Understanding *Aedes* presence, abundance, and phenology

Results from the 2016 North Carolina Mosquito Survey.

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Container-Breeding Mosquitoes

- *Aedes* spp.
- Vectors of disease
- Artificial containers
- Thrive in urban areas

1. Photograph by Paul Howell and Frank Hadley Collins, Center for Disease Control Public Health Image Library
2. Photograph by J.L. Castner, University of Florida.
3. Photograph by Susan Ellis, Bugwood.org
4. Photograph by Sean McCann, Ibycter.com
Site Selection
Hatching and Identification

- Ovitraps
- April-November
- Eggs counted
- Larvae or Adults identified

Purdue Agricultural Communication photo/Tom Campbell
Analysis

Diversity  Presence  Abundance  Season Length

Longitude  Elevation  Temperature  Precipitation

Average daily high  Average daily low  Average range  Total rainfall 2015  Total rainfall 2016
• Total eggs: 203360 counted
• A. albopictus: 54458, 81%
• A. triseriatus: 7169, 11%
• A. japonicus: 5262, 8%
• A. hendersoni: 52, 0.01%
Diversity

- A. albopictus
- A. triseriatus
- A. japonicus
Presence/Absence

2016 Total Rainfall (mm)
Abundance
Abundance
Abundance
Abundance
Length of Season
Length of Season
Length of Season

The map shows the length of the season indicated by different colors corresponding to weeks: 0-4, 5-9, 10-13, 14-18, 19-22, and 23-27 weeks. The scatter plots below correlate the length of the season with longitude and elevation.
Length of Season

The map and scatter plots illustrate the distribution of weeks in the length of season across different geographic locations in North Carolina. The map uses color coding to represent the range of weeks, with the following categories:

- 0-4 weeks
- 5-9 weeks
- 10-13 weeks
- 14-18 weeks
- 19-22 weeks
- 23-27 weeks

The scatter plots correlate the length of season with longitude, elevation, and average daily temperature range, showing trends and relationships across these variables.
Discussion

• Little variation explained
• Contradictory patterns?

Next Steps

• Drought data
• Influence of landscape
• Comparison with 2017 data and beyond
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