# SRA Abstract

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Surface temperature is projected to rise under all of the Intergovernmental Panel on Climate Change’s assessed emission scenarios in the Fifth Assessment Report. Heat waves are very likely to be longer and more frequent. Heat waves are the deadliest of the natural disasters, so high urban temperatures urgently need to be addressed. This study aims to contribute rigorous statistical methods, based on readily available data, to how policy makers and planners identify and predict at-risk areas within a city. Identifying which neighborhoods need attention will ensure appropriate distribution of resources. The initial city of interest is Baltimore, Maryland. We use geospatial data from demographic databases, infrastructure plans, and satellite imagery. The aim of is to predict satellite derived land surface temperature as a function of (a) biophysical parameters and (b) socio-economic parameters. As well as test hypothesis the effects of green space, water bodies, and impervious surfaces on land surface temperature, and whether there is a relationship between wealth and land surface temperature of a neighborhood. The models will then be tested on other cities to analyze their general applicability.

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