



# Seattle Climate Challenges Atlas

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# Overview

- About Futurewise
- Equity Atlas Projects Evolution
- Research Justice
- Overview of an Organizational Narrative

future  
wise

# About Futurewise



- Concentrated urban growth
- Sprawl reduction
- Regional transportation
- Affordable housing
- Economic development
- Property rights
- Permit processing
- Natural resource industries
- Open space and recreation
- Environmental protection
- Public participation
- Public facilities and services
- Historic preservation
- Shoreline management
- **CLIMATE**
- **RACIAL EQUITY / SOCIAL JUSTICE**



# future Equity Reports & Process

wise 

## Reports:

- King County Baseline Equity Assessment (2013)
- Seattle Health and Equity Assessment (2015)
- Seattle Climate Challenges Atlas (2017)

## Process:

- Engagement with community/partners
- Research and documentation
- Partner review, policy implementation



# Seattle King County Regional Equity Assessment (2013)

## Equity kNOW

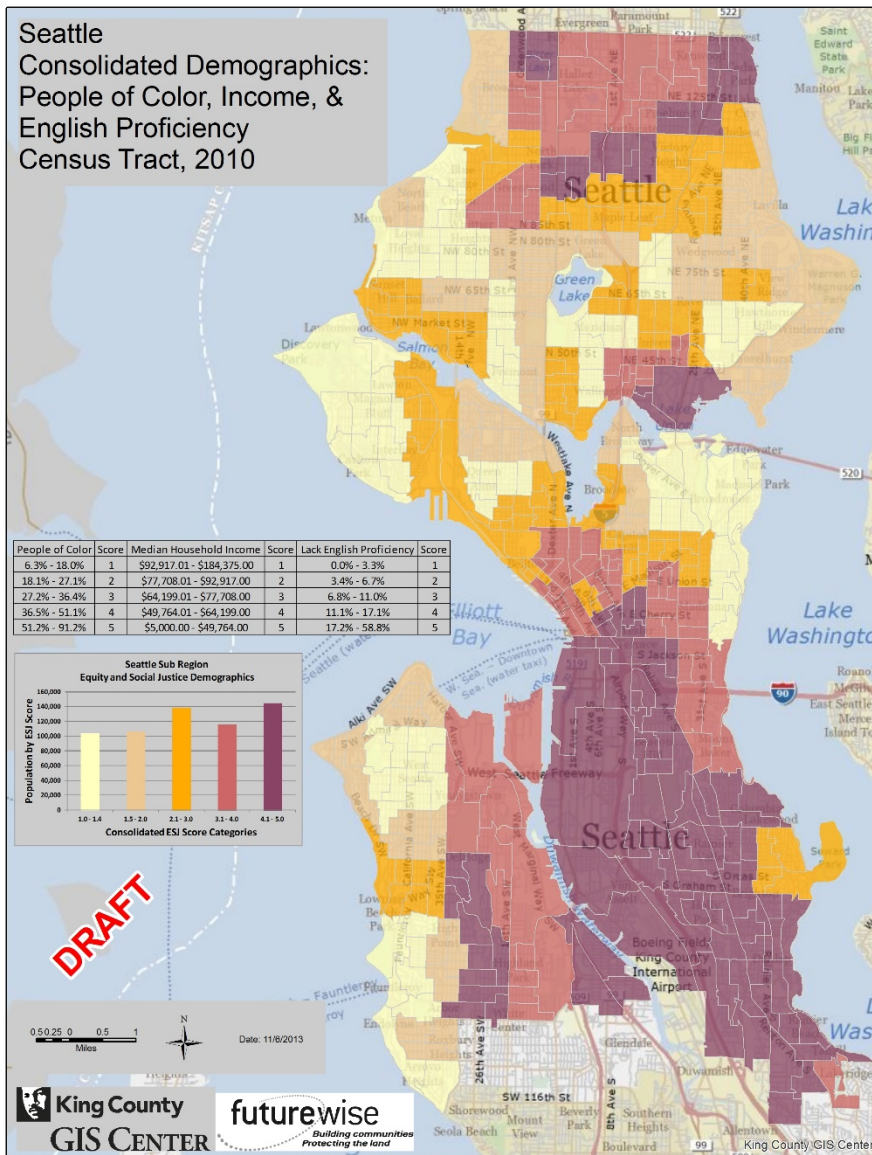
Increasing Fairness and Opportunity for All

A Partnership Between



King County

Seattle  
Consolidated Demographics:  
People of Color, Income, &  
English Proficiency  
Census Tract, 2010



# Seattle Health and Equity Assessment (2015)

Public Health Facilities  
2000

What areas of Seattle have access to public health facilities?

This map depicts areas in 2000 with close proximity to public health facilities related to diversity, income and English proficiency at the census tract level in Seattle.

**Legend**

**Community Characteristics**

- Less Diverse, Higher Income, & Higher English Proficiency
- Moderate Diversity, Income, & English Proficiency
- More Diverse, Lower Income, & Lower English Proficiency

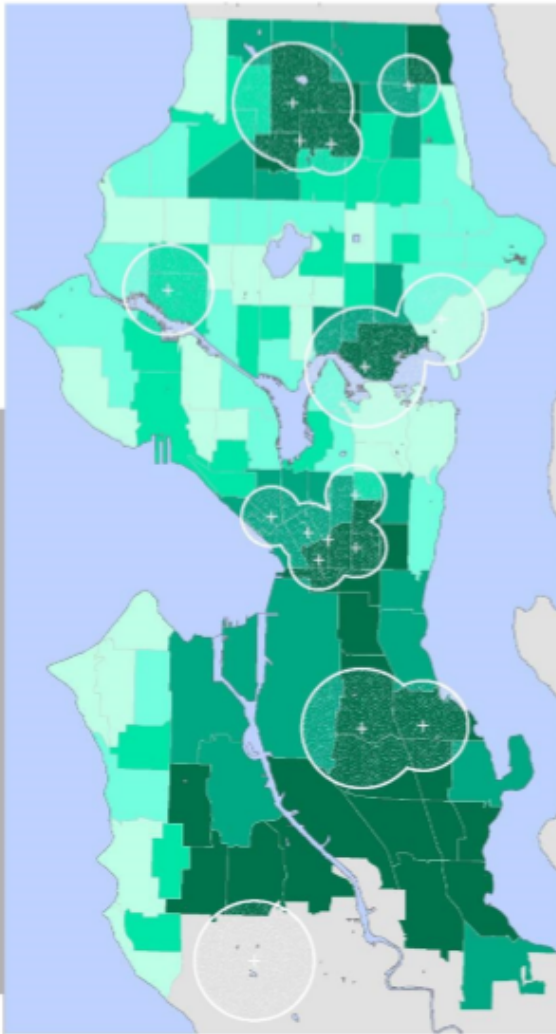
- + Facility
- Access Area

Buffer size based on population density at service point



Data Source: 2000 Census & 2000-2010 U.S. Census Bureau Community Survey

For detailed methodology and data sources see Map Method section.



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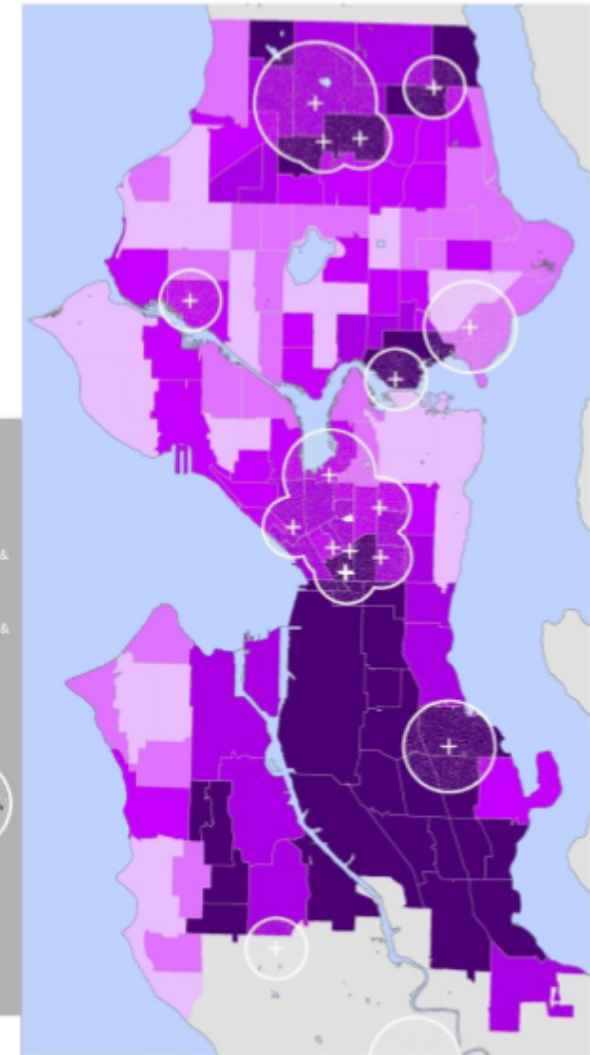
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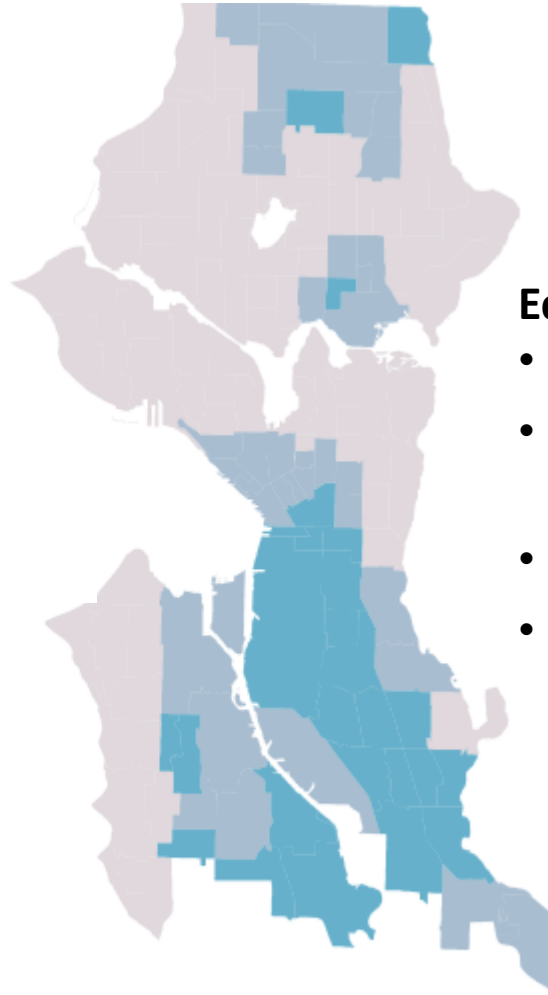


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For detailed methodology and data sources see Map Method section.



**future wise** **Seattle Climate Challenges Atlas (2017)**  
**Bivariate Choropleth Map**



**Equity Index:**

- People of Color
- At or below 200% of federal poverty line
- Born outside the US
- Limited English proficiency

**Equity Basemap:**

Dark blue areas have the highest equity index scores, and the grey areas have the lowest equity index scores.



future wise **Air Quality Hazards**  
Seattle Climate Challenges Atlas

### Air Quality is impacted by climate

**POLLEN**

Pollen can be a problem for people with respiratory conditions and allergies.<sup>20</sup> With climate change, the pollen season will start earlier, last longer and be stronger.<sup>1</sup>

**PARTICULATES**

Emissions from transit and industry are a severe burden on human health.<sup>20</sup> The impacts of climate change, particularly increasing temperatures, will cause these impacts to be felt more acutely.

**WILDFIRE**

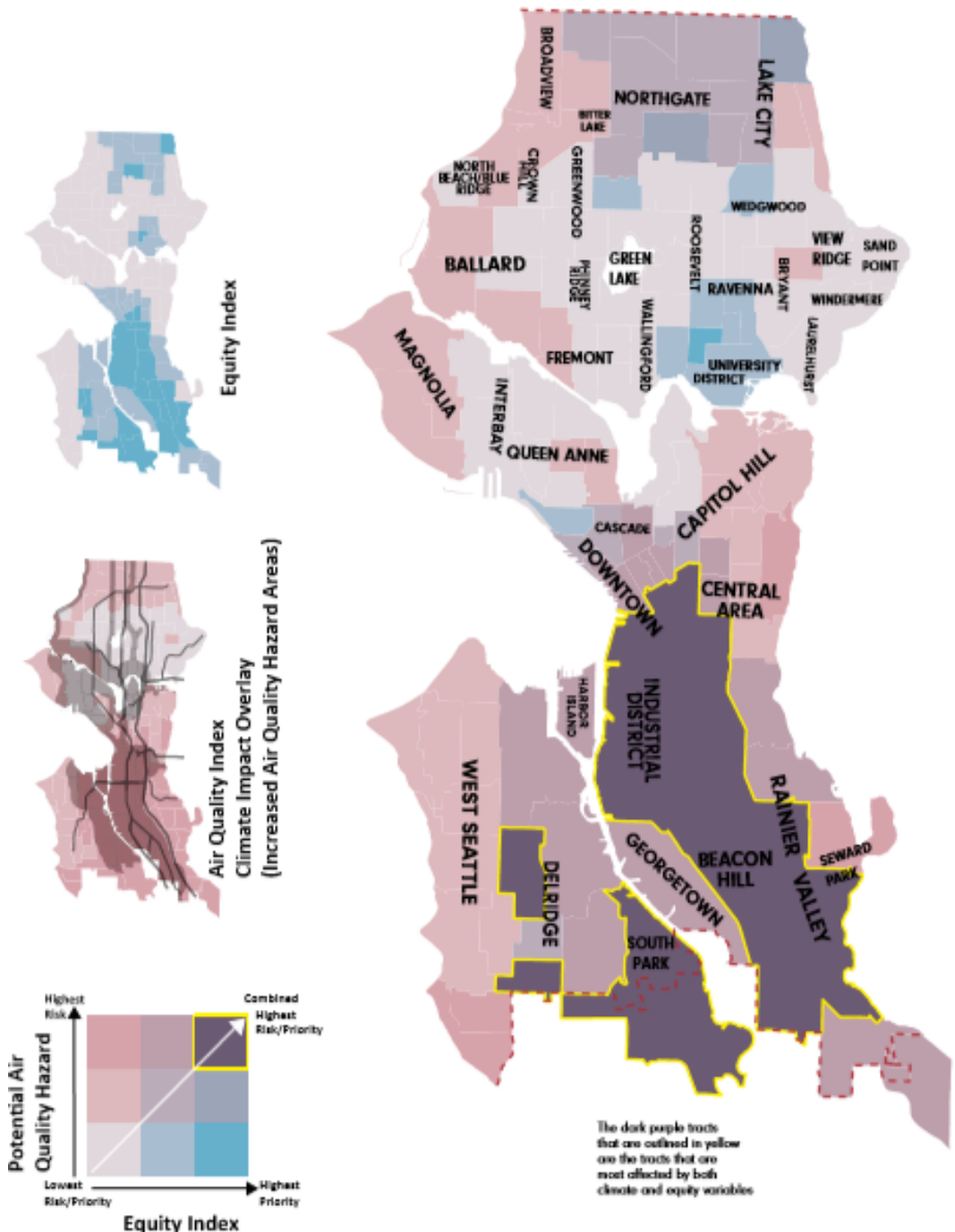
Wildland fire is a major source of particulate matter, and is especially harmful for populations with asthma and respiratory diseases.<sup>20</sup> More area is expected to burn each year under climate change.<sup>1</sup>

**By the 2050s, there will be a 1 in 3 chance every year that more than 2 million acres burn in Washington state.<sup>1</sup>**

And by 2070 we will expect the current area burned west of the Cascades to double.

Statowia, 2 million or more acres will burn every 1 in 3 years.

(that's an area larger than King County)



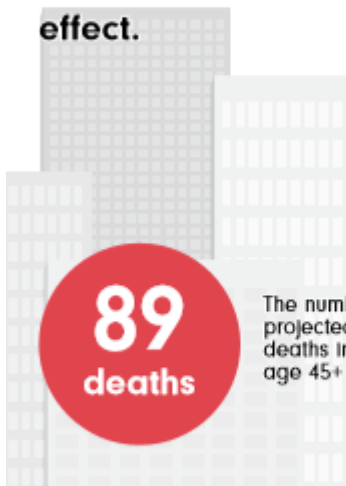


# Urban Heat Island Effect

Seattle Climate Challenges Atlas

## EXTREME HOT DAYS

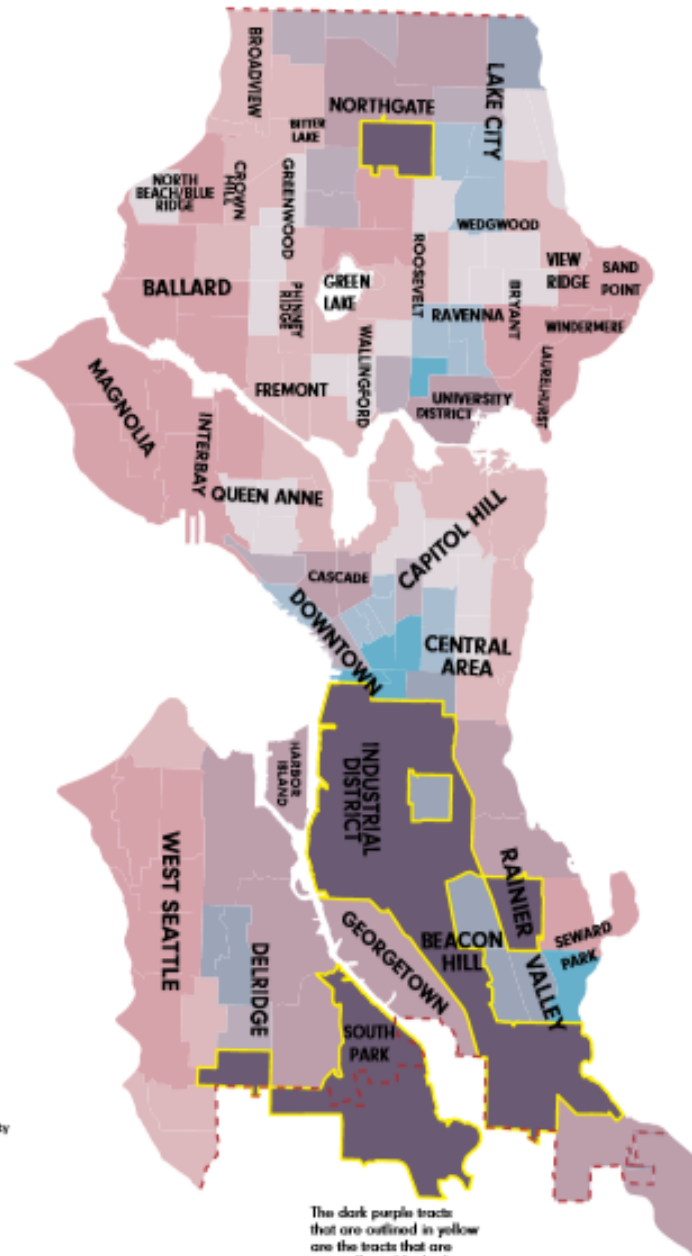
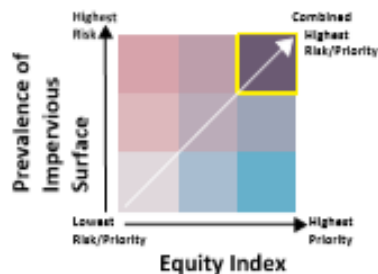
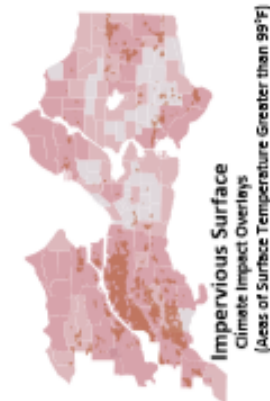
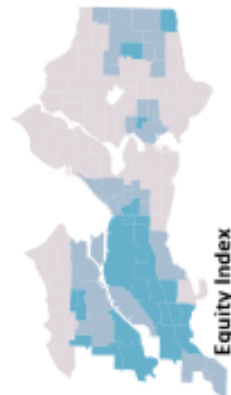
will happen more often in the future, and Seattle will heat up more due to the urban heat island effect.



The number of projected excess deaths in Seattleites age 45+ by 2080<sup>16</sup>

## URBAN HEAT ISLANDS

Cities can be as much as 27°F warmer than their surrounding undeveloped areas due to the Urban Heat Island Effect.<sup>17</sup>



The dark purple tracts that are outlined in yellow are the tracts that are most affected by both climate and equity variables

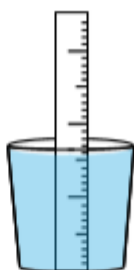
# Affordable Housing future wise in the Flood Zone

Seattle Climate Challenges Atlas

By 2100



13%  
increase in  
days with  
rain over 1  
inch



22%  
increase in  
days with  
rain over 3  
inches

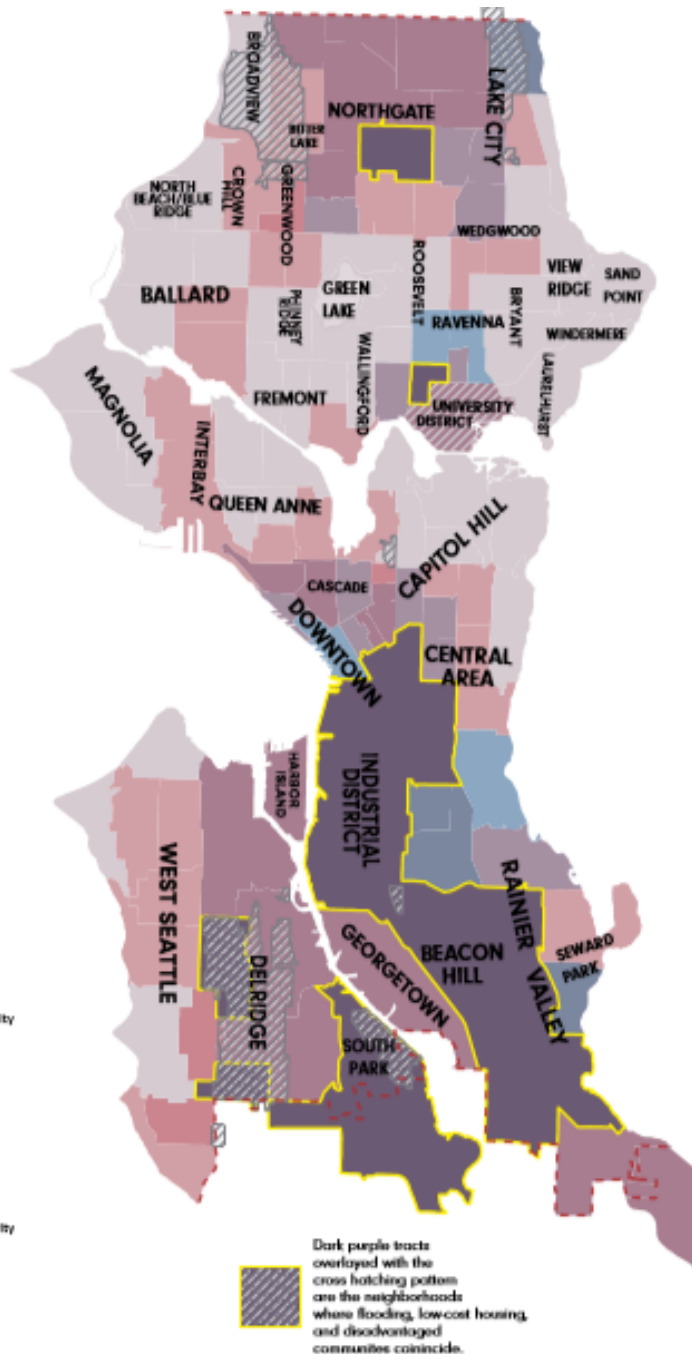
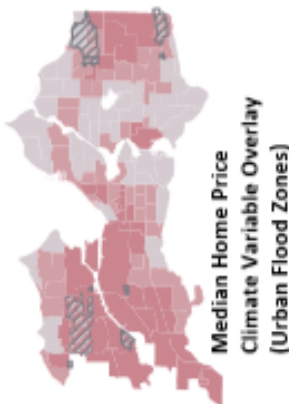
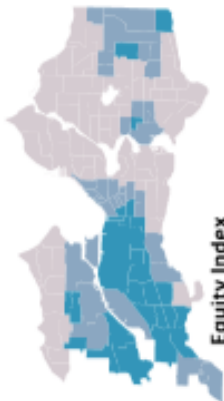
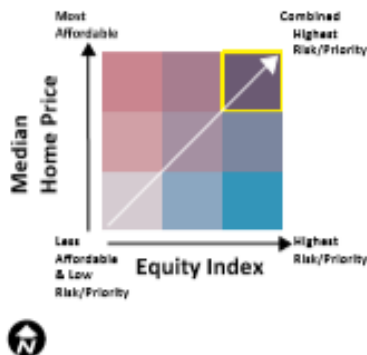
In the Puget Sound region, extreme precipitation events will intensify and occur more frequently. By the end of the century, the number of days with rain over 1 inch is project to increase by 13%, and the number of days with rain over 3 inches is projected increase by 22%.<sup>27</sup>

## Urban Flooding Areas<sup>29</sup>

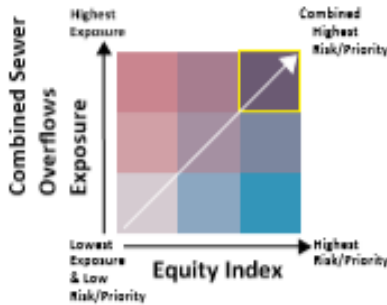
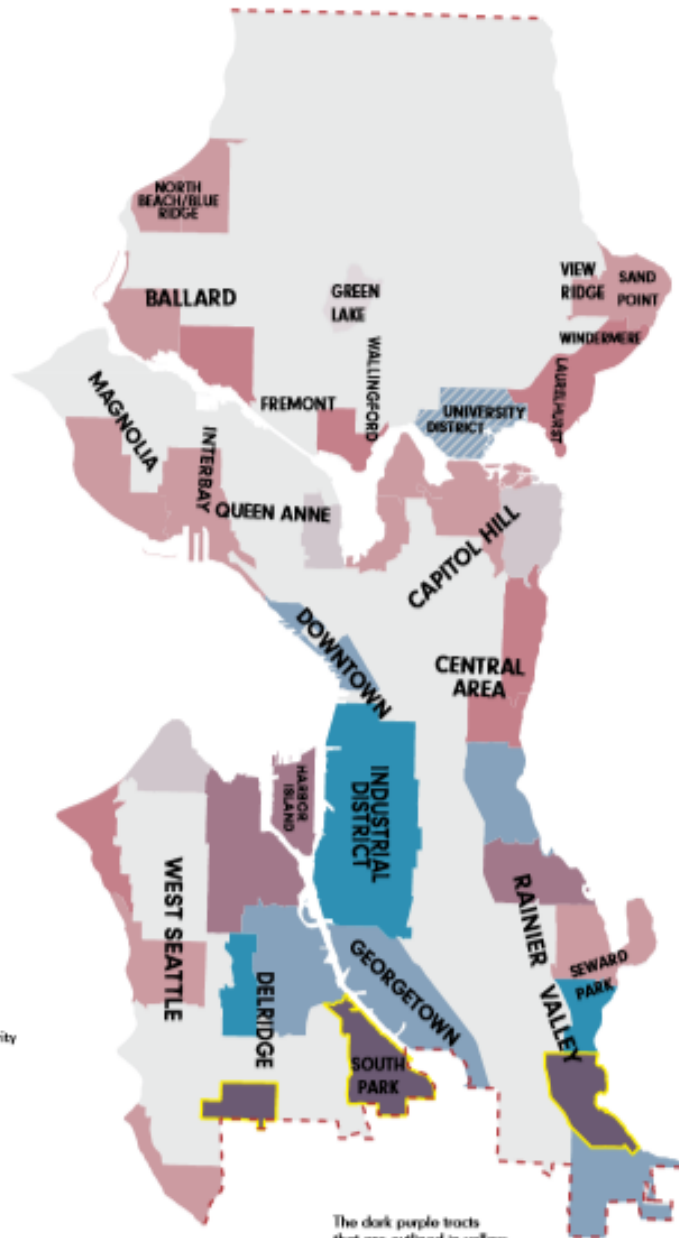
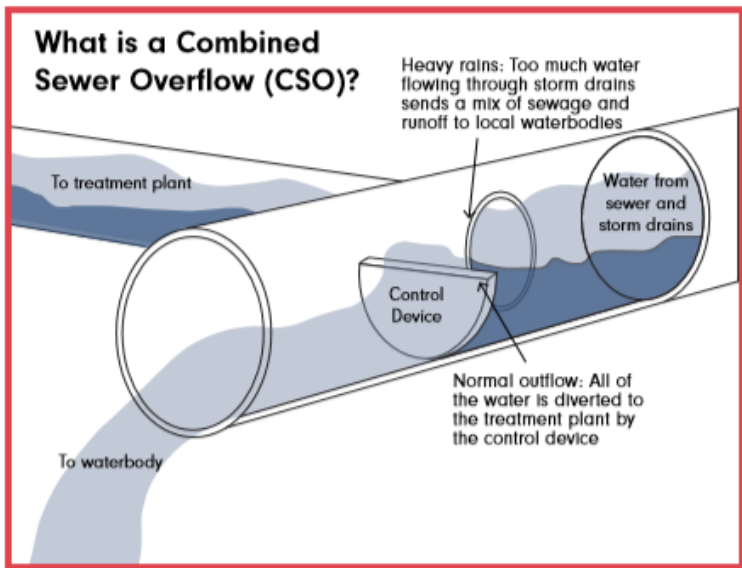


39,000 people in Seattle live in an area vulnerable to flooding, and flooding more frequently under climate change (dark blue).<sup>28</sup>

39,000  
people



**UNTREATED STORMWATER**  
threatens humans and habitat -  
and there will likely be more of it



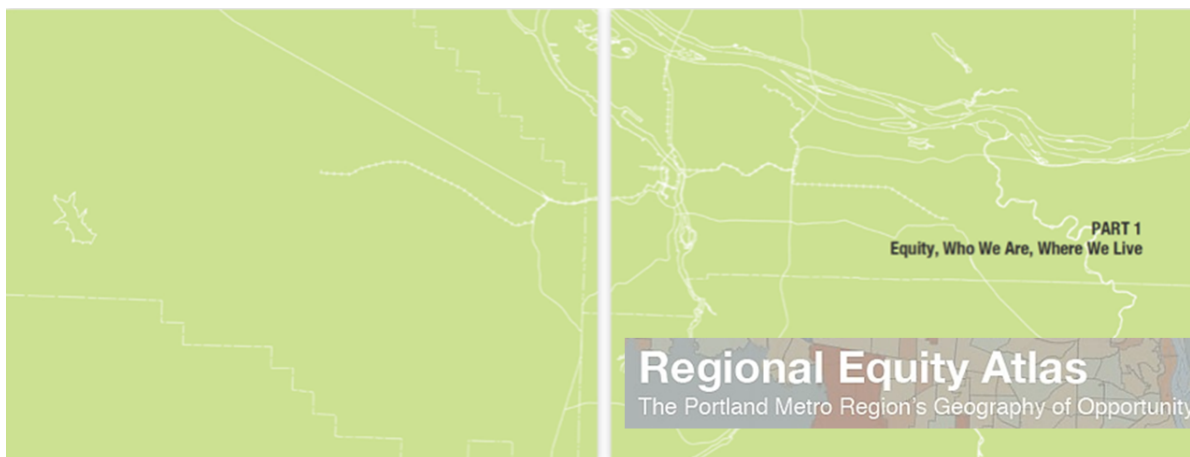
The dark purple tracts that are outlined in yellow are the tracts that have the highest Equity Index scores and were most exposed to CSOs by volume in 2015, a record rainy winter.



# future Transition wise

## Process:

- Engagement with community/partners
- Research and documentation
- Partner review and policy implementation





# Research Justice

C/O Data Center – Coalition of Communities of Color

- A strategic framework that seeks to achieve self-determination for marginalized communities. It centralizes community voices and leadership in an effort to facilitate genuine, lasting social change.
- Achieved when marginalized communities are recognized as experts, and reclaim, own and wield **all** forms of knowledge and information. With strategic support, the knowledge and information generated by these communities can be used as political leverage to advance their own agendas for change.





# Research Justice

C/O Data Center – Coalition of Communities of Color



In order for this to become reality, the community must have:

- **Control** over information and knowledge that impact them;
- **Capacity** to produce their own information and knowledge and wield it to effectively advance their agenda;
- **Equal access** to information outside of the community despite increasing commodification, privatization, and hyper-abundance of information;
- **Authority** to determine ‘validity’ and ‘credibility’ of information and knowledge, and methods to create them...on equal footing with all other institutions in society.

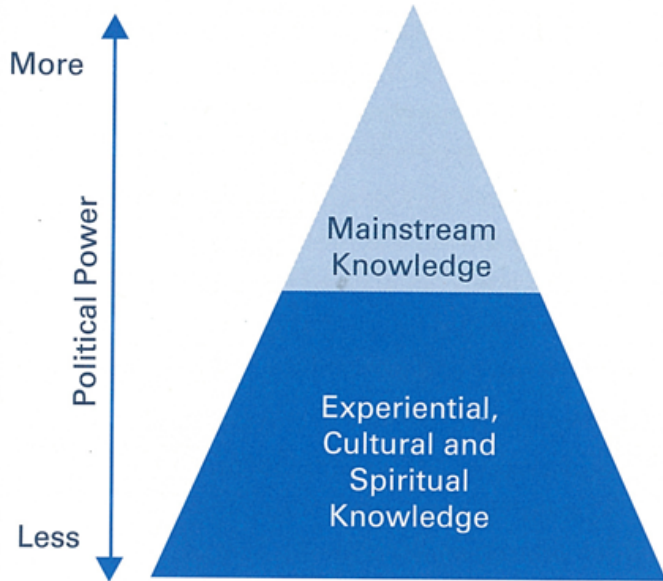


# Research Justice

C/O Data Center – Coalition of Communities of Color

## KNOWLEDGE IN THE WORLD

TODAY





# Research Justice

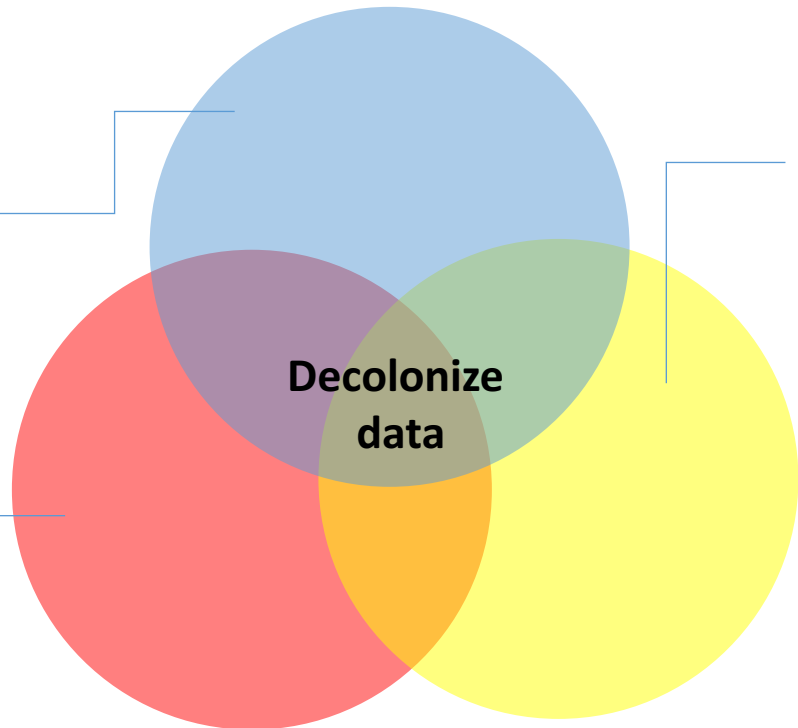
C/O Data Center – Coalition of Communities of Color

## A framework for research justice:

Communities are experts in their own lives, possessing experiential, historical and cultural knowledge which must be centered in any data research initiative. To that end, we believe that communities have a:

**Right to research:** the right to the tools through which any individual or group can systematically increase that stock of knowledge which they consider most vital to their survival as human beings.

**Right to know:** the right to access information beyond their reach, whether that knowledge is inaccessible due to cost, technical jargon, or other barriers.



**Right to be heard:** the right to use social science tools – such as surveys, interviews mapping, etc. – to package their knowledge as data to convey to decision-makers and other chosen audiences.





# Intentional Engagement





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