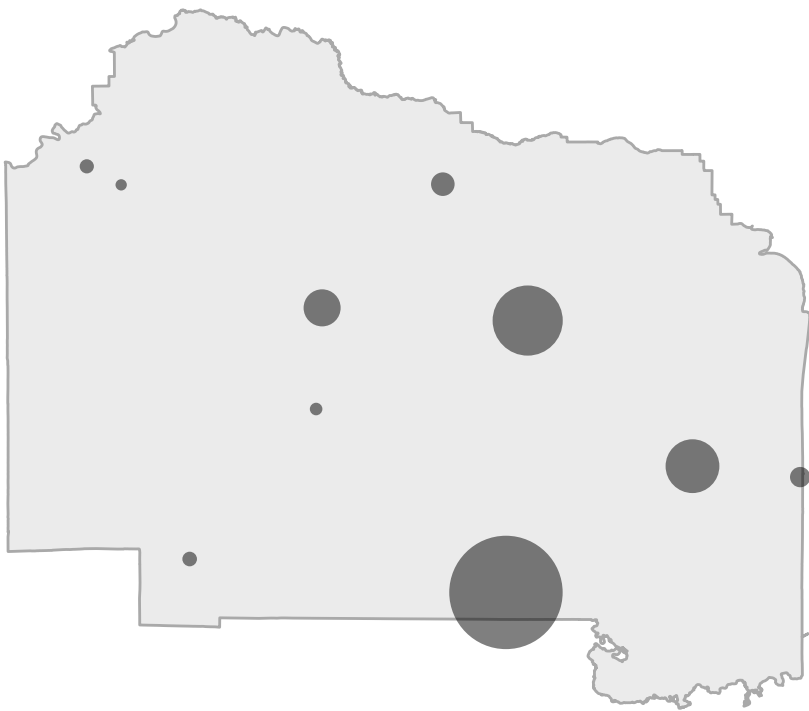


# Weekly Mosquito Surveillance and Forecast Report

*Florida Department of Health in Alachua County*

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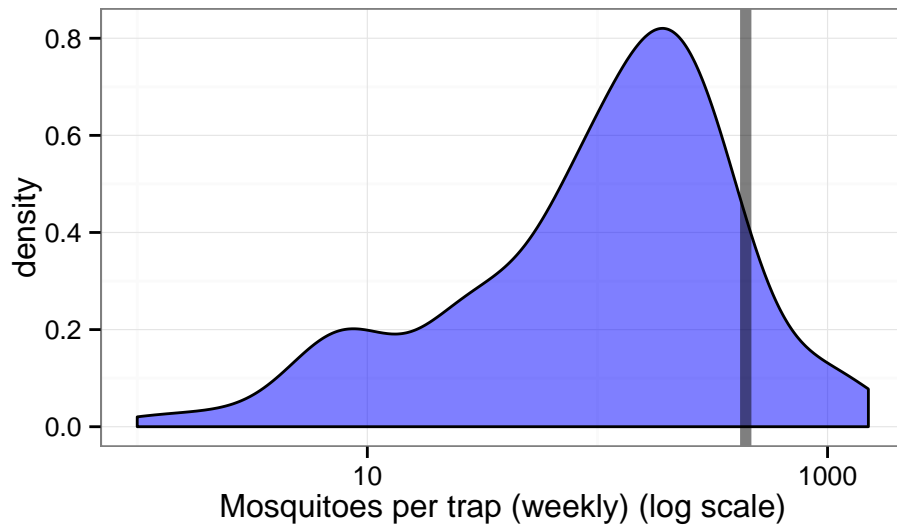


Joe Brew  
Ben Brew  
Yoni Teitelbaum

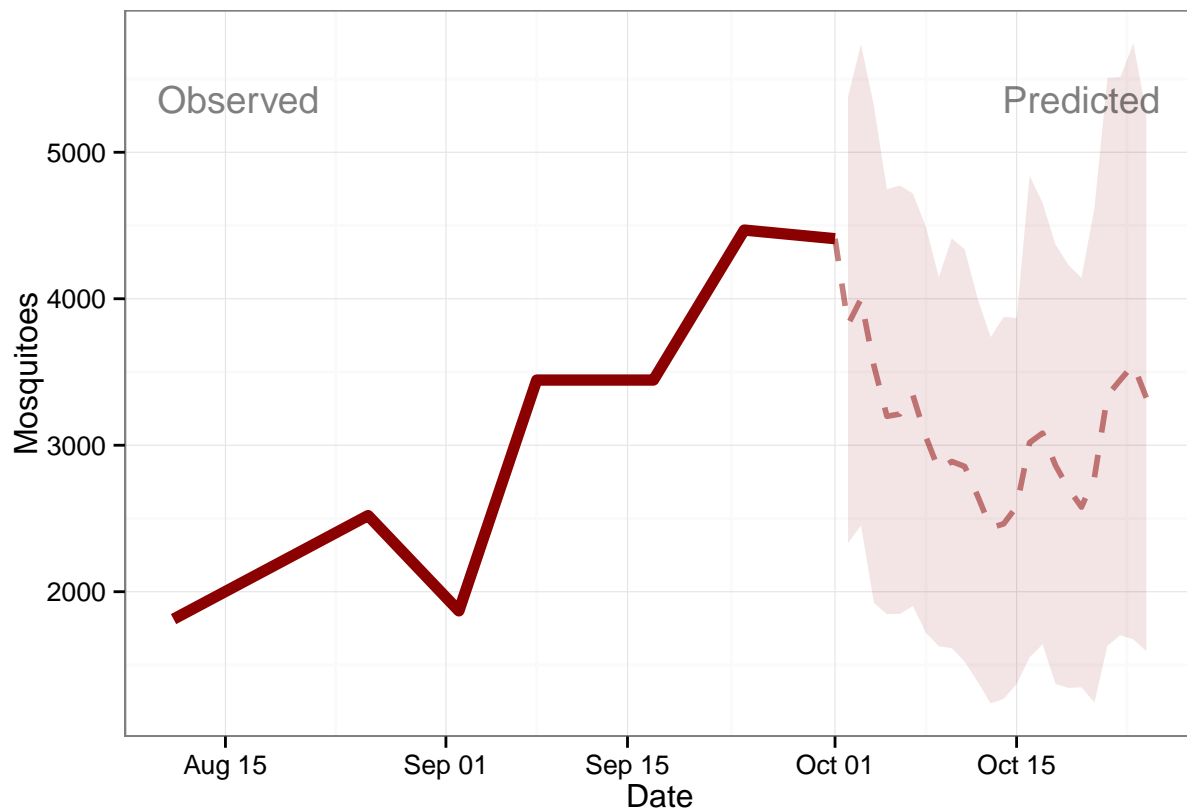


## Overview

The most recent trap collection was on October 01, 2015. The 4410 mosquitoes trapped (approximately 441 per trap) is at the 92 percentile of all historical trappings.

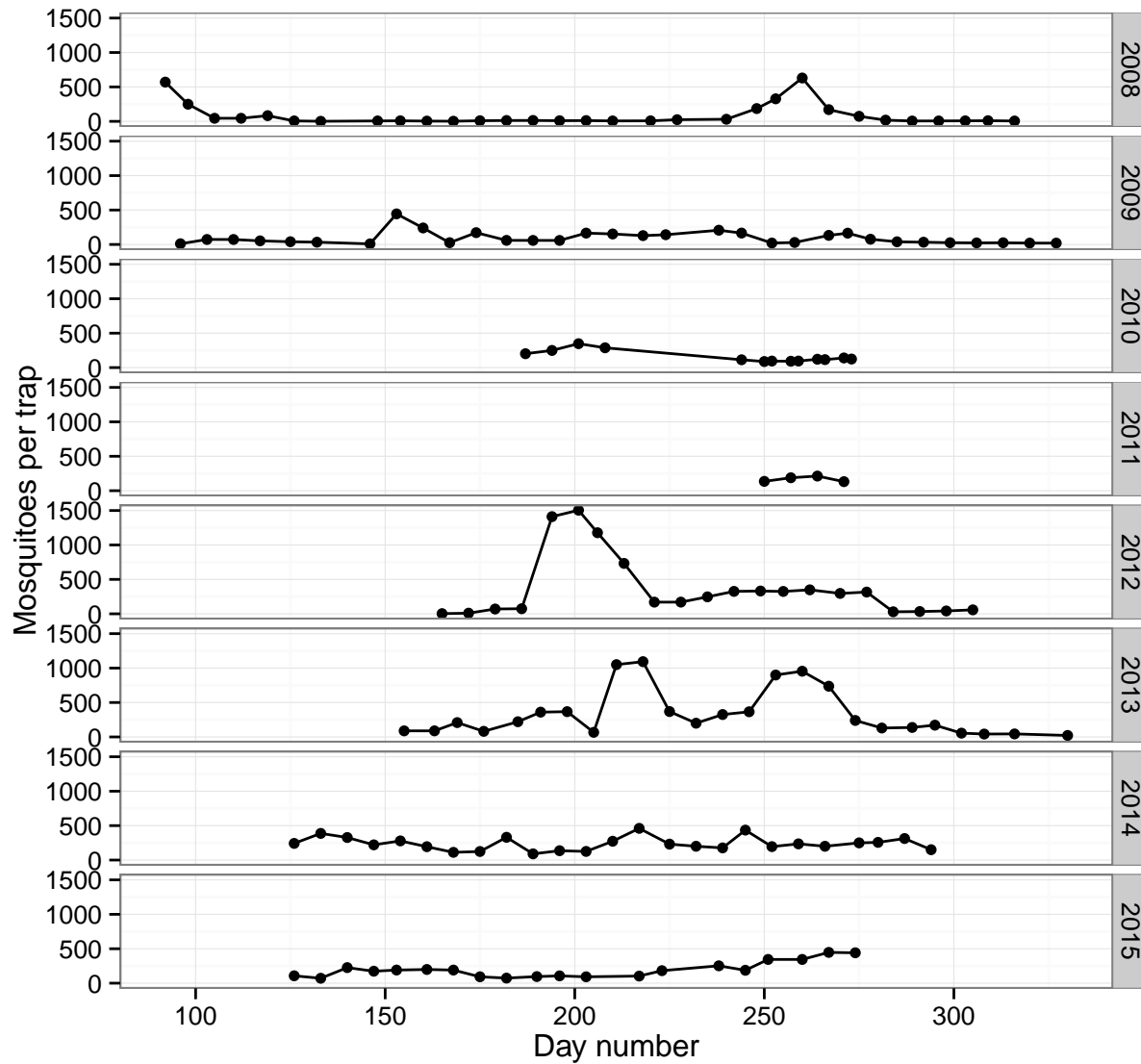


Our model predicted high but flat-lining levels through the end of September and beginning of October. However, in reality, the increasing trend from mid-September continued, with the most recent trapping showing more mosquitoes than at any other point this year. Weather conditions suggest that we have already reached the peak, and that the number of mosquitoes will begin declining.



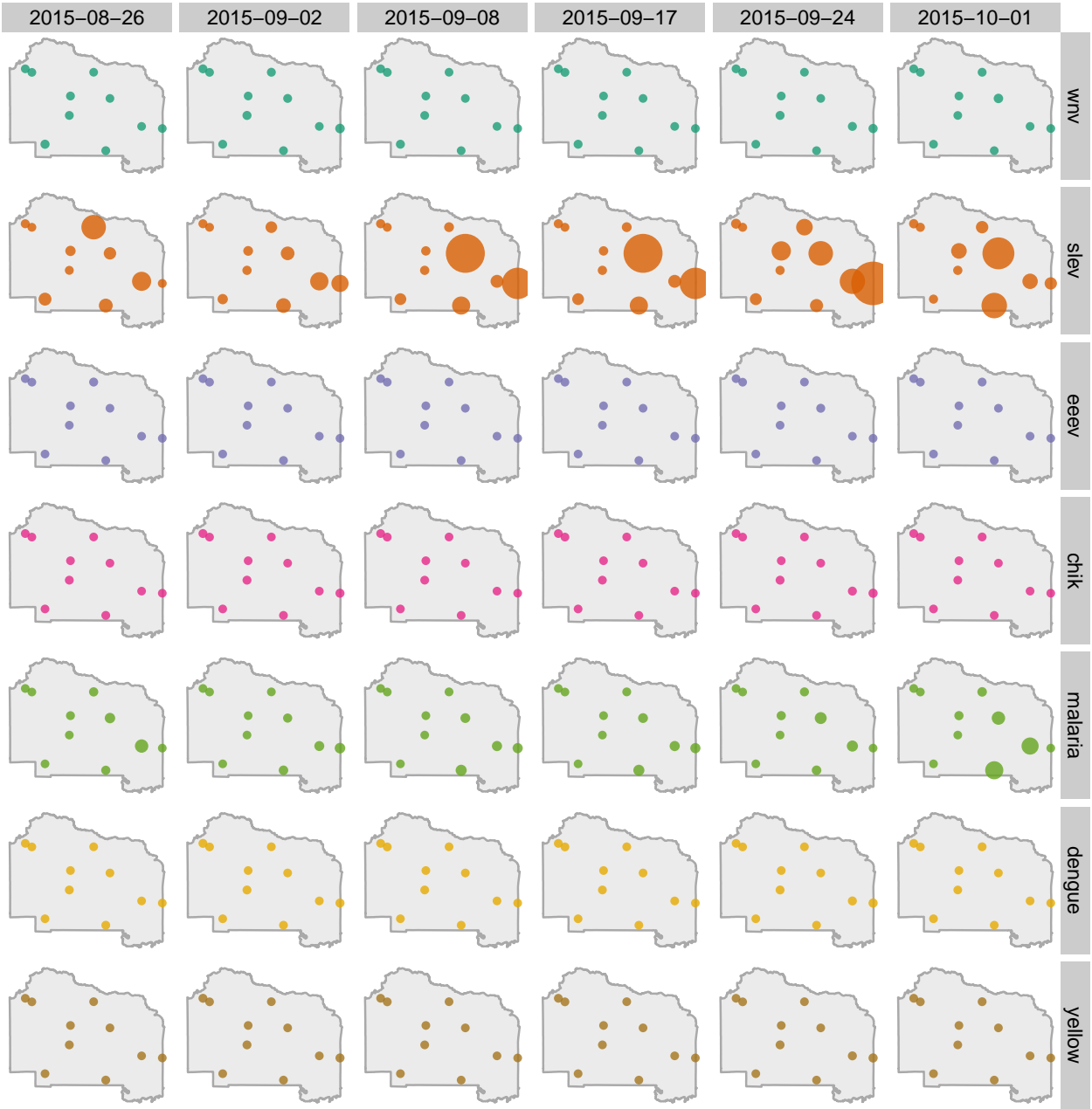
## Historical perspective

Numbers so far this summer have been relatively low compared to previous summers. The recent spike is similar in magnitude to the 2014 spikes.



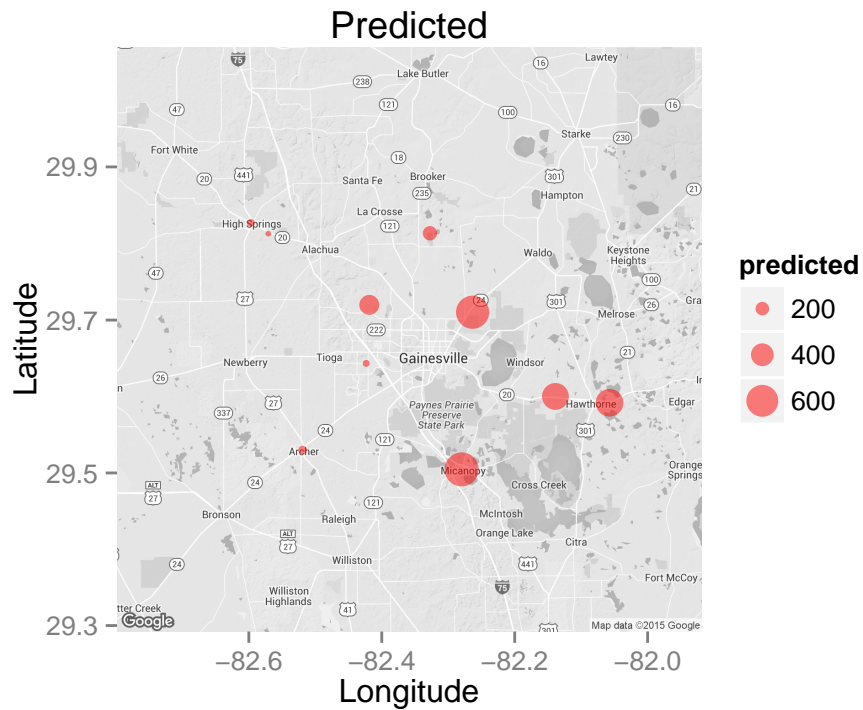
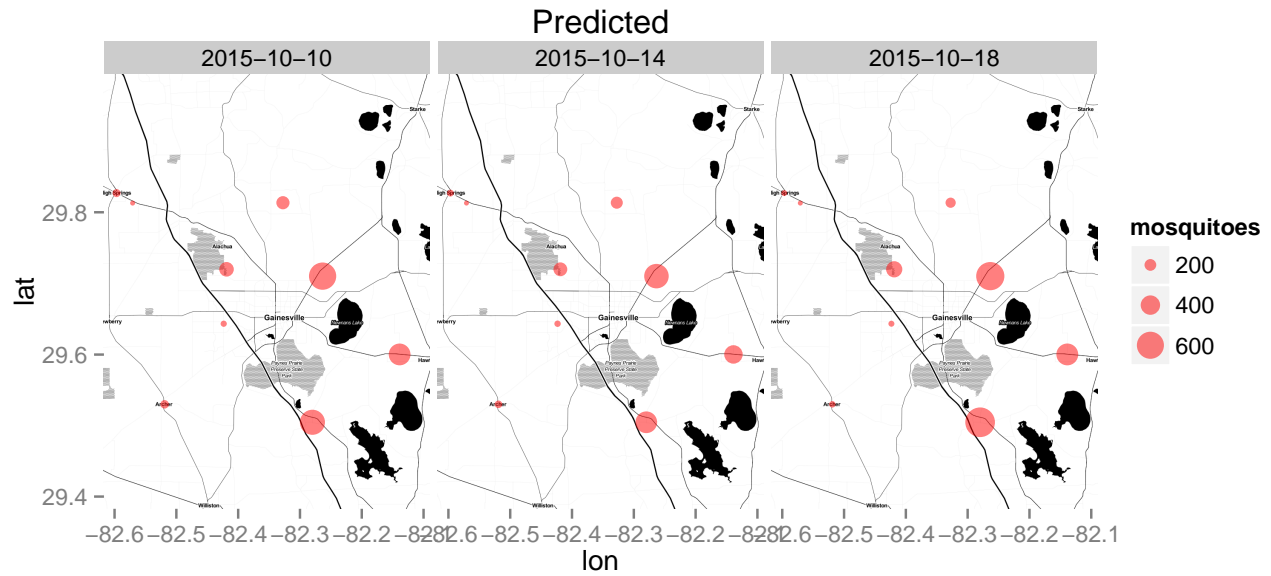
# Disease details

Vectors of diseases of concern appear relatively evenly distributed throughout the county. In recent weeks, the number of mosquitoes capable of carrying SLEV has increased substantially and remains elevated, particularly in Hawthorne.



## Forecast

Over the next two weeks, we predict the mosquito population to grow slightly, with the greatest growth occurring in the east and south of the county.



## Model details

The forecast model has undergone several improvements since last year. The inputs have been substantially expanded (now taking into account humidity, precipitation, wind speed, temperature and its fluctuations), and the model has been improved (in lieu of linear regression, the predictive model now employs ensemble machine learning methods).

The model is cross-validated and backtesting confirms a decent fit.

