

Title: The Utility of Spatial Video for Assessing Risk in Challenging Environments: A Case Study of Cholera in Haiti

Andrew Curtis (Corresponding author)
Director of the GIS, Health & Hazards Lab
Department of Geography
Kent State University
Telephone: 626 429 9476
acurti13@kent.edu
<http://www.kent.edu/CAS/Geography/ghhlab/>

Jason Blackburn
Spatial Epidemiology & Ecology Research Laboratory
Emerging Pathogens Institute &
Department of Geography
University of Florida
jblackburn@ufl.edu
EPI: 352-273-9374 Geog office: 352-294-7501 cell: 352-278-3232
www.seerlab.org

Sarah Smiley
Kent State University at Salem
ssmiley8@kent.edu
(330) 337-4228

Afsar Ali
Emerging Pathogens Institute
University of Florida
afsarali@epi.ufl.edu
(352) 273-7984

John Glenn Morris
Director, Emerging Pathogens Institute
University of Florida
jgmorris@epi.ufl.edu
(352) 273-6890

Abstract: Fine-scale and longitudinal geospatial analysis of health risks in challenging urban areas is often limited by the lack of available spatial data. Underlying population counts, residential context, and associated causative factors such as standing water or trash locations are often missing unless collected through logistically difficult surveys. The lack of spatial context also hinders designing intervention strategies structured around analytical insights. This paper offers a spatial video approach that can be used to improve analysis and involve participatory collaborations. The case study presented involves water-related risks in post-earthquake Haiti.

Spatial video is used to collect environmental data such as standing water, trash accumulation, presence of dogs, cohort specific population characteristics and general activity spaces. These data are digitized into Google Earth and then coded and analyzed in a GIS using different local area spatial analysis methods. These layers can easily be temporally updated to capture fine scale dynamism in the landscape. An example is provided of how these risk maps were used to guide water testing strategies in a coastal town previously impacted by cholera. The poster will describe how the simplicity and flexibility of the technique means data can be collected by vehicle, by boat, or using a hand-held unit. All data is archived through “the map”, allowing for easy access which facilitates training, intervention planning and coding-analysis validation. To summarize, spatial video is a tool that can be used in most environments to improve local area health analysis and intervention. The process is rapid and can be repeated in study sites through time to track spatio-temporal dynamics of the communities. Its simplicity also encourages local participatory collaborations.

Keywords: Spatial Video, Haiti, Cholera