## LASAFE Final Report

Conclusions and Recommendations

As climate change, sea level rise, and coastal erosion continue to impact South Louisiana, more frequent and intense flooding events are contributing to population shifts as people move away from vulnerable areas. These population movements are driven by middle class residents who, faced with escalating flood insurance and other costs, use their assets and social networks to support a move elsewhere. They leave behind poorer residents and the elderly who often do not have the extended social networks or income to support such a move. The other remaining residents tend to be wealthier and can afford to self-insure, making it easier to retain their coastal residence. (See Colten, Simms, Grismore, & Hemmerling, 2017; Hobor, Plyer, & Horwitz, 2014; Smith, Carbone, Pope, Hallstrom, & Darden, 2006.)

Despite significant land loss, each of the six LA SAFE parishes (St. Tammany, Plaquemines, Jefferson, St. John, Lafourche, and Terrebonne) have gained population since 1960. In Plaquemines Parish, where land loss has been arguably most severe, the population grew from 22,545 in 1960 to a peak of 26,757 in 2000, before declining to 23,042 by 2010. But in Terrebonne and Lafourche Parishes, where land loss has also been quite severe, the population has grown steadily from 55,381 in 1960 to 96,318 in 2010 (Lafourche) and from 60,771 to 111,860 (Terrebonne). Many of these parishes are losing population from their most vulnerable areas, while population is growing in less flood-prone parts of the parish. These data highlight the importance of gathering data for sub-parish areas rather than for parishes as a whole.

Although anecdotes of these trends abound in coastal communities, compiling population data that illustrates these trends is challenging as population counts at the census tract level are available only once every ten years and is subject to boundary changes that distort conclusions about increases or declines. Initial attempts by LA SAFE partners to display census data and commercial population estimates indicated sub-parish population gains where declines were more likely. These results were often artifacts of boundary changes rather than actual population increases. The Data Center was able to identify the most reliable data sets to represent actual population shifts and worked with LA SAFE partners to effectively present this data for meetings that took place across the six LA SAFE Southeast Louisiana parishes in 2017.

The data presented in these meetings depicted changes for roughly 30 sub-parish areas across the six parishes. We relied on special compilations of census data for which boundary changes had been normalized along with USPS counts of residences receiving mail (the foundational data set for all census data products) to update trends since 2010.
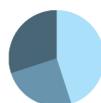
LA SAFE partners specified the census tracts and ZIP codes that best represented each community with whom they were working. Then, these data were presented in simple, compelling graphics indicating population decline or gain for each sub-parish area in the six LA SAFE parishes. This data revealed that the most vulnerable parts of the six LA SAFE parishes have lost population, experienced declines in school enrollments, and in some cases have closed schools. In addition, remaining residents of these communities are more likely to be poor and/or elderly.

We examined job trends in these vulnerable communities and found mixed results. For example, from 2004 to 2014, while jobs in Chauvin and Cocodrie decreased by 50 percent, jobs in Dulac increased by 35 percent. This reveals an important trend to consider in coastal Louisiana. Because our coast is host to a great deal of economic activity, including fishing and oil and gas exploration, there will likely always be some demand for access to vulnerable areas close to these economic assets. Certainly, businesses will balance the cost of potential flood risk against the cost of operating farther from the Gulf resources they must reach, and workers will be drawn to live near work opportunities when feasible. We also supplied data about the number of workers commuting from outside each parish to work within the parish, and we found that thousands of workers who live outside of Louisiana are commuting to jobs in the LA SAFE parishes. These parishes have economic activities that draw workers living in Mississippi, Texas, and Alabama, in particular. In short, regional populations will grow and decline in relationship to jobs and understanding those patterns will continue to be important for future development needs.

The Data Center acquired special population projections (from Dr. Matt Hauer, applied demographer at the University of Georgia) of the number of residents who may, in future years, live in areas that are projected to be inundated if sea levels rise three feet by 2100. Dr. Hauer's research also calculated migration patterns if these residents move away from inundated areas. The estimates indicate that many inland parishes will receive substantial population influxes in the future. As such, these estimates provide important information to state officials considering how adaptation efforts affect inland communities as well as coastal communities.

The LA SAFE project was a ground-breaking effort to execute extensive community engagement activities to co-design resilience projects for six parishes in Southeast Louisiana. Data was essential to these conversations because it allowed residents to shift away from substantiating problems through anecdote to refocusing on solutions. As Foundation for Louisiana considers expanding resilience planning efforts to the rest of South Louisiana, The Data Center recommends compiling and displaying sub-parish population and jobs data in much the same way that was done for the six LA SAFE parishes. The Data Center attended many of the meetings where this data was presented and interviewed LA SAFE partners after the meetings to assess their effectiveness. The

maps developed by LA SAFE partners were found to be compelling and effective and should be used as a template for future such engagements. Depicting simple population percent increases and declines proved to be a very effective way to quickly communicate the overarching trends in this data set. The only data we would recommend displaying differently is jobs data which could be shown as a year-by-year trend (similar to how school enrollment trends were displayed). Residents are keenly aware of the ups and downs of job trends in their area and would more readily relate to year-by-year job trends, rather than a single percent change over a decade.

References:

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Hobor, G., Plyer, A., Horwitz, B. (2014). The coastal index: the problem and possibility of our coast. The Data Center, New Orleans.

Smith, K., Carbone, J., Pope, J., Hallstrom, D., & Darden, M. (2006). Adjusting to natural disasters. *Journal of Risk and Uncertainty 33* (102): 37-54.