

## EJ Screen Worksheet

(adapted from the course "Humans and the Environment" at NC State University).

Visit About EJ Screen:

<https://www.epa.gov/ejscreen/what-ejscreen>

- What is environmental justice?
- **How do they define "social vulnerability factors"?**
- **How does social vulnerability affect health?**
- **Why do the health risks associated with environmental pollution change for socially vulnerable groups?**

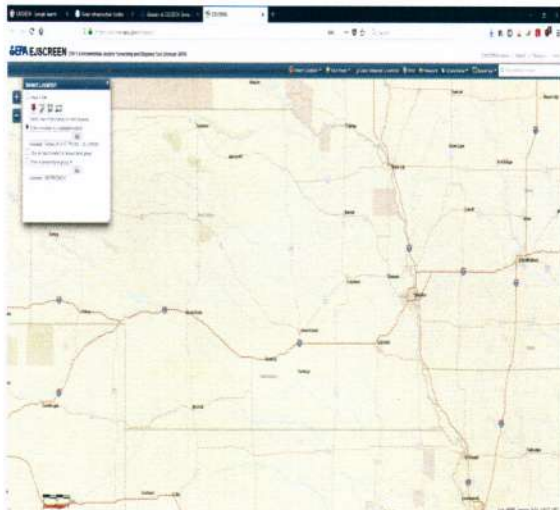
Your ideas: How does environmental justice relate to your goals for helping after disaster?  
What is not included under the umbrella of environmental justice that you would like information on?

### Mapping with EJ Screen

Go to "EJ Screen Maps": <https://ejscreen.epa.gov/mapper/>

Choose "Select Location" from the menu at the top.

Either enter your own boundary or type in the location name in the window that opens.



This will open a “Chart or Report” Window. Name it something like “TEST - YOUR NAME - YOUR PLACE”. *The example data is for Houston, TX.*

Choose a buffer size.

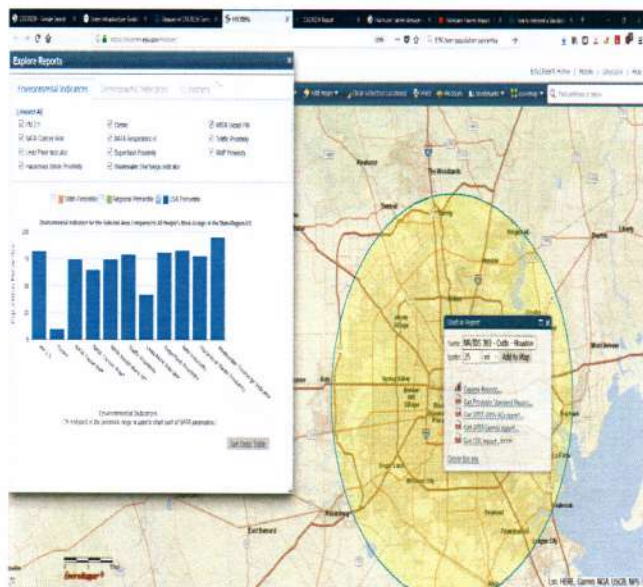
**How did you choose a buffer size that made sense to you based on your question?**

Choose the “Explore Reports” Button



View the “Environmental Indicators”; “Demographic Indicators” and “EJ Indexes” tables

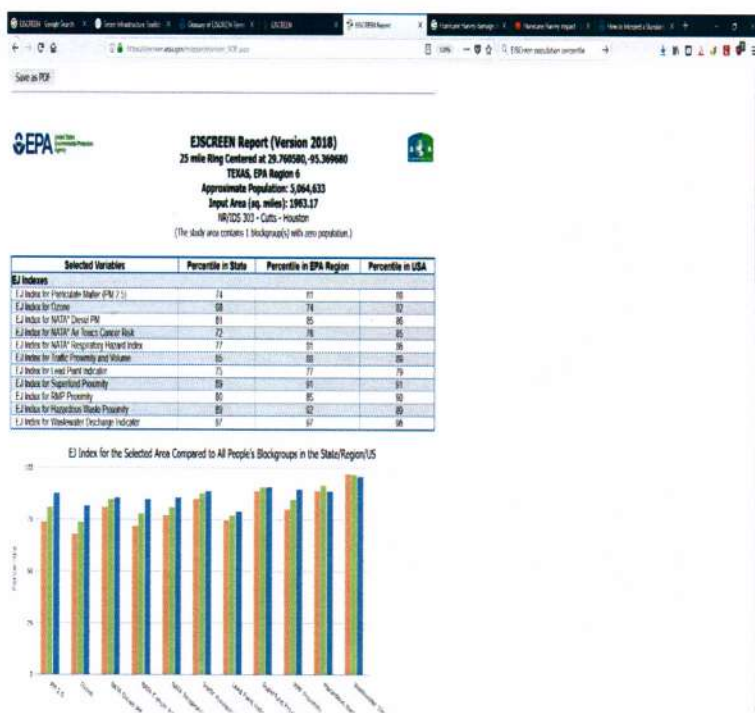
- **What does the population percentile mean? This refers to the percentage of the population affected.**
- **What is the highest population percentile across all environmental indicators? What is the highest demographic indicator? People over the age of 64.**
- **What is the highest EJ Index? People over the age of 64.**
- **Why is the EJ Index different than the Environmental Indicator?**



You can use the “Get Printable Standard Report” button to save all the results for your area. *Keep this file - you will need to include it in the file you upload to Moodle for class today.*

<https://www.epa.gov/ejscreen/how-interpret-standard-report-ejscreen> (5 minutes)

It looks like this:

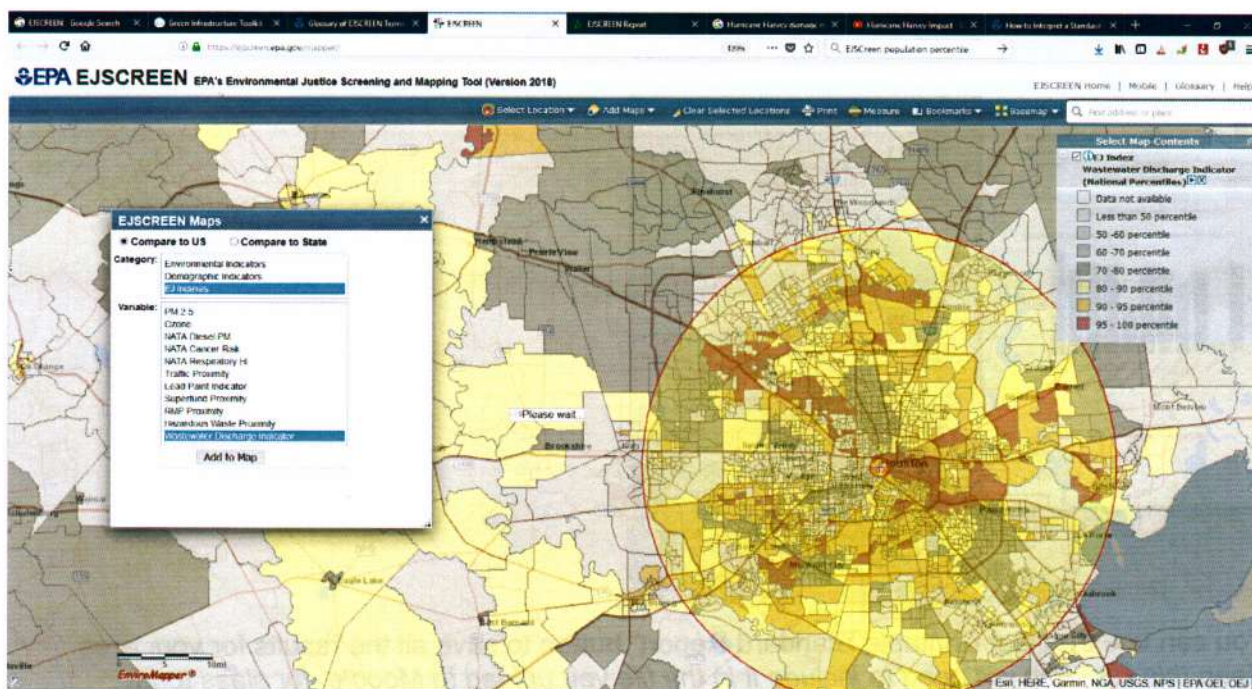


Next, we will go to the “Add Maps” button on the top menu.

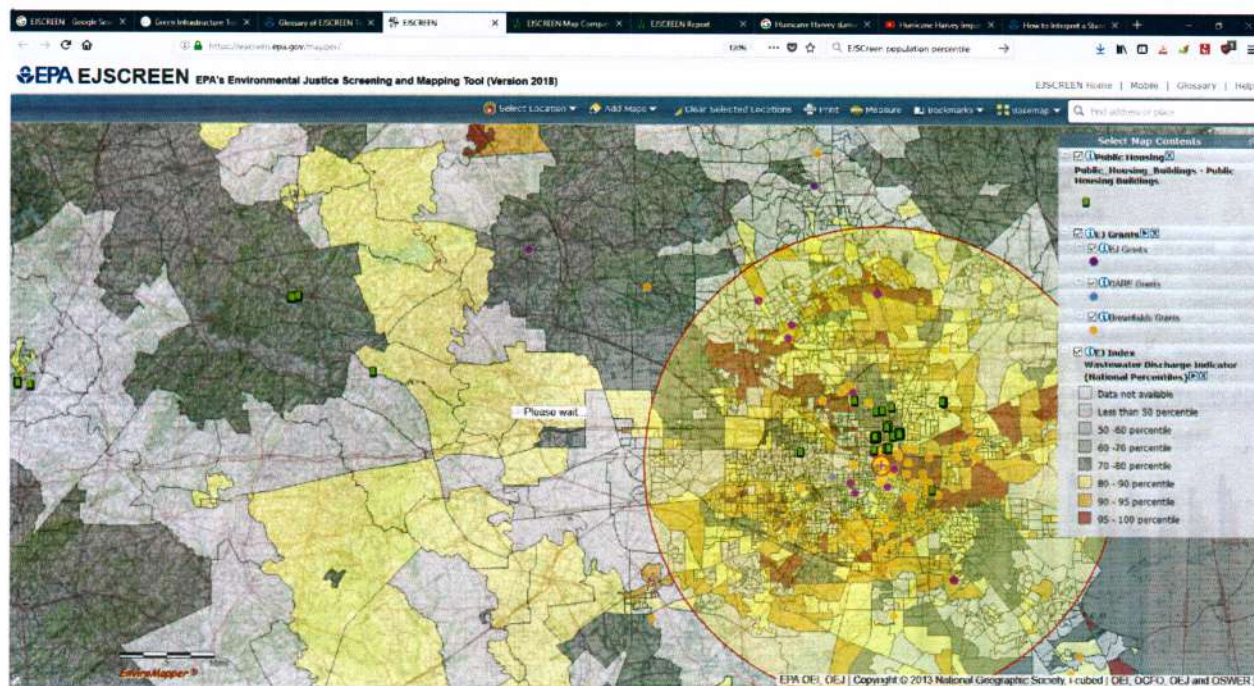
Choose the map for the EJ Index with the highest value. (It could take a while to load).

In the end, a choropleth map should show.



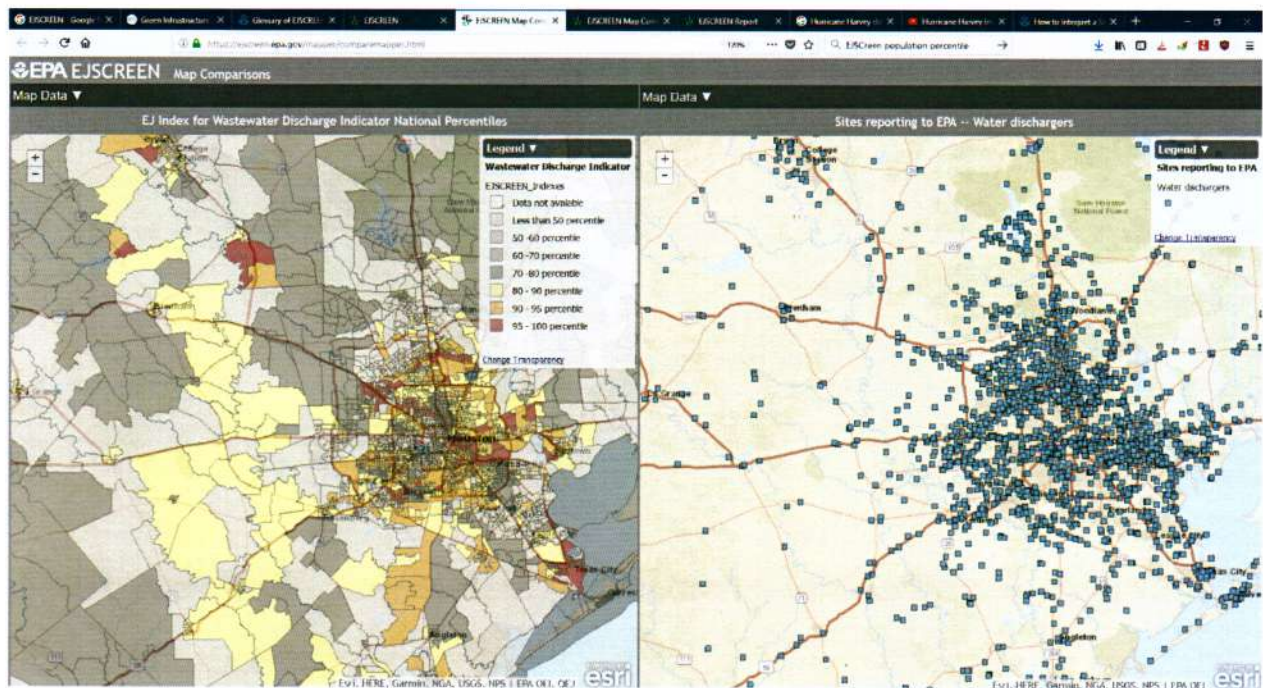


You can add additional data layers over your initial map from the “EJ Screen index,” “More Demographics” or “Additional Maps” tabs.



You can also switch to the “Side-by-side Maps” view to look at different data in the same location or different locations using the same map.





Other ways to use the map: Measure distances. Change the Basemap to see natural features (like elevation, water or greenspace). Try “Imagery with labels” and “USA Topo Maps”

Explore “More Demographics” and “Additional Maps”

1. Do you notice any patterns in the relationships between demographics and risk?
2. Do you notice any patterns in the distribution of environmental amenities (parks) and demographics?
3. Use the “Print” option to save a .pdf or image version of you map and legend to insert into the document you upload to Moodle later.
4. Use the “Bookmarks” menu to save the session if you would like to compare this result to another result.

Terms:

**EJ Index** The Environmental Justice index (EJ index) is a number that combines environmental and demographic information for a place. There is an EJ Index for each environmental indicator. The EJ Index highlights which block groups contribute the most toward low-income/ minority residents nationwide having a higher environmental indicator score on average than the rest of the US population. To calculate a single EJ Index for one block group, EJSCREEN multiplies the environmental indicator by demographic information. This demographic information includes percent low-income and percent minority (as the Demographic Index), and total population of the block group. This is the formula for the index:

$$\text{EJ Index} = (\text{Environmental Indicator}) \times (\text{Demographic Index for Block Group} - \text{Demographic Index for US}) \times (\text{Population Count for Block Group})$$

**Population percentile** - the national percentile tells you *what percent of the US population has an equal or lower value*, meaning less potential for exposure/ risk/ proximity to certain facilities, or a lower percent minority.

**Chloropleth map** - a map that uses differences in shading, coloring, or the placing of symbols within predefined areas to indicate the average values of a property or quantity in those areas.