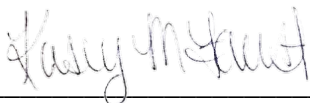


CAN WE MEASURE EQUITABLE ACCESS AT THE INTERSECTION OF SOCIAL AND NATURAL SYSTEMS? A LOOK AT THE SPATIAL AND SOCIAL DISTRIBUTION OF URBAN PARKS

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ABSTRACT

Parks are embedded in our urban life, providing ecosystem services, health benefits, and social capital. However, not every community has access to urban parks, and many researchers and activists have questioned whether access is equitable across communities. Further, the methods behind determining equitable access are inherently inaccessible because they utilize proprietary software which cannot be easily replicated. This study seeks to develop a framework to assess equitable access using open source spatial technologies, specifically Python and QGIS. Specifically answered in this work are the following questions: 1) How is equitable access currently defined, and is this adequate for identifying those not receiving equitable access?; 2) Are parks equitably accessible to vulnerable communities (e.g., children, the elderly, women, low-income households, and ethnic minorities)?; and 3) Based on the definition of equitable access used in this study, which populations are not receiving access? Using Austin, Texas as a case study, it was found that less than half of Austin's population lives within a quarter mile of a park (45.2%). Consistent with literature, minority—in this case, Hispanic and Latinx—and low-income communities were not found to have less access to parks as compared to white affluent communities. Austin's north-central and south-central regions are in most need of parks, and as such, park officials should focus on those areas to increase access. This open-access framework provides practitioners with a quick method to identify demographics that are being served relative to the population. This enables city planners and officials to understand what trends may be occurring to help sustain or improve equitable access across their city. The open-access nature of the framework lends itself to the application of a variety of equity mapping and spatial injustice studies, such as the identification of transit and food deserts in metropolitan areas.



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