INTRODUCTION
GEOGRAPHIC INFORMATION SYSTEMS IN THE SOCIAL SCIENCES

The purpose of this special issue is to highlight the myriad of applications of geographic information systems within the social sciences. As access to geospatial technologies continues to increase, we are seeing new forms of research that highlight how different approaches to spatial analysis can answer complex questions on topics ranging from contemporary urban policy to ancient civilizations.

The academic articles in this issue demonstrate the range of disciplines working with geospatial technologies in research projects, with contributions from Sociology, Geography, Anthropology, and Economics. This diverse range of research illustrates the unique ability of geospatial technologies to transcend disciplinary boundaries and provide insight within numerous frameworks.

Madurapperuma et al. creates a novel approach for identifying social values and issues of fragmentation at a protected coastal area. In this article, the authors explore the Ecological and Social Values of the Dunes, the degree to which human-induced impacts, such as recreation trails, have on the ecosystem, and the resulting effects on native plant and animal populations. The authors detail a methodology on the use of geospatial technology, such as sUAVs, to monitor changes in a coastal dune environment.

Perdue designs an agent-based model to understand human-urban interactions in transportation systems, allowing individual entities within the model to be characterized with cognitive and behavioral properties. This paper discusses the role of agent-based representations of pedestrian transportation systems, detailing the underlying assumptions and techniques behind different types of pedestrian models and illustrates the differences between aggregate and individual agent representations. The paper concludes with a discussion and specific frameworks for employing agent-based models to support transportation planning decisions.

McFarland and Cortes-Rincon examine innovative methods of relief visualization of LiDAR-derived digital elevation models, and classification of secondary data to identify archaeological remains on the ancient Maya landscape in northwestern Belize. This study aims

to answer questions of population estimates, mobility costs, and effectiveness of ancient technological agricultural systems.

Smith and Morse use innovative remote sensing techniques to investigate the geotechnical construction of wall structures, as well as the soil properties resulting from their implementation and use, at the Central Lowland Maya site of Yax Ch'am. The results show that comparable designs in two retaining wall structures at the site have varied responses to lateral earth pressures and change the soil composition between the two sites.

Cobb uses innovative geospatial techniques to examine the distribution of key housing, economic, health, and educational indicators in metropolitan Hartford, with a particular focus on factors that bear upon the lives of children in this area. The results reveal substantial disparities in the geographic distribution of important resources and outcomes across the racially and economically stratified region. Cobb concludes the article with recommendations for more comprehensive, cross-sector policy interventions as well as regional collaboratives.

Finally, Sugata explores the spatiality of debt with a mixed-method study that illustrates the role alternative financial service providers contribute to the uneven economic decline and the dramatic reconfiguration of space in many communities across the country. Sugata argues that debt is an embodied experience that happens through space and not simply in space, and illustrates the need for changes in the way we approach and articulate questions of both debt and the body.

The range of topics, methods, and geographies in this issue illustrate the theoretical and practical application of geospatial technologies in the social sciences. As an editorial team, we decided to supplement these articles with a collection of maps produced by Humboldt State University students. These maps illustrate archeological sites, regional geographies, terrain and landcover, and artistic expression. Our aim in curating these maps, interlaced within the articles, is to merge the analytical and visual power of geospatial technologies within the social science research.