

Synthetic Populations and Agent-Based Models



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ABSTRACT:

Synthetic populations are geospatially explicit, realistic representations of households and persons. They can be made geospatial by placing each synthetic household on the landscape using population density grids. Once created, these datasets provide 'agents' for microsimulations and Agent-based Models and, in addition, can serve as a point-based geospatial demographic layer that can be used in many geospatial analyses including exposure assessment, distance and time of travel analyses, infectious and chronic disease modeling, transportation modeling, and emergency preparedness. In this presentation, Mr. Wheaton will describe the concepts of synthetic populations, methods of creating them, geospatial aspects of synthetic populations, and how they have been used in practice in a number of research domains.



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