Environmental Determinants of Enteric Infectious Disease: a GEO platform for analysis and risk assessment—Commercial Data Supplementary

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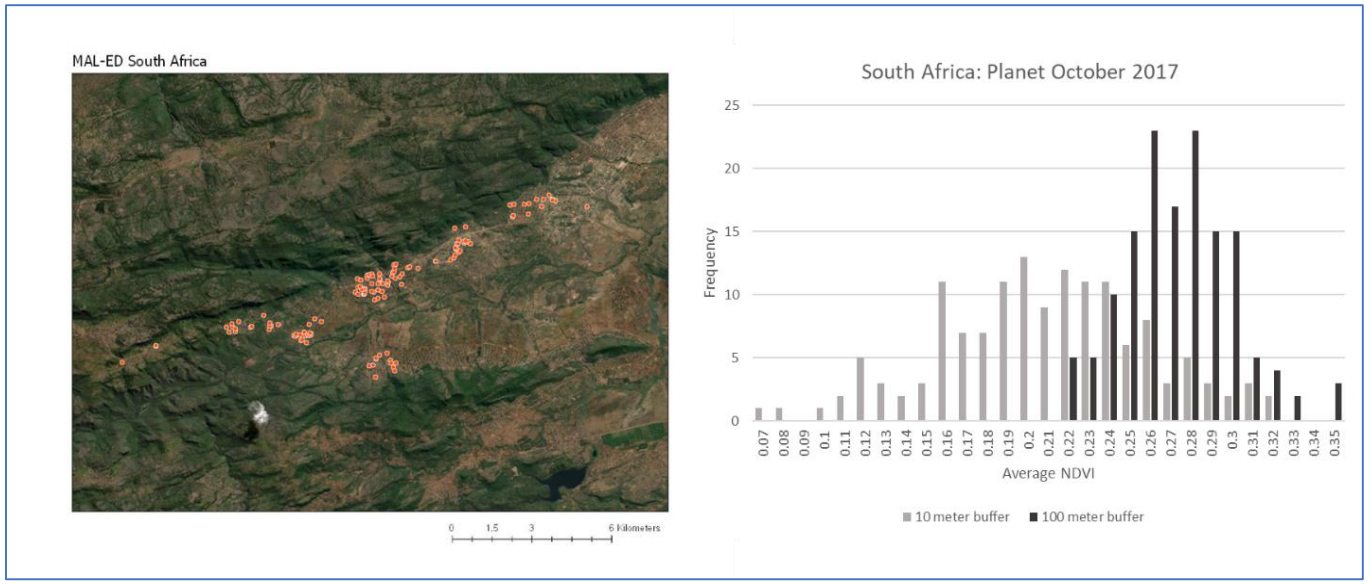
Purpose: Global health assessment

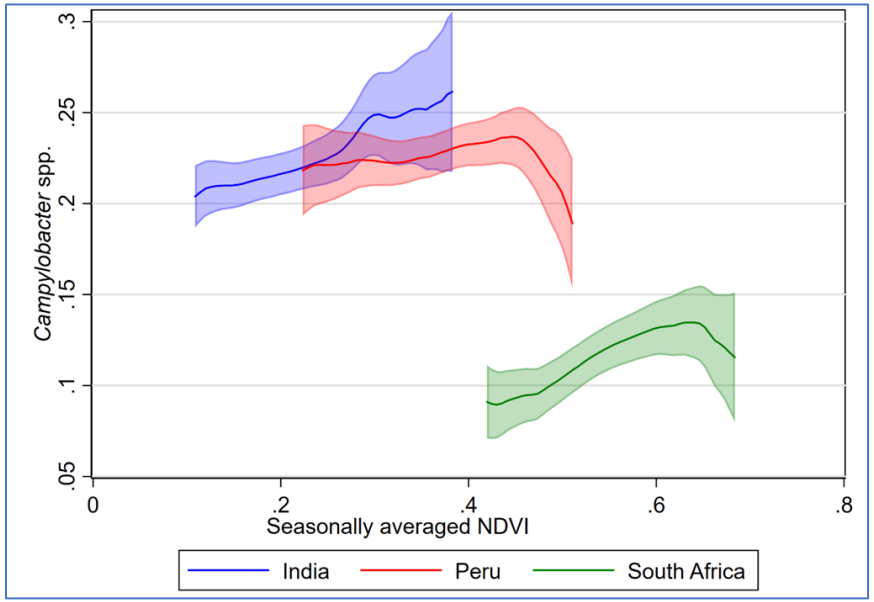
Study Objective: Study the spatial and environmental determinants of enteric disease risk at the household level. Hypothesized household-scale risk factors include, but are not limited to, presence of tree cover that shades and protects pathogens from sunlight, proximity to standing water, proximity to livestock and chicken facilities, distance to roads, and drainage conditions

Imagery: WorldView and PlanetScope

Findings: We have found that imagery is adequate for identifying households, quantifying vegetation conditions around households at relevant radii, and mapping small water bodies within communities. We are optimistic about the successful use of high resolution imagery for global health applications.



Locations of participating households at the South Africa study site, and a histogram of average NDVI around homes using a 10m and 100m buffer. Resolving the 10m scale allowed us to characterize hyper-local environments.



Relationship between NDVI at Campylobacter infection rates at three study sites.