SCHOOL OF ENVIRONMENT AND NATURAL RESOURCES

GRADUATE EXIT SEMINAR

ALLISON K. WILLIAMS

Comprehensive, Spatially Explicit Models Predict the Occurrence and Abundance of Blacklegged Ticks in Ohio

Ixodes scapularis, otherwise known as the blacklegged tick, has rapidly expanded across North America in the last 50 years due to changes in climate, land use, and hosts across the landscape. Blacklegged ticks are major vectors of Lyme disease, the most common vector-borne disease in the United States, leading to public health concerns in the USA and Canada. Ohio is one of many states in the midwestern United States facing the emergence and continual spread of blacklegged ticks in Ohio. To assess their distribution and abundance, we developed two species distribution models (SDMs). To improve upon previously developed SDMs, we endeavored to comprehensively include climate, landscape, and host covariates, use a spatially explicit framework, and develop fine-scale (800-m) continuous predictions for the entire state. Additionally, we conducted a multi-scale analysis of landscape features to identify cross-scale linkages between blacklegged ticks and their hosts. As a result, we developed ecologically relevant, fine-scale predictions of blacklegged tick occurrence and abundance for Ohio and identified key drivers behind their expansion.

Advisors: Dr. Risa Pesapane and Dr. Bill Peterman

Friday, March 24, 2023
9:00 A.M.

Location: Kottman Hall 333

Join the seminar via Zoom:
https://osu.zoom.us/j/92374148956?pwd=aE0vdUxSQ2thcjk0ZEsyS1pmSkMydz09
Meeting ID: 923 7414 8956   Password: 998512

THE OHIO STATE UNIVERSITY

— We Sustain Life —

COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES