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## Social Justice and Mobility in Coastal Louisiana, USA

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### Abstract

Louisiana faces extensive coastal land loss which threatens the livelihoods of marginalized populations. These groups have endured extreme disruptive events in the past and have survived in the region by relying on several resilient practices, including mobility. Facing environmental changes that will be wrought by deliberate coastal restoration programs, elderly residents are resisting migration while younger residents continue a decades-long inland migration. Interviews and historical records illustrate a complex intersection of resilient practices and environmental migration. The process underway conflicts to some extent with prevailing concepts in environmental migration most notably deviating from established migration patterns. In terms of social justice, selective out-migration of younger adults leaves a more vulnerable population behind, but also provides a supplementary source of income and social links to inland locales. Organized resistance to restoration projects represents a social justice response to programs that threaten the resource-based livelihoods of coastal residents while offering protection to safer inland urban residents.

### Keywords

social justice; environmental migration; resilience; Louisiana

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Louisiana's southern and eastern coasts consist mainly of low-lying marshes with narrow ridges atop relict natural levees. Beyond the urbanized territories of New Orleans and Houma, populations of Native Americans, Acadians, Isleños, African Americans, and Asians live in linear villages where they face a host of challenges including a disappearing coastline, sea-level rise, tropical cyclones, and oil spills (CPRA 2012; Peyronnin et al. 2013; Hemmerling 2017). These groups will be the focus of this article. Each has endured a traumatic diaspora to arrive at this particular location along with histories of linguistic, political, geographic, and social marginalization. They have endured as distinct social

groups, in part, because of their geographic isolation (Comeaux 1978; Kniffen 1987; Din 1988; Faragher 2003) and also their powerful social cohesion (Estaville 2001; Airriess 2008). They share two key traits that frame this discussion: dedicated attachments to a perilous place and heavy reliance on resource-based livelihoods. These traits underlie their persistence in place (Burley 2010). Despite extreme hazard events such as floods and tropical cyclones and despite public policy adjustments over the last century that have impacted resource-based livelihoods (Colten 2016), they have demonstrated both a tenacity to remain and community resilience (Colten et al. 2012). Their determination to continue traditional practices in their current locations in the face of state efforts to rebuild the coast represents a social justice struggle (CPRA 2012). Social organization and efforts to push back against state plans reveal efforts to gain what coastal residents see as equitable treatment with urban residents. Opposition to the mention of relocation as the only viable adaptation option to their environmental situation (Table 1) and to specific state projects that threaten livelihoods (Save Louisiana Coalition 2015) problematizes state programs. Yet, it also reveals an inconsistency within the communities of coastal residents that relates to one of their most effective resilient practices – mobility, either geographic movements or movement among multiple economic pursuits. As we will develop in the following pages, immobility is a core concept of the local social justice struggle that contrasts with a movement of people that is underway. Opposition to forced relocation has occurred elsewhere (McDonald and Muldowny 1981), but not in situations where a migration was well underway and without the threat of forced movement. The coastal Louisiana situation offers a perspective on the broader issue of environmental migration and the distribution of risk among vulnerable populations facing the impacts of climate change.

This article examines how mobility intersects with state plans and functions as a social justice issue. It exposes current attitudes expressed by long-time residents that challenge the concept that environmental migration tends to follow established patterns (Black et al. 2011 and 2013). It also addresses the all-essential intersection between environmental migration as a process of adaptation and social justice by considering how coastal management has favored urban areas and forced rural residents engaged in resource-based livelihoods to adapt repeatedly to new environmental conditions produced by shifting policies (Colten 2016). Mobility at the local scale has been a fundamental practice in this region and a pattern is in place. Immobility now serves as a tactical practice to seek social justice and in the current situation challenges the state's efforts by forcing officials to consider coastal populations who have been marginalized in coastal management planning efforts and to consider cultural factors in addition to biophysical conditions (LOCD 2015 and Colten 2016).

### **Resilience: Mobility, Social Networks, and Ingenuity**

Resilience, as discussed here, adopts the definition of a community's ability to rebound to a comparable functional state after an event that disrupts relationships among people and the environmental that they inhabit. Resilience embodies the ability to anticipate, mitigate, reduce, and recover from disturbances (Wilbanks 2008), and inherent resilience consists of "practices that natural resource-dependent residents deploy to cope with disruptions and that are retained in their collective memory" (Colten et al. 2012). As part of their inherent

resilience, Louisiana's coastal communities have shown three key capacities: mobility, social networks, and ingenuity that enable them to adapt to changing conditions (Table 1; Colten et al. 2012). Coastal residents have been mobile at the local scale, or within the bounds of daily social interactions, over the past two centuries. Mobility includes all forms of geographic movements such as commuting, migration, and evacuation at all scales (Fogelman 1958, Estaville 1986; Kniffen 1987; Colten et al. 2012), and economic movement among different livelihoods either on a seasonal basis or in the wake of environmental change (Comeaux 1972; Davis 2010; Maass 2014). Migration inland has been a consistent pattern for over 100 years and more subtle movements such as evacuations "up the bayou" during hurricanes exemplify mobility (Hemmerling 2017). Additionally, fishermen have shifted their activities in the wake of storms, oil spills, and the annual hypoxic conditions in the Gulf of Mexico (Marks 2012; Maass 2014). Mobility takes another form as well in the social justice efforts. A common strategy within the public policy arena has been to displace risk geographically. Residents have tried to resist the movement of risks by organizing in opposition or adapting in place to new environmental challenges (Colten 2016). Resilience in our discussion also includes the support of social networks—family, church, and community. Ingenuity is the third foundational resilient practice and it is most evident in the local struggles against human-induced environmental change, in adaptive actions, and in the efforts aimed at securing social justice (Fogelman 1958; Airriess 2008; Colten et al. 2012; Colten 2016).

Coastal residents face the possibility that they will lose what little terra firma remains and the prospect of migrating inland beyond the traditional bounds of family and church territories looms in the coming decades. Despite persistent residence in the region and proclamations of rootedness among the older generation residents (Burley 2010; Simms 2016) over the long term, both geographic and economic mobility have been defining traits of this coastal society (Colten et al. 2012, Hemmerling 2017). Local mobility refers to movement within the bounds of the linear communities – that is within a distance where daily activities remain within reach of the same stores, schools, churches, traditional jobs, and family connections. Regional migration entails long-term movement out of the linear coastal communities into cities such as Baton Rouge, Lake Charles, or Houston where an entirely new group of stores, schools, churches, and employment frame daily activity. Movements over the last century have tended to be relatively short distance and enabled the perpetuation of kin, religious, and ethnic ties. There has been a general decrease in population in coastal parishes over the past sixty years as many younger residents have engaged in regional mobility by moving to inland cities (Hobor 2014; Hemmerling 2017). These longer distance moves have stretched the geography of coastal communities, but those with automobiles can maintain family connections. While at the regional scale there was an immobility for many years, movements at the local/community scale have been a prominent pattern that sustained communities. Now, longer distance mobility is becoming a necessity to cope with the disappearing coastal landscape. Mobility, in many respects and at different scales, has enabled the coastal societies to survive and has been a key trait of local resilience.

## Social Justice and Environmental Migration

The intersection of mobility and social justice, the distribution of society's benefits and burdens (Harvey 1996; Dobson 1999), provides a context for this discussion since many of the coastal communities are made up of tight-knit communities who initially arrived to Louisiana after forced relocations from previous homelands (Kniffen 1987; Hall 1995, Din 1999, and Faragher 2007). These groups include former enslaved Africans, Isleños from the Canary Islands placed on the Spanish colony's frontier, Acadians expelled from what is now Nova Scotia in the 1700s, and Vietnamese and Cambodians who escaped their violence-torn homelands in the 1970s (Figure 1). Efforts to expunge traditional languages exemplify the social marginalization of these communities (Kniffen 1987; Estaville 1990; Ryon 2002; Faragher 2006; Usner 2009). The communities we are concerned with here tend to live in small, somewhat insular communities and depend on resource-based livelihoods. Over time, they have adapted, often multiple times, to changing environmental conditions in their current locations. The construction of levees, flood control diversions, and state management of coastal resources have altered both the environment that these groups rely on for livelihoods and sustenance and their ability to pursue traditional practices (Gomez 2000; Davis 2010; Colten 2016). While mobility is one form of adaptation, without ingenuity and social networks, they would not have endured in place (Table 1). The state's impending restoration projects to protect urban residents are projected to disrupt ecological conditions that sustain resources these coastal residents rely on, and likely will force another round of adjustments and adaptations, including geographic dislocation. This situation raises the question of how policy makers fairly distribute the benefits and burdens of its ambitious program (Harvey 1996; Dobson 1999).

Environmental migration scholarship emphasizes the multiple factors that guide personal decisions to migrate and it reveals many of the same influences that provide a basis for social justice efforts. Seldom is environmental change the sole motivation to uproot from a place (Gutman 2002; McLeman 2011; Black et al. 2013). And equally important, social networks are powerful forces in guiding the migrants towards a destination when movement is not forced (Curran 2002). People move with the assistance of family, church, or ethnic communities. This applies both to the point of departure and destination. Also, voluntary migration seldom results in complete abandonment of an existing settlement. It commonly occurs as a gradual flow, except in the wake of exceptionally devastating hazard events that completely obliterate a place (McLeman 2011). Forced migrations present a very different outcome and more commonly demand abandonment which stimulates opposition (McDonald and Muldowny 1981, Heming et al. 2001). The Louisiana situation includes these interrelated factors: there is cyclic economic turbulence in the resource-based activities that motivates some to leave; social connections provide the connective threads that guide migration; and the outward flow has been gradual with more pronounced migrations after cataclysmic meteorologic events. Community networks and social engagement also inhibit departure and these traits are firmly established in these coastal communities (Irwin et al. 2004). People with strong connections to church and community are more prone to remain in place. Thus, several key influences on environmental migration in Louisiana align with established concepts (Table 1).

Coastal management literature argues that structural defenses can be justified in urban areas, but fail to meet the cost-benefit test in thinly settled locations, such as coastal Louisiana. The social justice perspective makes the point that commonly vulnerable residents receive less protection (Cooper et al. 2008). Louisiana's Coastal Protection and Restoration Authority is responsible for administering programs to stabilize the state's extensive littoral wetlands. Its Master Plan for coastal restoration includes structural projects to divert sediment to wetlands and new levees, plus other projects to restore the biophysical setting. It mentions "voluntary acquisition" – a reference to state purchase of property that otherwise would be difficult or impossible to sell. It contains no mention of a coordinated program to assist communities resettle in safe locations (CPRA 2012). Among the projects listed in the 2012 plan with budget estimates, none includes voluntary acquisition or resettlement.<sup>1</sup> The largest share of the designated funds supports a set of wetland restoration projects and structural systems that will add to the "multiple lines of defense" for the state's largest urban and commercial concentrations in the New Orleans metropolitan area and a secondary city, Houma. This follows the long-standing cost-benefit oriented priorities in the lower Mississippi River flood-protection programs to protect urban and industrial investments (Colten 2005).

The rural populations in the Gulf Coast region and Louisiana in particular are vulnerable (Cutter et al. 2006; Maldonado et al 2013; Martinich et al. 2013; Dalbolm et al. 2014). State policies tend to push responsibility for coping with the restoration projects to the individual/family level. Furthermore, the state's restoration and protection plans have excluded some of the Native American communities in the most risky locations from structural protections, although federal funding is now aiding resettlement for one of the threatened communities (Dalbolm, et al. 2014, LOCD 2015, and Lowlander Center 2016). Overall, vulnerable residents outside the levees face considerable and arguably inequitable burdens.

Environmental threats that contribute to out-migration tend to heighten economic disparities at the place of departure (McLeman 2006; Wishart 2013). In Louisiana, a gradual migration is already underway for several reasons. Those residents most inclined to stay in place are the families engaged in local resource-based economies—mainly shrimp, oyster, and crab fisheries. Much of the coastal population is above the poverty level, but many just barely (Hemmerling 2017). Thus, they are at risk of falling into an economically disadvantaged situation if there are disruptions due to tropical weather, restoration projects that impact the habitat of the resources they pursue, inundation of their communities, or economic disruptions. Structurally protected urban populations do not face the same level of risk.

Adaptation to changing environmental conditions has been common in coastal Louisiana (Comeaux 1978; Davis 2010; Maass 2014; Colten 2016), but there is concern that climate change will present new challenges to resource-based communities. Livelihood diversification, or economic mobility, have enabled families to overcome changing economic and environmental conditions (Comeaux 1972; Thomas and Twyman 2005; Colten et al. 2012). Louisiana coastal residents face not only environmental and market changes, but procedural challenges in the form of the state's restoration plan which may strain traditional

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<sup>1</sup>The state is in the midst of a mandated five-year update of its plan and may include more in the 2017 version, but projects that currently have been prioritized and in more advanced planning stages were outlined in the 2012 plan.

adaptive methods that have enabled them to remain within the coastal region. Nonetheless, out-migration of family members to cities is a form of economic diversification (Table 1).

## Mobility as an Inherent Resilience Practice

For several years, we have been researching resilient *practices* that coastal communities have deployed to rebound from repeated hurricanes, floods, and oil spills (Colten et al. 2012; Colten et al. 2015; Simms 2016; Colten 2016). Rather than analyze proxy economic and demographic data, we employed a qualitative approach and scoured local government records, newspaper accounts, personal papers and correspondence of elected officials, court case files, and public agency reports. We also conducted interviews with coastal residents to document the specific actions taken at the local level that enabled families and communities to rebound from disruptive events over the past century.<sup>2</sup> This approach foregrounds human agency which is sometimes omitted in other resilience research. For our interviews, we explicitly sought elderly residents from families engaged in natural-resource activities and who had endured multiple hurricanes and oil spills. Within the region they constitute about 12 percent of the population. We used a snowball sampling technique and interviewed 76 Louisiana residents. The interview process was open-ended and inductive, drawing on the interviewees' comments to foster a "bottom-up" conversation (Simms 2016). Among the most obvious and temporally consistent actions taken to enable the perpetuation of coastal society was *mobility* – in different scales and aspects of life (Tables 1 & 2).

Native Americans, Acadians, Isleños, Asians, and African Americans have established well-recognized rural enclaves in coastal Louisiana (Figure 1; Comeaux 1972; Din 1999; Estaville 2001; Airriess et al. 2008). With strong family, ethnic, and religious ties, these communities have displayed resilience in their livelihoods and through their coping with extreme weather events and social and economic marginalization (Colten et al. 2012). Among their resilient practices has been localized movement. Communities such as Chenier Caminada and Manila Village disassembled and retreated inland to higher ground after hurricanes. Where inland social networks existed, the displaced residents regrouped as in the shift from Chenier Caminada to Leeville. In the absence of inland support networks, communities disappeared as was the case with Manila Village. Local-scale geographic mobility has been a persistent practice to enable families and communities to survive in a perilous setting (Fogelman 1958; Colten et al. 2012).

Economic mobility is evident in responses to threats to their livelihoods. When the first oil spills occurred in Lake Pelto in the 1930s, oystermen shifted their gathering activities to unaffected areas (Maass 2014). After more recent spills, fishermen worked different areas to avoid catching tainted shrimp (Colten et al. 2012). Changing technologies, international competition, and rising fuel prices have also spawned additional adaptations among shrimpers (Deseran 1997; Marks 2012).

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<sup>2</sup>Our interviews explicitly sought out elderly residents who had experience with multiple hurricanes or oil spills. Consequently, the narrative we report on strongly reflects this group, and not the younger generation who are moving.

Louisianans as a whole and coastal Louisianans in particular are known as a steadfastly immobile population. Important distinction becomes obvious upon closer examination below the regional level: that is local mobility has been central to cultural survival and longer-distance mobility is on the rise. Analyses of U.S. population data shows that at the state level Louisiana leads the country in terms of rootedness. In 2014, 71 percent of current residents who were born in Louisiana continued to live there – the highest percentage nationally (Aisch et al. 2014). Yet, population growth in Louisiana has been most pronounced in the cities inland from the coast or behind flood protection levees (Figure 2; Hemmerling 2017). Before 2000, many of the coastal parishes did indeed have a low percentage of interparish movement, but since the 2005 storms, coastal parishes have experienced more out-migration (Hemmerling 2017). The coastal parishes also show a relatively high percentage of residents living in the same houses between the 2000 and 2010 census tallies, although with some decline in the far southeast where land loss is most pronounced (Figure 3). Furthermore, 90 percent of Louisiana residents who accepted funds to rebuild their homes after the storms of 2005 opted to rebuild on site and not relocate (CPEX 2015). The vast majority of aid recipients were urban residents with houses guarded by structural protections. A survey of the local population indicates that there has been an increase in the number of commuters who reside outside the coastal parishes, but hold jobs in the low-lying region (Hobor et al. 2014). Trends are not entirely consistent, although mobility remains a means of survival. During much of the twentieth century, that movement was at the local scale, however, since 2005 regional scale and longer-distance mobility has become more common.

## Factors Inhibiting Mobility

Multiple factors anchor people in coastal Louisiana, some more so than in the past thereby inhibiting mobility. One of the more prominent and traditional forces is the firm attachments to place residents testify to (Burley et al. 2007; Burley 2010). Our interview subjects and other sources consistently reaffirmed this sentiment (Table 2, Foglemen 1958, Irwin et al. 2004; Simms 2016)

Communities deploy “socially embedded resources” in the wake of disasters (Chamlee-Wright 2010). These resources facilitate recovery, offering tools and networks for survivors to coordinate their efforts in order to return, rebuild, and reside in areas that carry increasing risks. Our interview subjects underscored the power of social networks (Table 2). Following a disaster, individuals with stronger and more varied ties are more likely to return (Irwin et al. 2004). Those without those connections may move away.

Due to the unevenness of vulnerabilities in preparing for and recovering from a hurricane, crucial issues of social justice and social ties inevitably come into play. The primarily Vietnamese and Vietnamese-American community centered around Mary Queen of Viet Nam church in Village de L’Est in eastern New Orleans, exemplified how social ties can be imperative when it comes to disaster recovery. Operating through church and family connections, returning residents found assistance in plumbing, carpentry, and electrical repairs to damaged homes. These same networks fostered a new-found community voice in local politics (Table 2; Airriess et al. 2008; Wei et al. 2010). They also enabled them to regroup while evacuated and to rebound.

Fishing, maritime transportation, and mineral extraction all are based on local resources and cannot function inland. Seasonal pursuits and work schedules make regional commuting manageable and also enable workers to stay involved in natural-resource pursuits part-time while also holding down a regular, good-paying job (Gramling and Hagelman 2005).

Public policies within some of the natural resource-based economic activities inhibit mobility. Oyster conservation laws established a leasing system that attaches oystermen to specific waterbottoms (Moore and Pope 1910; McConnell 1934; Wicker 1979; Deseran and Riden 2000). As early as 1902, oystermen formed a union. The state has responded to the highly organized oystermen's appeals for protections by legally defending state waters against interstate poachers and constructing freshwater diversions in the 1920s (Louisiana v. Mississippi 1906; McGuire 2008). These actions responded to social organizations while supporting a valuable economic activity. These policies perpetuated place-based activities while dissuading traditional local-scale mobility and the flexibility it provides.

Conservation policies regulate the seasons for taking shrimp. The state's shrimp management plan is based upon climatic trends that influence the shrimp population and can be tracked or predicted from year to year. This management approach results in a shrimp season based on seasonal salinity and temperature trends and fluctuations, but it does not forecast disruptive events and thereby does not allow for flexibility following such occurrences (Gaidry and White 1973). With fixed seasons, shrimpers are unable to extend their fishing activities beyond the specified dates to make up for any lost time. In a year with a disruption, such as a major oil release or a major diversion of freshwater during the legal season, the catch may be harmed or driven away. Also, the state can close certain coastal waters during an oil release and thereby deny shrimpers access to their normal harvest areas to avoid harvesting of tainted shrimp. Coastal restoration plans will deliver freshwater and sediment into important fishing areas that will disrupt local ecologies, but not legal harvesting seasons.

Fishermen may opt to work other territories, but this requires longer voyages and greater competition among other fishers. Over the years shrimpers have responded to numerous environmental and policy changes by purchasing larger boats and more costly equipment. They have also organized to influence government policy. Shrimpers joined class action suits following oil spills in the 1970s and formed a union in 2002 (Louisiana Shrimpers Association 2007; Colten et al. 2012). Their social activism and equipment investments and the need to maintain payments on loans all are oriented to sustaining their current activities in place (Deseran 1997; Marks 2012).

Flood control policies have prioritized the protection of urban and large-scale commercial interests over resource-based livelihoods. State and federal actions damaged trapping during the flood of 1927 and diverted fresh water into shrimping and oystering areas in 1947, 1973, and 2011 with dramatic consequences. Representatives of the resource-based livelihoods were not permitted to participate in the decision making processes. Small-scale, resource livelihoods were sacrificed in the interest of New Orleans (MRC 1927; U.S. Congress 1927, 1946, 1947; U.S. Army Corps of Engineers 1974; Gomez 2000).



In addition to livelihoods, home investments and the availability of flood insurance impose an additional anchoring influence. In the early twentieth century, many residents of coastal Louisiana lived in houses that they had a hand in constructing. Traditional Acadian cottages lined the narrow natural levees (Kniffen 1936). Those who lived closest to the coast followed a form of “self-insurance” – investing minimally in housing and personal possessions to guard against the losses that would come when hurricanes came ashore. These practices reflect a balancing of priorities. Fisher families considered their boats their most essential investment and would often ride out storms on their boats to ensure its survival. With their boats intact after a storm, they could resume their livelihoods. In contrast, houses and their contents could be replaced and the simpler the structure and the fewer belongings, the faster a family could repair and rebound, often with the aid of family, neighbors, or friends. Thus, maintaining a modest dwelling was a resilient practice within the context of strong social networks. Modest investments remain a common practice today and modular houses raised on stilts provide shelter without major investments. Also, interview subjects noted that they preferred to keep savings on hand rather than pay for flood insurance (Table 2).

Yet, home ownership and mortgage indebtedness in the region has increased. In the coastal parishes home ownership has risen from 43 percent in 1950 to nearly 65 percent in 2010 and this serves as a mortgage anchor for many (Colten et al. 2015). This trend has been most pronounced in the New Orleans region. Plaquemines and St. Bernard parishes, hard hit by the hurricanes of 2005, have seen slight declines in home ownership due to out-migration (Hobor et al. 2014). The average value of houses in Louisiana has climbed from \$31,000 in 1950 to \$85,000 in 2000 (in 2000 dollars; U.S. Census 2012) both in terms of inflation and larger houses built in recent years. More expensive real estate is harder to sell and inhibits departure. Many of post-1950 houses built before the hurricanes of 2005 were slab-on-grade construction (Kniffen and Martin 1963). Unlike their older counterparts, they are not built of rot-resistant cypress nor are they elevated a few feet above the ground. Thus, they are less flood proof and suffer greater damage in the event of a flood. Self-insurance worked for those in self-built housing in the past where mortgages are not involved, but it is not as effective for residents of modest means and with mortgages that require flood insurance. These residents do not have the mobility options of those without mortgages.

Levees and flood insurance provide a further anchoring effect. Federally built levees in several parishes now provide protection from storm surge, and within those lines of defense, homeowners can purchase federally subsidized flood insurance. Additional levees are under construction in Terrebonne Parish. The false sense of security of the levees is amplified by the insurance program and prompts some people to remain in the coastal region (Burby 2006). Relatively small numbers of people reside outside the protective barriers, although Native Americans are prominent among those who do, and there are concerns with social injustices in the procedural processes of the state’s restoration plans (Dalbom et al. 2014). Revisions to the federal flood insurance act in 2012 threatened to sharply increase the cost of flood insurance by removing exemptions for those already living in high-risk areas and recalculating rates to a more accurate actuarial basis. State officials participated in an effort to delay the changes that would have imposed sharp spikes in insurance costs to many coastal residents (Anderson 2013; Scalise 2014). In the midst of this process, a state official

claimed that making insurance rates actuarial was a form of “social engineering” to dislodge Louisiana’s coastal residents (Zeringue 2013). His comments underscore how affordable insurance encourages people to stay and conversely how the higher actuarial-based insurance rates make living there unaffordable. Despite his suggestion that spiraling costs would drive people away, in reality, higher rates would make the sale of properties extremely difficult, without “voluntary acquisition” by the state. There would be few buyers if insurance premiums exceeded the cost of the home loan payments as some experts have predicted. While the wealthy may be able to abandon their coastal investments and move inland, higher insurance rates would inhibit the ability of property owners to sell and transfer their equity to a new inland home. Thus, home ownership will anchor all but the wealthiest who would not need to sell in order to relocate and expose low and middle income residents to sea-level rise and storm-surge driven flooding. Between 25 and 75 percent of homes in the coastal zone are mortgaged. These financial commitments may have a dual impact on lower-income borrowers. Not only would they be hard pressed to find a buyer, but they would be less likely to be able to afford a second mortgage or rent further inland. Mobility as a resilient practice would be undermined.

Additionally, there is emerging evidence of social inequities. Several small coastal communities lost population over the past decade and now all have income levels below the state average. Two towns have poverty rates above 40 percent – suggesting an inability of the lower income residents to migrate. Furthermore, they all have elderly populations above the state average (Hobor et al. 2014, 17). Across southeastern Louisiana, the peak age distribution is among those in their thirties, with fewer in their twenties, and a stagnant youthful population growth. The Data Center declares the population left behind is older, poorer, and more vulnerable (Hobor et al. 2014, 17). The mobile young reflect a form of income diversification at the family level and suggest a new form of economic mobility. The low oil prices in 2015–2016 and consequent shrinking of the oil and gas industry have limited the option to work in mineral-related jobs – at least temporarily. Nonetheless, the current adaptive practice is migration to new places by the young to seek non-resource-based employment (Table 1; Hobor et al. 2014, Hemmerling 2017)

Decisions to depart a deteriorating environment seldom hinge on a single motivation. Such conditions prompt a gradual, often protracted, population decline without rapid abandonment. Population thinning impacts social groups unequally and contributes to an increasingly vulnerable population (McLeman 2011.) The trend toward a concentration of lower-income residents in coastal communities likely will erode the local tax base and lead to infrastructure deterioration (Colten 2014). Consequently, hurricane evacuation routes and other essential emergency response apparatus will decline and leave those who have not migrated in an ever more perilous situation.

## Opposition to Mobility

Political leaders and residents of the coastal parishes have embraced most aspects of the state’s plan to restore the coast and with the prospect of new levees, replenished barrier islands, and fortified wetlands; but they have taken strong positions against large diversions and the prospect of displacement they imply. A common refrain among those we

interviewed was that they would not want to live anywhere else (Save Louisiana Coalition 2015; Simms 2016; Table 2). One resident summarizes his opinion, “I live here. I’m not going nowhere.... People here – they don’t want to go anywhere.” Many residents define themselves by their endurance in place (Male federal employee and non-profit volunteer, interview, Houma, 2013, LOCD 2015). Residents and political leaders in Terrebonne Parish strongly backed congressional efforts to authorize a new levee system to protect much of their parish, particularly its largest city, that will enable them to remain in place (Morganza to the Gulf 2014). The local NGO, Restore or Retreat, explicitly supports restoration efforts and promotes the coastal salvation program as the only alternative to evacuation. It is one of many relatively small local organizations representing landowners, port commissions, parish governments, restoration advocates, levee experts, business owners, and residents. Its web site proclaims that it endorses efforts “to identify, expedite and aggressively engage solutions to urgently achieve comprehensive coastal restoration.” Its positions are common among coastal organizations which seek to ensure that highly exposed communities obtain the same protections that have been offered to the more densely urbanized and industrialized locations for decades. Managed retreat, resettlement, or any other form of movement toward safety are absent among the options it identifies (Restore or Retreat 2016). Cameron Parish Administrator Ryan Bourriaque echoed the Restore or Retreat position with an impassioned public commentary where he argued that departure was not an option for his family that had lived for multiple generations in southwest Louisiana (Bourriaque 2014).

Tim Cresswell, a member of the Governor’s Advisory Commission from Vermillion Parish, challenged resettlement as an option for the coastal restoration plan and pointed out that Native Americans had fared poorly under resettlement programs in the nineteenth century. His concern was that forced, or involuntary, resettlement was unacceptable in light of traumas inflicted by historical relocation efforts (Cresswell 2014). He recalled the memory of the Trail of Tears, that forced thousands of Native Americans to relocate as part of the Indian Removal Act of 1830 (Cave 2003). Many Native Americans living in southern Terrebonne Parish are descendants of those who sought refuge in the bayous rather than endure the involuntary relocation to Indian Territory in what is now Oklahoma (Maldonado 2014), and they share a history of marginalization stemming from that colonial past. This history has played a part in a determination to remain in a place where residents’ ancestors lived, worked the land, and now lie interred. Memories of a forced movement remain a powerful influence among those resisting even a discussion about mobility. It underlies any discussion about state-involved resettlement and reveals mistrust among residents (Colten 2014).

Despite the innumerable challenges, both to the physical infrastructure and environment, coupled with mental stress (Burley 2010), residents insist they do not wish to relocate (Table 2). An elderly resident, whose home is atop piers 13 feet above the ground, said that her children have all now moved away. She says, “[M]y son wants me to move to Denver ... but it ain’t Chauvin [a Terrebonne Parish town]” (Female retired shrimper, interview, Chauvin, 2014). She relates that she has visited many places in the world, but she has not yet found a place where she would be as content as she is in her home town.

Some residents, however, no longer have a choice because of the deteriorating coastline. An oil company secretary and a sixth generation resident of her bayou community, lamented that, “[p]eople hold on until they just can’t anymore” (Female secretary for oil company, interview, Chauvin, 2015). Addressing vulnerabilities includes contending with residents who have continually expressed that they do not want to move, but are unable to cope with the increasing costs of rising homeowner’s insurance rates, rebuilding after a storm or the encroaching land loss, leaving them less and less protected. Despite a movement of younger people from the coastal parishes, elderly residents are resisting the mobility option.

The Louisiana Office of Community Development (LOCD) seeks to address the neglect of the migration option. A 2015 report is “intended to guide state-level efforts to resettle coastal communities, as the threat to their existence and safety from coastal land loss and sea level rise becomes increasingly critical” (LOCD 2015, 3). This state office is distinct from the coastal protection authority, but seeks to coordinate its efforts with its counterpart. Nonetheless, there is no mechanism currently in place to direct restoration program funds toward resettlement. The report claims that, ultimately, plans may include provisions for citizens residing in at-risk areas to move to safer locations. This would be a major policy breakthrough, although the principal funding to date is a \$92 million grant from the federal government (LOCD 2016). Local funding is tenuous at best in a state burdened with massive budget challenges.

A portion of the federal grant will enable the Lowlander Center, a Louisiana-based NGO, to assist the Isle de Jean Charles Band of the Biloxi-Chitimacha Choctaw Indians to plan its resettlement in a safer location (Lowlander Center 2016). The external funding has enabled state officials to consider resettlement for one small community – although there are mixed attitudes among its few dozen residents. Merging resettlement into the state’s master plan remains the next challenge. Nonetheless, resistance prevails in most communities and many individuals seem to deny the considerable history of individual and community mobility which reflects a fundamental distrust of government programs.

## Conclusions

Social justice is prominent in the environmental migration literature. It reports on resistance to forced migration to make way for reservoirs and highways as evidence of anti-migration attitudes (McDonald and Muldowny 1981 and Heming et al. 2001), while also recognizing that migration due to environmental change follows established pathways that may exacerbate social inequities in the places of departure (McLeman 2014). We found important refinements to these concepts in coastal Louisiana. While there is no forced migration, at this time, older residents are suspicious of state efforts to protect portions of the coast that neglect their geographically marginal settlements. They fear that this will destroy their livelihoods and ultimately force them to migrate inland. Consequently, they have voiced strong opposition to movement. At the same time, younger adults have been moving inland for years and have established a migration pattern. Younger residents are continuing a long-standing pattern of mobility in the face of environmental change, while older residents who are rooted in place in many ways problematize state restoration efforts by declaring their unwillingness to leave a disappearing coast (Table 1).

The issue of social justice in terms of coastal restoration, flooding, and sea-level rise across the entire region remains largely uncharted. While scholars have examined the vulnerability and attachments to place of coastal residents, the state coastal agency has inadequately incorporated community participation in its restoration planning and sediment diversion designs. Yet, another state agency has responded to citizen concerns with resettlement plans and offers some hope that it can be integrated with environmental modifications.

Current trends expose increasing social and economic vulnerability in terms of age and income structure in small communities, but fail to account for the contributions of young out-migrants in enabling community continuity – a topic deserving of further investigation. Most questions regarding social justice and coastal programs remain unanswered and this demands greater coordination between those charged with restoration planning and those responsible for community well-being and safety.

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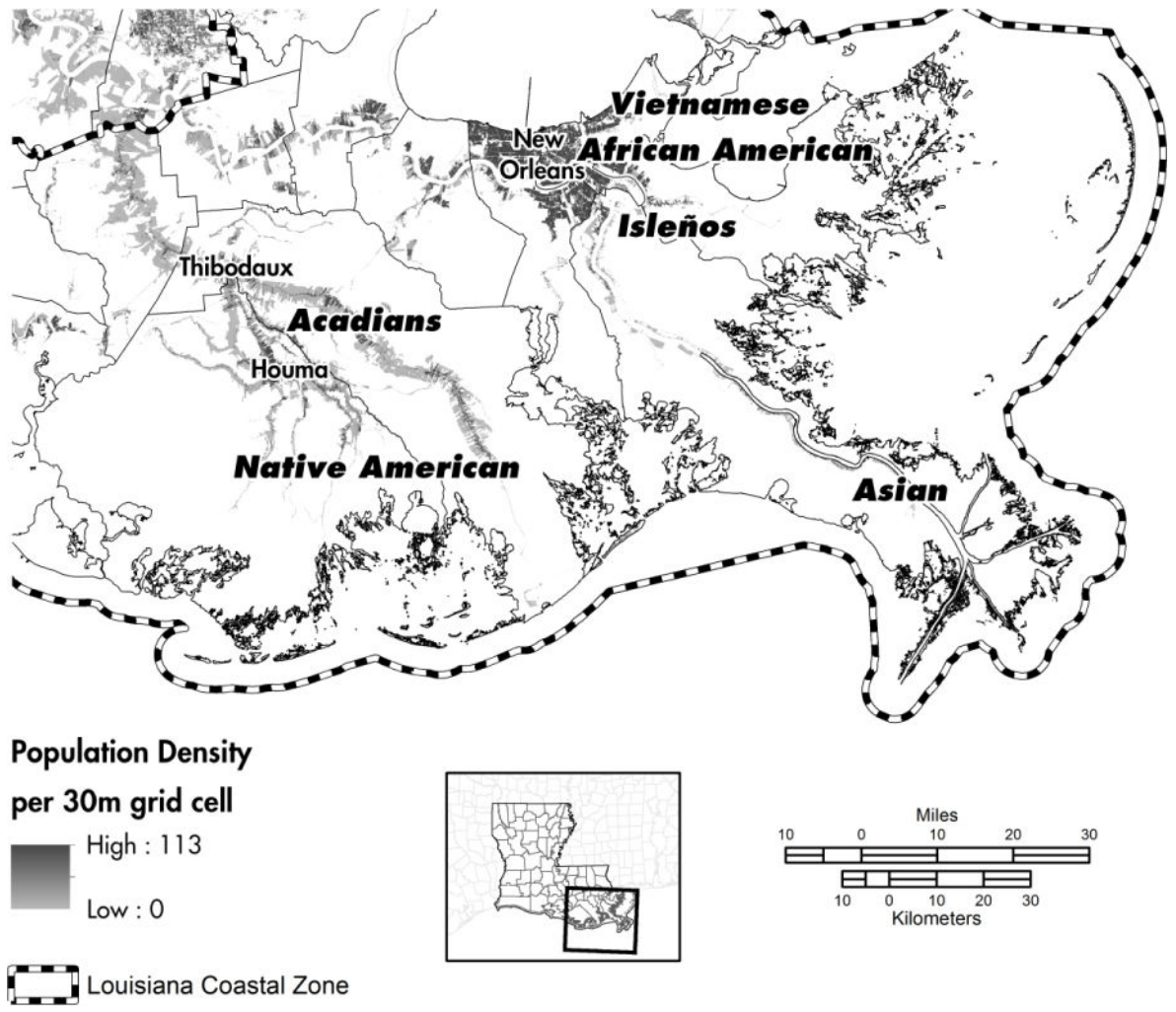


Figure 1.

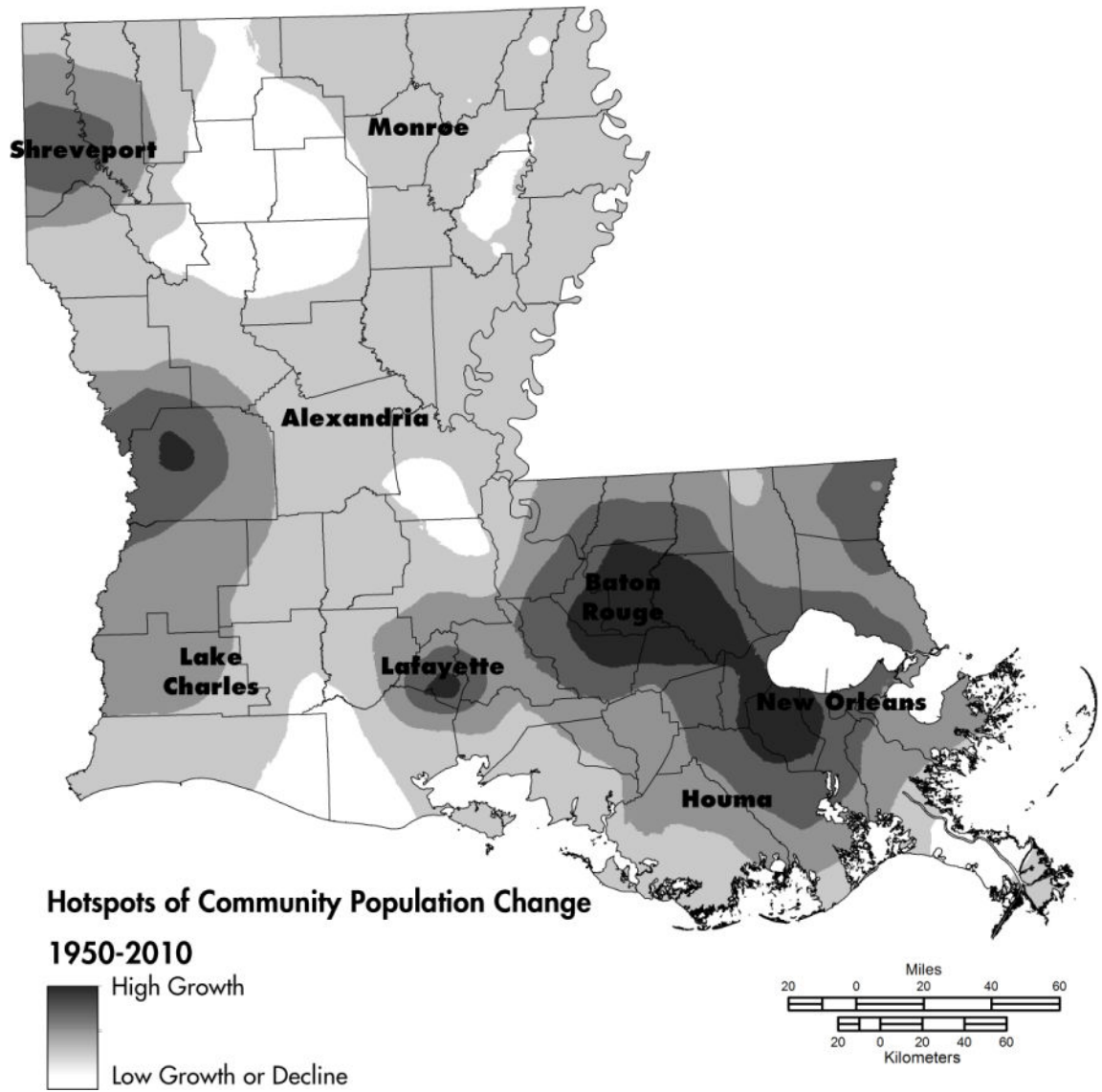


Figure 2.

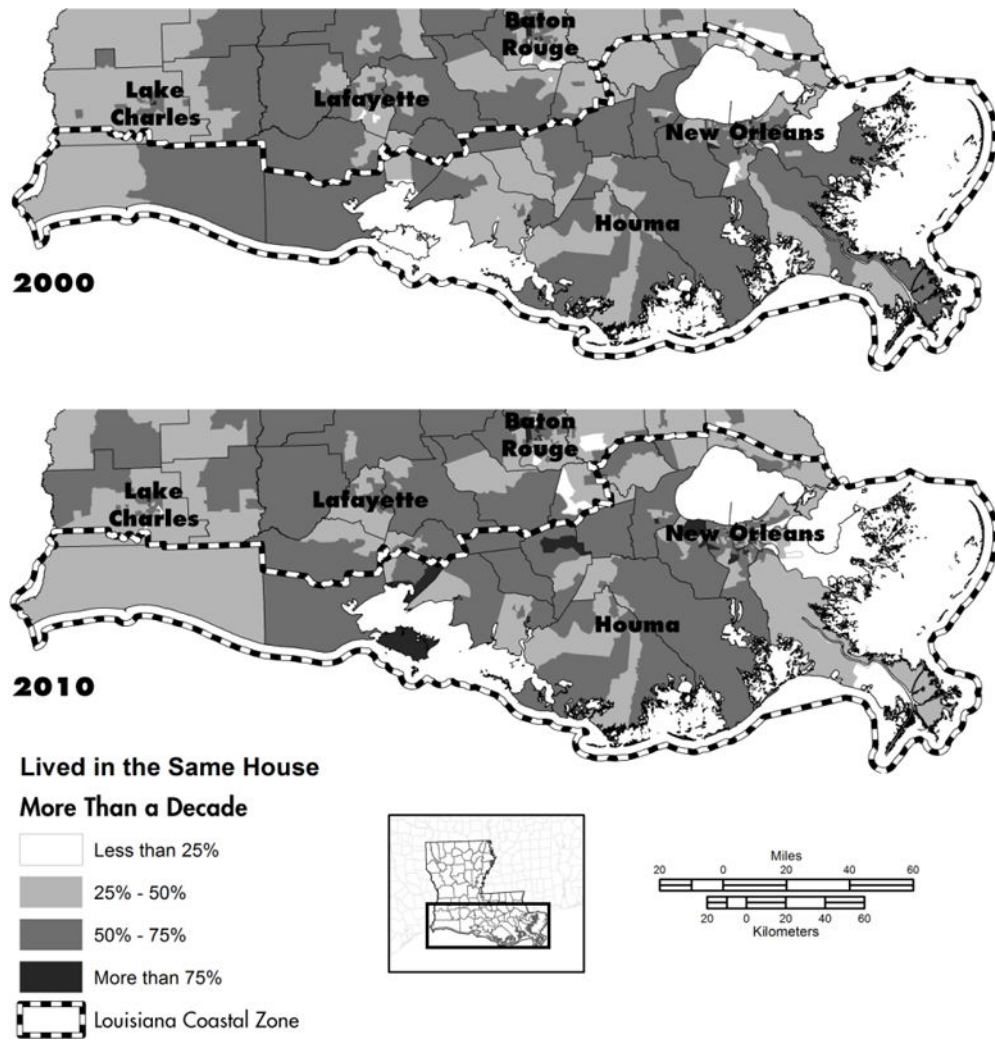


Figure 3.

**Table 1**

Resilient practices are linked to outcomes as they influence just and unjust dimensions of environmental migration.

RESILIENT PRACTICES	ENVIRONMENTAL MIGRATION		OUTCOMES
	<i>Social Justice</i>	<i>Social Injustice</i>	
Mobility	Voluntary with aid Accommodation/protection in place	Forced without aid Imposed environmental changes Structural projects exclude marginal settlements and neglect resettlement	Young adults continue to migrate inland Vulnerable populations remain in place Restoration programs protect urban/industrial areas; disrupt resource-based livelihoods
Social networks	Family/ethnic/religious networks offer support	Connected, vulnerable populations remain in perilous place	Young adults provide new inland social linkages
Ingenuity	Adaptations to persist in changing environment	Changing environmental conditions and policies limit adaptation options	Relocated young adults provide new income streams to families Resistance to restoration plans forced state to consider resettlement

**Table 2**

Quotes from interviews reflecting key themes of resilient practices and place attachment.

Migration (Ages <=40 v. >=40)	<p>-“I was born and raised in Dularge. All my grandkids live up the bayou. The kids don’t like it as much down here. There are lots of us old folks. But, there ain’t nowhere else for me!” (Retired teacher, ~70, interview, Dularge, 2016).</p> <p>-“We like to live down here. I don’t want to go anywhere else. I’m too old to move anyways” (Shrimper, ~70, interview, Chauvin, 2014).</p> <p>-“Coming home, it’s my connection to my history; to a place where I know generations of my family have made their lives, raised their families... That history is important to me. It grounds me to this place” (Retired shrimper, interview, ~70, Chauvin, 2015).</p> <p>-“People from down the bayou are moving up the bayou... The new generation doesn’t want to do shrimping and fish” (City employee, ~50, interview, Houma, 2015).</p>
Resilient Practices: Mobility and Social Networks	<p>-“There’s an underlying issue of buy-outs, but it’s like a hot potato, no one really wants to grab it and say “we need to do this”. People down the bayou don’t want to believe that that’s what may need to happen to keep their communities together... They don’t really want to discuss the option of buy-outs” (Local journalist, ~30, interview, Houma, 2013).</p> <p>-“[Hurricane Katrina] took out our family camp and the houses where my family had been living for generations. Most people moved to be inside the levee system” (Insurance agent, ~30, interview, Chalmette, 2015).</p> <p>-“The older generation will stay and the young ‘uns move 8–10 miles north. Small increments” (Secretary, ~50, interview, Chauvin, 2015)</p> <p>-“I came back [after Hurricane Katrina] because of family. And food!” (Construction worker, ~50, interview, Chalmette, 2016)</p> <p>-“There are strong family ties and people are more family-oriented” (Nurse, ~30, interview, Slidell, 2015).</p> <p>-“Residents saw power in numbers [after mobilizing together to prevent a landfill from opening close to the community] and how effective it could be in terms of organizing and revitalizing their community” (Non-profit director, ~30, interview, Village de L’Est, 2013).</p>
Attachment to Place	<p>-““People feel a very strong sense of belonging here... ‘There’s a strong connection to the land and belonging to it” (Non-profit director, ~30, interview, Village de L’Est, 2013).</p> <p>-“There’s no other place to be. If I get born again and end up another place, I’ll find my way back here” (Shrimper, ~70, interview, Chauvin, 2014)</p> <p>-“The environment provides the opportunity for a connection to your family and friends” (Retired Shrimper, ~70, interview, Chauvin, 2015).</p>
“Self-insurance	<p>-“I don’t have insurance anymore. I used to have it up until last year. But, the deductible goes up every year... It’s more cost-effective to just not have it and to just have some extra money saved instead... I think that lots of people, especially the old people feel the same” (Church employee, ~40, interview, Cut Off, 2015).</p> <p>-“We’re high – we don’t need the insurance. We paid for a couple of years, but not now” (Shrimper, ~70, interview, Chauvin, 2014).</p> <p>-“[Doesn’t have insurance], I know how to build houses. We built our own house with my brother and our next-door neighbor’s help. When the house is damaged in a storm, we have skills to rebuild or repair it” (Crabber and shrimper, ~70, interview, Pointe-aux-Chenes, 2014).</p>