



The Vanishing Firefly Project: Engaging Citizen Scientists with a Mobile Technology and Real-Time Reporting Framework

GIS Day @ Clemson University, November 18, 2015

David L. White, Roy P. Pargas, Alex T. Chow, Juang Chong (JC),
Michelle Cook, Irfan Tak
Clemson University

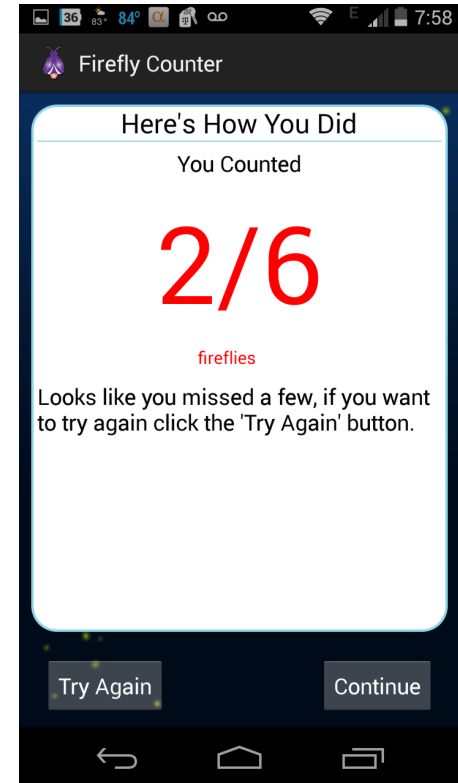
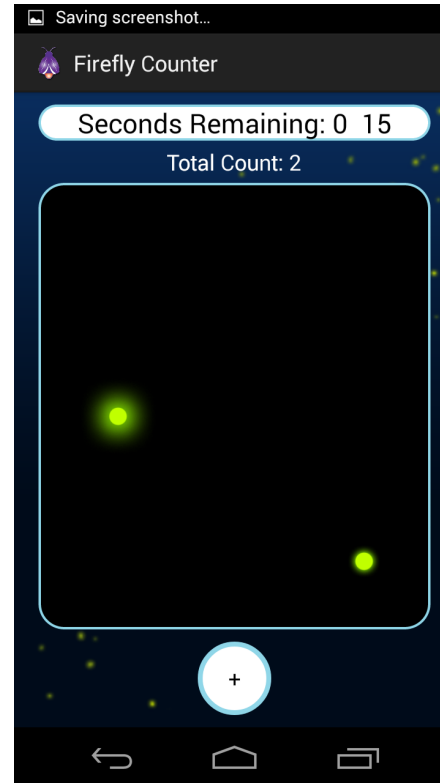
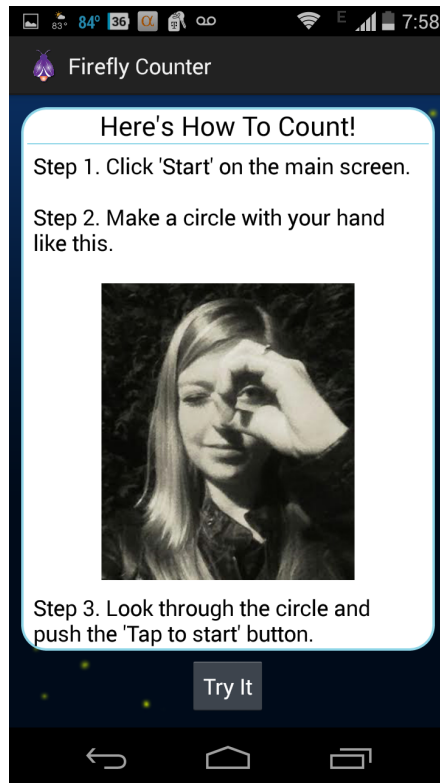
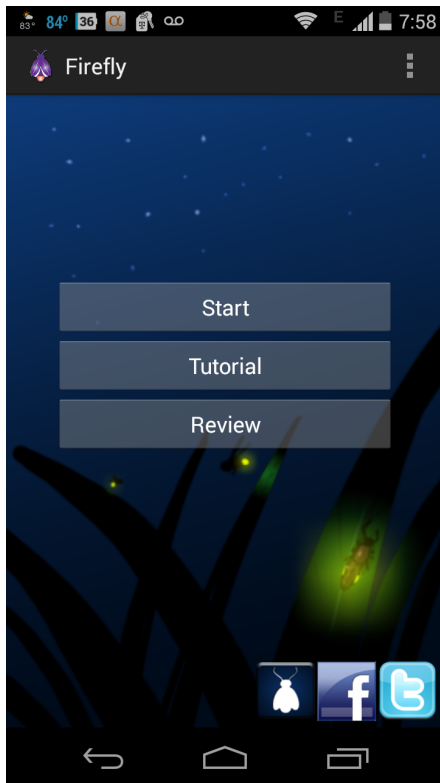
Are Fireflies Vanishing?

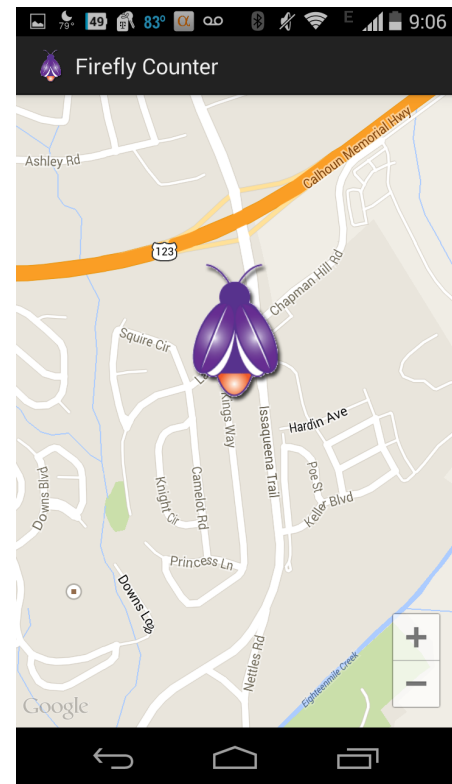
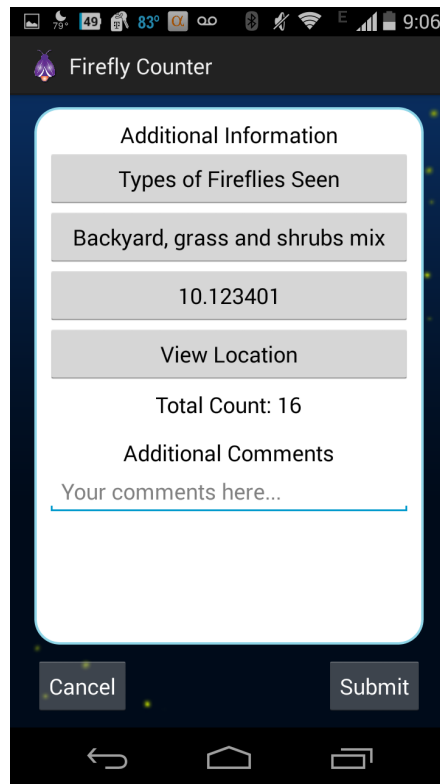
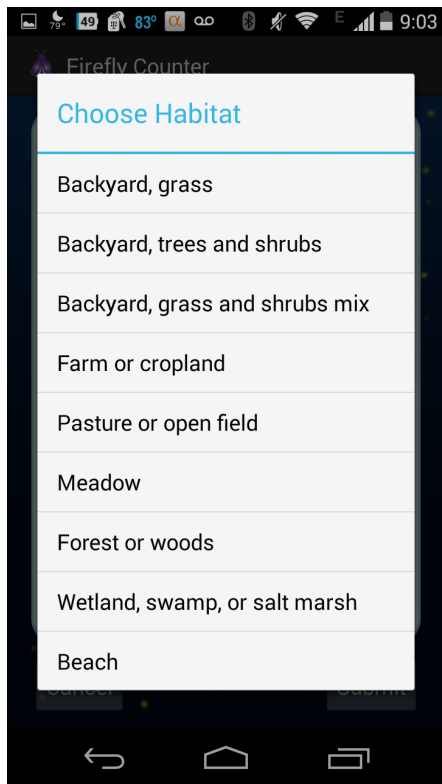
- Fireflies are a unique part of the natural landscape at a global scale.
- Urban development and changes in the landscape can negatively affect firefly distribution and abundance.
- Assessment of firefly abundance through counts of bioluminescence flashes provides an environmental quality indicator that can be easily observed and quantified by citizen scientists.



Project Objectives

- (1) Science Inquiry-Engage citizens in scientific practices to understand the impacts of urbanization on environmental quality;
- (2) Service Learning- Increase the skill of citizens in making critical, scientific and informed decisions through community and service activities;
- (3) Sustainability-Protect natural habitats through effective land and resource management practices and;
- (4) Stewardship-Provide opportunities for citizens to participate in environmental and sustainability studies and activities.





VANISHING FIREFLY PROJECT

Watch the YouTube Videos to Learn More & How to Count Fireflies!

ABOUT (KIDS)

ABOUT (ADULTS)

Download the Firefly Field Guide

Your information has been recorded.
Please take the Educational Survey

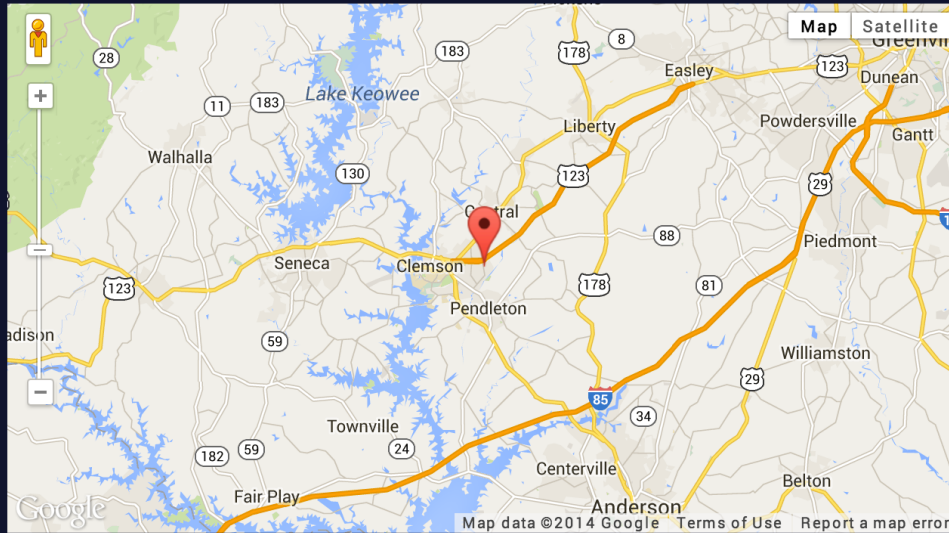
Number of Fireflies: 300

Habitat: Backyard, grass

Flash Pattern:

J-shaped flash

Comments: test



SUBMIT



Training and Education



Vanishing Firefly Survey

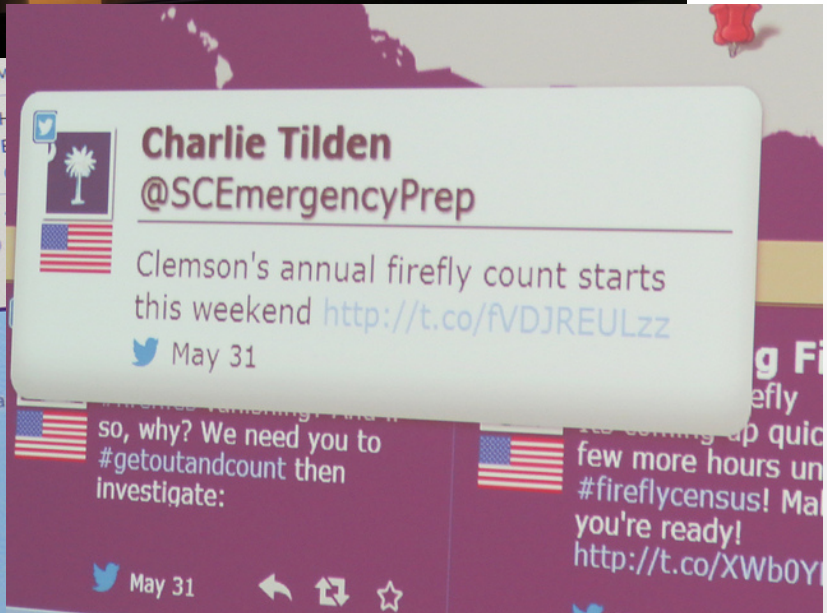
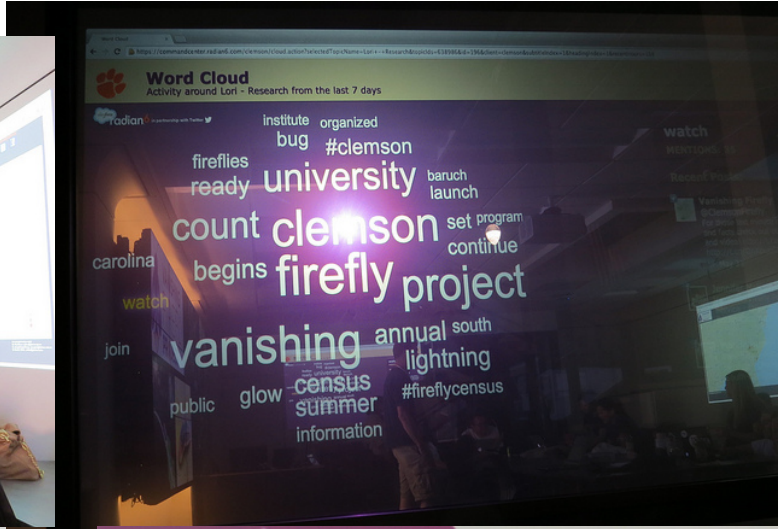
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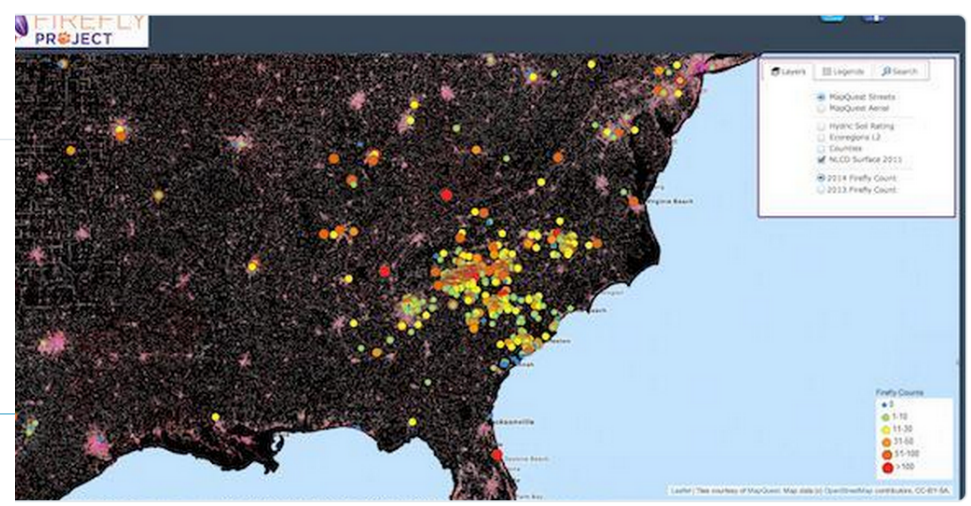


Vanishing Firefly retweeted
Shawn Cabbagestalk @CabbageTV · May 31
VIDEO: Are fireflies disappearing? Clemson University need your help finding out. @ClemsonFirefly #sctweets #scnews
counton2.com/story/25661239...

Vanishing Firefly @ClemsonFirefly · May 31
Keep counting those #fireflies all summer!
#getoutandcount #readyssetglow
#itstimetoglow #fireflycensus

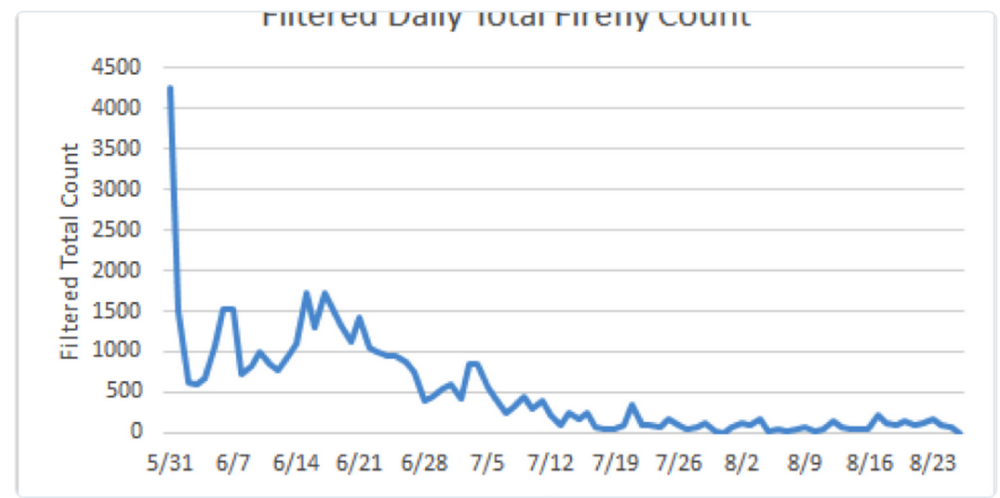
Vanishing Firefly @ClemsonFirefly · May 31
Thanks for all of your help with our
#fireflycensus kick-off! We really appreciate
your counts! Remember to keep counting ALL
SUMMER!

Vanishing Firefly @ClemsonFirefly · Jul 1
Now map layer on the @ClemsonFirefly real-time map! firefly.clemson.edu

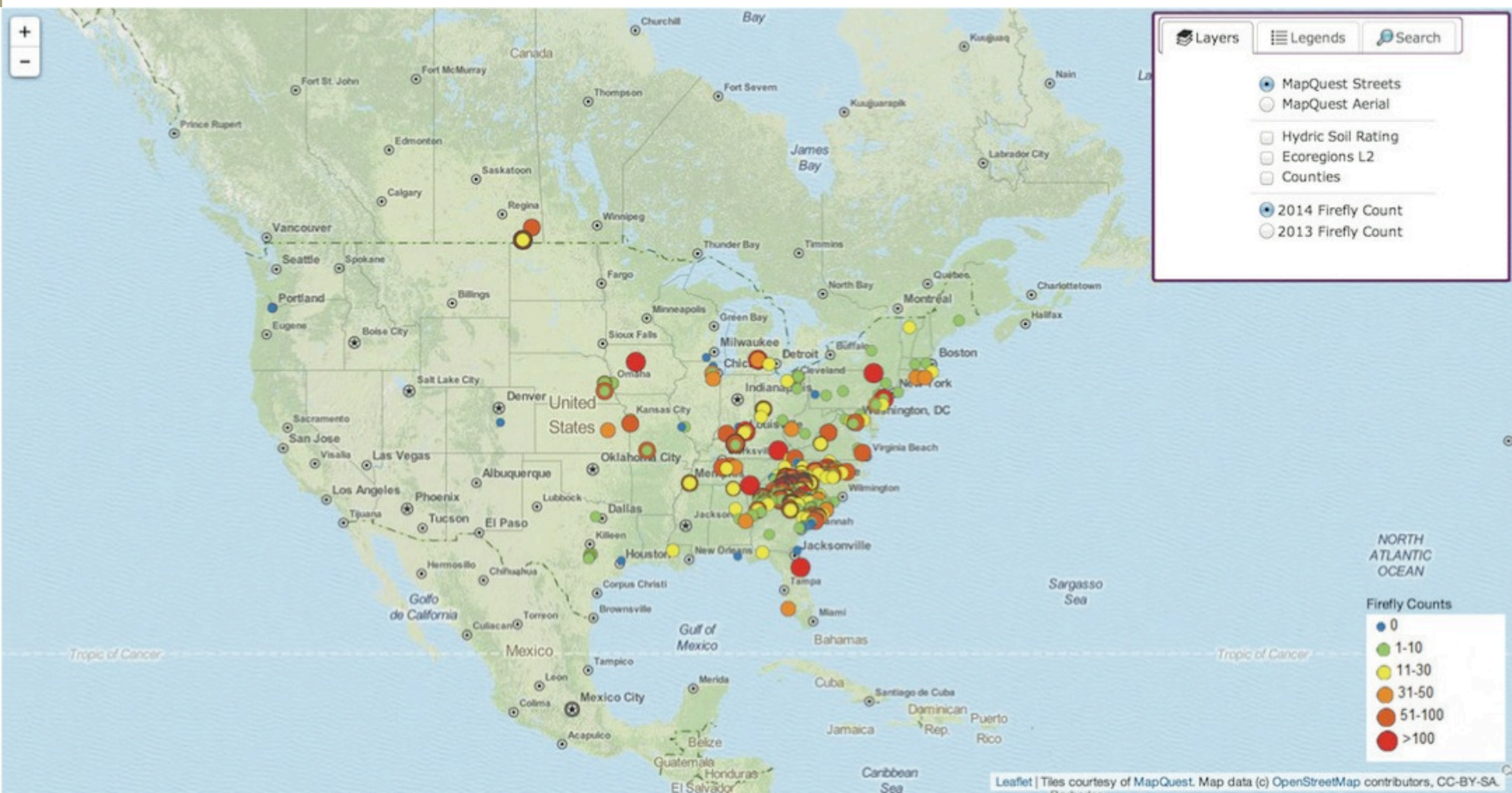


View more photos and videos

Vanishing Firefly @ClemsonFirefly · Aug 30
This first graph shows how many counts were coming in throughout the summer. More to come! #citizenscience #results



View more photos and videos

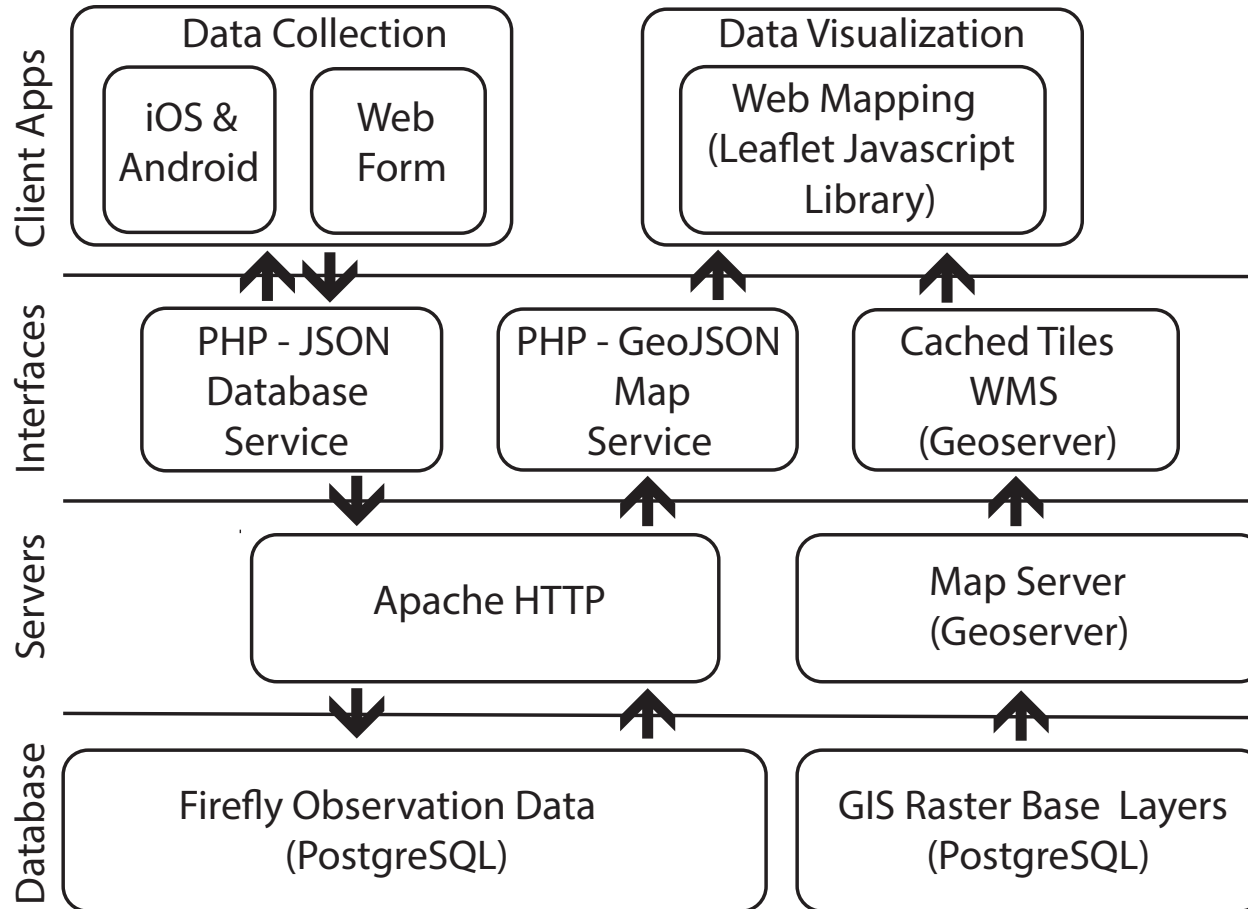


Results

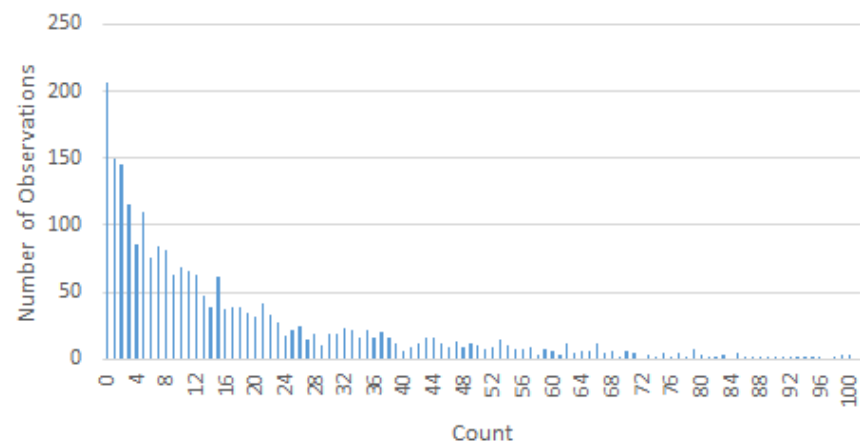
Client	# of Counts	Total Count	Mean
iOS	1872	30903	17
Android	617	11685	19
Webform	214	3667	17

- Facebook: 1,136 Likes
- Twitter: 181 Followers
- Article in the New York Times and many other sites

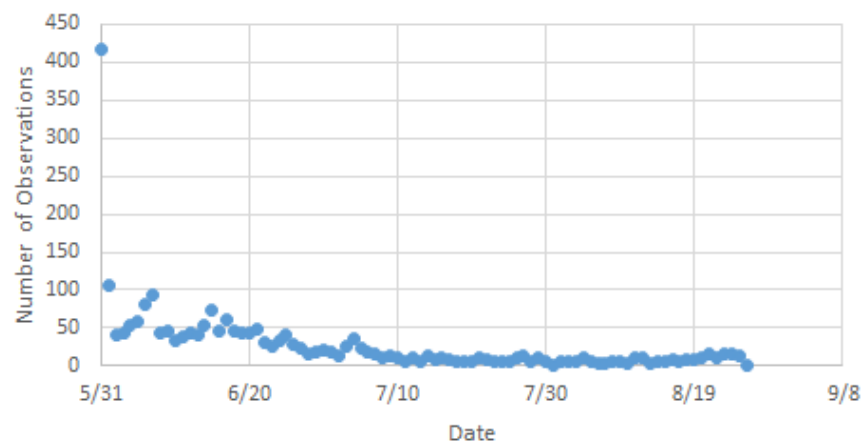
How it All Comes Together



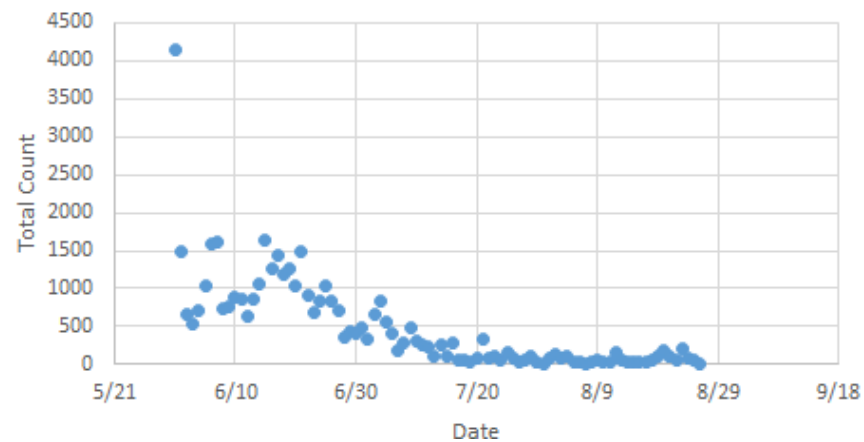
Observations by Count



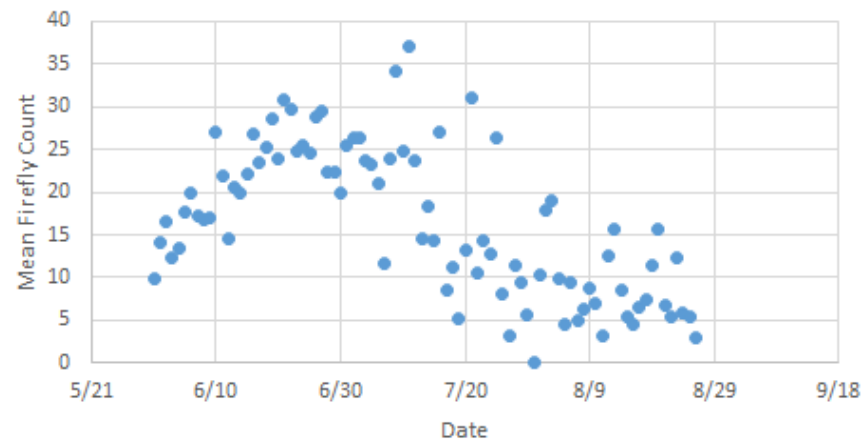
Observations per Day



Total Daily Count



Mean Daily Count



Acknowledgements

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Finally, the students of the Vanishing Firefly Project: Christopher Abel, Jason Anderson, Kelsey Dickman, Greg Edison, Douglas Edmonson, Theodore Hays, Joshua Hull, Binbin Li, Renee Lyons, Devin Shultze, Amanda Voges, Hechu Zhu