



Texas Water Research Network

Sustainable Infrastructure in 21st Century Texas Social Justice Considerations

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Sustainability Science, Policy and Governance
Research Group



Infrastructure, Water, and Social Justice



Flint water crisis, 2014-2019 (ongoing?)

Cochabamba Water Wars, 2000



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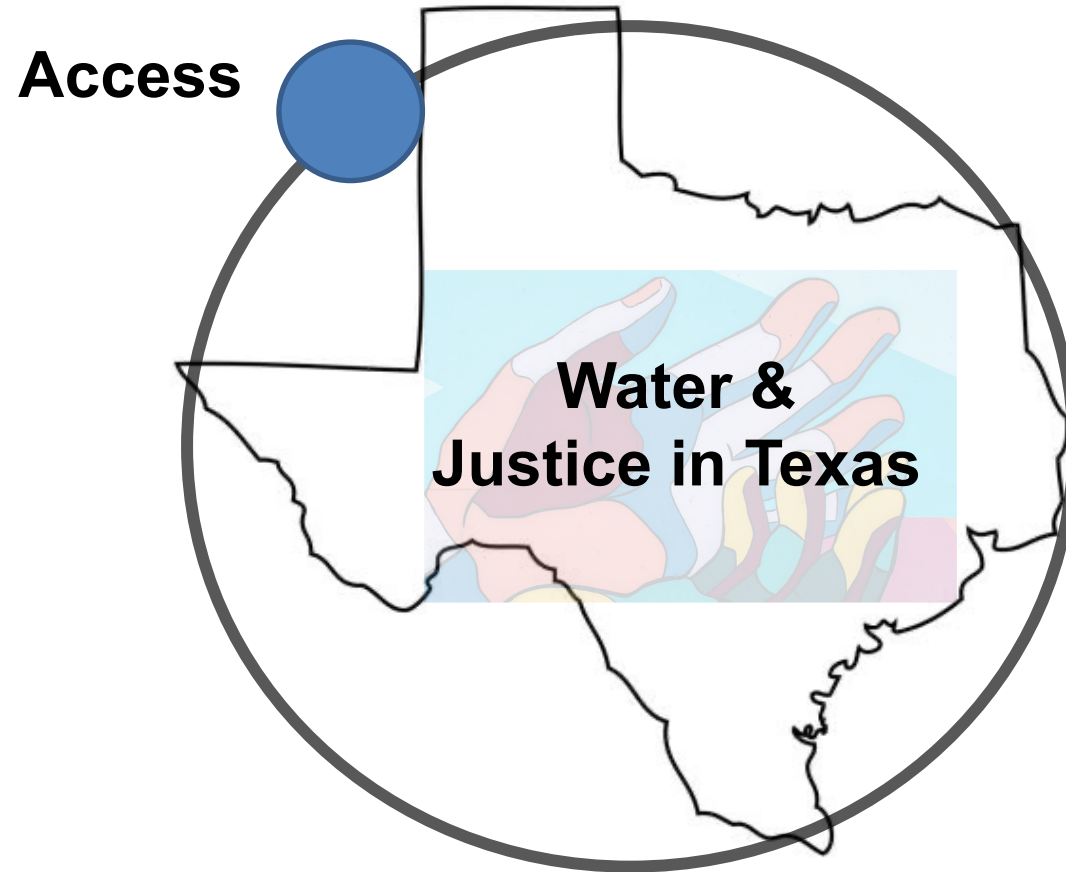
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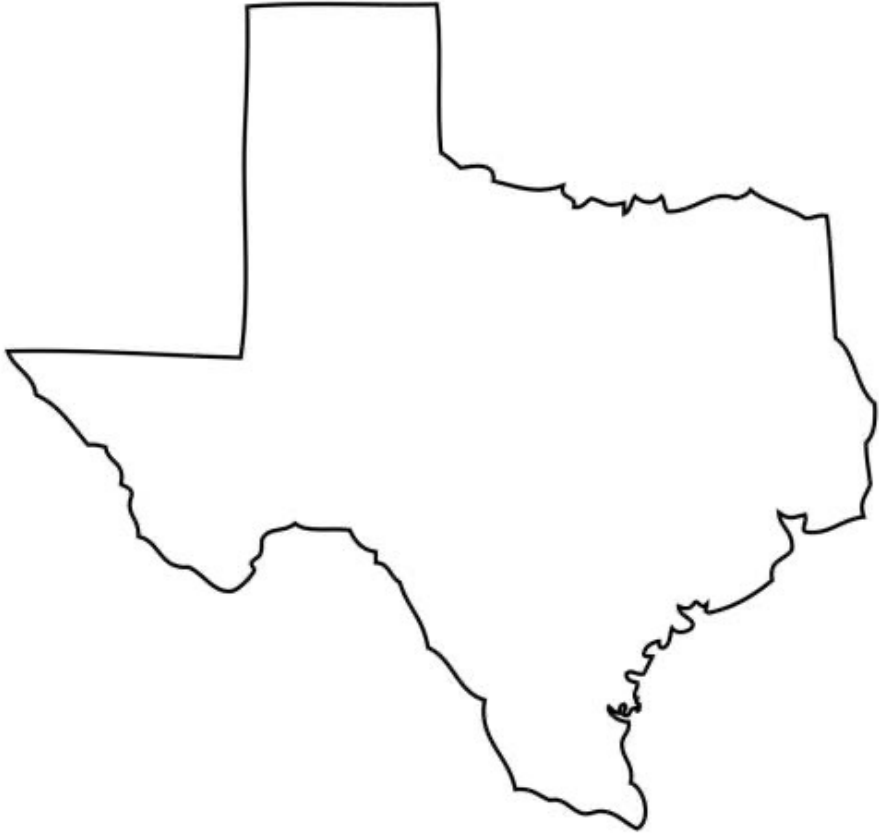
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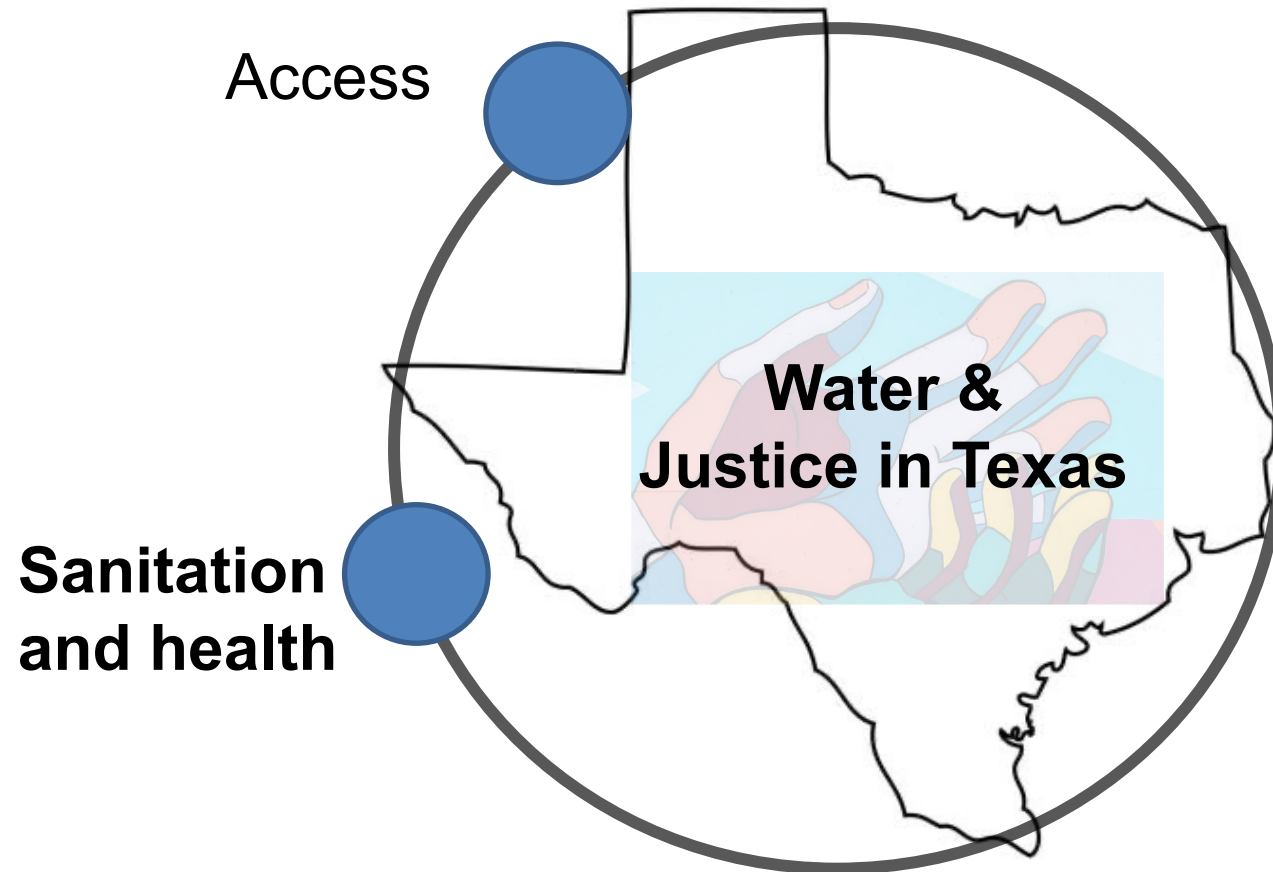


Access to clean, reliable water services is not a guarantee for all Texas communities

42,000 Texas households lack access to plumbing facilities

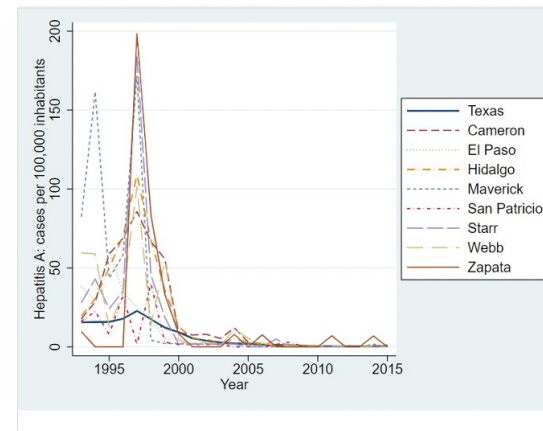
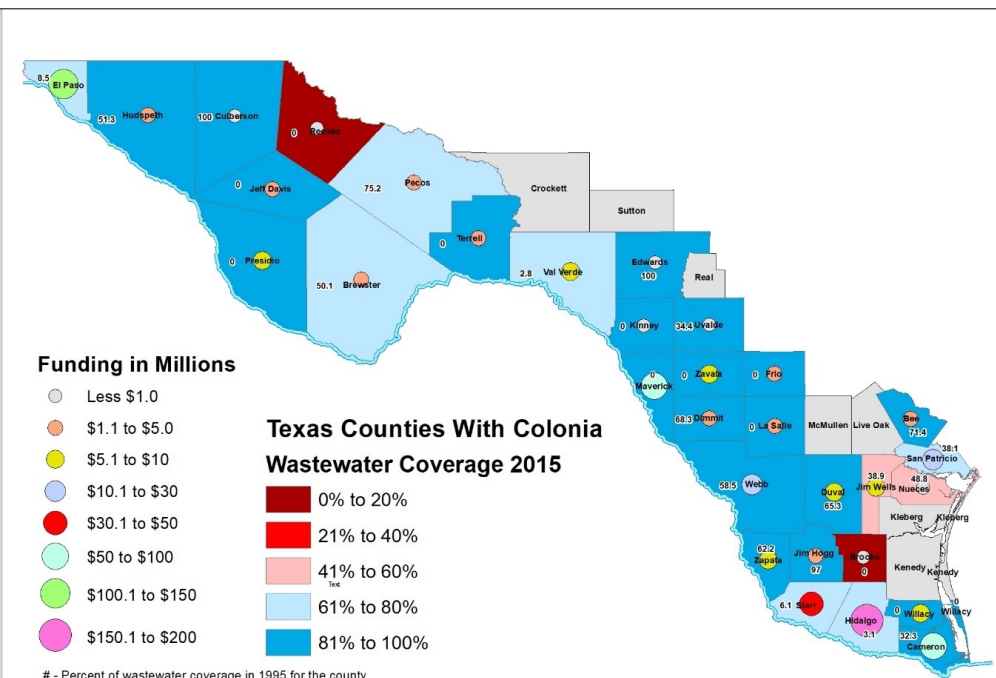
337 colonias lack access to basic infrastructure

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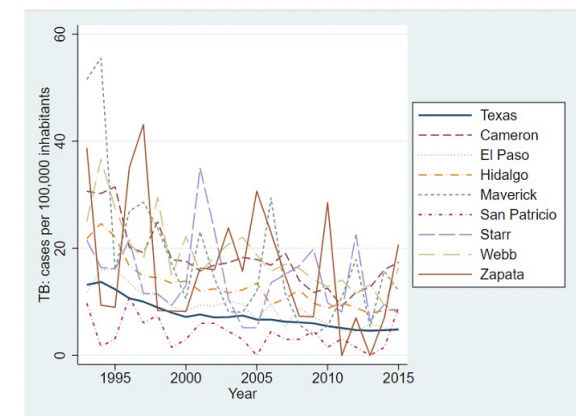


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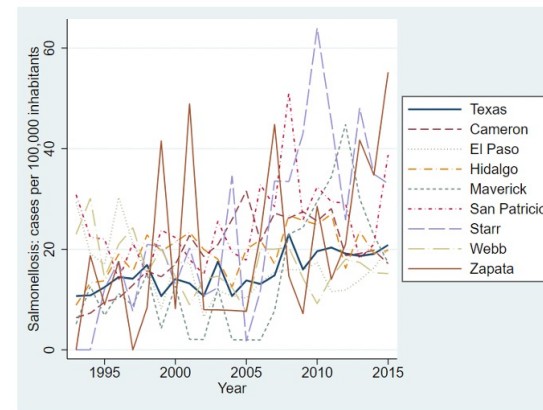
Inadequate investment in water sanitation has a significant impact on health in Texas communities



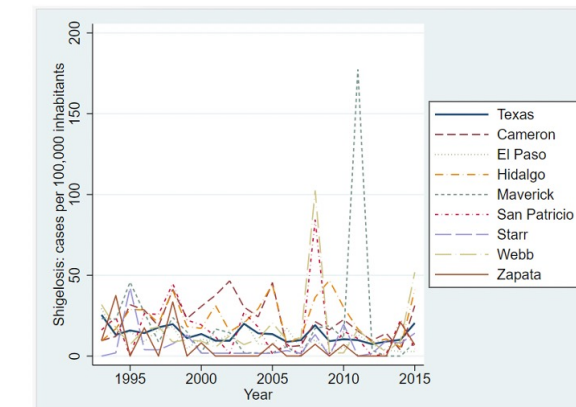
(a)



(b)



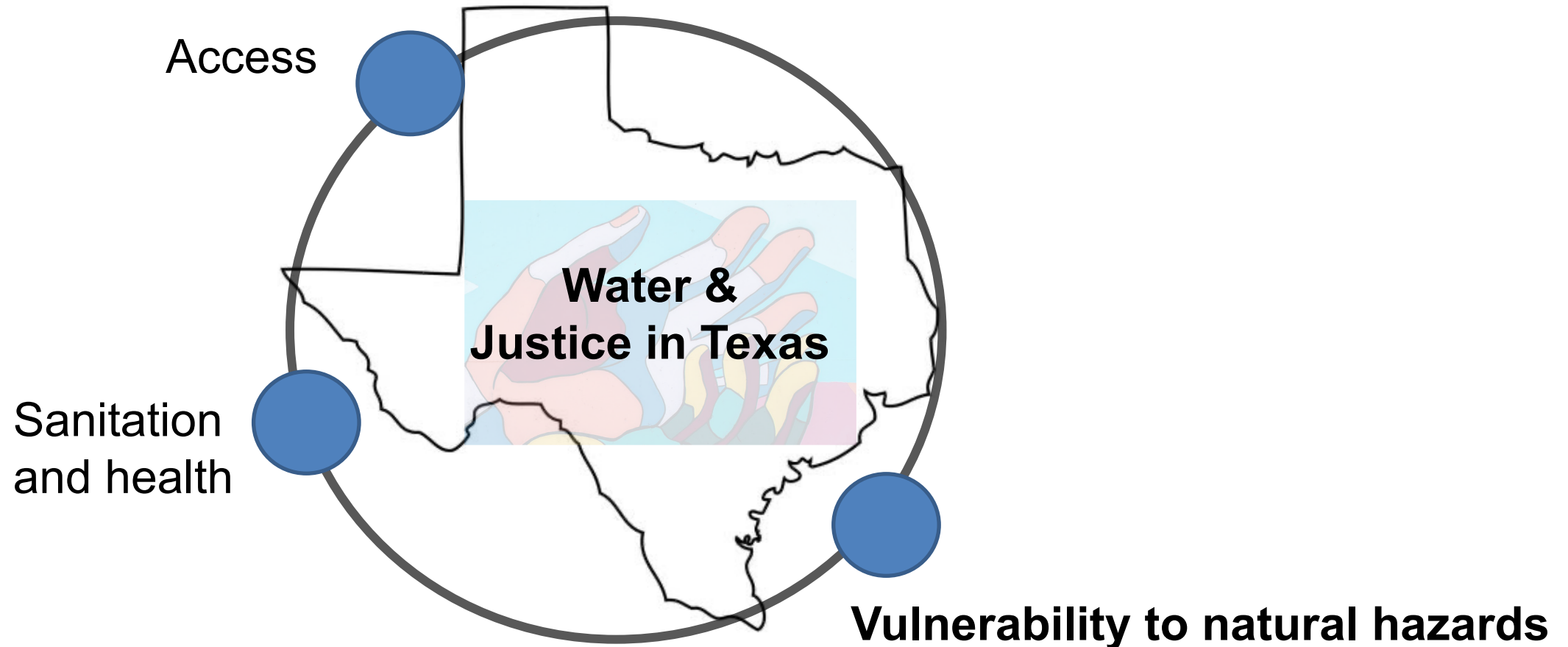
(c)



(d)

Source: Giner, Maria Elena. 2020. Municipal Infrastructure and Public Policy: Program Evaluation of Three Case Studies along the U.S.-Mexico Border. LBJ School Dissertation

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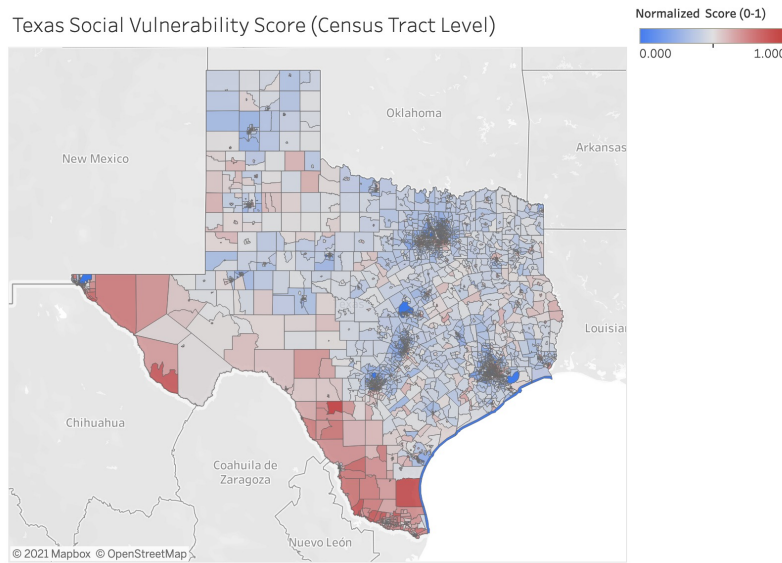


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Infrastructure systems (and investments) can implicitly increase vulnerability to natural disasters

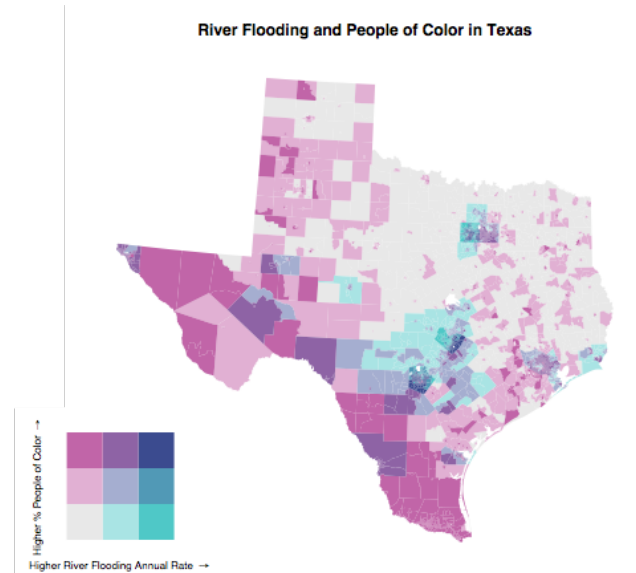
Dashboard - Census Tracts

Texas Social Vulnerability Score (Census Tract Level)

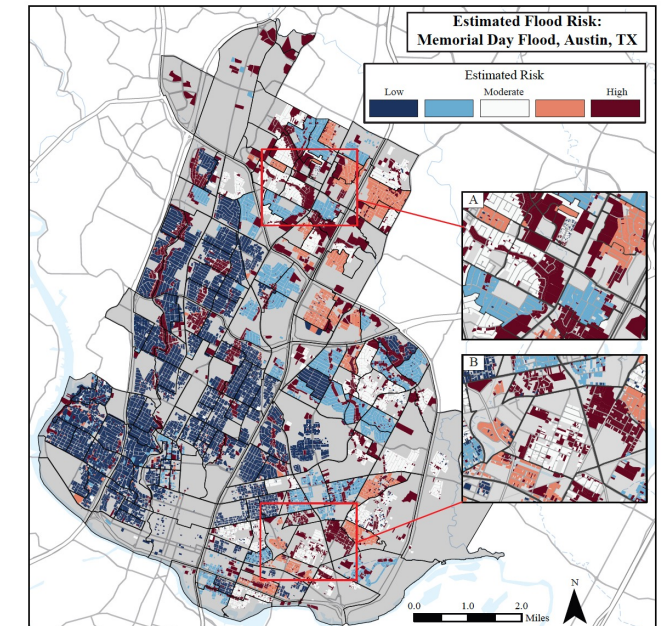


Social vulnerability in Texas
Source: Bixler and Yang, 2020.
Accessible via www.tmo.utexas.edu

River Flooding and People of Color in Texas



Social vulnerability and river flooding
Source: Zoll, Bixler, et al. In Progress

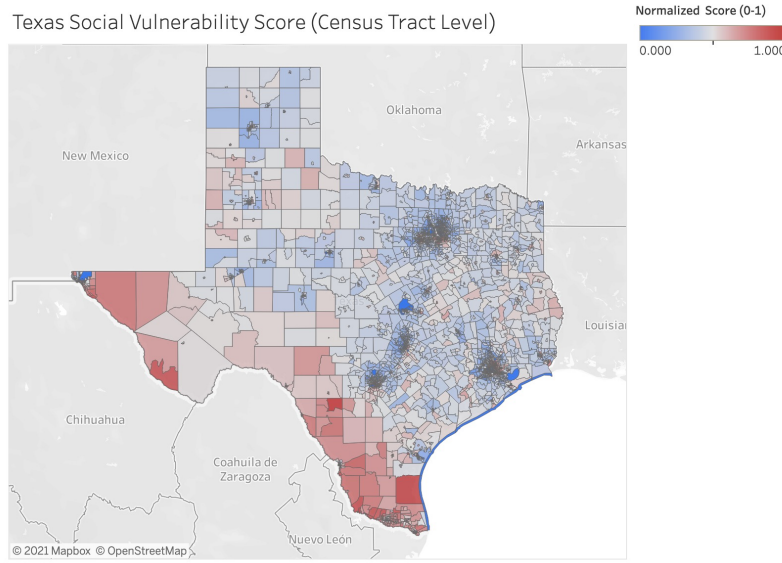


Social vulnerability and household flooding
Source: Pressier, Passalacqua, Bixler et al. In review

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Infrastructure systems (and investments) can implicitly increase vulnerability to natural disasters
Or
Explicitly reduce exposure to flood in susceptible communities

Dashboard - Census Tracts

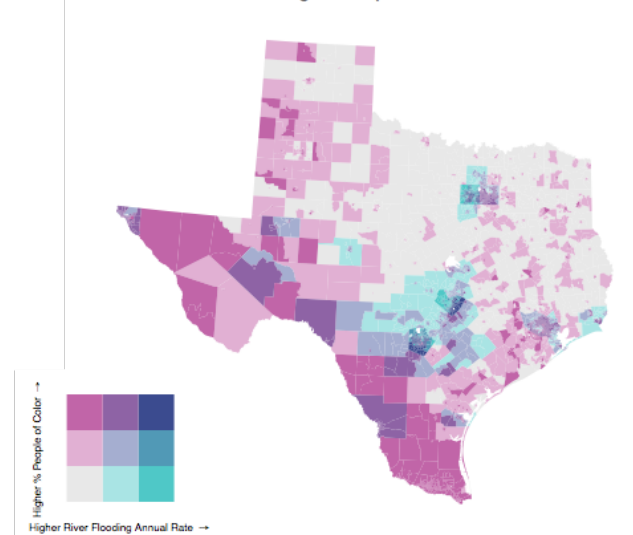


Social vulnerability in Texas

Source: Bixler and Yang, 2020.

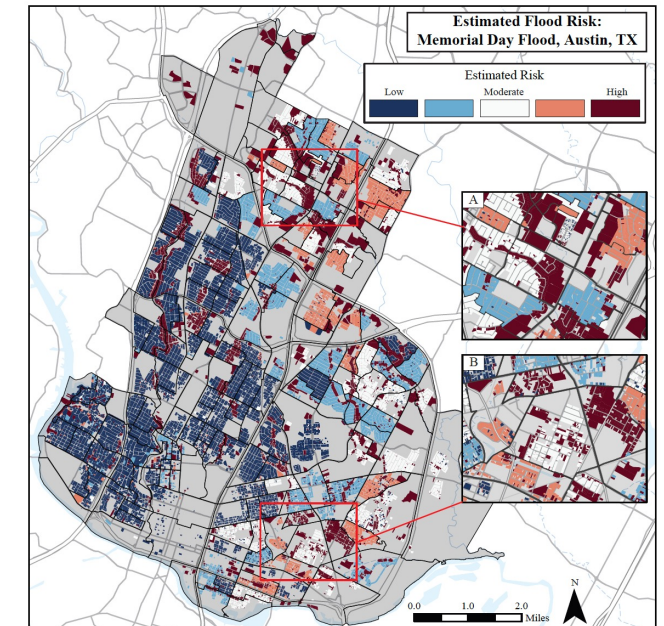
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River Flooding and People of Color in Texas



Social vulnerability and river flooding

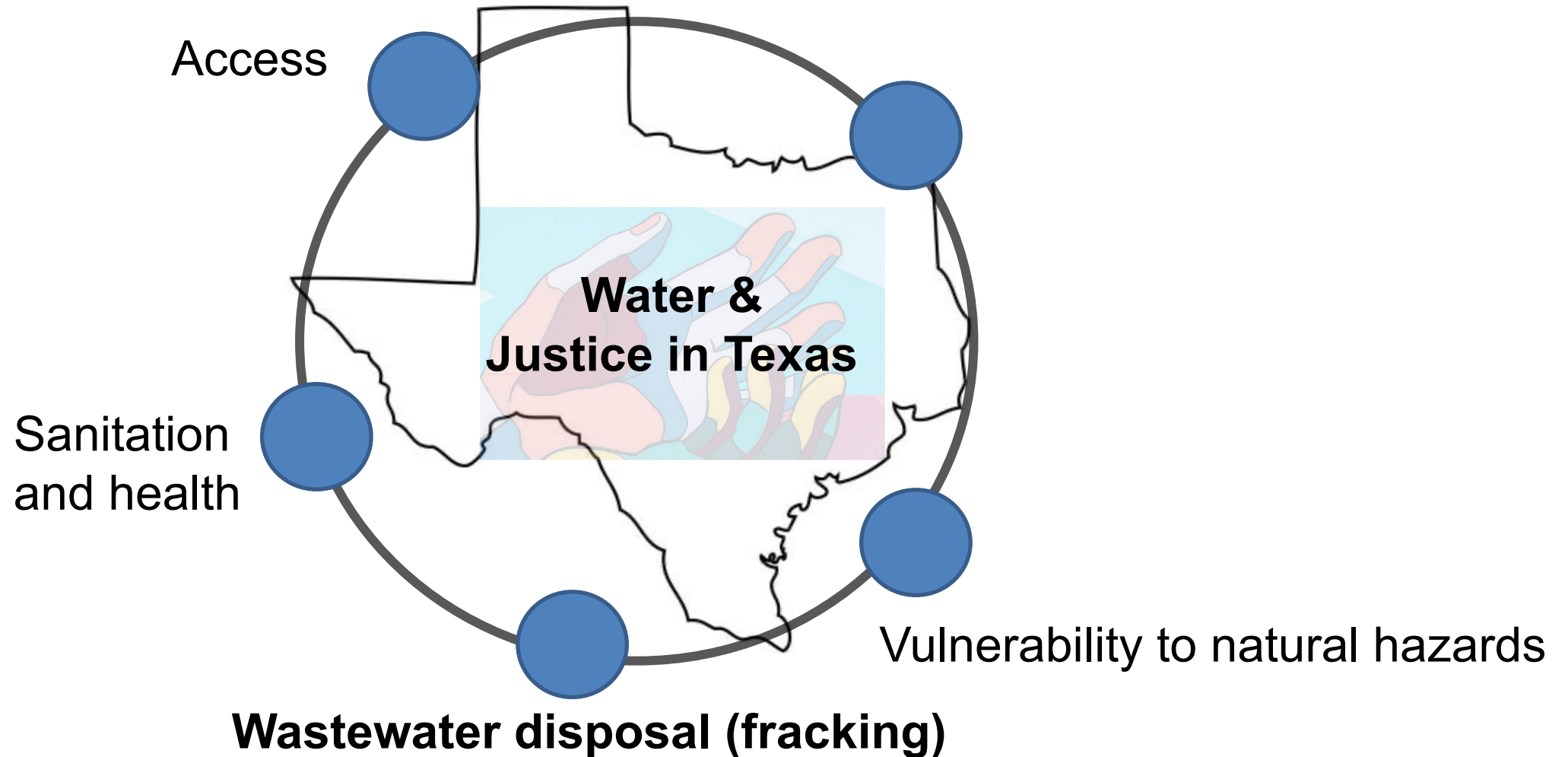
Source: Zoll, Bixler, et al. In Progress



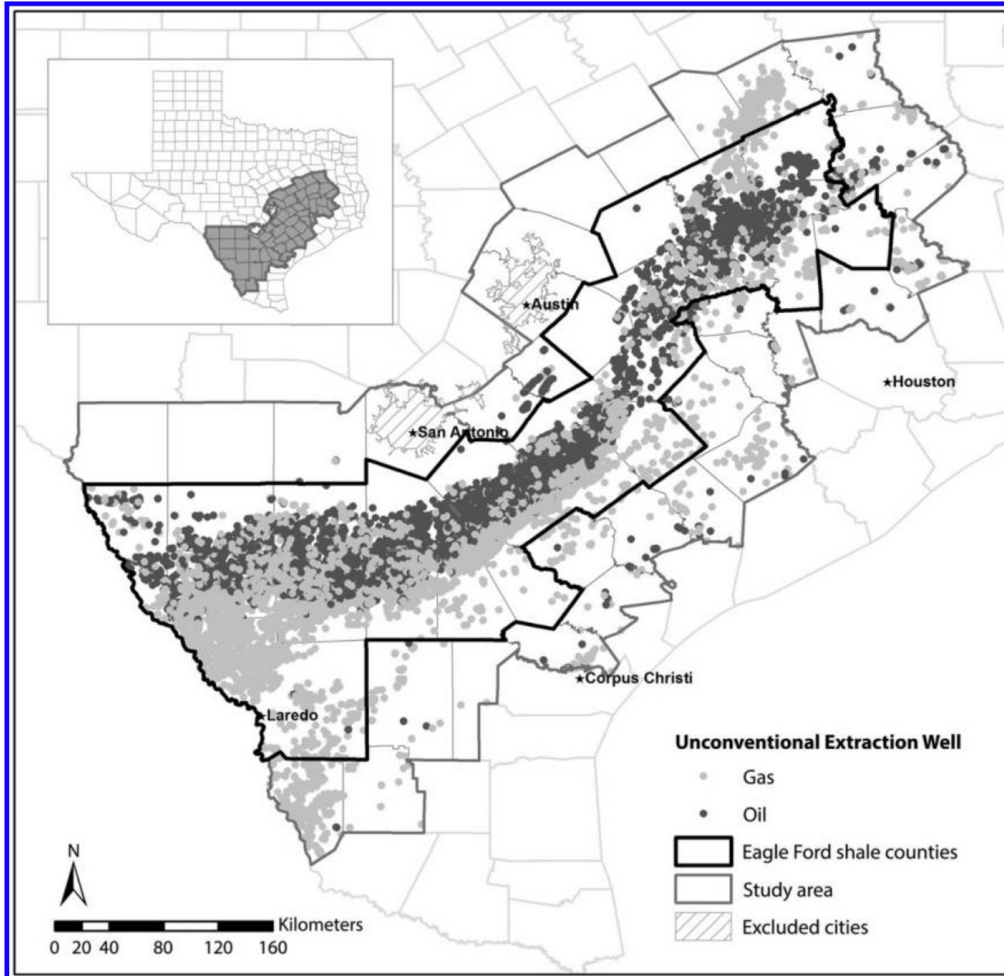
Social vulnerability and household flooding

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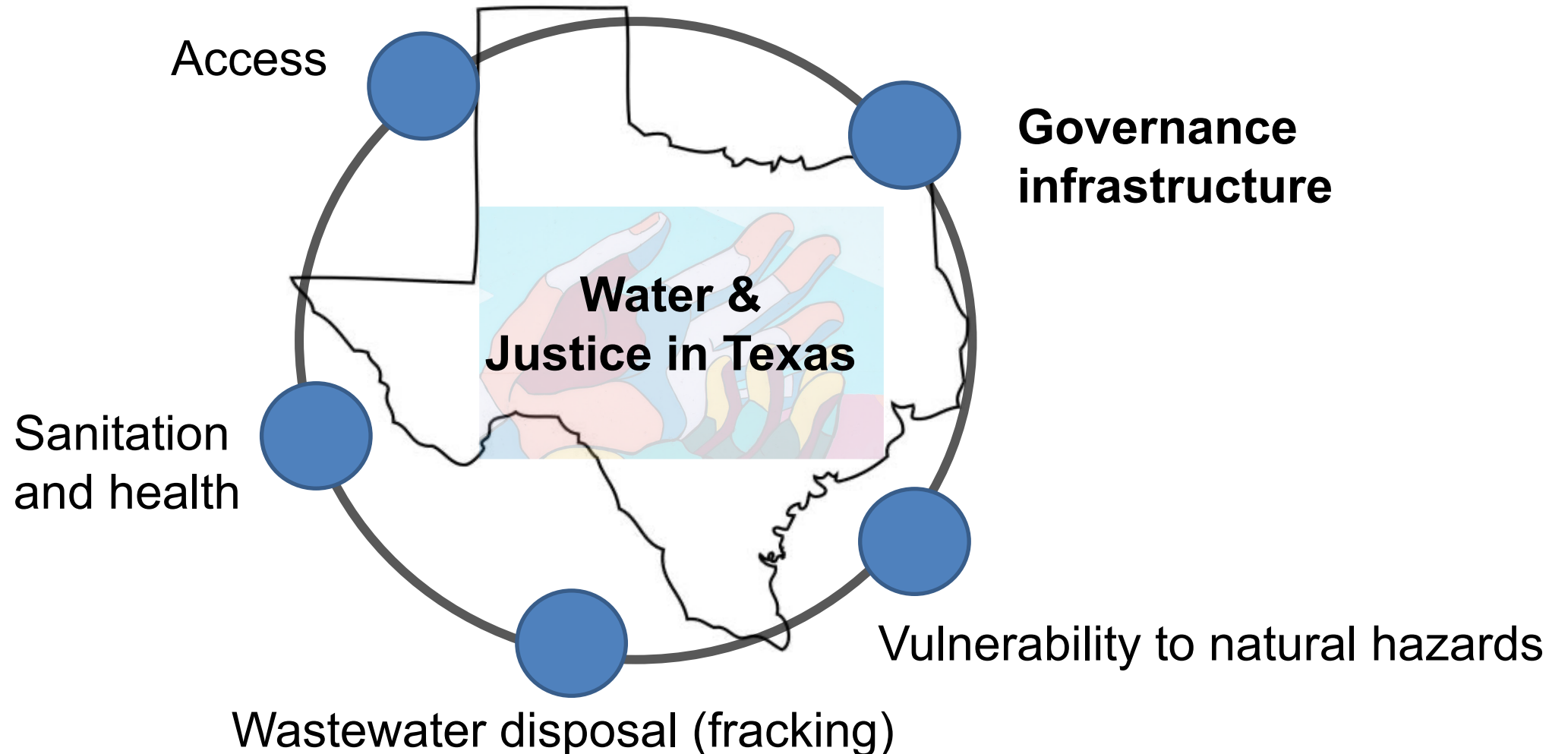


Equity can (and should) be explicit in the allocation and distribution of environmental harms

The proportion of people of color living near an injection well is 1.30 times higher than non-Hispanic Whites.

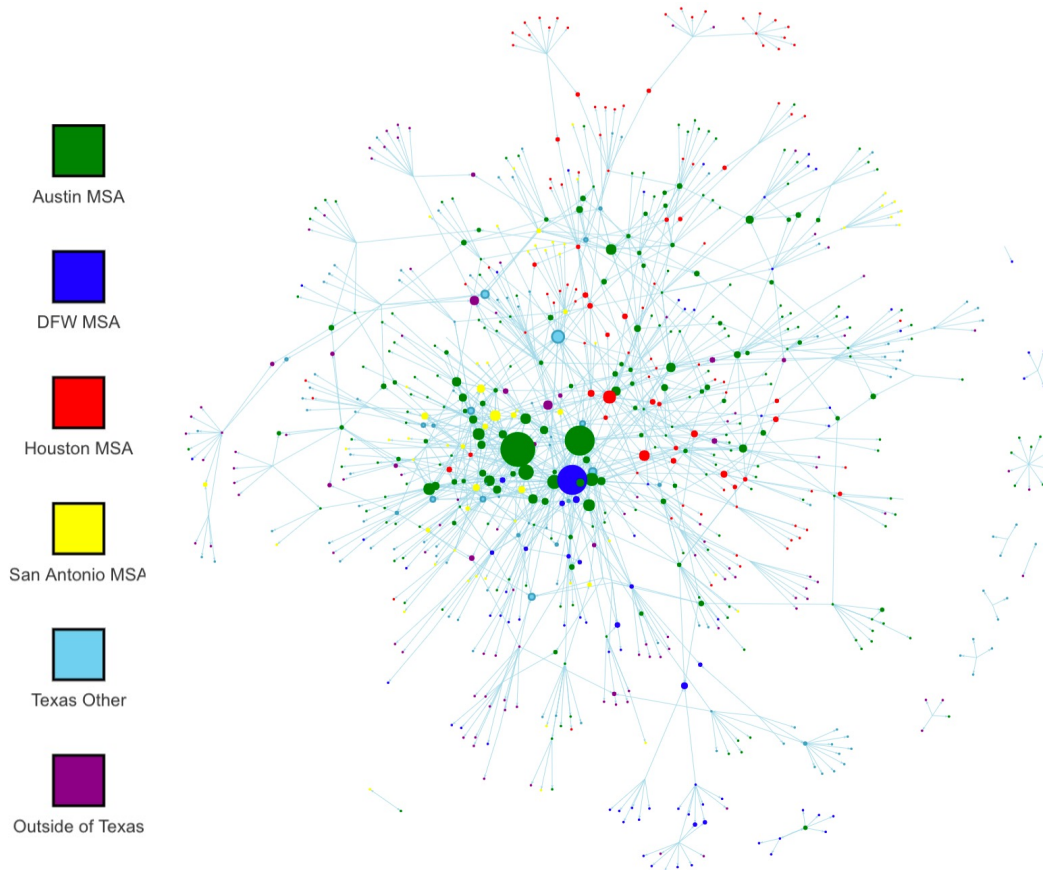
Source: Johnston, Werder, MSPH, and Sebastian. 2016. Wastewater Disposal Wells, Fracking, and Environmental Injustice in Southern Texas. *American Journal of Public Health*

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795 environmental-related NGOs in Texas



Equity and justice should be explicit in our water governance infrastructure

- Marginalized communities are less represented in water planning forums
- Racial equity priorities are important predictors of collaboration

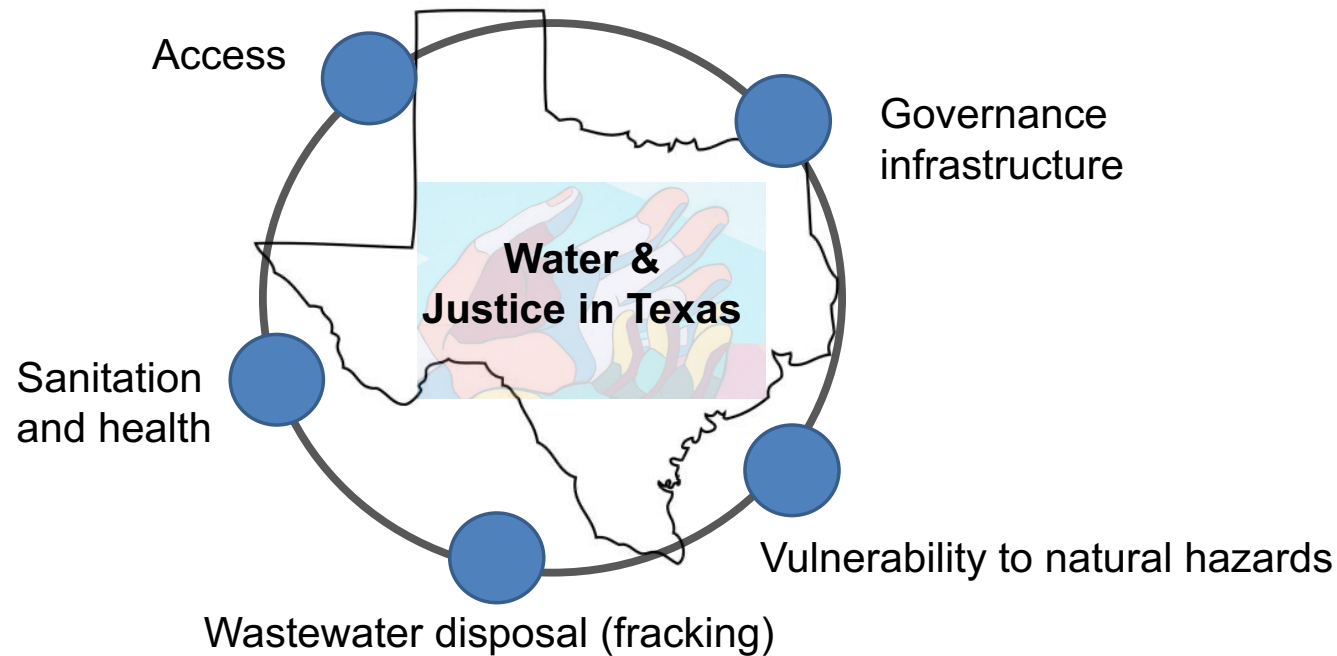
Source: Bixler et al, In Review

Data accessible: <https://rgk-center.shinyapps.io/pt2050/>

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**“Injustice anywhere is a threat to justice everywhere”
-Dr. Martin Luther King Jr.**

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