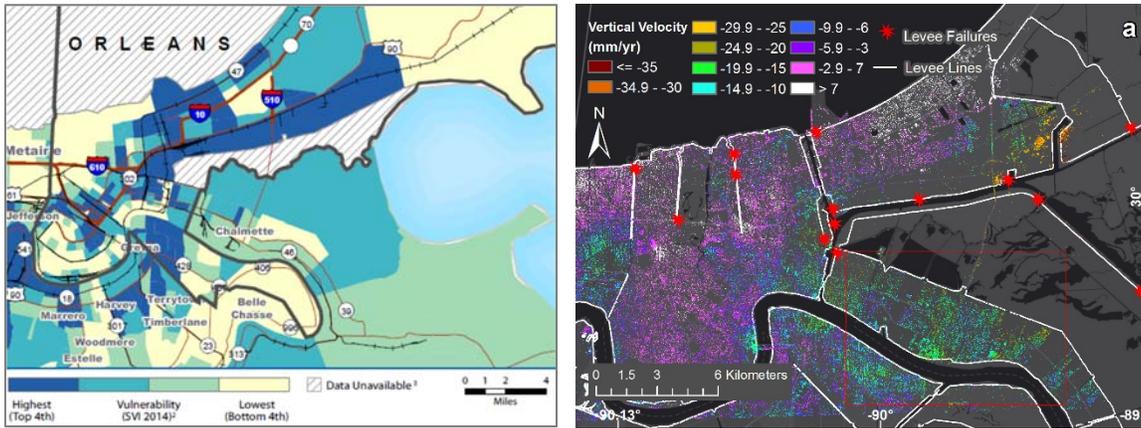


Equity in Urban Water Management

New Orleans faces multiple water-related challenges. It is the third rainiest city in the country, averaging 64 inches of rainfall annually. Due to this, many neighborhoods experience localized flooding. New Orleans also faces soil subsidence averages of 1/3 to 1/2 inch per year (much higher in some hot spots), which over time damages infrastructure and increases flood risk.¹

There is a correlation between areas in New Orleans that are vulnerable to these environmental challenges and areas that experience social and economic vulnerability. Areas with relatively more low-income households are also areas with higher risk of experiencing localized flooding. When portions of the city flooded on August 5th, 2017, small businesses and residents in low-lying areas were among the hardest hit. A NASA and LSU study on soil subsidence in New Orleans observed notable subsidence in the Upper and Lower 9th Ward neighborhoods, two predominantly low-income neighborhoods.



A CDC map of the Social Vulnerability Index (left) and a NASA map of subsidence (right)

We know that all communities are affected by these water-related challenges, but those that are already overburdened with economic, environmental, and health challenges are especially vulnerable. Those most affected are often lower-income people, communities of color, children, and the elderly. The impacts of water challenges on health and economic mobility are cumulative and often compounded by underlying challenges such as poverty and unemployment.²

The City of New Orleans and Sewerage and Water Board of New Orleans are making investments in both gray infrastructure (e.g. better subsurface drainage) and green infrastructure to decrease these challenges. They are also making other related investments that will increase the resilience of New Orleans, such as the Gentilly Resilience District project.

Another area where inequities of income and race are exposed can be found in flood insurance. According to the Urban League’s *State of Black New Orleans 10 Years Post Katrina*, “acquiring flood insurance adequate enough to insure a home against a total flood loss is beyond the financial means of most working-class families, making them unable to replace a home lost to a catastrophic flood.” The City of New Orleans uses FEMA grants to subsidize the elevation of private homes in flood zones; however, this

¹ *Subsidence of South Louisiana: Measurement, Causes, and Human Implications*, Roy K. Dokka, LSU 2008

² *An Equitable Water Future*, US Water Alliance, 2017.

money is limited and has generally been targeted to “repetitive loss” properties, which are those that have flooded previously and participate in the National Flood Insurance Program.

Opportunities for Greater Water Equity

Community Education and Participation

It is important for the neighborhoods most vulnerable to these challenges to be educated about New Orleans’ water challenges as well as solutions such as green infrastructure and the roles they can play. Currently, there are several such efforts underway by not-for-profit organizations, which the city can leverage and support. The Waterwise program educates residents about stormwater management, and builds neighborhood leadership. In the short-term, these neighborhood leaders are working with their neighbors to implement small-scale green infrastructure features and practice simple stormwater management practices. One of the expected mid-term outcomes is to help residents and other community institutions such as schools be actively engaged when larger green infrastructure initiatives are being planned by city government or the private sector. Another example is the collaboration of Gulf Restoration Network and the Micah Project in the 7th Ward, where the faith community successfully advocated with developers for stormwater best practices above and beyond those required under the Comprehensive Zoning Ordinance.

Workforce Training

Planned investments by the City of New Orleans and Sewerage and Water Board will result in a growing number of water management jobs in Greater New Orleans. From 2010 to 2016, water management employment grew from 60,217 to 72,423 jobs in the Super Region.³ With the green infrastructure investments set to come in from the \$141 million Gentilly Resilience District project and the \$200M budget for green infrastructure on streets over the next two years, this growth in water management jobs will increase further. The \$200M is part of the larger \$2B received by the City of New Orleans from FEMA for repair of streets and underground pipes damaged by Hurricane Katrina.

There is a great opportunity to develop workforce training and placement programs for low and mid-skilled green infrastructure jobs, which include both construction and maintenance. Already, Delgado Community College is pioneering the National Green Infrastructure Certification Program developed by Water Environment Federation and the Office of Supplier Diversity is developing a green module for its BuildNOLA program. Such programs are one means to help decrease the 44% unemployment rate among African-American men in New Orleans.

Placement of Green Infrastructure

Another way to bring about greater equity is to prioritize putting green infrastructure in locations which would lessen flooding and subsidence in vulnerable neighborhoods that consistently face these water-related challenges. The Trust for Public Land’s Climate Smart Cities Tool, which was developed in partnership with the City of New Orleans and the Greater New Orleans Foundation, is a GIS-based decision support tool which can help select green infrastructure locations based on various environmental, social, and economic factors. Jefferson Parish has begun to include onsite green infrastructure as a component of home elevation grants, and New Orleans can explore the same. In addition, investments in green infrastructure alongside affordable housing units can help to beautify neighborhoods and alleviate flooding.

Affordable Housing at Higher Elevations

In order to start addressing the history of race and class discrimination that has kept many low-income, minority families in flood-prone areas, New Orleans could use inclusionary zoning to require that new multi-family residential development built outside flood zones include some affordable housing, thereby improving access to higher elevations for low-income residents.

³ *The Coastal Index 2017*, The Data Center, 2017