Citizen Science Validation of Mosquito Infestation in South Florida

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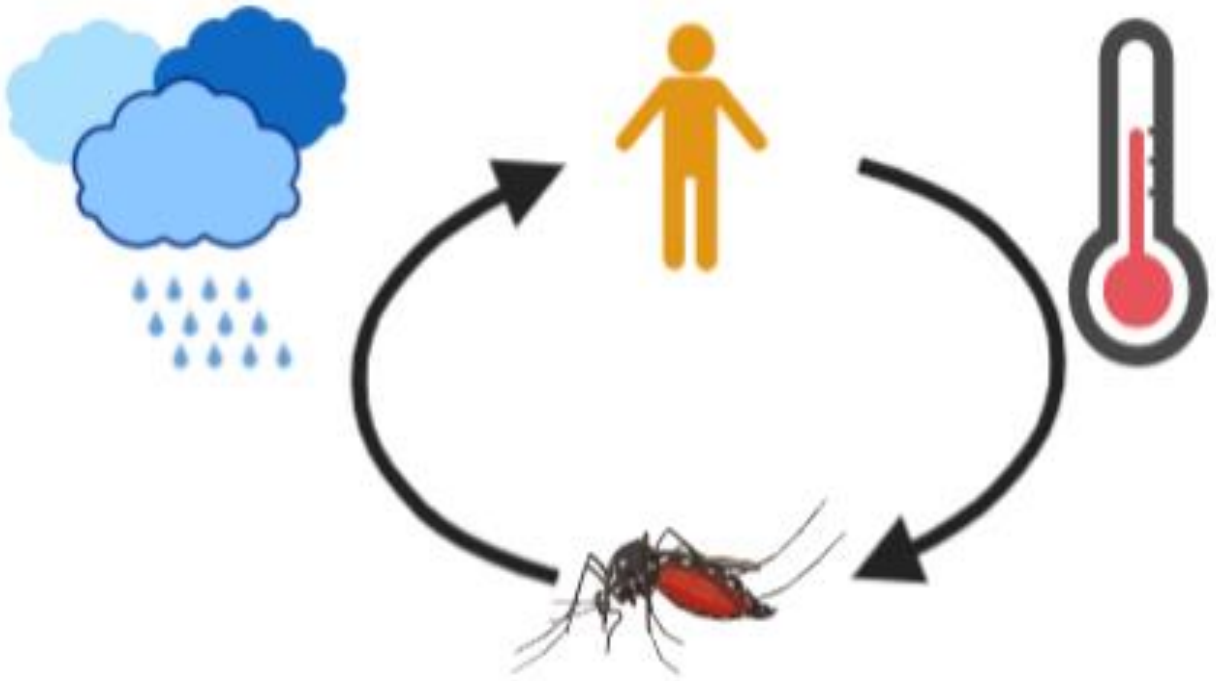
Aedes aegypti

- Main vector in transmitting arboviruses
- Humidity, rainfall, and temperature
- Growth, seek out hosts, and flight activity



Egg Surveillance

- Allows evaluation of infestation within a location
- Gauge the risk of possible outbreak

Variables

Number of Collections

Number Of Postive Collections

Indices

Egg Density Index (EDI)

Ovitrap Index

Hypotheses

Students' egg counts and FLAGG expert counts are not significantly different

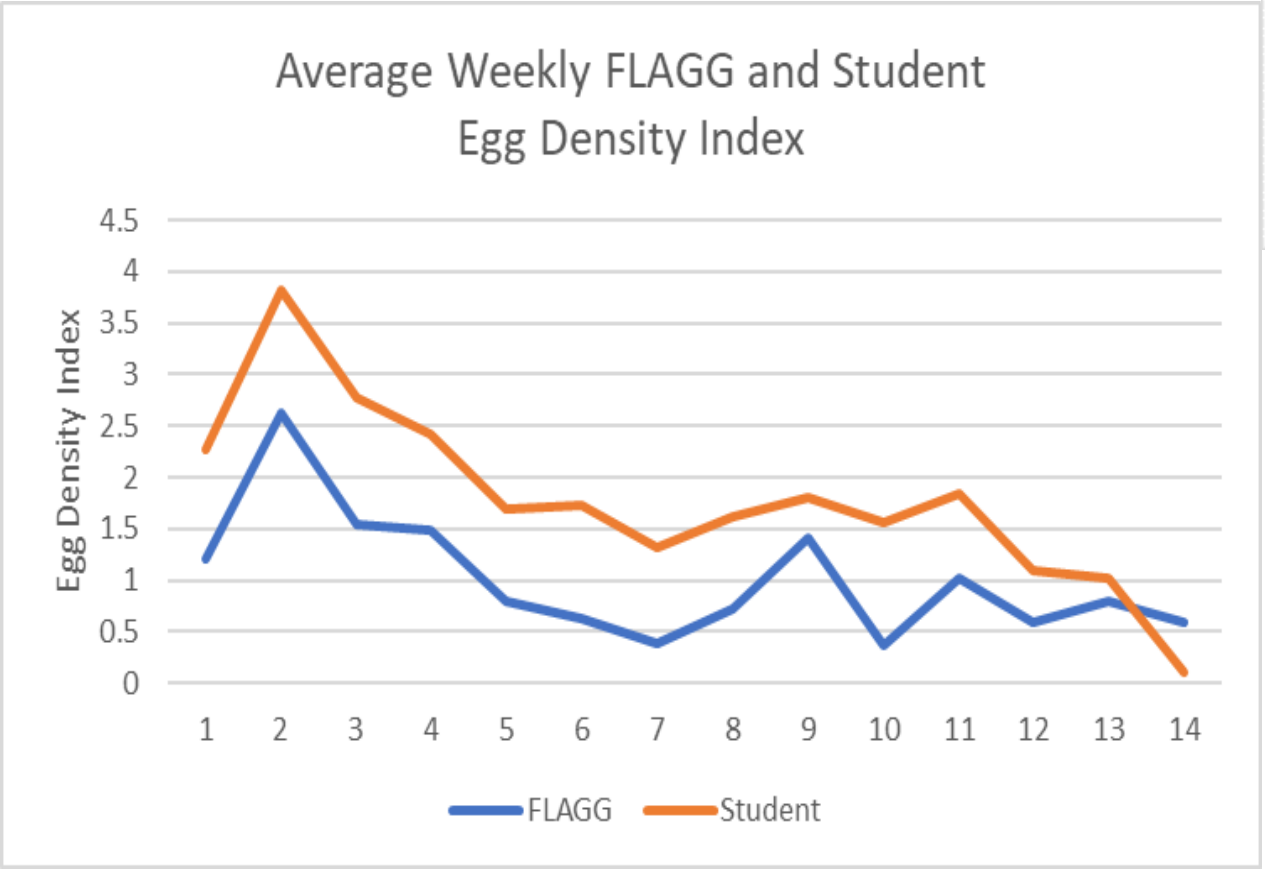
Objective

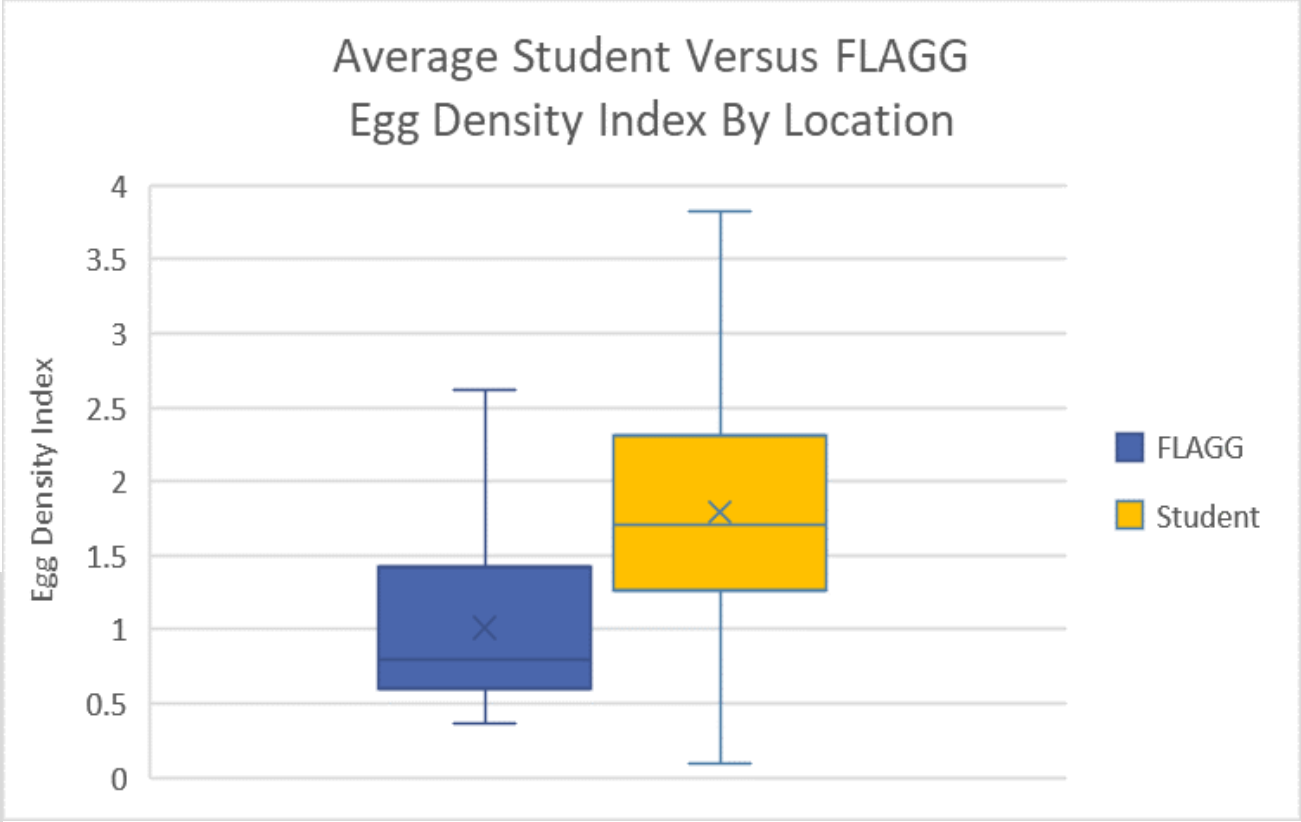
To evaluate the dependability of students on mosquito infestation detection

Methods

- Collected student egg counts and counted mosquito eggs from Miami-Dade County.
- Tested the validity of student egg counts against FLAGG counts through nonparametric Spearman and Mann Whitney analysis

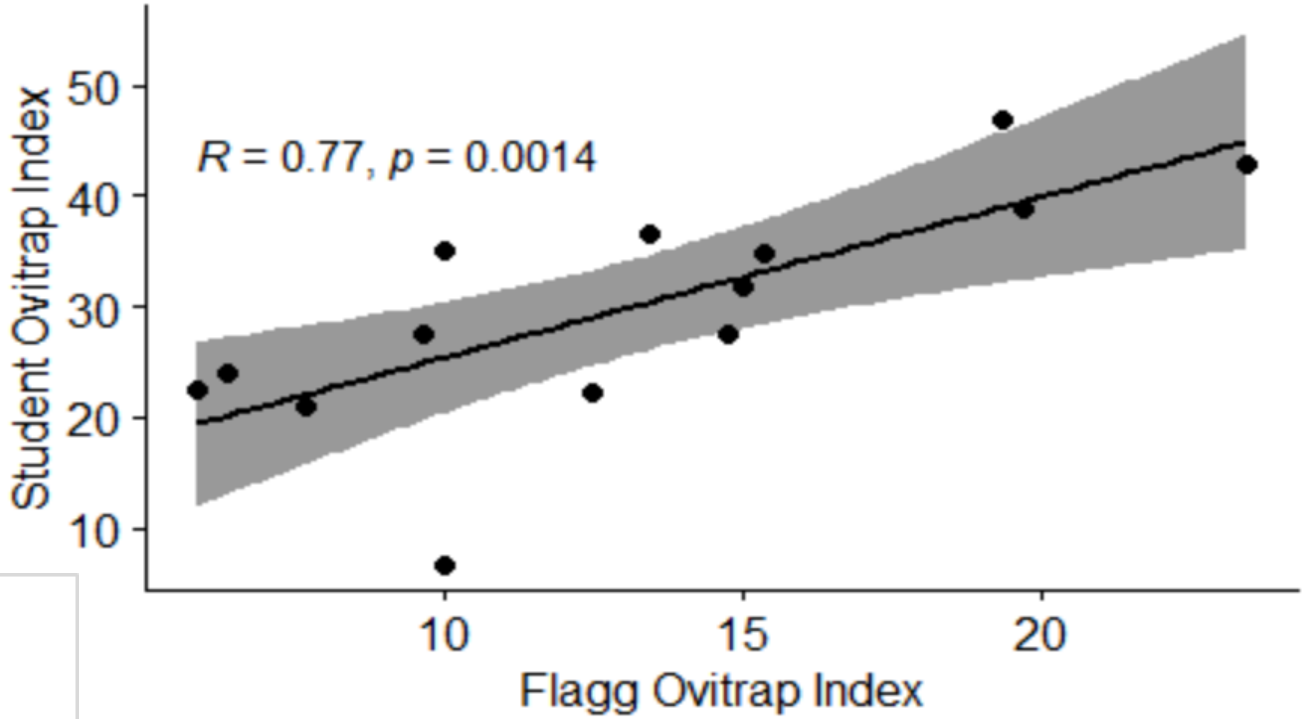
Results

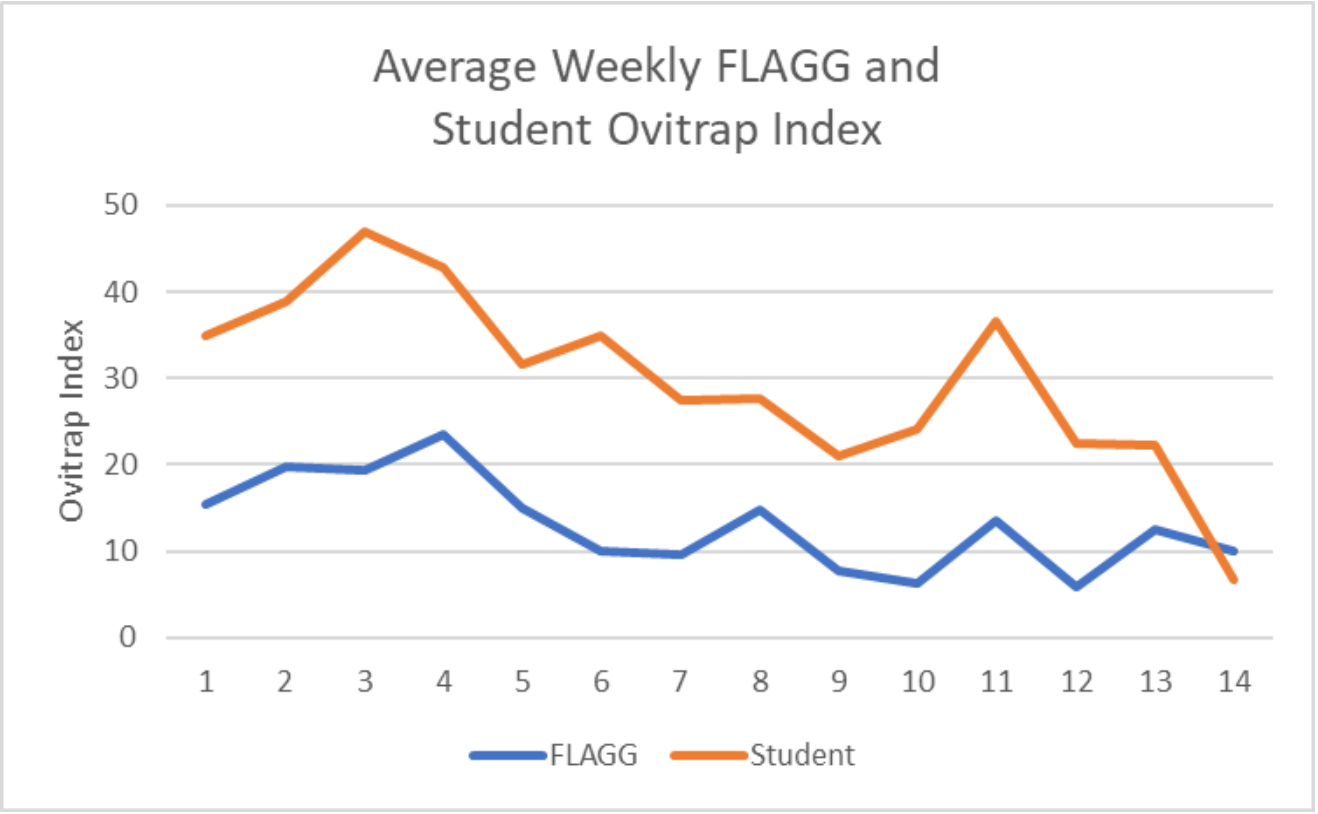




- No significant difference
- Students overestimated

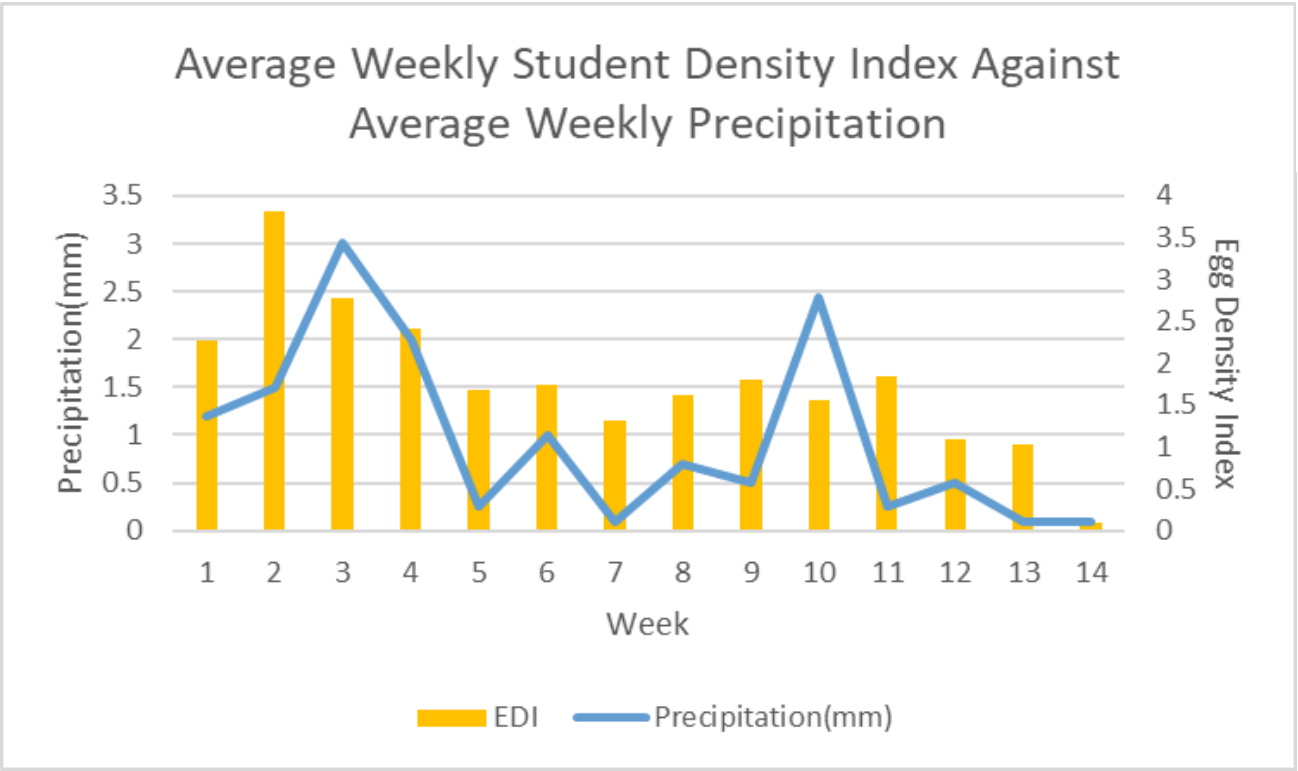
Results (cont.)

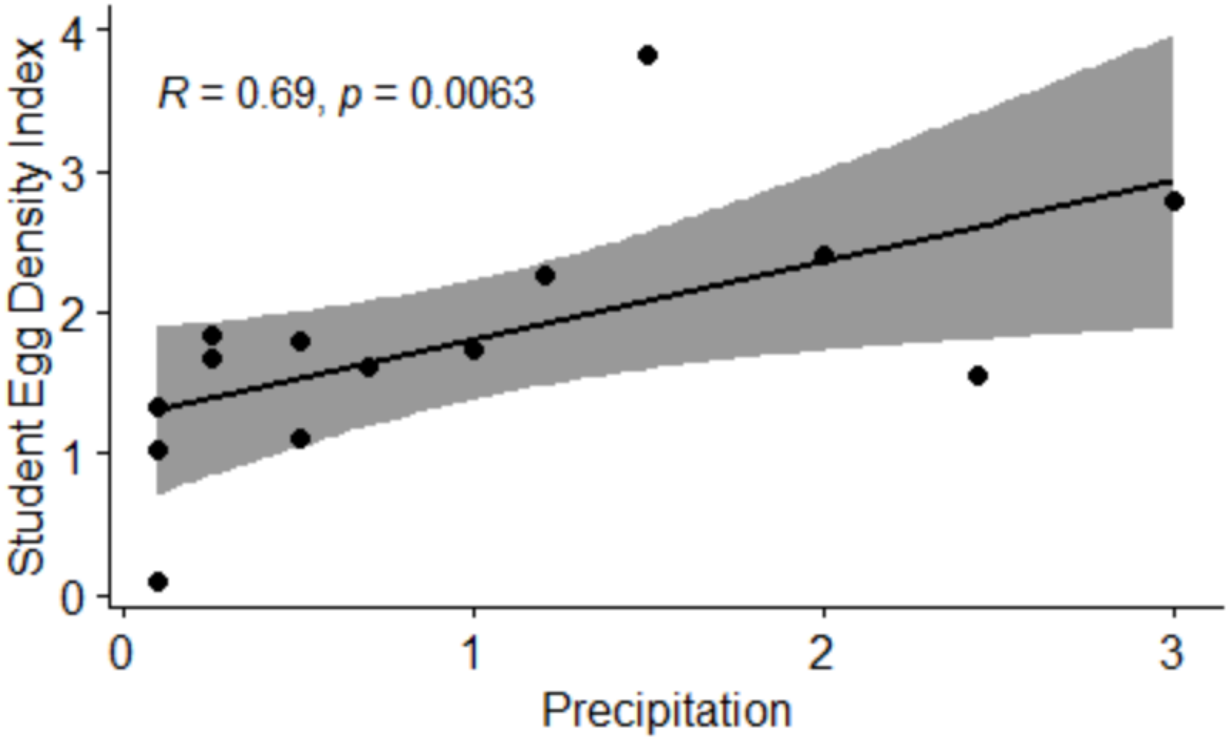




- Why are student counts inflated?

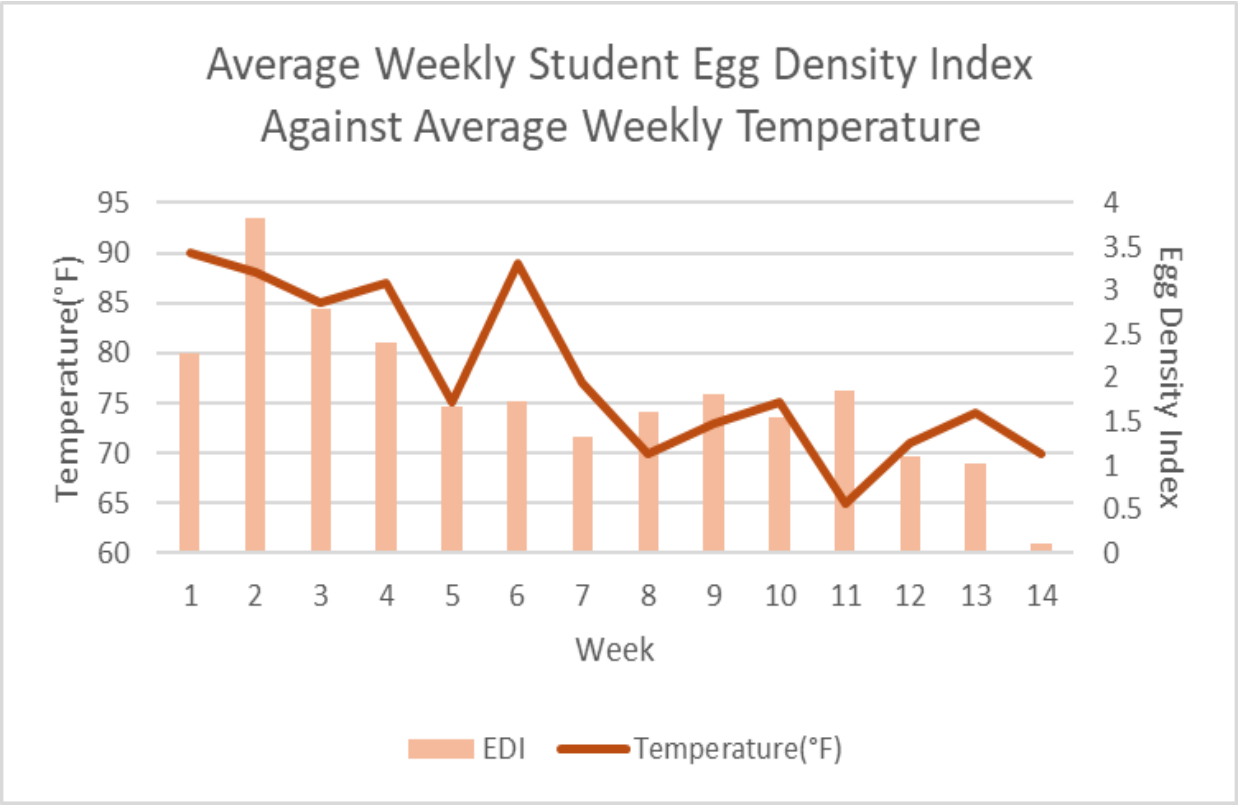
Results (cont.)

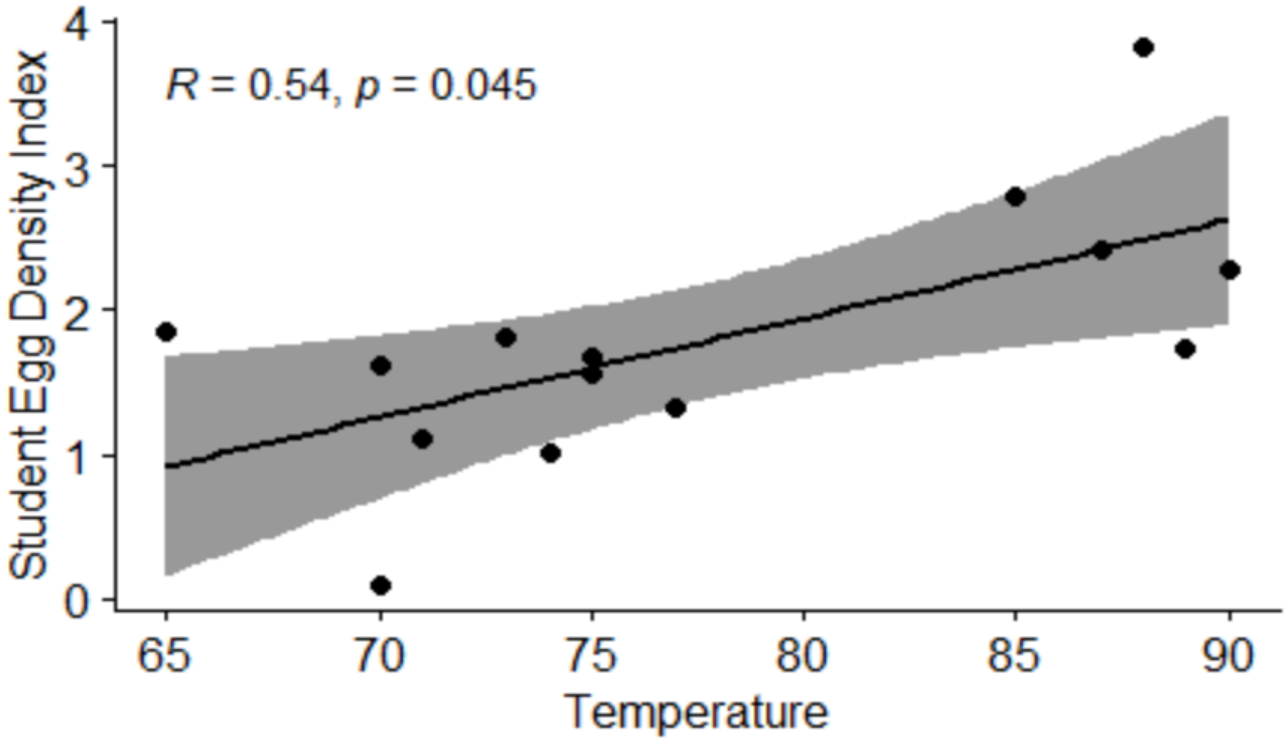




- Trend in which egg density index begin to decrease while approaching a drier season

Results (cont.)





- Trend in which higher egg density index correlates to higher temperature throughout the season

Future Research

- Understand how meteorological factors affect locations throughout more of a varied landscape and which areas are at higher vulnerability

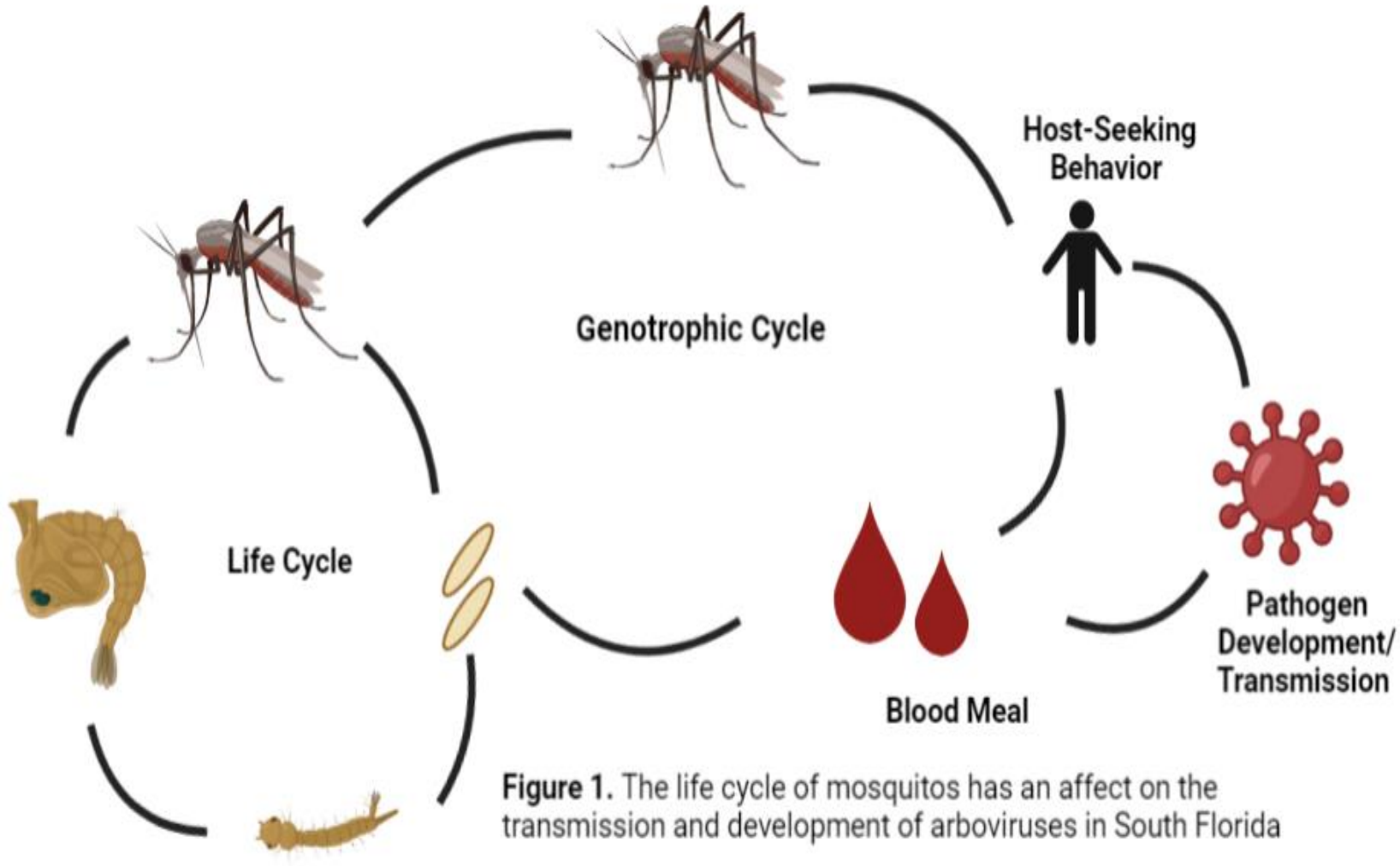


Figure 1. The life cycle of mosquitos has an affect on the transmission and development of arboviruses in South Florida

Acknowledgement

Thank You!

More Information: