



# An environmental justice assessment of public beach access in Miami, Florida



Marilyn C. Montgomery<sup>a,\*</sup>, Jayajit Chakraborty<sup>b</sup>, Sara E. Grineski<sup>b</sup>, Timothy W. Collins<sup>b</sup>

<sup>a</sup> Wharton Risk Center, University of Pennsylvania, USA

<sup>b</sup> University of Texas at El Paso, USA

## ARTICLE INFO

Article history:  
Available online

Keywords:  
Environmental justice  
Beach access  
White privilege  
Spatial regression

## ABSTRACT

The scope of empirical environmental justice (EJ) research has expanded beyond hazards exposure to scrutinize social inequities in access to amenities, but no prior study has examined the EJ implications of public beach access. Furthermore, quantitative research on white privilege is very scarce. To address these knowledge gaps, our study examines racial/ethnic and socioeconomic inequities in access to public beaches in the Miami metropolitan statistical area, Florida. Public beach accessibility is modeled with an innovative geospatial approach that involves population weighted distances to beach access sites. To assess EJ implications of public beach access for various racial/ethnic and socioeconomically vulnerable groups, spatial regression models are estimated using census tract-level data. Results indicate that beaches are more accessible to neighborhoods with a higher proportion of non-Hispanic Whites, while neighborhoods with higher percentages of Hispanics and socioeconomically disadvantaged residents have limited access. This study demonstrates the importance of assessing white privilege and access to environmental amenities in EJ research to better understand social inequities.

© 2015 Elsevier Ltd. All rights reserved.

## Introduction

The central tenet of environmental justice (EJ) is equality for all people in the distribution and impact of environmental hazards and amenities, regardless of their economic status, race, ethnicity, or other social characteristics (Boone, Buckley, Grove, & Sister, 2009; EPA, 2012; Wen, Zhang, Harris, Holt, & Croft, 2013). EJ researchers have investigated social inequities in the geographic distribution of many different environmental hazards and disamenities; including hazardous waste facilities (Anderton, Anderson, Oakes, & Fraser, 1994; UCC, 1987), incinerators and landfills (Been, 1994; Liu, 1997), toxic chemical accidents (Chakraborty, Collins, Grineski, Montgomery, & Hernandez, 2014; Elliott, Wang, Lowe, & Kleindorfer, 2004), vehicular air pollution (Chakraborty, 2009; Kingham, Pearce, & Zawar-Reza, 2007), and flooding (Chakraborty, Collins, Montgomery, & Grineski, 2014; Grineski et al., 2012; Maantay & Maroko, 2009; Montgomery & Chakraborty, 2013). However, EJ research on distribution and

access to amenities is more limited than that on disamenities. Nevertheless, access to environmental amenities is vital for general enjoyment of life. Amenities such as parks, playgrounds, beaches, and rivers provide opportunities for recreation and exercise. Parks, beaches, and open spaces also provide important ecosystem services such as reducing urban heat island effects and attenuating flood hazards and associated runoff problems (Cohen, Potchter, & Schnell, 2014). Consequently, more recent EJ research has examined social inequalities in the distribution of amenities such as parks, open spaces, and street trees (Boone et al., 2009; Landry & Chakraborty, 2009; Maroko, Maantay, Sohler, Grady, & Arno, 2009; Stewart, Bacon, & Burke, 2014).

The EJ implications of access to naturally occurring amenities such as beaches and rivers are complicated by mutually constitutive amenities and hazards associated with these places (Collins, 2010; Davis, 1998). The State of Florida is a prime example because it is known worldwide for beautiful beaches, and south Florida's subtropical climate makes beach recreation enjoyable year-round. However, Florida's location is often coincident with pathways of strong tropical cyclones; and its sandy beaches are subject to erosion hazards. Water-related amenities such as access to beaches and ocean views are indivisible from coastal flood and erosion hazards because the amenities and hazards are innate

\* Corresponding author.

E-mail addresses: [mmontgo@wharton.upenn.edu](mailto:mmontgo@wharton.upenn.edu) (M.C. Montgomery), [jchakraborty@utep.edu](mailto:jchakraborty@utep.edu) (J. Chakraborty), [segrineski@utep.edu](mailto:segrineski@utep.edu) (S.E. Grineski), [twcollins@utep.edu](mailto:twcollins@utep.edu) (T.W. Collins).

features of the location, and amenities must be consumed *in situ* (Grineski, Collins, Chakraborty, & Montgomery, 2014; Kates, 1971). Nevertheless, the high prices of coastal property, especially in metropolitan areas such as Miami, Florida, suggest that amenity values must outweigh hazards costs. This is partly due to flood mitigation costs that are largely externalized to all taxpayers in the U.S. via the National Flood Insurance Program (NFIP). Many coastal properties receive subsidized premiums from the NFIP because they were entered into the program long ago and have premiums that are reflective of risk according to the year their flood map was drawn. Since the NFIP was designed to provide affordable flood insurance to all U.S. property owners, the premiums charged by the FEMA are not reflective of the actual risk, i.e., they are actuarially unsound (U.S. CBO, 2009).

While using tax money to mitigate flood hazards for expensive coastal property is socially inequitable, impeded public beach access is also an EJ concern. The beaches of Florida are public property; specifically, areas from the mean high water line to the Atlantic Ocean and Gulf of Mexico shorelines are public property (Spain, 1999). Although public access to the coastal shoreline is protected by the public trust doctrine, it is considered trespassing to cross through private property to enter public beach areas. Others have noted the lack of perpendicular access to beaches in Florida (Garcia, Flores Baltodano, & Mazzarella, 2005; Maine Sea Grant, 2007; Mongeau, 2004; Spain, 1999). Furthermore, there have been cases of coastal property owners illegally posting “no trespassing” signs on beaches, spuriously asserting that public beaches are private (Garcia et al., 2005); and other cases of homeowners chasing beachgoers from public beaches behind their homes (Spain, 1999). The website of Miami-Dade County identifies equitable public beach access as a goal for their Parks and Open Space Master Plan (Miami-Dade County, 2014). Nevertheless, much of Miami-Dade County’s beaches are densely developed with private property and public access points may be difficult to find. Additionally, lack of available parking space at public beach access sites can pose a problem for Floridians or tourists who drive.

The apparent lack of adequate public perpendicular access to beaches in Florida motivates this investigation of public beach access as an EJ problem. Moreover, the concept of white privilege is a salient although under-researched topic in quantitative EJ scholarship. With the exceptions of Pulido (2000), Freudenburg (2005), and Lipsitz (1995), few empirical studies have focused on privilege instead of racism (Park & Pellow, 2011). In contrast, tourism and leisure researchers have explicated the privilege of tourists at the expense of native-born and immigrant workers serving tourists in places such as Aspen, Colorado, and Miami Beach, Florida (Paisley & Dustin, 2011; Park & Pellow, 2011). Park and Pellow (2011) have posited that “environmental privilege exists whenever environmental injustice occurs” (p. 5). Pulido (2000, 2015) asserts that understanding racism requires unpacking the complementary notion of white privilege. Race and place are mutually constitutive; and desirable places such as parks and beaches are racially coded based on conceptions of environmental privilege (Brahinsky, Sasser, & Minkoff-Zern, 2014; Hankins, Cochran, & Derickson, 2012; Park & Pellow, 2011). Structural racism and white privilege have created landscapes such as Miami Beach in which white tourists are served by immigrants and racial/ethnic minorities, while it is extremely rare that racial/ethnic minority tourists are served by white workers.

This paper expands EJ inquiry with a quantitative investigation of the inverse of traditional EJ research: white privilege and access to environmental amenities. There are two objectives of this research: (a) to develop and implement a geographic methodology to model accessibility to public beaches; and (b) to investigate the EJ implications of public beach access via statistical analysis. Since

EJ research seeks to identify inequitable environmental quality for traditionally disenfranchised groups, this paper examines whether racial/ethnic minority groups and socially vulnerable individuals reside in neighborhoods that lack equitable access to public beaches. Conversely, neighborhoods that are predominantly comprised of non-Hispanic White residents are assessed to determine if they have disproportionately easier access to public beaches. This study is thus a comprehensive assessment of the EJ implications of access to public beaches since both privileged and underprivileged groups are examined. This research is based on 2010 census tract-level socio-demographic data for the Miami metropolitan statistical area (MSA), Florida. Public beach access is estimated with an innovative geospatial approach adapted from previous research on park accessibility (Wen et al., 2013; Zhang, Lu, & Holt, 2011). Statistical analyses are based on locally derived spatial regression models that explicitly account for spatial dependence in the data.

At this time, there are no known EJ studies of public beach accessibility, and quantitative investigation of white privilege has been rarely attempted in previous EJ case studies. Consequently, this paper makes two new important contributions to EJ research by assessing the EJ implications of public beach access and by examining public beach access of non-Hispanic Whites relative to racial/ethnic minority groups. Partly because costs of flood hazard mitigation are externalized via the NFIP, privileged residents such as non-Hispanic Whites and economically affluent individuals seek amenities in their choices of residential locations. These privileged groups in the Miami MSA typically choose to live in beachfront locations because coastal flood hazards are mitigated with public investments in flood insurance and engineered flood control structures. The moral hazard produced by the NFIP has been problematized by previous researchers (Cutter & Emrich, 2006). Moral hazard refers to modifications in personal behavior that enhance risk. Gilbert F. White played an important role in the establishment of the NFIP in 1968, but he warned soon after its inception that moral hazard produced by affordable flood insurance could promote unwise development of floodplains (White, 1973). The common EJ assumptions that the environment is only a source of hazards and that people attempt to avoid hazards in their residential locations complicate explanations of why individuals of higher socioeconomic status choose to live in coastal areas exposed to flood hazards. This examination of privilege and access to amenities illustrates the salience of problematizing privilege to understand social inequities.

## Study area

The study area for this research encompasses the three coastal counties in the state of Florida that comprise the Miami MSA: Miami-Dade, Broward, and Palm Beach Counties. The location of the Miami MSA is shown in Fig. 1. The total population of Florida in 2010 was 18.8 million people (U.S. Census Bureau, 2010), and its total land area is 140,512 square kilometers (State of Florida, 2014). Florida has 1327 km of sandy beaches on the Gulf of Mexico and Atlantic Ocean, with 626 km of that length on the Atlantic Ocean. The three counties of the Miami MSA contain 145 km of beaches (Clark, 2012), so the Miami MSA includes a substantial portion of Florida’s Atlantic coast. With about 5.6 million residents according to the 2010 census, the Miami MSA is the most populous MSA in Florida, and the eighth largest MSA in the U.S.

Florida is known globally for its beaches and tourism is especially important to Florida’s economy. Florida had a record number of tourists in 2011 with 87.3 million visitors and \$67 billion spent; and tourism-related employment in 2011 was about 1 million positions (Visit Florida Research, 2014). Research on tourism in Florida indicates that the primary reason for out-of-state American visitors

Download English Version:

<https://daneshyari.com/en/article/6538502>

Download Persian Version:

<https://daneshyari.com/article/6538502>

[Daneshyari.com](https://daneshyari.com)