs	Edited text to align between columns	12 hours ago	
 documentation	Fixed additional formatting and spelling errors in the component spec...	2 days ago	
 phoenix	Fixed flake8 errors in test_data_cleaning.py	3 hours ago	
 .gitignore	Removed fluff and added .ipynb directory to gitignore	8 days ago	
 .travis.yml	Changed 'Phoenix' to 'phoenix' across full directory for PEP8 complia...	8 days ago	
 License.md	Add License information	16 days ago	
 Procfile	Added additional file for app deployment and added server variable to...	3 days ago	
 README.md	Update README.md	20 hours ago	
 app.py	Cleaned up a bit, attempted resizing of components (probably still ne...	2 days ago	
 environment.yml	just kidding, new environment.yml	18 hours ago	
 requirements.txt	Added Flask Caching	2 days ago	

About

Capstone project for CSE 583, check out our website below:

 emilysellinger.github.io/phoenix.github.io/

air-quality ebird oregon-department

 Readme

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Takeaways



Lessons Learned:

- Documentation and Testing
- Difficulty of creating a streamlined product
- Valuable experience learning and integrating many different aspects of coding

Future Work:

- More advanced statistical analysis
- Further performance enhancement of visualization app
- Higher level of accessibility



Thanks!

Questions?

