Reworking the working coast:

Economic change and the geography of opportunity in Southeast Louisiana

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Executive Summary

Land loss, the risk of storm surge, and the threat of chronic inundation will be factors in the economy of Southeast Louisiana for the foreseeable future. Environmental risk will have impacts on the regional economy particularly because coastal Louisiana is a “working coast” with important job centers that are economically interconnected with larger job centers in New Orleans and Baton Rouge.

This brief examines how the economy of Southeast Louisiana is changing, with uneven impacts on workers and communities across the “Super Region” -- a combination of the New Orleans-Metairie, Baton Rouge, and Houma-Thibodaux metros. While generally relevant to regional economic development, the findings also highlight specific points of intersection between two dynamic, regionally distinctive geographies: one of coastal risk and resiliency and another of economic opportunity. The analysis presented in this brief highlights several key trends and patterns, as summarized below. Taken as a whole, these findings underline the importance of promoting economic development in a way that is regionally focused and at the same time place-specific and inclusive. Adaptation also means reworking the pathways to middle-skill, accessible job opportunities that have traditionally characterized the place-based economies of coastal areas.

- Since 2001, the most consistent employment gains have been in occupations with median hourly earnings that are either lower than $15 per hour or higher than $35 per hour. Meanwhile, middle-earning occupations have tended to grow more slowly. This is relevant to coastal planning because the percentage of residents in middle-earning occupations is disproportionately high in many coastal census tracts relative to the region as a whole.

- Employment changes have been uneven across the Super Region. During the recession recovery period (2010-present), most of Southeast Louisiana’s job growth has occurred in the core ZIP codes of New Orleans and Baton Rouge, as well as their outlying suburbs (e.g., Livingston, Ascension, and St. Tammany Parishes), with mixed growth among inner-suburban job centers. During the same period, employment has decreased in many coastal ZIP codes across Terrebonne, Lafourche, Plaquemines, and St. Bernard Parishes.

- Among “traded” industry clusters, while oil and gas production and port activities remain concentrated in the region, employment in these industries has declined relative to other traded and local-serving industry clusters. For the Super Region, the ratio of traded-sector jobs to local-serving jobs has declined slightly, but many coastal areas may be experiencing the opposite trend, based on ZIP code-level estimates. While the “working coast” remains vital to the Super Region’s industrial base, these estimates raise questions about the continued availability of businesses and services that serve local residents.

- Innovative data on upward income mobility provides an additional window into the geography of opportunity in Southeast Louisiana. Many of the areas with the highest degree of mobility out of childhood poverty also face the most immediate risk due to coastal change. For example, in census tracts in lower Terrebonne and Lafourche Parishes, estimates of income mobility are high relative to the Super Region as a whole.
Introduction

*Land loss, the risk of storm surge, and the threat of chronic inundation will be factors in the economy of Southeast Louisiana for the foreseeable future.* Environmental risk will have impacts on the regional economy particularly because coastal Louisiana is a “working coast” with important job centers that are economically interconnected with larger job centers in New Orleans and Baton Rouge. In its 2017 Coastal Master Plan, the Coastal Protection and Restoration Authority (CPRA) describes Louisiana’s “working coast” as a geography of economic and natural resources that supports distinctive ways of life in coastal communities, drives economic development across the state, and serves a critical role in the nation’s transportation and energy infrastructure.

The argument motivating this brief is that, while coastal change is quite clearly a regional issue from a perspective of environmental risk, these issues cannot be entirely divorced from a regional economic perspective that accounts for the shifting composition of the economy of Southeast Louisiana. The objective is, first, to understand the feedback loop between economic change and the region’s prospects for resilience and adaptation and second, to establish a baseline of evidence for the deeper questions of how economic change today affects coastal adaptation in the longer term.

The first section of this brief examines shifts in the occupational wage structure and maps occupational mix by place of residence. The second section presents employment trends for industry clusters in the Super Region and examines the geography of employment change. The third section maps innovative new data on upward income mobility in coastal areas in unprecedented detail. In short, this analysis explores place-based “opportunity structures” at both the level of the Super Region as a whole and across the tapestry of community-level economies that make up Southeast Louisiana.

**KEY TERMS: SUPER REGION, INDUSTRY, AND CLUSTER**

The “Super Region” and Southeast Louisiana are used interchangeably in this report. It’s a Super Region because it combines three metropolitan statistical areas (MSAs) – New Orleans-Metairie, Baton Rouge, and Houma-Thibodaux – and two additional parishes – Tangipahoa and Washington. There are 21 parishes in the Super Region. Industries are groups of businesses that produce similar goods and services and share similar production processes. They are classified hierarchically at different degrees of detail using the North American Industries Classification System. For example, the Engineering Services industry (541330) is part of the industry group Architectural, Engineering, and Related Services (5413), which is in turn part of the sector Professional, Scientific, and Technical Services sector (54). A cluster is a regional concentration of related economic activities. Clusters can be defined by NAICS industries, though they often cut across the hierarchical NAICS categories. Specialized clusters drive regional competitiveness.
Occupations and wages

1.1 Changes in the occupational mix

As regional economies grow and change, the composition of their labor markets also churns. This section first examines changes in wage levels associated with occupations in the Super Region since 2001, and then maps the distribution of wages across the region. Together, both perspectives help us to understand how communities on the front lines of coastal change are experiencing changing work opportunities and how these economic changes could, in turn, affect their ability to adapt to coastal change.⁶

In 2018, occupations with median hourly earnings less than $15 made up just over 40 percent of all employment in the Super Region. Thirty-six percent of employment was in occupations with a median between $15 and $25, and 23 percent was in occupations with a median of $25 or higher.⁷ Figure 1 displays employment by occupational median hourly earnings to show how earnings are distributed in the Super Region.

The distribution of occupations also changes gradually over time. The most consistent year-over-year gains in employment share have occurred in lower-earning occupations and higher-earning occupations in the Super Region since 2001. To visualize these changes, Figure 2 divides all occupations into four groups based on each occupation’s median hourly earnings and then quantifies the extent to which each group’s share of total employment has changed for every year between 2001 and 2018. While occupations in the $25-35 group’s share grew regularly before the 2007-2009 recession, it has only begun to climb again since 2017. Meanwhile, occupations earning a median of $15-25 have more consistently experienced year-over-year losses.

The relative decline in middle-earning occupations is consistent with research in economics that attributes increasing wage inequality to the changing sources of industry demand and specific occupational skill requirements over time.⁸ Due
1 OCCUPATIONS AND WAGES

Figure 2
Annual percentage point change in employment share by median hourly earnings and occupation
All occupations in Super Region, 2001 to 2018

Source: EMSI occupation table (5-digit)

to automation, foreign competition, and other factors, middle-earning jobs, e.g., manufacturing and clerical occupations, make up a smaller portion of total employment. Meanwhile, the highest consistent rates of growth have tended to occur among various service-sector occupations, which tend to fall either on the lower end or the higher end of the wage spectrum. While local trends track the findings from leading national studies, a notable exception is the particularly sharp relative loss of low-earning occupations and increase in middle-earning occupations after the 2005 hurricanes. This was likely due to short-term, “shock” effects, such as the disruption to low-wage local-serving industries (and displacement of low-wage workers) and the explosion of construction occupations during rebuilding. This also illustrates how localized events related to coastal flood risk can interrupt or moderate the routine occupational churning that occurs over the course of long-run trends and business cycles (recession and recovery).

The shifting occupational earnings distribution underscores a perplexing trend for labor markets. Jobs in production, construction, and clerical occupations that make up much of the traditional “middle” of the earnings distribution have declined. At the same time, other middle-skill jobs, e.g., in health care, have grown, as have skill requirements for low- and middle-skill jobs. Even as demand for middle-paying occupations decreases, employers struggle to fill middle-skill positions, and the “skills gap” remains a focus of workforce development initiatives.

1.2 Occupational mix by place of residence

Workers clearly depend on physical accessibility to their place of work, but employment outcomes are also tied to demographics, education and training, personal preferences, and social networks – all factors that combine with affordability to shape residential location decisions. To see how
occupational earnings are distributed across the Super Region, the map in Figure 3 summarizes the extent to which employed residents of a given census tract disproportionately fall into low-, middle-, and high-earning occupational groups relative to the Super Region-wide occupational composition (for details on how these categories were constructed, see the “Appendix: Data and methods”). Not surprisingly, high earners, who are mostly in professional and white-collar occupations, live disproportionately in wealthier sections of Baton Rouge, New Orleans, and their suburbs. In contrast, the census tracts located closest to coastal water bodies and most immediately exposed to risks associated with coastal change are characterized by disproportionately high rates of middle earners. The occupational makeup of workers in these communities may be particularly affected by the decline of middle-earning occupations in recent decades. In addition to the established link between economic disadvantage and exposure to environmental hazards, the geography of middle-earning jobs in the Super Region also illustrates how the changing mix of available occupations and wages can affect the capacity for adaptation in communities at risk.
Industry change

2.1 Traded industry clusters

TRADED AND LOCAL INDUSTRY CLUSTERS

An important conceptual distinction drawn below is the difference between “traded” employment and “local-serving” employment. Traded industries produce goods and services for demand beyond the region. Examples include manufacturing and tourism. Traded industries tend to be more geographically specialized, and they are critical to regional development because they compete with industries in other regions and create demand for other local businesses. In contrast, local-serving industries serve residents of the region. Examples include restaurants, grocery stores, hospitals, and public schools. It is important to remember that industries are not exclusively traded or local-serving. In Southeast Louisiana, local residents consume petroleum products produced in local refineries, and both tourists and locals eat at local restaurants. However, for a given region, traded industries are generally considered to be the most important economic drivers, since these industries pull dollars into the regional economy from outside. This analysis uses definitions provided by the Harvard’s U.S. Cluster Mapping Project to group industries into one of 67 industry “clusters,” which are in turn classified as either traded or local-serving. Although this approach is not without limitations, it provides a standard for categorizing different local industries into related groups based on a national benchmark.

Figure 4 shows the changing mix of “traded” clusters in the Super Region over time (see “Appendix: Traded and local-serving clusters for selected parishes” for additional detail on selected parishes). Many of the region’s traded clusters have declined in significant ways. Distribution and Electronic Commerce, which primarily encompasses warehousing industries, has seen sharp decline, while Hospitality and Tourism – a lower-wage cluster – has increased. Construction Products and Services employment increased after the 2005 Hurricanes Katrina and Rita, but fell during the 2007-2009 recession, and increased again during the years of recession recovery after 2010. This growing cluster is particularly noteworthy since it captures the heavy civil construction activities most closely related to coastal protection and restoration, and since it supports a range of middle-earning occupations. Finally, the decline since 2015 experienced by...
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The Oil and Gas Production and Transportation and Water Transportation (e.g., port and harbor operations, waterborne freight and cargo handling, ship and boat building, etc.) clusters points to weaknesses in industries closely associated with the Super Region’s economic growth in the 20th Century and is critical to the existing base of mid- and high-earning employment in front line coastal areas.

The economy of Southeast Louisiana has several industries with high concentrations relative to the national economy, although these concentrations are shifting. Figure 5 illustrates concentration and change in the Super Region’s “traded” clusters. The vertical axis shows the location quotient in 2018, the degree to which an industry is concentrated within the Super Region. The horizontal axis shows the rate of employment change between 2010 and 2018, which roughly corresponds with a period of recovery after both the Deepwater Horizon disaster and the Great Recession. The objective is to illustrate the changing economic drivers of the region. Among the traded clusters that are regionally concentrated and growing (upper right) are Construction Products and Services, which encompasses much of the activity associated with coastal restoration and protection, and Upstream Chemical Products, which likely tracks a slew of ongoing and planned investments in the river corridor. Clusters that are regionally concentrated but losing jobs (upper left) are Water Transportation and Oil and Gas Production and Transportation.

Figure 4
Employment by traded cluster in the Super Region, 2001 to 2018
Average wage, salary, and proprietor earnings (2018) in parentheses

Source: EMSI industry table. Only clusters with greater than 10,000 employment are shown.
WHAT IS A LOCATION QUOTIENT?

A Location Quotient (LQ) is a measure of industry concentration, calculated as an industry’s share of total local employment divided by the same industry’s share of total national employment. Any LQ over 1.0 indicates a large local concentration of industry jobs relative to the nation and suggests that the industry (or cluster) may serve external demand. Large traded industries usually have high location quotients, indicating a local specialization. Since they don’t vary much from place to place, local-serving clusters tend to have locations quotients closer to 1.0.
Recent employment trends have seen the decline – in both absolute and relative terms – of oil and gas-related industries. The Oil and Gas Production and Transportation cluster (e.g., refineries, drilling, pipeline transportation, and surveying) makes up about 23,000 jobs in the Super Region, but this is 6,000 fewer jobs than in 2001. Historically, oil and gas extraction and related petrochemical manufacturing has had both a significant stake in the economy of the Super Region and a complex relationship with coastal change.\textsuperscript{12} While its direct employment numbers are not large, the oil and gas industry also generates demand for a range of support activities in coastal areas (e.g., the Water Transportation cluster in Lafourche and Terrebonne). With average wages, salaries, and proprietor earnings of nearly $120,000 in 2018, Oil and Gas Production and Extraction jobs also tend to pay very high average wages relative to other industries in the Super Region, especially in coastal parishes.

The Oil and Gas Production and Transportation industry cluster directly employs one percent of the Super Region’s workforce, but this share is 4.6 times more concentrated than the nation. Moreover, both this cluster’s share of employment and its concentration in the Super Region has declined over time. Although changes in the oil and gas economy continue to reverberate across the region, its role as a major source of direct employment in the Super Region – as well as in Louisiana as a whole over the long term (Figure 6) – has declined.\textsuperscript{13}

\section{2.2 Local-serving industry clusters}

Figure 7 focuses on so-called “local-serving” clusters, which are comprised of related industries that primarily service the demand of local residents and businesses (see “Appendix: Traded and local-serving clusters for selected parishes” for detail on selected parishes). While local-serving clusters play a lesser role in determining long-run regional competitiveness than traded clusters, they provide the majority of jobs in the region. Because many local-serving clusters tend to provide lower-wages, the figure compares growth rates with average earnings in local-serving clusters. Much of the growth in local-serving clusters has been dominated by Local Health Services and Local Hospitality Establishments.

For the super region as a whole, traded jobs have been declining relative to local-serving jobs. By showing the number of traded jobs for every local job in the Super Region since 2001, Figure 8 shows this trend as a whole. Local-serving jobs, on average, tend to require fewer skills and pay less. The implication is that, if local-serving
INDUSTRY CHANGE

Figure 7
Employment by local-serving cluster in the Super Region, 2001 to 2018
Average wage, salary, and proprietor earnings (2018) in parentheses

Source: EMSI industry table. Only clusters with greater than 10,000 employment are shown.

Figure 8
The ratio of traded cluster jobs to local-serving cluster jobs
Super Region, 2001 to 2018

Source: EMSI industry table
employment continues to increase its share of total employment, labor demand may be increasingly skewed toward industries that pay less on average.

2.3 The geographic mix of traded and local work

How are industry changes at the Super Region level playing out in terms of employment changes at a smaller geographic level? Data on employment necessarily loses detail at smaller geographies, which complicates the question (see “Appendix: Data and methods”). As a result, this section presents a few over-arching patterns affecting communities within the Super Region, with a focus on areas lying closer to the coast. Several main findings are highlighted. First, traded industry employment is relatively concentrated in coastal areas and along the river corridor. Second, the composition of coastal areas is shifting in relative terms to be increasingly driven by traded industries. Third, some coastal areas have historically provided among the region’s best place-based contexts for upward income mobility. Together, these findings suggest that some of the sites of the greatest observed degree of place-based opportunity in the Super Region are among its most threatened by disruption – by both coastal and economic change.

The map in Figure 9 indicates the locations of employment by ZIP code in the Super Region. About three of every five jobs in the Super Region are located in Orleans, Jefferson, and East Baton Rouge Parishes. These parishes tend to have more diverse economies than small towns, rural and coastal ZIP codes, some of which are specialized in traded industries. The map in Figure 10 illustrates the estimated share of jobs in each ZIP code that are in traded-industry clusters. While traded-industry jobs, like all jobs, tend to be concentrated in the denser, more urbanized parishes like

Figure 9
Employment by ZIP code of work in the Super Region
Dot locations are approximate and sized in proportion to 2015-2016 average employment

Figure 10
Share of total jobs by ZIP code that are in traded clusters

Source: ZIP Code Business Patterns (2015, 2016)

Source: EMSI industry map
Orleans, Jefferson, and East Baton Rouge, the map illustrates where traded-industry jobs make up a relatively high share of total jobs, outnumbering local jobs in some cases. For example, high shares of traded-industry employment are located in lower Terrebonne and Lafourche, in Plaquemines Parish, and in the river parishes. This is not surprising due to the concentration of oil and gas support activity along the coast and refineries, and upstream, chemical manufacturing along the river. In essence, this map illustrates how the “working coast” is related to markets outside of the Super Region.

Figure 11 goes a step further in examining how these geographies of employment are changing over time. Using ZIP code-level estimates, the map shows job change in percentage terms over a period that roughly matches the recession recovery. This map suggests that employment growth across the Super Region has been unevenly concentrated in a small number of places:

- Portions of Orleans and Jefferson Parishes
- The southern portion of St. Tammany and Tangipahoa
- The southern portion of Baton Rouge and East Baton Rouge Parish
- The Baton Rouge suburbs of Livingston and Ascension Parishes.

While the ZIP codes with the largest declines are where jobs are most dense (urbanized portions of New Orleans, Jefferson Parish, Baton Rouge, and Houma), many ZIP codes experiencing employment decline are in the coastal portions of lower Terrebonne and Lafourche, Plaquemines, and St. Bernard Parishes.
Figure 12 indicates the likelihood of change in the share of traded employment based on annual parish-level data and 2016 ZIP code level data. For the most part, coastal areas have seen a relatively larger portion of employment shift toward traded-sector industries and away from local-serving industries. This general finding, while preliminary, points toward an important possibility for coastal planners to consider. In some coastal areas, employment in the type of local-serving industries that serve resident communities may be declining relative to employment in traded-cluster industries – an exception that runs counter to the growing share of local-serving jobs when examining the Super Region as a whole (see Figure 8). This pattern is not necessarily due solely (or even mostly) to coastal change. For example, retail has been in decline in ways that can profoundly affect smaller communities, central cities, and older suburbs. However, this process also may be facilitated by out-migration, as the demand for local-serving industries leaves with residents. The general pattern raises questions about the availability of businesses and services oriented toward local residents in coastal areas, especially as individuals who can afford to do so may choose to move to reduce their exposure to flood risk and uncertainty.
Upward income mobility

DATA FROM THE OPPORTUNITY ATLAS

The data on intergenerational mobility comes from a 2018 study authored by a team of researchers led by Raj Chetty, John Friedman, and Nathaniel Hendren. As detailed in a paper titled “The Opportunity Atlas: Mapping the Childhood Roots of Social Mobility,” the researchers produced a publicly available dataset of adult outcomes based on their childhood household income, race and gender, census tract, county (parish), and commuting zone (A commuting zone is similar but not equivalent to the Metropolitan Statistical Area (MSA); unlike MSAs, the 741 commuting zones cover the entire nation, even rural areas.). The researchers used anonymized data on children born between 1978 and 1983 to estimate a number of outcomes in adulthood, chiefly individual and household income in 2014-2015. Much of the Opportunity Atlas data focuses on predicting an individual’s position in the national earnings distribution (by percentile) during adulthood based on the family’s position in the national earnings distribution during childhood. As in the original study, “income mobility” in this brief is approximated by the predicted adult incomes for low-income children with parents at the 25th percentile of the national earnings distribution – roughly $27,000 (in 2015 dollars). To learn more, visit the Opportunity Insights website.

Beyond industry clusters, job growth, and wages, economic developers are increasingly concerned about economic mobility – the capacity to move from a poverty or low-income status to higher income status. Using innovative data from the Opportunity Atlas (see the box entitled “Opportunity Atlas”), it is possible to examine intergenerational mobility in small geographies. This unique data set links childhood income levels to adult outcomes and illustrates how these relationships vary from place to place.

For children born around 1980 who grew up in Southeast Louisiana and in low-income households at the 25th percentile of the national household income distribution (about $27,000), their predicted household income as adults in 2014-2015 is at the 39th percentile. This is a slightly lower rate of upward mobility than for children in low-income households nation-wide, whose predicted adult income is at the 41st percentile. However, there is considerable variation in adult outcomes across Southeast Louisiana. For the lowest 10 percent of census tracts, predicted adult


3 **UPWARD INCOME MOBILITY**

Income for children at the 25th percentile was only the 32nd percentile or lower. For the highest ten percent, it was the 49th percentile or higher. In other words, in some tracts, the adult incomes of low-income children rose to typical levels; in others, their incomes rose barely at all.

The map in Figure 13 reports data on income mobility at the census tract level. Maps of this type have been used to illustrate the polarization of opportunities, most commonly with an emphasis on urban and suburban areas. Many of the areas with the highest degree of income mobility are in coastal areas at risk of storm surge, particularly in lower Terrebonne and Lafourche Parishes where income mobility estimates rival the wealthiest portions of New Orleans and Baton Rouge metros.

See the “Appendix: Income mobility by race” for additional maps that breakdown income mobility by race.

The Opportunity Atlas data demonstrates that income mobility varies in meaningful ways across geography. Place-based opportunities differentiate Southeast Louisiana from other regions and vary across different communities within the Super Region. Such differences are deeply and historically interrelated in ways that are central to questions of coastal adaptation such as population migration; community, social, and economic capital; state and local government finance; infrastructure (dis)investment; and changes to the ways of life that have long defined coastal areas.

**Figure 13**

Income mobility by census tract relative to Super Region
Predicted adult household income percentile with childhood household at 25th percentile of national income distribution

Source: Opportunity Atlas
Conclusion

In Southeast Louisiana, the geography of economic opportunity is interwoven with vulnerability to coastal change. The changing nature of economic opportunity shapes the degree to which the Super Region and its constituent communities – to sharply varying degrees – experience the complex effects of coastal change. Over the long term, underlying economic dynamics can constrain the capacity of coastal communities to invest in protection and adaptation. For example, as residents’ access to jobs changes, so may their ability to pay rising property insurance rates. At the same time, local governments may face shrinking tax rolls due to lower property values, constraining government’s ability to invest in flood protection. The distribution and mix of industries and occupations in the Super Region will continue to influence the process of coastal adaptation and migration.

In summary, the data analyzed in this brief reveals the following:

- The distribution of where workers live suggests that a disproportionate share of Southeast Louisiana’s middle-earning workers live in coastal areas. Meanwhile, the middle-income portion of Southeast Louisiana’s occupational mix has been declining. In addition, data on income mobility suggests that coastal areas have provided decent pathways to upward mobility for lower-income children relative to other residential areas in the Super Region. The risk is that coastal change will further erode the middle of the occupational wage distribution in the Super Region.
- The dominant industry clusters in the Super Region are changing. The sectors that drove growth in the 20th Century, like oil and gas and water transportation, have declined relative to other industries as sources of direct employment. Driven by growth in health services and hospitality establishments, the share of jobs that are in traded clusters has declined.
- ZIP code-level employment data suggests that many coastal areas experienced employment decline during the 2010s. However, the “working coast” remains critical to Southeast Louisiana’s industrial base of traded industries. In fact, in contrast with Southeast Louisiana as a whole, many coastal areas are likely experiencing an increase in their share of traded-industry employment, raising additional questions about the sustainability of community-serving economies.

Taken as a whole, these findings underline the importance of promoting economic development in a way that is regionally focused and at the same time place-specific and inclusive. Better understanding and prioritizing economic development opportunities that grow middle- and high-wage jobs with good opportunities for upward mobility can help individuals and
families in coastal communities be more financially equipped to bear the costs and risks associated with coastal land loss. In addition, it can mitigate challenges associated with local and state financing for non-structural mitigation and adaptation.

The response to coastal challenges hinges on non-environmental factors, such as the fate of key industries like oil and gas, the possibility of further losses of middle-earning occupations, and the availability of jobs in vulnerable coastal areas. While these effects are largely driven by economic forces beyond the Super Region, cities and regions remain a critical scale for combining the goals of growth and inclusion. Previous The Coastal Index publications, as well as a recently released companion brief, highlight the coastal restoration and water management cluster as an especially pragmatic opportunity to advance the inclusiveness and sustainability of the regional economy while addressing a host of related environmental challenges.

This brief underscores the dynamic and uneven ways that economic changes are distributed across the region. As stakeholders contend with the economic dimensions of coastal change, inclusive growth and coastal adaptation should not be viewed as separate regional goals. They are fundamentally tied.

3 CONCLUSION
Appendix: Traded and local-serving clusters for selected parishes

East Baton Rouge Parish:
Employment by traded and local-serving clusters, 2001 to 2018
Average wage, salary, and proprietor earnings (2018) in parentheses

Local
- Local Health Services ($53000)
- Local Real Estate, Construction, and Development ($60000)
- Local Hospitality Establishments ($17000)
- Local Commercial Services ($50000)
- Local Education and Training ($40000)
- Local Community and Civic Organizations ($26000)
- Local Retailing of Clothing and General Merchandise ($22000)
- Local Motor Vehicle Products and Services ($41000)

Traded
- Education and Knowledge Creation ($39000)
- Business Services ($83000)
- Construction Products and Services ($82000)
- Distribution and Electronic Commerce ($75000)
- Hospitality and Tourism ($29000)
- Upstream Chemical Products ($135000)

Source: EMSi industry table. Only traded clusters with employment greater than 2500 workers and local-serving clusters with greater than 7000 workers are shown.
Jefferson Parish: Employment by traded and local-serving clusters, 2001 to 2018
Average wage, salary, and proprietor earnings (2018) in parentheses

Local

- Local Health Services ($57,000)
- Local Real Estate, Construction, and Development ($50,000)
- Local Hospitality Establishments ($18,000)
- Local Commercial Services ($41,000)
- Local Retailing of Clothing and General Merchandise ($22,000)
- Local Education and Training ($41,000)
- Local Motor Vehicle Products and Services ($43,000)
- Local Financial Services ($68,000)
- Local Food and Beverage Processing and Distribution ($32,000)

Traded

- Business Services ($69,000)
- Distribution and Electronic Commerce ($71,000)
- Hospitality and Tourism ($98,000)
- Water Transportation ($72,000)
- Insurance Services ($86,000)
- Transportation and Logistics ($50,000)
- Construction Products and Services ($69,000)
- Oil and Gas Production and Transportation ($113,000)

Source: EMSI industry table. Only traded clusters with employment greater than 2000 workers and local-serving clusters with greater than 6000 workers are shown.
Lafourche Parish:
Employment by traded and local-serving clusters, 2001 to 2018
Average wage, salary, and proprietor earnings (2018) in parentheses

Source: EMSI industry table. Only traded clusters with employment greater than 500 workers and local-serving clusters with greater than 1000 workers are shown.
 Orleans Parish:
Employment by traded and local-serving clusters, 2001 to 2018
Average wage, salary, and proprietor earnings (2018) in parentheses

Source: EMSI industry table. Only traded clusters with employment greater than 3000 workers and local-serving clusters with greater than 5000 workers are shown.
Plaquemines Parish:
Employment by traded and local-serving clusters, 2001 to 2018
Average wage, salary, and proprietor earnings (2018) in parentheses

Local

- Local Education and Training ($46000)
- Local Real Estate, Construction, and Development ($51000)
- Local Commercial Services ($83000)
- Local Health Services ($49000)
- Local Hospitality Establishments ($22000)

Traded

- Water Transportation ($69000)
- Oil and Gas Production and Transportation ($133000)
- Distribution and Electronic Commerce ($61000)
- Construction Products and Services ($55000)

Source: EMSI industry table. Only traded clusters with employment greater than 500 workers and local-serving clusters with greater than 500 workers are shown.
St. Bernard Parish:
Employment by traded and local-serving clusters, 2001 to 2018
Average wage, salary, and proprietor earnings (2018) in parentheses

- Local Food and Beverage Processing and Distribution ($23000)
- Local Retailing of Clothing and General Merchandise ($22000)
- Local Health Services ($45000)
- Local Hospitality Establishments ($16000)
- Local Education and Training ($34000)
- Local Real Estate, Construction, and Development ($45000)
- Distribution and Electronic Commerce ($53000)
- Construction Products and Services ($90000)
- Food Processing and Manufacturing ($68000)
- Water Transportation ($54000)
- Oil and Gas Production and Transportation ($150000)

Source: EMSI industry table. Only traded clusters with employment greater than 300 workers and local-serving clusters with greater than 500 workers are shown.
St. John the Baptist Parish:
Employment by traded and local-serving clusters, 2001 to 2018
Average wage, salary, and proprietor earnings (2018) in parentheses

Local

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Traded

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<td>Upstream Chemical Products</td>
<td>$132000</td>
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Source: EMSI industry table. Only traded clusters with employment greater than 500 workers and local-serving clusters with greater than 500 workers are shown.
St. Tammany Parish: Employment by traded and local-serving clusters, 2001 to 2018
Average wage, salary, and proprietor earnings (2018) in parentheses

Source: EMSI industry table. Only traded clusters with employment greater than 1000 workers and local-serving clusters with greater than 3000 workers are shown.
Terrebonne Parish: 
Employment by traded and local-serving clusters, 2001 to 2018 
Average wage, salary, and proprietor earnings (2018) in parentheses

Local

<table>
<thead>
<tr>
<th>Cluster</th>
<th>2001</th>
<th>2010</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local Health Services ($50000)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Hospitality Establishments ($17000)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Commercial Services ($56000)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Real Estate, Construction, and Development ($46000)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Education and Training ($33000)</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Local Retailing of Clothing and General Merchandise ($21000)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Community and Civic Organizations ($25000)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Motor Vehicle Products and Services ($40000)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Local Food and Beverage Processing and Distribution ($30000)</td>
<td></td>
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</tr>
</tbody>
</table>

Traded

<table>
<thead>
<tr>
<th>Cluster</th>
<th>2001</th>
<th>2010</th>
<th>2018</th>
</tr>
</thead>
<tbody>
<tr>
<td>Oil and Gas Production and Transportation ($87000)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Construction Products and Services ($72000)</td>
<td></td>
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<td>Distribution and Electronic Commerce ($64000)</td>
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<td>Business Services ($70000)</td>
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<tr>
<td>Water Transportation ($69000)</td>
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<td>Transportation and Logistics ($80000)</td>
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<td></td>
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<tr>
<td>Hospitality and Tourism ($20000)</td>
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</tr>
<tr>
<td>Fishing and Fishing Products ($35000)</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: EMSI industry table. Only traded clusters with employment greater than 500 workers and local-serving clusters with greater than 1000 workers are shown.
Appendix: Income mobility by race

Because this data breaks income mobility out by not only income but also by race, it is possible to further examine which census tracts provide more relative childhood income mobility specifically for people of color in coastal areas. This section provides additional maps broken down by race and ethnicity. Where tracts have a very small number of children in the Opportunity Atlas study cohort, no estimate of adult outcomes is provided. This is the case for many tracts in Southeast Louisiana, which are shown in dark grey in the maps below to indicate missing estimates. For example, Asian and Hispanic/Latino mobility are largely unavailable for tracts falling outside of densely populated areas. In contrast, estimates for American Indian residents are only available for census tracts near tribal communities, which are also among the areas of most immediate coastal risk. A summary reading of these place-based differences in income mobility by race suggests that front line coastal areas have provided decent pathways to mobility – relative to each group’s experiences in other parts of the region.

The table below shows predicted income mobility for each race/ethnicity for the entire Super Region. Although the Opportunity Atlas provides estimates down to the census tract, the data also illustrates that disparities across race and ethnicity categories exist regardless of geography, despite significant geographic variation for each demographic group. For example, in 99 percent of census tracts in the U.S., black boys have lower rates of upward income mobility than white boys who grew up in households with comparable income levels and in the same census tract.22 Similar disparities exist both within and across the census tracts of Southeast Louisiana.

In order to illustrate within-group variation across the region, the maps below focus on highlighting tracts that have income mobility above and below the Super Region average for a given race/ethnicity. The risk is that, as coastal and economic change erodes the place-based opportunity structures in these communities, Super-Regional economic inequalities by income level and by race may widen further.

### Table 1: Predicted Adult Income Mobility by Race for Children Who Grew up in Households at the 25th Percentile in Southeast Louisiana

<table>
<thead>
<tr>
<th>Race/ethnicity</th>
<th>Count of children included in study</th>
<th>Mean child household income percentile in adulthood</th>
<th>Mean child household income in 2015 dollars</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian</td>
<td>4795</td>
<td>55</td>
<td>49000</td>
</tr>
<tr>
<td>Black</td>
<td>80812</td>
<td>33</td>
<td>24000</td>
</tr>
<tr>
<td>Hispanic/Latino</td>
<td>8583</td>
<td>45</td>
<td>36000</td>
</tr>
<tr>
<td>Native American</td>
<td>1453</td>
<td>40</td>
<td>31000</td>
</tr>
<tr>
<td>White</td>
<td>130688</td>
<td>47</td>
<td>39000</td>
</tr>
<tr>
<td>Total/pooled</td>
<td>242962</td>
<td>39</td>
<td>30000</td>
</tr>
</tbody>
</table>

*a Source: Opportunity Atlas and author calculations.*
American Indian income mobility by census tract relative to Super Region
Predicted adult household income percentile with childhood household at 25th percentile of national income distribution
(Tracts in dark grey are suppressed)

Asian income mobility by census tract relative to Super Region
Predicted adult household income percentile with childhood household at 25th percentile of national income distribution
(Tracts in dark grey are suppressed)

Black income mobility by census tract relative to Super Region
Predicted adult household income percentile with childhood household at 25th percentile of national income distribution
(Tracts in dark grey are suppressed)

Hispanic/Latino income mobility by census tract relative to Super Region
Predicted adult household income percentile with childhood household at 25th percentile of national income distribution
(Tracts in dark grey are suppressed)
White income mobility by census tract relative to Super Region
Predicted adult household income percentile with childhood household at 25th percentile of national income distribution
(Tracts in dark grey are suppressed)

Pooled income mobility by census tract relative to Super Region
Predicted adult household income percentile with childhood household at 25th percentile of national income distribution
(Tracts in dark grey are suppressed)
Appendix: Data and Methods

Employment data

Except where otherwise noted and described below, all of the employment data comes from EMSI’s industry and occupation tables, which combine estimates of self-employment and wage and salary employment in estimating jobs and earnings. Many of the jobs provided by Louisiana’s “working coast” are likely to be poorly captured in conventional sources of employment data. Much of the detailed industry data published by federal agencies like the Bureau of Labor Statistics, the Census Bureau, and the Bureau of Economic Analysis relies on data collected for administrative purposes, e.g., unemployment insurance programs. This data excludes many types of small business owners and other forms of work that may be more prevalent in coastal areas. For example, in the fishing industry so-called “non-employer” businesses, small businesses that pay taxes but have no employees, greatly outnumber employment as captured by conventional sources of industry employment data. In fact, the majority of businesses are non-employers, and the majority of non-employers are unincorporated sole proprietors. These entities cover a diverse range of activities that blur the lines between non-standard work and small business ownership: tutors, performing arts, ride-share drivers, construction workers, real estate, etc. For this reason, unless otherwise stated, the EMSI job estimates reported in this brief include both employees and self-employed workers. This approximates a more complete picture of employment, especially in coastal areas.

Small-area employment by industry and place of work

EMSI’s ZIP code employment estimates are based on the Bureau of Labor Statistics Quarterly Census of Employment and Wages (QCEW) dataset. These estimates are downscaled to the ZIP code level using the Census Bureau’s most recent ZIP Code Business Patterns dataset (ZBP), which is less detailed and more likely to include suppressed data. The ZIP code data is not fully longitudinal because the longitudinal parish QCEW data are projected to the ZIP code level based on the 2016 ZBP. For this reason, an increasing or decreasing share of traded employment based on EMSI ZIP code estimates, as shown in Figure 12, is presented as a “likely bias” toward traded employment rather than a direct estimate of change – it depicts whether parish-level industry changes are likely to affect a given ZIP code based on the industries in that ZIP code in 2016. Additional documentation may be found on the EMSI website.

Because of this limitation, ZBP is used in maps that present employment by place of work without industry detail (Figure 10 and 11). While ZIP codes are purely administrative and not ideal for representing social and economic geographies, ZBP provides a more directly longitudinal source. Because the last major ZIP Code Tabulation Areas update was in 2010, this is the earliest year presented. Two year averages for 2010-2011 and 2015-2016 were used to map employment changes (Figure 11) to smooth out potential volatility.
Occupational mix by census tract of residence

Occupational groups by census tract of residence are provided as 5-year estimates derived from the Census Bureau’s American Community Survey (ACS). Like all sub-county employment data, these estimates have limitations. First, they are not available at detailed levels of breakdown. While the breakdowns that are available roughly correspond with the occupational groups in the Standard Occupation Classification (SOC) system, the match is not exact. Second, like tract-level estimates, they are subject to sampling error. This error, which can be large, relative to the estimate for detailed breakdowns, is reduced when “binned” into more summary categories, as detailed below. Third, they report annual earnings rather than hourly earnings. Though related, these numbers may be distributed differently because workers in different types of occupations are disparate with respect to work schedules (full-time or part-time) and consistent year-round employment.

Instead of relying solely on ACS data, EMSI’s occupation table was used to develop a simple categorization of occupations. This data has the advantage of providing hourly as opposed to annual earnings estimates for all workers of the entire Super Region. The challenge is that EMSI’s SOC-based system does not match perfectly with the most detailed level of breakdown available from the ACS, which is a modified version of 2-digit SOC codes. Categorizing ACS occupations into low, medium, and high-earning bins followed a review of cost-of-living-adjusted hourly earnings data for 2- and 3-digit EMSI occupations that most closely match the ACS data. This data includes hourly wage estimates for the mean and median, as well as the 10th, 25th, 75th, and 90th percentile. Three-digit estimates were also reviewed where the terminal ACS category does not match the 2-digit SOC. ACS provides detail beyond 2-digits for Healthcare Practitioners and Technical Occupations, Transportation and Material Moving Occupations, and Protective Service Occupations.

In all instances except one, the terminal ACS category was used to construct tract-level estimates based on hourly earnings bins. Because the ACS does not split out supervisory Protective Service Occupations (fire, law enforcement, etc.) in a manner consistent with 3-digit NAICS codes, the 2-digit equivalent rather than the terminal ACS category was used for Protective Service. Wages for these occupation groups are detailed as follows.

### TABLE 1
**HOURLY EARNINGS FOR 2-DIGIT SOC CODES IN THE SUPER REGION, 2018**

<table>
<thead>
<tr>
<th>SOC</th>
<th>Description</th>
<th>Median</th>
<th>Average</th>
<th>10th percentile</th>
<th>25th percentile</th>
<th>75th percentile</th>
<th>90th percentile</th>
</tr>
</thead>
<tbody>
<tr>
<td>11-0000</td>
<td>Management Occupations</td>
<td>40.11</td>
<td>47.78</td>
<td>19.26</td>
<td>28.28</td>
<td>57.51</td>
<td>81.88</td>
</tr>
<tr>
<td>13-0000</td>
<td>Business and Financial Operations Occupations</td>
<td>27.20</td>
<td>31.47</td>
<td>14.72</td>
<td>19.54</td>
<td>37.34</td>
<td>50.38</td>
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<tr>
<td>15-0000</td>
<td>Computer and Mathematical Occupations</td>
<td>30.22</td>
<td>33.01</td>
<td>17.17</td>
<td>22.52</td>
<td>40.19</td>
<td>51.40</td>
</tr>
<tr>
<td>17-0000</td>
<td>Architecture and Engineering Occupations</td>
<td>38.47</td>
<td>42.22</td>
<td>20.43</td>
<td>27.62</td>
<td>52.31</td>
<td>67.40</td>
</tr>
<tr>
<td>19-0000</td>
<td>Life, Physical, and Social Science Occupations</td>
<td>29.40</td>
<td>34.36</td>
<td>16.02</td>
<td>20.95</td>
<td>41.91</td>
<td>55.64</td>
</tr>
<tr>
<td>21-0000</td>
<td>Community and Social Service Occupations</td>
<td>21.05</td>
<td>22.43</td>
<td>11.84</td>
<td>15.74</td>
<td>27.44</td>
<td>33.48</td>
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<tr>
<td>23-0000</td>
<td>Legal Occupations</td>
<td>34.15</td>
<td>44.14</td>
<td>16.51</td>
<td>23.76</td>
<td>53.67</td>
<td>84.58</td>
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<tr>
<td>25-0000</td>
<td>Education, Training, and Library Occupations</td>
<td>21.43</td>
<td>22.79</td>
<td>9.26</td>
<td>13.35</td>
<td>27.40</td>
<td>33.70</td>
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<tr>
<td>29-0000</td>
<td>Healthcare Practitioners and Technical Occupations</td>
<td>27.51</td>
<td>33.88</td>
<td>14.95</td>
<td>19.64</td>
<td>37.50</td>
<td>54.85</td>
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<tr>
<td>31-0000</td>
<td>Healthcare Support Occupations</td>
<td>12.09</td>
<td>13.40</td>
<td>8.94</td>
<td>10.21</td>
<td>14.93</td>
<td>18.48</td>
</tr>
<tr>
<td>33-0000</td>
<td>Protective Service Occupations</td>
<td>16.19</td>
<td>18.39</td>
<td>9.21</td>
<td>11.88</td>
<td>22.95</td>
<td>29.33</td>
</tr>
<tr>
<td>35-0000</td>
<td>Food Preparation and Serving Related Occupations</td>
<td>9.33</td>
<td>10.40</td>
<td>7.78</td>
<td>8.42</td>
<td>10.99</td>
<td>14.03</td>
</tr>
<tr>
<td>37-0000</td>
<td>Building and Grounds Cleaning and Maintenance Occupations</td>
<td>10.59</td>
<td>12.08</td>
<td>7.63</td>
<td>8.78</td>
<td>13.36</td>
<td>17.11</td>
</tr>
<tr>
<td>39-0000</td>
<td>Personal Care and Service Occupations</td>
<td>9.60</td>
<td>11.49</td>
<td>7.40</td>
<td>8.34</td>
<td>12.08</td>
<td>17.65</td>
</tr>
<tr>
<td>41-0000</td>
<td>Sales and Related Occupations</td>
<td>11.78</td>
<td>17.19</td>
<td>8.13</td>
<td>9.16</td>
<td>18.81</td>
<td>30.82</td>
</tr>
<tr>
<td>45-0000</td>
<td>Farming, Fishing, and Forestry Occupations</td>
<td>15.42</td>
<td>19.99</td>
<td>7.63</td>
<td>10.50</td>
<td>21.26</td>
<td>33.30</td>
</tr>
<tr>
<td>47-0000</td>
<td>Construction and Extraction Occupations</td>
<td>20.37</td>
<td>22.18</td>
<td>11.76</td>
<td>15.42</td>
<td>26.81</td>
<td>33.95</td>
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<tr>
<td>49-0000</td>
<td>Installation, Maintenance, and Repair Occupations</td>
<td>20.61</td>
<td>22.40</td>
<td>11.15</td>
<td>15.17</td>
<td>27.80</td>
<td>35.06</td>
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<td>51-0000</td>
<td>Production Occupations</td>
<td>20.86</td>
<td>23.67</td>
<td>10.12</td>
<td>14.15</td>
<td>30.35</td>
<td>40.67</td>
</tr>
<tr>
<td>53-0000</td>
<td>Transportation and Material Moving Occupations</td>
<td>15.67</td>
<td>19.33</td>
<td>8.96</td>
<td>11.27</td>
<td>22.31</td>
<td>32.51</td>
</tr>
<tr>
<td>55-0000</td>
<td>Military-only occupations</td>
<td>16.57</td>
<td>20.27</td>
<td>7.25</td>
<td>11.01</td>
<td>26.38</td>
<td>35.55</td>
</tr>
<tr>
<td>99-0000</td>
<td>Unclassified Occupation</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
<td>0.00</td>
</tr>
</tbody>
</table>

*Source: EMSI occupation table*
Three-digit hourly wages for select industries

Based on the combined analysis of EMSI and ACS occupational data, the terminal occupations in ACS were categorized as follows.

Low-earning occupational groups:
- Food preparation and serving related
- Personal care and service
- Building and grounds cleaning and maintenance
- Sales and related
- Healthcare support
- Office and administrative support
- Material moving
Medium-earning occupational groups:
• Farming, fishing, and forestry
• Transportation
• Protective service
• Arts, design, entertainment, sports, and media
• Construction and extraction

High-earning occupational groups:
• Health diagnosing and treating practitioners and other technical
• Life, physical, and social science
• Computer and mathematical

ZIP code employment by place of work

The availability of employment data is limited for small areas. Geographic detail typically implies tradeoffs regarding the degree of non-geographic details (e.g., industries) and the technical issues that limit its applicability (e.g., suppression, noise infusion, and exclusions). This brief focuses on two ZIP code-level sources, the Census Bureau’s ZIP Code Business Patterns (ZBP) and EMSI’s ZIP-level industry estimates. These sources are related and have both individual and shared limitations.

ZIP codes are not considered to be ideal units for geographic analysis because, unlike counties/parishes or census tracts, they are not actually areal geographies. ZIP Code Tabulation Areas may have idiosyncratic shapes since they are approximations meant to correspond with the administration of postal delivery. ZIP codes also change over time, which is why data ZBP data before 2010 are not shown when comparing employment change over time. ZBP is derived from various sources (for a good review of ZIP Code Business Patterns, see Bajaj et al.24). ZBP’s industry-level breakdowns have considerable aggregation, noise infusion, and suppression in order to protect privacy.

EMSI’s ZIP code employment estimates use a range of estimation techniques to overcome suppression. These estimates begin with county/parish-level estimates derived from the Bureau of Labor Statistics’ Quarterly Census of Employment and Wages, which are then downscaled to the ZIP code level using ZBP and other sources. While EMSI’s county/parish-level estimates are longitudinal, EMSI downscales each year’s estimates to the ZIP code level based on the most recent year of ZBP, currently 2016. When changes over time are presented in this paper based on the EMSI data, these are framed as likely changes because they are based on current ZBP. Only highly aggregated changes are presented, i.e., traded and local-serving industries. See the EMSI website for additional details on this dataset.

Opportunity Atlas

The methods used to create the source dataset are too detailed to recount here but extensively documented in the original paper and on the Opportunity Insights website.25 Briefly, using
individual and household data from the Census Bureau (2000, 2010, and American Community Survey) and federal income tax returns from 1989 to 2015, the authors construct an anonymized longitudinal data set covering nearly the entire U.S. population born between 1978 and 1983. They then predict average adulthood outcomes for this birth cohort based on childhood income, race and gender, and location (census tract, county/parish, and commuting zone). This allows for data users to trace adult outcomes back to the neighborhoods in which children grew up. Adult household income percentile is based on pre-tax incomes measured in 2014 and 2015. To mitigate bias due to outliers and life cycle effects, this dataset measures income as a percentile ranking, with children ranked relative to others in their birth cohort and parents ranked relative to other parents.

Tract-level Opportunity Atlas data is presented in this brief as deviations from the Southeast Louisiana average. To calculate a Southeast Louisiana average income mobility, the commuting zone version of the Opportunity Atlas was used to derive average outcomes of the three commuting zones (New Orleans, Baton Rouge, and Houma), weighted by the number of children included in each commuting-zone study cohort. However, these commuting zones do not perfectly match the 21 parishes in the Super Region as defined. Two additional parishes, Assumption and St. Mary, are also included in the Houma Commuting Zone and thus in the average of the three commuting zones. However, the population of these parishes is very small relative to that of the 21-parish Super Region, and its influence on the Southeast Louisiana-wide estimates is likely to be extremely minimal. Since the Baton Rouge Commuting Zone includes Tangipahoa Parish, and the New Orleans Commuting Zone includes Washington Parish, their aggregation does not affect the 21-parish Super Region.
Appendix: Reference maps

Reference map of parishes in Southeast Louisiana

Reference map of detailed place names in Southeast Louisiana coastal parishes
Endnotes


4 Denise Reed and Allison Plyer, “Toward Holistic Planning for Community Adaptation on the Louisiana Coast” (Workshop report supported by Foundation for Louisiana, Environmental Defense Fund, 2019).


7 It is important to remember that median hourly earnings are a summary measure, and there can be considerable spread between the highest and lowest earning workers even within the same occupation. This is especially the case for occupations at the high-earning end of the spectrum.


13 Figure 6 depicts a long-run series of employment in Mining, Quarrying, and Oil and Gas Extraction, which is broader than oil and gas extraction. Due to a change in the standard industry classification system changed, only NAICS codes are available after year 2001, and only SIC codes are available prior to 1998. Only the broad sector is included here to keep the numbers relatively comparable over time. In practice, oil and gas extraction in Louisiana accounts for a much larger share of the industry than mining, and this method ensures that a larger portion of support activities are included in the series. This is not a purely apples-to-apples comparison, and the shift from SIC to NAICS is why it is generally difficult to compare detailed industry trends roughly before and after the year 2000.

14 EMSI’s ZIP-level employment data incorporates the U.S. Census Bureau’s ZIP Code Business Patterns (ZBP) data into its estimates. The most recent release of ZBP is in 2016. Three-year averages are used to smooth out volatility. See “Appendix: Data and methods” for additional details.

15 To smooth out volatility in the underlying data set, two-year averages 2010-2011 and 2015-2016 were compared. See “Appendix: Data and methods” for more details on the ZIP Code Business Patterns data.

16 The EMSI ZIP code data has limited applicability to comparisons over time because the underlying ZIP code data is not longitudinal but based on parish-level changes projected down to the ZIP code level. See “Appendix: Data and methods” for additional details.


18 Mark Davis et al., *Finding the Means: Investment and Adaptation in Vulnerable Communities* (An Issue Paper of the
Tulane Institute of Water Resources Law; Policy and The Water Institute of the Gulf, 2019), https://docs.wixstatic.com/ ugd/32079b_8ae71e7f245b70b4f1e4e021b671b87182.pdf.


21 Habans, Changing Coast, Evolving Coastal Economy.


ABOUT THE AUTHOR

Dr. Robert Habans is The Data Center’s economist. He has over a decade of research experience focusing on urban policy, local economic development, labor market change, and the economics of place from the neighborhood to the regional scale. He has published research reports and peer-reviewed journal articles that span a wide range of topics, including low-wage work and the future of work, policy issues at the state and local level, and the uneven development of industries and institutions across geographies. Prior to joining The Data Center, Robert held research appointments at the University of California, Los Angeles, and the University of Illinois at Urbana-Champaign. A native of Greater New Orleans, Dr. Habans earned his PhD in Urban Planning and Policy from the University of Illinois at Chicago with a focus on local economic development planning. He also holds an undergraduate degree from the University of California, Berkeley, and a masters degree from the University of New Orleans.

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FOR MORE INFORMATION

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ABOUT THE COASTAL INDEX

Many states have significant coastal vulnerability, yet none of them are tackling this threat head-on at the scale Louisiana is. The billions of dollars slated for coastal protection and restoration will create thousands of jobs in the short term, but the most promising economic opportunity associated with the Coastal Master Plan and related investments is the possibility of leveraging current investments to develop a specialized “water management” industry cluster that is self-sustaining. The Coastal Index quantifies some of the public and private investment already at work in Southeast Louisiana’s water management industry. It then measures economic, social, and political factors that have been shown to affect the formations of clusters in the U.S. — revealing strengths and weaknesses in the state’s ability to create a vibrant industry cluster. To find updates to The Coastal Index and companion publications, visit www.datacenterresearch.org/topic/coastal/.

ABOUT THE DATA CENTER

The Data Center is the most trusted resource for data about greater New Orleans and Southeast Louisiana. Since 1997, The Data Center has been an objective partner in bringing reliable, thoroughly researched data to conversations about building a more prosperous, inclusive, and sustainable region. The Data Center became the local authority for tracking post-Katrina recovery with The New Orleans Index, developed in partnership with the Brookings Institution, and has continued to be a leading neutral and independent voice on the issues that are most pressing to greater New Orleans and Southeast Louisiana.

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