

Come Hell or High Water: Disparities in Health During Coastal Storms

How can institutions best help coastal communities overcome their vulnerability to climate change?

How has the way we address unequal health burdens of minority communities during disasters in the Gulf Coast changed since Hurricane Katrina?

Background

- As a byproduct of **climate change**, the United States should expect more **extreme weather events**, such as hurricanes and heat waves.
- **Social, political** and **economic** factors affect a person's ability to cope with all stages of disaster, meaning marginalized communities have unique **vulnerabilities** and **capacities**
- Many studies came out in the wake of Katrina², detailing the failures in disaster preparedness.
- According to these studies, **vulnerable communities**—mostly those of minority populations—suffered the **health effects** of the storm most heavily.
- These studies went on to suggest some strategies to compensate for this imbalance. As American coastal cities continue to face threats from extreme storms, we must question our **preparedness**.



Fig. 1: The news articles that poured out after Hurricane Harvey show how little has been changed

Methods

- **Discourse Analysis:**
 - Went through 20 articles written about Hurricane Harvey and categorized them by what they **blamed** the disaster in Houston on (e.g. lax regulations, outdated infrastructure, climate change, etc.)
- **Content Analysis:**
 - Identified both **discursive themes** and current **policy** through coding news articles specifically about marginalized communities during Hurricane Harvey
- **Map Analysis:**
 - Used the **CDC's Social Vulnerability Index** to look at vulnerable populations in Houston and compared that to both the locations of emergency shelters and identified hazards

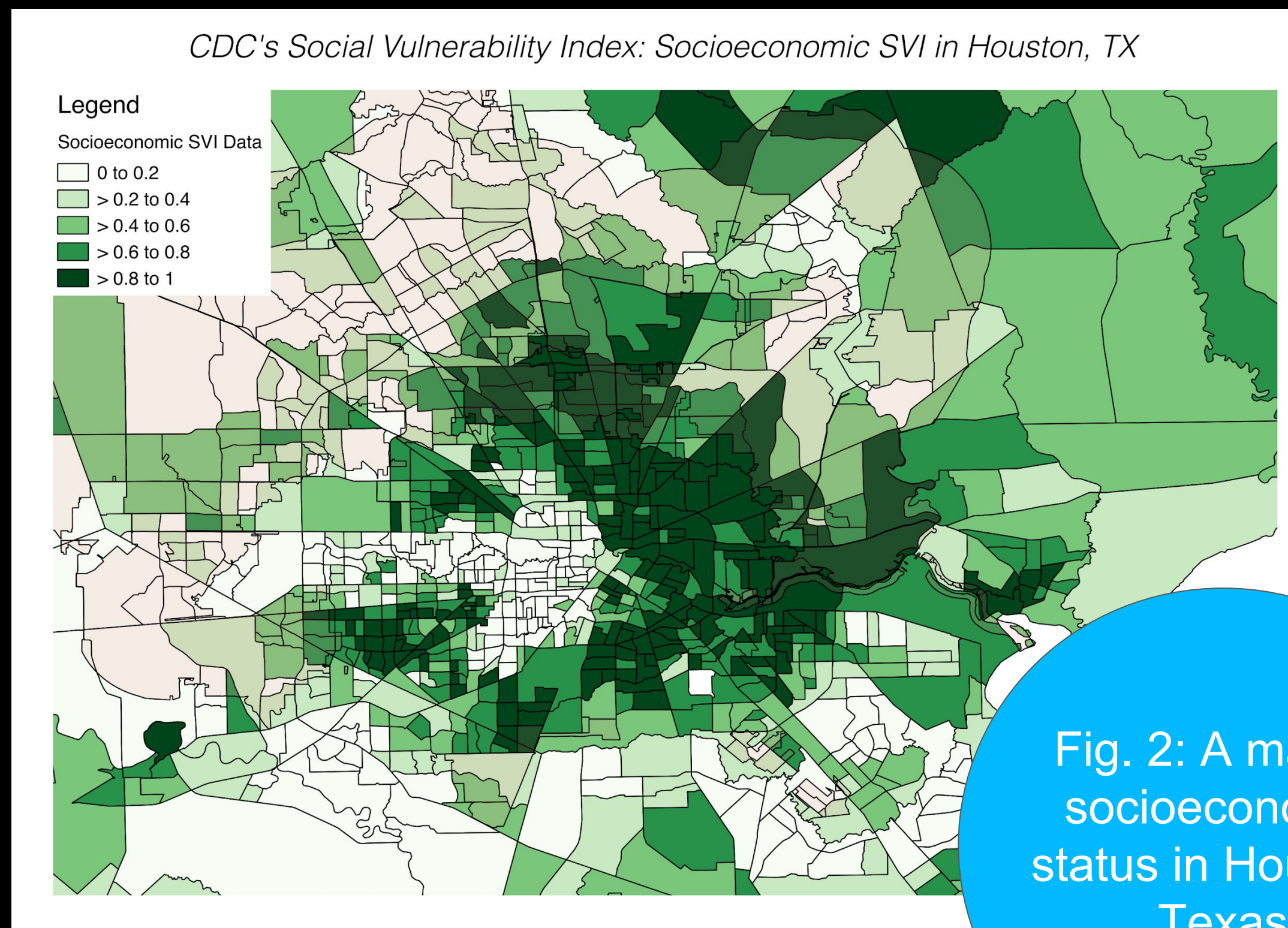


Fig. 2: A map of socioeconomic status in Houston, Texas

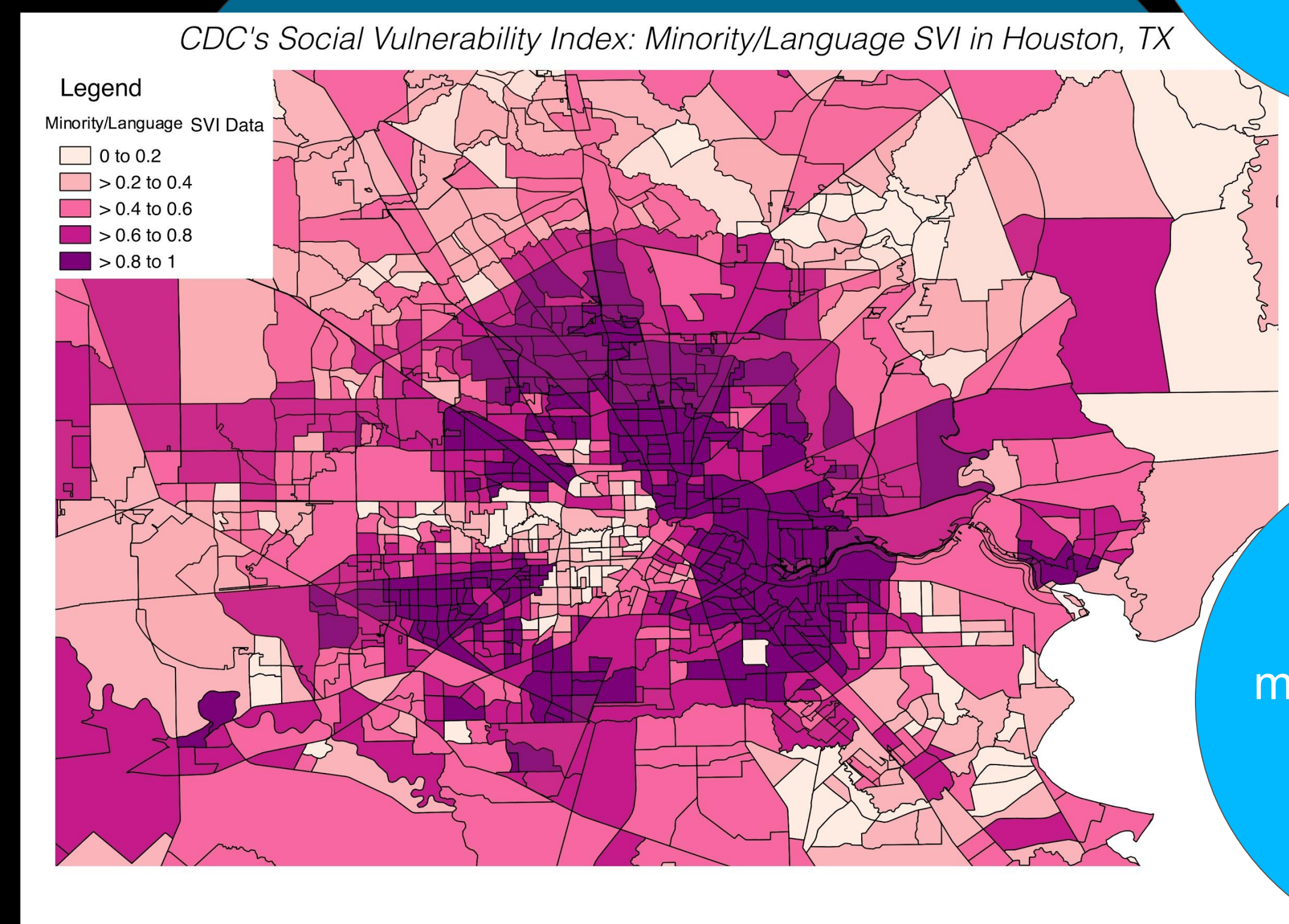


Fig. 3: A map of minority community concentration in Houston, Texas

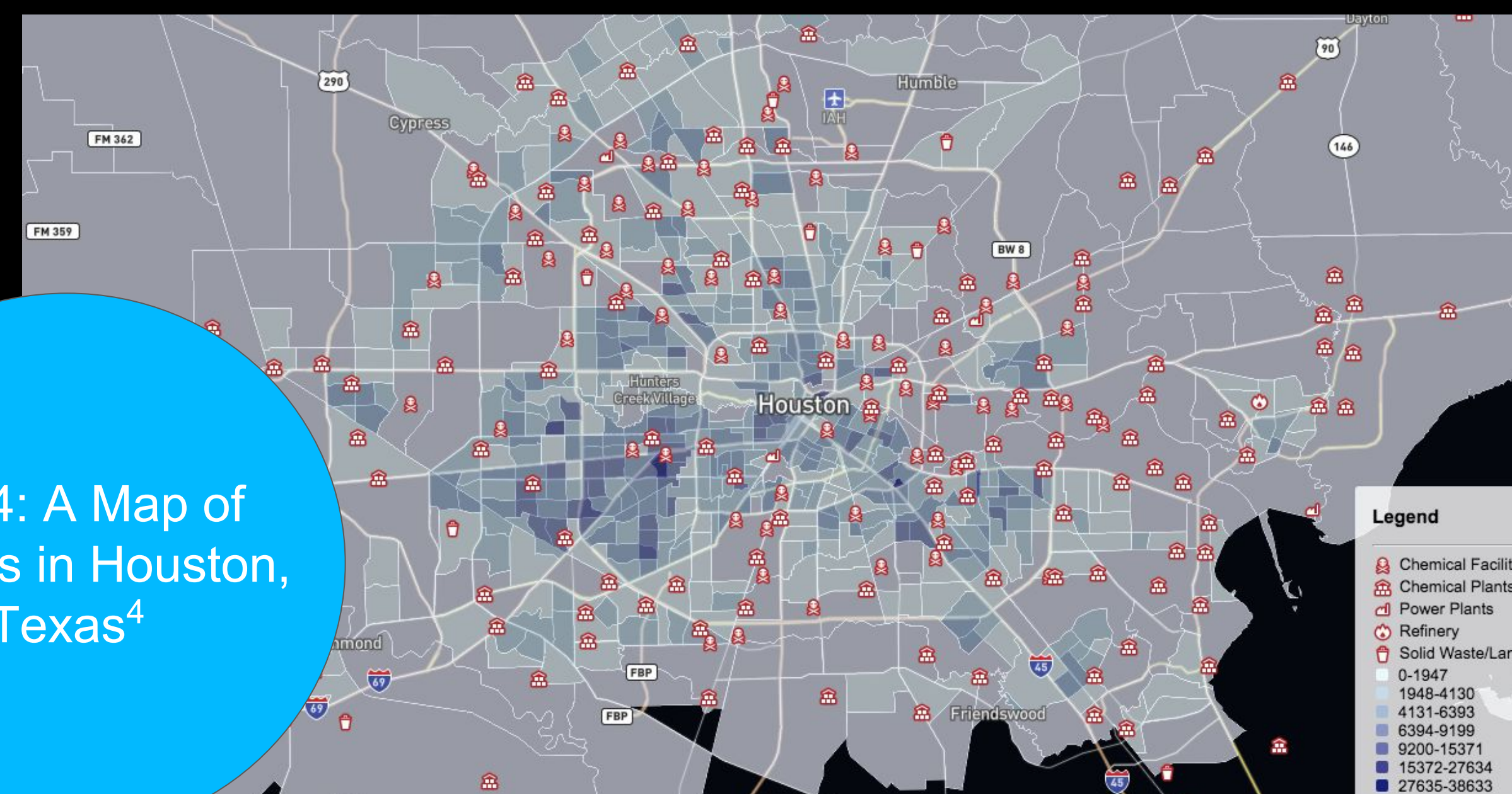


Fig. 4: A Map of hazards in Houston, Texas⁴

Selected References

1. Baker, Stacey Menzel. 2009. "Vulnerability and Resilience in Natural Disasters: A Marketing and Public Policy Perspective." *Journal of Public Policy & Marketing* 28 (1): 114–23. <https://doi.org/10.1509/jppm.28.1.114>.
2. Eisenman, David P., Kristina M. Cordasco, Steve Asch, Joya F. Golden, and Deborah Glik. 2007. "Disaster Planning and Risk Communication With Vulnerable Communities: Lessons From Hurricane Katrina." *American Journal of Public Health* 97 (Supplement 1): S109–15. <https://doi.org/10.2105/AJPH.2005.084335>.
3. Gaillard, J.C. 2010. "Vulnerability, Capacity and Resilience: Perspectives for Climate and Development Policy." *Journal of International Development* 22 (2): 218–32. <https://doi.org/10.1002/jid.1675>.
4. <https://www.mapbox.com/bites/00368/#9.38/29.7442/-95.3659>

Results

- Data from Houston is fuzzy, particularly because the communities in question are **marginalized** and therefore **underrepresented** and **understudied**.
- People mainly **blame** the lack of zoning regulations and unchecked urban development over social factors for the disaster surrounding Hurricane Harvey.
- We can all agree that the response to Hurricane Harvey went more smoothly than that to Hurricane Katrina, but this is largely due to non-governmental factors. Both **community groups** and the **private sector** have taken on a more active role in disaster response. Information also travels faster due to **social media**.
- Marginalized communities still face **instrumental, cognitive, and sociocultural barriers to safety** in the event of a coastal superstorm.

Discussion and Larger Implications

- FEMA and the federal government have **not taken the appropriate steps** to address socioeconomic inequality before, during and after emergency response.
- Socio-technical systems and institutional change is **complex**
- We've identified many of the vulnerabilities, so now it is time for **policy makers** to design systems to address them
- The global north focuses on technological innovation, engineering, zoning and urban planning, and PSAs to mitigate hazard risk, downplaying local capacities and instead trying to force a **command-and-control**, trickled-down approach, which is less effective
- We continue to treat the **symptoms** of disaster without tackling the **root cause**